Digital Divide in India's Education: A Study

Sanjoy Kumar Ghosh ,Assistant Professor
Department Of Statistics
Vidyasagar Evening College
39 Sankar Ghosh Lane, Kolkata 700006
Sanjoykghosh2@Gmail.Com

Abstract

The widespread use of ICT and the internet has had the positive impact of transforming the globe, but has also contributed to increasing tensions between various communities. There are some who lack access to the internet and other forms of digital technology, while others enjoy such conveniences. This chasm, often known as the "digital divide," exists in many nations. Separation between sexes, between age groups, between socioeconomic status, between rural and urban locations, and so on are only some of the challenges that India faces. The digital gap in India and its effects on access to education will be the focal points of this talk. There were three aspects of the digital divide discussed in the article: teledensity, the disparity in digital devices (such as mobile phones), and the internet divide. The findings of this article's study indicate that digital initiatives for education in India currently lack the necessary infrastructure to be implemented effectively. It has been proposed that as part of the "Make in India" effort, India produce machinery that can be utilised for both domestic manufacturing and bridging the digital divide. The two issues we've discussed would be resolved in this way.

Keywords:Digitail Indian, Mobiles, Digitail Divide, World wide, ICT

Introduction

In the 20th century, the "digital gap" first appeared in the form of those who did not have access to mobile phones. The proliferation of the Internet and subsequent advances in information and

communication technology only served to widen this chasm. There is now a clear divide between people who have access to the internet and other forms of modern information and communication technology and those who do not. Because of this separation, communication between different communities and regions is hampered. For instance, "distance death must be moderated by the reality that half of the world's population has never used a telephone, much less the internet."**(Broos 2006)**

This chasm exists between rich and poor nations, rural and urban dwellers, the young and the elderly, the literate and the ignorant, men and women, and so on. It is predicted that by 2021, 4.9% of the world's population will be online. This demonstrates the widespread significance of the internet and other forms of ICT in many facets of modern life, including commerce, industry, service, and even learning. That's why it's possible to speak about the "digital gap" when discussing the disparate ways in which individuals use the internet and other forms of electronic communication. Table No. 1 displays the total number of internet users around the globe, including those in both developed and developing nations.**(Carveth and Kretchmer 2002)**

Users	2005	2010	2017
World Population	6.5 billion	6.9 billion	7.4 billion
World Wide	16%	30%	48%
In Developing World	8%	21%	41.3%
In Developed World	51%	67%	81%

Table 1: Worldwide Internet Users

Trends of Digital Divide

What has been seen suggests that there is a sizable divide in India when it comes to access to digital resources. Differences in internet usage and access to digital infrastructure exist along gender, rural/urban location, caste, age, and other lines of social stratification.People also use the internet in different amounts. Most people agree that more men than women have access to the internet and more men than women have cell phones. When it comes to access to the internet and owning phones, urban men are in a much better position than urban women, rural men, and rural women. When compared to women in cities, this is especially true.**(Chen and Wellman 2004)**

Men who live in cities are in a much better position than men who live in other places, even if there are some small differences. In the same way, women who live in rural areas often get less

respect than women who live in cities. For instance, even though more rural women than urban women have phones, they still have less access to the internet. Even though rural women are more likely to live in rural areas, this is still true. Even though women's access to cell phones has gotten better between 2015–2016 and 2016–2017, it is still important to remember that there have been some improvements. This shows that people are working harder and harder to close the digital divide. Also, it's important to remember that between 2015–2016 and 2016–2017, things got better.**(Acılar 2011)**

The way forward

The digital divide has significant repercussions for society as a whole. It is possible that people's lack of access to technology may exacerbate the social exclusions that already exist and deprive them of crucial resources. Because of our ever-increasing reliance on digital technology and the internet, the digital divide has implications not just for education but also for health, mobility, safety, and financial inclusion as well as almost every other facet of modern life.**(Bimber 2000)**

To help more people get comfortable with using digital technologies, the government has developed programmes like the National Digital Literacy Mission and the Pradhan Mantri Gramin Digital Saksharta Abhiyan. Improving the present digital infrastructure is essential to ensuring that people from all walks of life may benefit from ICTs. Similarly, those living in economically disadvantaged areas should be encouraged to use technology as part of their everyday lives and given the digital literacy training they need to do so effectively. **(Singh 2010)**

Digital Divide In India

India, which ranks seventh in the world in terms of land area and second in terms of people, is not an exception in this regard despite its size as a nation. Concerning the digital divide is the fact that the nation in question is still growing and has an emerging economy. e.g. "Only one percent of the population in India has fixed broadband, and less than one in five Indians have regular access to the internet" (Worse, this number hasn't changed much over the past few years.). It is believed that fewer than two in five Indians possess even a basic cell phone, whereas there are five mobile broadband subscriptions for every 100 people. Smart phones are a luxury reserved for an extremely small percentage of the population. Table No. 2 illustrates the digital divide in India

by comparing the number of people who have access to the internet to the number of people who own personal computers.

82% population with no internet access	1.2% with fixed broadband	5.5% population with mobile broadband	12% households with personal computers

Table 2: Digital Divide in India

The gender disparity is much more pronounced in this regard. When compared to males, the percentage of Indian women who possess a mobile phone is 15 percent lower, and the percentage who utilise mobile internet services is 33 percent lower. Comparatively, just 25 percent of the entire adult population of females possessed a smart phone in 2017, compared to 41 percent of adult males. Only 35 percent of active internet users in India are female, despite the fact that Indian ladies have a lower likelihood of using mobile internet by a factor of 56 percent compared to men. India is responsible for half of the gender gap that exists in the digital divide throughout the globe. Women make up just around one third of those who use the internet. The gender gap in India's digital divide is seen in Figure 2, which can be viewed here.
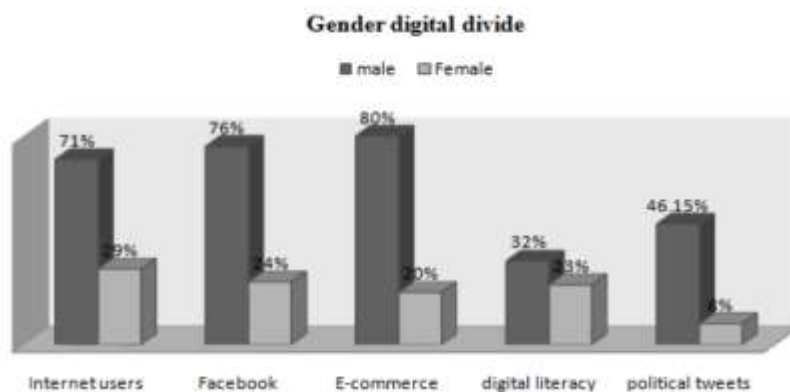
Need of The Study

It is vital to conduct this research in order to have a better understanding of the digital divide and how it affects schooling. The goal of the project is to find effective solutions to bridge the digital gap in terms of information and communication technology (ICT) and the internet.

Objectives

Examining the Educational Gap in Technology in India.

1. To understand how it affects the chances to learn.

Methodology

This article investigates the connection between India's educational system and the digital divide. The data was analysed using content analysis as well as descriptive research. The research data was collected from several different places. Books, periodicals, newspapers, reports, databases, websites, articles, theses, dissertations, and other similar works were studied with great care and attention to detail in order to gather information for this study.

The Education Gap Between Urban and Rural India

More than 260 million people are enrolled in India's formal education system, with 27.5 million receiving an undergraduate degree and 4 million receiving a graduate degree at one of the country's 39,000 institutions. In India, 260 million people are enrolled in some part of the country's extensive formal education system. The global educational industry is experiencing a significant shift from learning that is based on conventional techniques to learning that is based on technological practises, just as the world as a whole is making great advancements in the domains of information and communication technology." Because of this, ICT has been widely accepted in the field of education, particularly in the K-12 setting in India, but in a manner that is distinct from traditional methods of instruction. For a developing country like India, the rise of the internet has brought both benefits and drawbacks. The "digital divide," or the difference between people who have and do not have access to information, is one of the most pressing issues of our day. The seeds of this digital gap are already germinating in today's classrooms. The digital divide between urban and rural India is seen in Table No. 3.

Ability	Rural		Urban	
	Male	Female	Male	Female
Able to operate a computer	12.6%	7%	37.5%	26.9%
Able to use internet	17.1%	8.5%	43.5%	30.1%

Table 3: Urban Rural Digital Gap in India

In Table No. 4, we can see how the gender gap in internet access throughout the nation contributes to the digital divide.

Regions	Ability to Operate Computer		Ability to Operate Internet		Used Internet	
	Male	Female	Male	Female	Male	Female
Northern India	26.4%	18.1%	35.7%	23.1	33.4%	20.9%
Southern India	29.8%	21.7%	33.8%	22.8%	29.8%	20.8%
Central India	13.1	7.	17.5	8.6	16.3	7.4
Eastern India	12.1	6.7	17.4	9	14.7	8.9
Western India	26.4	17.1	30.9	18.8	27.7	15.9

How Digital Divide Effects Education

The most recent data report published by NSO paints a bleak picture of the quality of information and communications technology (ICT) and Internet access in India. This violates the basic rights of students and widens the digital divide between them. The Supreme Court issued a statement not so long ago in which it expressed concern that the Digital Divide, which is generated by online programmes, may undermine the basic right of every underprivileged kid to get an education in traditional institutions of higher learning. E.g. Children at public schools were said to have suffered the most throughout the time period covered by the survey. Students in the states of Odisha, Bihar, Jharkhand, and Uttar Pradesh missed out on instructional resources for nearly 80% of the time during the lockdown. In every one of these states, this was the situation. Lack of family access to digital devices and online educational resources was a major factor in this failure. At that time, internet access in India's households was just 23.8%. When we narrow the sample to simply Indian households whose pupils have access to the internet, the percentage drops to 12.5%. "WhatsApp, which is utilised by 75% of families with internet connection, is the most popular means for imparting education in both public and private schools, followed by phone discussions between instructors and students" (38 per cent).However, more than seventy-five percent of parents were unable to provide WhatsApp lessons for their children because they lacked an internet connection, could not afford one, or had slow speeds or bad signals while connected to the internet. "At home, more than fifty percent of persons who had access to fixed broadband had a connection speed that was unsatisfactory. In addition, around 3% of people are affected by cable cuts, 32% of people are affected by signal problems, and 11.4% of people are affected by power problems. Children who come from disadvantaged and economically poorer areas of society are the ones who have to endure the effects of the digital divide, which is caused

by a lack of access to the internet and computers. According to the findings of the survey, many students who are disabled do not have access to the many online services that have taken the role of the more conventional methods of education during this lockdown. A significant number of them hail from households that have quite poor socioeconomic profiles. Because many of these youngsters are members of the first generation of learners, their parents are unable to assist them either. This gap continues to increase because children from low-income families do not have access to the vital academic material that is offered online. As a result, their academic performance suffers, while children from higher-income families gain a competitive advantage. It also results in graduates who have just a partial education since their ability to do research is hindered by a lack of internet access.

The Way Forward

While the Covid pandemic had the positive effect of speeding up online schooling, it also brought to light the severe digital gap that exists in many nations throughout the globe. Many nations throughout the globe were deemed to have difficulty in providing the sufficient infrastructure needed for online learning; nonetheless, the lock down led nations to create novel solutions to access the internet and to accommodate to the growing demand for online education. For instance, Jamaica, Argentina, and South Africa have all implemented zero-rating policies for their educational websites. The practise of providing users of a website with the option to access the site free of charge is known as zero-rating. In order to help those students in Jamaica and Argentina who don't have access to the Internet, the governments of both countries have developed agreements with ISPs to subsidise Internet access and lower the price of digital education. Rwanda and Kenya have eliminated Internet access fees for students, while Bhutan and the Kyrgyz Republic are increasing student bandwidth to encourage online learning. The National Digital Educational Architecture in India is another promising example of how educational technology may improve the learning process (NDEAR). "NDEAR was developed as a digital road map to assist in implementing the goals of the National Education Policy, 2016. It adopts a "Open Digital Ecosystem" approach based on a common set of ideas, standards, specifications, building blocks, and guidelines in order to encourage the creation of components for the digital education ecosystem by a wide range of stakeholders." In order to give a digital road map to the policy goals described in the National Education Policy, 2020, NDEAR uses a

technique known as a "Open Digital Ecosystem." The core concept is interoperability, which implies that various edtech systems may and should "talk to one another." Because of this, our impact will be greater and wider. Another programme, called "Think Zone," offers primary school students free lessons using technology that doesn't need an internet connection and a user-friendly module. It guarantees that these children get an education even if they are not required to use electronic devices. Students get course materials through voice calls, texts, and phones. E-Pathshala18, DIKSHA, NROER, NPTEL, e-pgpathshala, SWAYAM, and Swayam-Prabha DTH channels were already active to support blended learning when the PM eVidya-One Nation One Digital Platform was created in May 2017 to improve e-learning." "(Ishita, 2009) PM eVidya provides e-reader literature, audio podcasts for the visually impaired, and specialised channels for students in grades ranging from elementary to high school as part of its multi-modal approach to digital and online education. To characterise this approach, the phrase "One Class One Channel" is sometimes used. Similarly, "Code Unnati 21's Integrated Digital Literacy campaign, which aims to increase digital inclusion in India, has already reached over 410,930 children and adolescents since it began in 2017.Most of these young people have had instruction in HTM L5, Microsoft Office, and Scratch. It's Ok To Chat is a safe online space where kids and teens may talk about their problems and get support for their mental and physical health. The British Council in India has been operating a programme named "English and Digital for Girls Empowerment" (EDGE) from the 2016-2017 academic year "skills in spoken and written English and computer usage that are both essential and practically useful." **(Development 1998)**

Discussion And Conclusion

The data presented above may lead one to the conclusion that the great majority of Indians do not have access to the internet or other types of ICT. Today, it is crucial that their digital needs be met so that they may participate in the digital world. There is an urgent need to create rules that will enable these students to succeed in the digital age. Currently, India lacks the necessary infrastructure to provide its children with a fully digital education. The digital gap can be closed by expanding access to high-quality internet and modern electronics. Possible solutions include forming alliances with mobile network operators. The provision of tablets and internet access to students in countries like the United States has had a profoundly positive effect on the education of underserved students and has improved the quality of education worldwide, particularly at the

graduate level. The "Make in India" initiative demonstrates India's capacity to develop and manufacture such tools, which contribute to domestic production and help close the digital divide.Additionally, the government has to make significant investments in order to provide dependable electrical service to even the most distant places. "As far as the future of the digital divide in India is concerned, it is actually rather impossible to forecast what would happen there. However, it is a reality that the current situation in India does not warrant panic at this time (if not highly satisfactory). The gap caused by the digital divide is beginning to close. It is anticipated that initiatives implemented by the government and public-private partnerships would contribute toward closing the digital gap. However, it is not feasible to fully bridge the digital divide in India due to the fact that gender, age, culture, language, sex, and other essential components often influence everyday actions and experiences even those in the virtual world.

Acknowledgement

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