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Information Technology and the Digital Divide in India: Ethical Perspectives

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Introduction

Information technology such as computers and Internet offers a new social and economic paradigm by restructuring the traditional dimensions of time and space within which we live, work and interact. Unlimited quantities of information are globally available, and any individual can publish as well as read in the Internet world. The possibilities of a global, decentralized, user-controlled medium are claimed to be influencing every aspect of our lifestyles, the patterns of our work and leisure, entertainment, consumption, education, family and community experience, and political and religious activities. These fundamental changes are now beginning to raise important questions about their consequences for social divisions, diversity and differences among the already diversified Indian society. They are likely to widen the social division between the information rich and the information poor in and between communities in India. Among the many challenges posed by information technology, the most fundamental challenge is the affordable access of information technology to several sections of Indian communities. The lack of access leads them further to social exclusion which is not confined to rich and poor countries, but it is also happening within the nation-state boundaries. For example, if the Internet is available to only a few, its democratising potential will never be achieved and also its economic impact will be limited as well. This is a challenge faced around the world. However, little attention has been given to the consequences of uneven technological diffusion for social inequality, and so the Information technology is far from achieving its potential reach and impact, and there are concerns that the digital divide is growing as the pace of change accelerates. In other words, information technologies are not value-neutral, but will have both advantageous and disadvantageous consequences. I do not simply either endorse or reject information technologies, rather suggest for a dialogue between the acceptable and unacceptable consequences of introducing information technology. It is, therefore, crucial that we need to ponder upon in-depth, the issue of digital divide in Indian societies.

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Definition of Digital Divide

The term digital divide was coined in the mid 1990s, in an atmosphere underlying the issue of whether regulation should be built into the Telecommunication Act of 1996 to offset market forces arising with the new information infrastructure.¹ This term refers to the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to their opportunities to access information and communication technologies and their use of the Internet. It reflects differences among and within countries, and raises a number of questions. Where does it occur and why? What are its causes? How can it be measured? What are the relevant parameters? How wide is it? Where is it most critical? What are its effects likely to be in the short term and in the longer term? What needs to be done to alleviate it? These questions have only recently been raised, and it is not possible, as yet, to answer all of them with any certainty. Many argue that cyberspace² offers the liberating possibilities of ordinary people constructing new identities which free them from the imposed classifications of caste, class, gender, ethnicity and educational levels with material space and place.³ Also they say that the anonymity in computer-mediated communication creates opportunities to invent alternative versions of one's self and to engage in untried forms of interaction.⁴ In this way, it is believed that information technologies offer prospects of greater opportunities for employment, challenging orthodoxy and meeting like minds and constructing one's own self. But the reality is different.

The Reality of Digital Divide

The digital divide is a global phenomenon. Haves and have nots, exist not only in economically poor countries but also in the so called developed countries, between countries and also inside any single given country. Various studies and surveys have underlined that there remains an ever widening chasm between the rich and the poor; haves and have-nots; between the developed and the developing and the under-developed countries. In this light, the countries of the world may be divided into three groups:

1. Rich countries of the world who are dominant players in the information and communication revolution. They are the greatest beneficiaries of this new technology.
2. Some developing countries that have the potential to benefit from information technologies. They work for bridging the digital divide.
3. Other countries, that show inadequate capacity to benefit from information technology. These countries are in danger of being left behind. These countries may discuss their structural inequalities that cripples their ability to participate in information technology revolution.⁵

Access is at the heart of the digital divide. Some of the factors of lack of access are cost (affordability), content (relevance and comprehensibility) and capability (human

skills and language barriers). Though USA is known as an economically developed country, in terms of Internet access, many social scientists are beginning to examine the patterns of Internet access and usage.⁶ Hoffman and Novak examined racial differences in Internet access and use, and found that whites were more than African Americans to have a home computer in their household and also more computer access at work.⁷ It is interesting to note that having this digital divide in their own country, the USA is talking about the problem of digital divide in the Third World countries, like blind leading the blind. Studies show that cyberspace remarkably looked white, middle class and well educated: only a third of users were women; over two-thirds had at least a university degree; and the average incomes, in both the USA and UK.⁸

On the whole, we understand that digital divide is not an issue of the Third World, but a common issue through out the World, but there may be differences in variables, degree and quantity. Economically poor countries still struggle to cope with this new trend. There has been mounting concern that developing countries, which lack the resources to benefit economically from information and communication technologies, will be further marginalized by the networking revolution. To address the issue, leaders of the Group of Eight nations (G-8) decided to establish a task force, dubbed "DOT Force," an acronym for Digital Opportunity Task Force, to search for ways to fuse the widening information technology gap between industrial and developing countries. The G-8 gave the task force the job of supporting the development of communication infrastructure in poor countries and drawing them into the Internet-led economic revolution. In an information technology charter, the G-8 said, "*Everyone, everywhere, should be enabled to participate in, and no one should be excluded from, the benefits of the global information society.*"⁹ The DOT Force has as yet no members, but the G-8 said it would convene as soon as possible to promote policies that increase access to the tools of information "*in a manner responsive to the needs of developing countries.*"¹⁰ It is also interesting to note what the Okinawa summit's host, Japanese Prime Minister Yoshiro Mori, is himself on the slow side of what is now referred to as the digital divide; he said that he had never touched a computer keyboard in his life. As Mori's embarrassing admission illustrates, that there are digital divides within countries as well as between them.

A number of prominent radical sociologists have been trying to offer their own critical understanding of a society that is globalised and informatised. One important person is Manuel Castells, who has boldly gone where no critical sociologist has gone before, to tell us that, it actually is a globalised network society. In his three-volume trilogy,¹¹ Castells argues that work and labour are not going to disappear under the new mode, but labour's relationship with capital is being transformed. Labour is localised, disaggregated in performance, fragmented in organisation, diversified in its existence and divided in its collective activity. Another important contribution has been made by Brian. D. Loader, Professor of Sociology in UK. In his book, *The Cyberspace Divide: Equality, Agency and Policy in the Information Society*,¹² he critically considers the complex relationship between technological change, its

effect upon social divisions, its consequences for social action and the emerging strategies for social inclusion in the Information Age. In the same line, Pippa Norris' *The Digital Divide: Civic Engagement, Information Poverty & the Internet Worldwide*¹³ questions the use of 'the divide' as a shorthand, suggesting that there are at least three major divides:

- i. a global divide between the developed and undeveloped worlds.
- ii. a social divide between the information rich and the information poor.
- iii. a democratic divide between those who do and those who do not use the new technologies to further political participation.

The United Nations Statement on Universal Access to Basic Communication and Information Services 1997 says,

We are profoundly concerned at the deepening mal-distribution of access, resources and opportunities in the information and communication field. The information and technology gap and related inequalities between industrialised and developing nations are widening; a new type of poverty- information poverty – looms. Most developing countries, especially the Least Developed countries, are not sharing in the communication revolution, since they lack:

Affordable access to core information resources, cutting-edge technology and to sophisticated telecommunications systems and infrastructure;

The capacity to build, operate, manage and service the technologies involved;

Policies that promote equitable public participation in the information society as both producers and consumers of information knowledge; and

*A work force trained to develop, maintain and provide the value added products and services required by the information economy.*¹⁴

People without access to this technology are being left out further behind in the development race. According to the Human Development Report (HDR) 1999, within each region, only 2% of all people have the access to Information Technology. This divides the educated from the illiterate, men from women, rich from poor, young from old, urban from rural.

Nicholas Negroponte, dismisses the view about the social divide between the information rich and the information poor, the haves and the have-nots, the First and the Third Worlds, because the real cultural divide is going to be generational.¹⁵ But, we understand that he was mentioning this to a group of a small privileged wealthy elites in the United States of America. While he presumes to speak to/for all humanity, only about 40 percent of American families own personal computers, just 50 percent of American teenagers have personal computers at home, and may be 40 million people around the world are surfing the Internet. So, it was for them, he was right in saying that computers are crawling "into our laps and pockets."¹⁶ In the same way, "Being digital" needs to be questioned, asking who has access on the digital planet among the 6 billion people. In fact, more cyberspaces are highly Americanised, consumer-centred, it denies access to many, preserves financial power, dominates communication grids, and maintains class prerogatives.

Indian Reality is a Digitally Divided Reality

Caught in the web of foreign exchange crunch, and with the dearth of technological know how, India has stepped into the parlour of the developed countries and joined the global Information Technology Agreement (ITA). This move was well received by IT industrialists. The Executive Director of the National Association of Software and Service Companies (NASSCOM) says, "We are delighted that India has joined the ITA. This would help not only in increasing usage/penetration of IT in India but would also make us more competitive and productive."¹⁷ But, now many started thinking that the rapid strides being made in information technology is widening the gap between the country's privileged urban population and its forgotten rural populace. On the one hand, professionals in the information technology sector continue as the apples of the eye for most developed and computerized economies, including the United States, Germany and Japan. On the other, Internet blue chips, online shopping and e-mail have failed to cure century-old malaises like illiteracy, poverty and unemployment in India. What is more interesting, is the fact that the digital divide is not restricted to less developed states like Bihar, Uttar Pradesh, Rajasthan and Orissa with traditionally weak infrastructure, but also is found in the new IT states like Karnataka, TamilNadu and Andhra Pradesh. A recent e-readiness assessment prepared by the Union government ranks the states based on 6 parametres such as: network access, network learning, network society, network economy and network policy. This study found that none of the four states which rank high in information technology such as Karnataka, TamilNadu, Andhra Pradesh and Maharashtra, ranked very high in network access. Also it was found that Assam, Jarkhand, Bihar, Jammu Kashmir, Arunachal Pradesh, Nagaland, Meghalaya, Mizoram and Manipur are the least achievers¹⁸ in information technology. For any revolution to take place, there are certain prerequisites. The digital revolution too requires an enabling environment, which India has not put in place as yet. India has 22 telephone lines per 1,000 people, compared with 70 in neighbouring China and three Personal Computers per 1,000, compared with nine in China. The installed base of personal computers in the country is five million, which means only five out of every 1,000 people have a computer.¹⁹ Gogna says, "IT has as yet failed to touch the lives of the average citizen in the rural areas."²⁰ Digital divide also arises from population categories and the relevance of content designed to these population categories. These would include divides arising from parameters like caste, class, urban-rural mix, gender and education.

On the whole we understand that within each region there are several dimensions of digital divide. People are already divided on the basis of income, race/caste, education, age group, gender and ethnicity. The access to information technology further divides them. One of the special justice concerns is caste system which operates at different levels, discriminating people and dividing society. Sudheendra Kulkarni says that a vast portion of India's one billion population is being denied education due to the hierarchical caste system. He says, "The biggest factor that made India a land of knowledge into a land of illiteracy and backwardness is our social caste systems,"²¹ In his column, 'Dalit Diary' Chandrabhan Prasad asks, Is information technology turning

into another Sanskrit? He quotes, a senior IAS officer told Dalit writers in a meeting,

*IT is turning into another Sanskrit. Sanskrit predestined Dalits' exclusion from knowledge. This barred Dalits from intervening in the thought-process practiced by traditional society... The road to IT revolution goes via English and computers. This deadly combination has created a social context where the Dalit absence is pre-destined.*²²

This reveals, how the dalits are victims of this digital divide. Will cyberspace be caste free? Economic development and the digital divide go hand-in-hand for many reasons. In India, poverty is real. So is the digital divide. And like poverty, digital divide is complicated. There are layers of people who have access to the virtual world by virtue of their wealth. The digital divide exists in the form of a wide disparity between urban and rural inhabitants. Normally, people who are connected with the net are men between 18 and 35 who live in the urban centre. Urban people are rich in three tangible assets, namely *concepts* – the best and latest knowledge and ideas; *competence*- the ability to operate at the higher standards of any place anywhere; and *connections*- more relationships which provide access to the resources of the other people and organisations around the world. Research on gender and information technology reveals, that access to or exclusion from information technologies take place at more than one level. Women must have access to the technological tools, may be by way of buying them or in their work place. But another women concern which is hardly discussed is regarding time to use and to become proficient with the information technologies. In a work place, this may mean having considerable level of autonomy in one's working time. At home it means having enough leisure time to make use of Internet access. Both in the workplace and in the home, men and women's time is differently organised, to the extent that women are much less likely to find the time to use Internet, either as a fringe work activity or as a leisure pursuit. This also suggests that women's experience with Internet is different from men's, as it is heavily dependent on leisure time. Sonia Gandhi's words need to be noted here, as she says that women are the most underprivileged, are especially vulnerable. She says, " *This hype about information, communications and entertainment to my mind is somewhat misplaced, when figures tell us that the female literacy rate in some Indian districts is less than five percent and that women have to walk 10 kilometers for some firewood or some water.*"²³ Cyberfeminism offers society a radical new approach and shift in our ways of understanding the complex intersection of gender, technology and culture. R. Narasimhan, points out that nowhere is the digital divide more glaring than in IT education. The report warns that India's 'obsession' with the software industry and its export orientation is leading to the churning out of unemployable students on one hand and bright whiz kids on the other. While the latter are lured away by overseas employers, the former remain unemployable. All these show that those who have better income possess more access to technology, the educated elites who understand and speak English, mostly men, particularly the youth who live in the urban centres have the power to use technologies. As a result, two sections of people emerge. One is the privileged who have some access at least to surf the cyberspace and the second is, the underprivileged section of the people who have never seen

even how a computer looks like. Many constructivist theorists believe that cyberspace facilitate electronic neighbourhoods in which our neighbour is the one who is living far away in another country. But they do not address the issue that, their neighbour should be connected with the net. Even if they live next door, if they are not connected with net they are no longer neighbours. India's growth as a powerhouse of information technology was also hobbled by a lack of telephone lines and low computer penetration, and lack of electricity facility. The former Indian prime minister Atal Behari Vajpayee, on 30th August, 2003, while speaking in a meeting at Madhya Pradesh said, all the villages in India will be provided electricity facility by 2007.²⁴ These are strong evidences for digital divide in India.

Digital Divide is an Ethical Concern

Information Technology raises the question of ethics, on the new range of social problems such as intellectual, social and economic discrimination, software theft, computer crime, hacking, virus, piracy, over-reliance on intelligent machine, and work place stress. But at the same time, as a communication medium, information technology, a conduit that transmits information from one place to another, a means of keeping in touch with friends in faraway places and create new communities that transcend geography. Can we call it as "*creative destruction*" which creates winners and losers on a massive scale?

Questions concerning technology are not of a technical nature but are about human beings²⁵ and therefore, we raise the questions on human right concerns. Cees J.Hamelink analyses the information technology context by using the 'standard of equality' and says that both the traditional human right theories and the liberal foundations of human rights law assume that all human beings are equally capable in asserting their rights. He says, "*In reality, the powerful are always better in asserting their rights through litigation than the less powerful.*"²⁶ He further defines equality as "*equal entitlement to the social conditions that are essential to emancipation and self-development. Increasingly, access to digital ICTs is seen by many as a social condition that is equally essential for the members of a community as water, energy and road systems.*"²⁷ Therefore, lack of access will lead to social exclusion.

We need to clarify exclusion and inequality. John Mohan Razu writes, "*exclusion is a condition of people who are at the bottom of a socio-economic distribution, inequality is a phenomenon where distribution is uneven.*"²⁸ Unfortunately, the impact of exclusion is being left to the market forces to mould and then control. This in turn create inequality. The market forces create wants to the affluent in any society and the economically impoverished is simply made to adjust their wants downward to cope with new conditions. In this way, social divisions and distinctions have remained largely untouched by information and communication technologies. It owes its existence to the desire of the rich. In this context, what is required is first, an understanding about the shift from resource-based production to information-based production, and second, a political and religious commitment and social and economic priority which have not been developed yet.

The Infoprophets like Bill Gates and Nicholas Negroponte, claim that digital divide is a temporary phenomenon which will be overcome soon by global transformations, because computer gives more new economic power. But in reality, the introduction of computers in the homes, as a total or partial substitute for work at the office or factory, creates additional concerns. It helps only professionals. This results in lower salaries and benefits. It is a kind of worker exploitation - Less possibility of promotion, security of sensitive materials, and diminished interaction with fellow workers. Computers can be responsible for deskilling workers, for fragmenting complex jobs into small, meaningless pieces, reducing the skill, each part is done by different individuals sitting in different places, - it reduced the jobs - more than to create.²⁹ In banking, commerce and administration, workers have been displaced without any alternatives. It did not happen in industrial revolution. Without employment, the question is how to provide income to them to live.

The unlimited possibilities for virtual contact make people aware of their own loneliness in front of the screen, which will increase the frequency of their net activities to repress their feelings of loneliness. This time of loneliness will be used powerfully by the institutions of the culture industry providing commodified entertainment and services. This will create privatised and passive recreation and consumption. In this, an increasing number of social functions and activities will be mediated by the Internet not just entertainment, but also information services, financial and purchasing transactions, communication, remote working, medical and educational services. This is called the "*network marketplace*." This process subordinates the domestic sphere to "*the productivist criteria of profitability, speed and conformity to the norm.*" Through the "*information revolution*" capital invades the very heart of social life, as Gorz says, "*the industrialization, through home computers, of physical care and hygiene, children's education, cooking or sexual technique is precisely designed to generate capitalist profits from activities still left to individual fantasy.*"³⁰

Another crucial area of concern, that the information technology has created, is time and space. The free time is subordinated to the labour of consumption. The capital provides them the choice for free time and then through information technology penetrates their private time and space by offering entertainment, purchases, news, education, and much more round the clock—and priced, metered, and monitored by corporate suppliers. In these ways free time becomes increasingly subordinated to the labour of consumption. The point made here is that information and communication revolution is taking place within a much broader restructuring of social life. As such, this "*revolution*" marks a significant extension of technological mobilization to spheres of life beyond the workplace. The revolution in information technology, far from helping India to leapfrog to a post-industrial society, threatens to rupture the social fabric by enriching a few at the cost of many. Therefore, we ask the ethical question, will it be relevant to India? and also we know, it is too late to ask this question.

Conclusion

However, having realized the seriousness of the issue, we discuss on the protection of human dignity which has been put on the agenda of the world community, because the enjoyment of human rights is no longer restricted to privileged individuals and social elites. The principle of equality implies that there is equal entitlement to the conditions of self-empowerment. Among them, are access to and use of the resources that enable people to express themselves, to communicate these expressions to others, to share their views with others, to create, control and share the production of information and knowledge. These resources include finance, infrastructure, knowledge and skills. The unequal distribution is considered a human rights violation. In many declarations this view has been taken up for discussions, but we observe the inadequate enforcement. Human rights area has gone into the hands of individuals who control power. So it has become vertical-state-citizen relation. Cees J.Hamelink suggests for a "*horizontal relation*"³¹ in which the citizens protect each other and protest against any vertical abuses of human rights.

Like the prophetic promise in the real world, the prophetic promise of cyberspace - its potential for egalitarian, just forms of community, its promise as the medium of choice for new generations still remain largely unfulfilled. There are many obstacles to the fulfillment of the prophetic vision in cyberspace. Cyberspace can replicate, even amplify existing disparities between high and low, rich and poor, male and female, urban and rural, educated and uneducated. Cyberspace is as capable of fulfilling more apocalyptic visions of individual self-centred freedom and fulfillment, but our uses of cyberspace appear to remain dependent upon the real-world cultures and communities we inhabit. In this light, one of the most practical moves the Church may make in the effort to realize the prophetic vision online is to increase her efforts to sustain and expand the prophetic community "*in real life*", so that Church, the real life community, may nurture and sustain our efforts to realize the prophetic online as well. Church may well be inspired by the promise of cyberspace to extend the prophetic vision of an egalitarian community. The prophetic church will combine this inspiration with more attention to the embodied, real-life communities in which we still live. Churches may foster and enhance the prophetic community in the real world in powerful new ways. Given the prophetic spirit and equipped with a clear understanding of the promises and threats of cyberspace for the prophetic vision, church should work carefully and intentionally to extend the Presence of God in this new communicative and social cyberspace. At the same time, it is imperative to ask, does our information and communication technology develop a real sense of personhood and equally do they build community? What we need is a people-centred technological development which takes the people along towards development rather than leaving them behind. This has to be in the political agenda of the governments and the ministerial agenda of the Church.

NOTES

1. Brian Loader, "Cyberspace Divide," (London: New York, Routledge, 1998), p.3.
2. Cyberspace was coined by an American science fiction writer living in Vancouver, William Gibson in his novel *neuromancer* wrote in 1984, (London:Harper & Collins) which is the first novel to win science fiction's tripple crown award. In his novel, cyberspace is a computer-generated landscape that characters enter by jacking in- sometimes plugging electrodes directly into sockets implanted into the brain. He describes in his novel cyberspace as a place of "unthinkable complexity", with "lines of light ranged in the non space of the mind, clusters and constellation of data. Like city lights receding." See Tal Brooke, (ed), *Virtual Gods: The seduction of power and pleasure in cyberspace*, (Oregon: Harvest House Publishers, 1997), pp.16-17.
3. D. Haraway, "A Cyborg Manifesto: Science, technology and Socialist feminism in the late twentieth century," in *Simians, Cyborgs and Women: The Reinvention of Nature*, ed. D.Haraway, (London: Free Association Books, 2001),p. 132.
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6. D.L. Hoffman, W.D. Kalsbeek, & T.P. Novak, "Internet and Web Use in the United States: Baselines for commercial development," in *Communications of the ACM*, Vol.3, (December 1996), pp.36-46; J. Katz & P. Aspden, "Motivations for and Barriers to Internet Usage: Results of a national public opinion survey," Paper presented at the 24th Telecommunications Policy Research Conference, (Maryland: Solomons, October 1997).
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10. *Ibid.*
11. Information Age: Volume I: *The Rise of the Network Society*; Volume II: *The Power of Identity*, and Volume III: *End of Millennium*.
12. (London: Routledge 1998).
13. Pippa Norris, *The Digital Divide: Civic Engagement, Information Poverty & the Internet Worldwide*, 2001, pp.123-126.
14. Quoted by Jeevan Kumar, *Development Knowledge and the Digital Divide*, Paper presented at ECC, Whitefield, 10-03-2001, p.6.
15. Nicholas Negroponte, *Being Digital*, (New York: Knopf, 1995), p.6.
16. *Ibid.*, p.5.
17. Quoted by Brojendra Nath Banerjee, *Globalisation: Rough and Risky Road*, (New Delhi: New Age International (P) Ltd., 1998), p.501.
18. *The Hindu*, (Chennai), 4th October , 2003.
19. *Ibid.*
20. Cited by Frederick Naronha, "NEWS_INDIA: India faces huge Digital Divide , inspite of change," January 24, 2001. Available at URL: owner-s-asia-it@lists.apnic.net.
21. *Caste system main barrier to India's IT superpower ambitions?* November 3, 2000, Available at URL: <http://www.expressindia.com/news/daily/20001103/00202300.htm>
22. Chandrabhan Prasad, *The Pioneer*, October 15, 2000.
23. "India's Gandhi warns against digital divide," Available at URL: <http://edition.cnn.com/2000/TECH/computing/10/20/india.gandhi.reut/>
24. *The Hindu*, Chennai, 31-08-2003.
25. Drucker PF, *Technology, Management and Society*, (New York: Harper & Row, 1968).

26. Cees J.Hamelink, *The Ethics of Cyberspace*, (London:Sage, 2000), p.80.
27. *Ibid.*
28. I. John Mohan Razu, "Digital Divide and Deepening Disparities- Implications of Globalisation," Paper presented at a seminar organised by South Asia Sub-Regional Workshop on , Information Society & Alternative Media' held at UTC, Bangalore, 14th -18th September, 2001, p.13.
29. *Ibid.*, p.11.
30. A. Gorz, "The Reconquest of Time", in *Telos*, No.55, (Spring, 1983), p. 84.
31. Cees J.Hamelink, *The Ethics of Cyberspace*, p.69.