IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL)
ISSN (P): 2347–4564; ISSN (E): 2321–8878
Vol. 10, Issue 4, Apr 2022, 1–6
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DIGITAL DIVIDE IN INDIA'S EDUCATION

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Received: 29 Apr 2022 **Accepted:** 01 Apr 2022 **Published:** 04 Apr 2022

ABSTRACT

The advancement of ICT and internet although revolutionized the world, but at the same time created a gap between people; One having access to internet and digital devices and one having not. This division which is commonly referred to as digital divide is seen in countries all over the world. India too is facing such a division with varying dimensions like, between men and women, young and old, rich and poor, rural and urban, region to region etc. The present paper is mainly focused on digital divide in India and its impact on education. The parameters of digital divide used in the paper were teledensity, digital devices like mobile phones, and internet divide. The paper revealed that India lacks the digital infrastructure to teach its students digitally, hence to overcome the problem it is suggested that India under the initiative of "Make in India" should manufacture such equipments which can serve both process i.e. indigenous manufacturing and bridging the digital divide.

KEYWORDS: *ICT, Digital Divide, Dimensions, Teledensity, Make in India*

INTRODUCTION

The origin of digital divide can be traced back to twentieth century when it was described as people with and without cell phones. With the advancement of modern Information and Communication technology along with internet, this gap further widened. The world population got divided into those having access to ICTs and internet and those having not. This distance or gap usually creates obstacles in diffusion of information and knowledge from one place to another and from person to person, e.g. "distance death must be tempered by the reality that half of the world's population has never made a telephone call, much less accessed internet." [1] This gap exists between developing and developed countries, rural and urban population, young and old, educated and uneducated, male and female. At an estimate 4.9 billion population was using internet in 2021, meaning that ICT and internet plays an important role in daily lives of people like business, employment, services and education. So, digital divide can be referred as opportunity to access ICT and internet by people for wide variety of activities. Table No 1. gives a description of worldwide internet users and also provides a description of internet users in developed and developing countries.

Table 1: Worldwide Internet Users [2]

Users	2005	2010	2017	2019
World Population	6.5 billion	6.9 billion	7.4 billion	7.75 billion
World Wide	16%	30%	48%	53.6%
In Developing World	8%	21%	41.3%	47%
In Developed World	51%	67%	81%	86.6%

DIGITAL DIVIDE IN INDIA

India being a vast country ranking 7th in world in terms of area and 2nd in terms of population is of no exception in this respect. Being a developing country and emerging economy, digital gap is a matter of concern. e.g. "Fewer than one in five Indians access the Internet on a regular basis, with only 1 percent of the population having fixed broadband (more worryingly, this figure has not gone up significantly in recent years). Smart phones are the privilege of the very few, with 5 mobile broadband subscriptions for every 100 population, while less than two in five Indians are estimated to own even a basic cell phone". [3] Table No 2 shows the digital divide in India in terms of internet users and Personal computer holders.

Table 2: Digital Divide in India [4]

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

This gap is further acute for women. "Indian women are 15 percent less likely to own a mobile phone and 33 percent less likely to use mobile internet services than men. In 2020, 25 percent of the total adult female population owned a smart phone versus 41 percent of adult men". [5] "Indian females are 56% less likely to use mobile internet than males, with only 35% of active users in the country being females." [6] India accounts for half of the world's gendered digital divide. A mere one third of its internet users are women. Fig [7] provides a snap shot of digital divide in India in terms of gender.

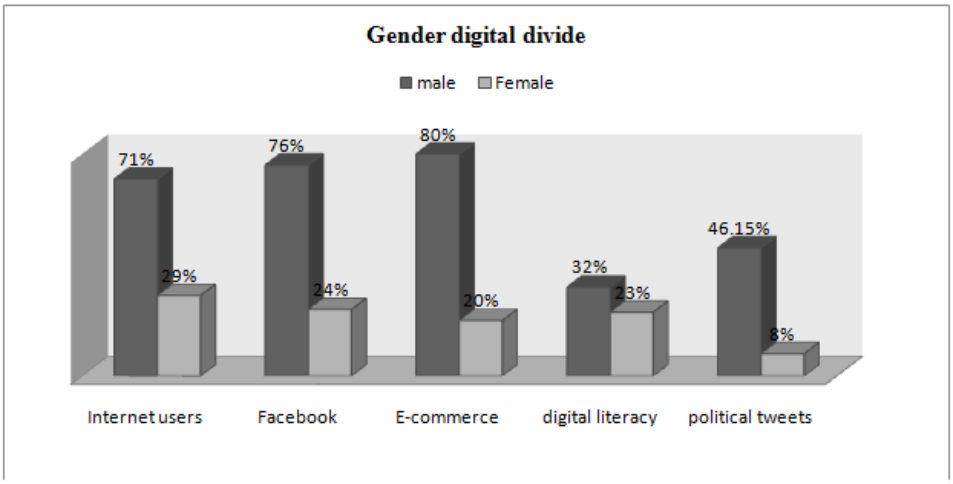

Figure 1

NEED OF THE STUDY

The study is important to understand digital divide and how it effects education. The study focuses to resolve the digital divide with suitable measures to overcome the division in areas of ICT and internet.

Objectives

- To find digital divide in Indian Education.
- To understand how it effects education.

METHODOLOGY

The research paper tries to assess the effect of digital divide on education in India. For analyzing the data, content analysis was used as a research tool and descriptive research as research method. This study is solely based on the secondary data. The collected literature was systematically reviewed that was collected from different Secondary sources like journals, reports, search engines, educational websites, scholarly articles, research papers, and other academic publications.

DIGITAL DIVIDE IN INDIA'S EDUCATION

"India has a multi-layered formal education system with 260 million students" [8] "enrolled in more than 1.5 million schools and 39,000 colleges catering to 27.5 million under graduate and four million post graduate students". [9] The world is progressing rapidly in the fields of information and communication technology and same is applicable to the educational sector across the world that is undergoing major transformation from traditional learning to technological based learning. "As a result, ICT in its own way has managed to make a permanent place for itself in education sector – specifically in school education in Indian context also". [10] In a developing country like India, advances in ICTs have brought a lot of opportunities and perhaps a whole lot of challenges as well. One of the main challenges is the considerable gap between the information have-s and information have-nots -what we call the digital divide. And, this digital gap starts right from school. Table No 3 shows Urban Rural digital gap in India.

Table 3: Urban Rural Digital Gap in India [11]

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%

The digital divide can be further seen when compared people on the basis of gender in various areas of country which is shown in Table No 4.

Table 4: Digital Penetration across Regions in India by Gender [12]

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 recent statistical report presented by NSO provides a grim picture of the standard and availability of ICT and Internet in India, thus violating fundamental rights of learners and creates a digital gap between them. In a recent statement, the Supreme Court warned that the Digital Divide caused by online classes will defeat the fundamental right of every poor child to study in mainstream schools. E.g. A report on schools during COVID-19 indicated that "children studying in

government schools were hit particularly hard, with more than 80 per cent of government school students in Odisha, Bihar, Jharkhand, Chhattisgarh and Uttar Pradesh not receiving any educational materials during the lockdown. This failure was mostly because families did not have access to digital devices and e-learning tools". [13] "Only 23.8 per cent of Indian households had access to the Internet. The number drops to 12.5 per cent when we consider Indian households with students who have access to the Internet". [12] "In homes that had digital access, WhatsApp was the primary mode (75 per cent) for delivering education in both public and private schools, followed by phone calls between teachers and students (38 per cent). But more than 75 per cent of parents had trouble ensuring WhatsApp lessons because of the lack of an internet connection or the inability to afford it, or because of poor internet speed/signal." [13] "More than 50 per cent of the people with fixed broadband had a poor Internet connection at home. Furthermore, about 3 per cent of people face cable cuts, 32 per cent have a signal problem, and 11.47 per cent have power issues". [14] The children from disadvantaged and economically weaker sections have to bear the consequences of digital divide due to lack of access to internet and computer (particularly in situations like Covid 19). "In the report it was found that many children with disabilities do not have access to the online services that have replaced traditional learning during this lockdown. Many of them come from families with low socioeconomic profiles. Parents are also unable to help as many of these children are first-generation learners". [15] This gap further widens because poor children lack the crucial academic information presented online which leads to poor performances and children with digital gadgets gets a competitive edge. It also creates half backed graduates due to limited research abilities because of less internet connectivity.

THE WAY FORWARD

The Covid pandemic while accelerating education online had also exposed the deep digital divide facing many countries of the world. Many countries in world were seen struggling in providing adequate infrastructure required for online learning but at the same time the lock down lead countries to develop innovative ideas to access internet and cater increasing demand of online learning. For example, "Jamaica, Argentina, and South Africa have introduced zero-rated educational websites. Zero-rating is a practice that allows consumers to use a website without any financial cost. Jamaica and Argentina also distributed learning kits to students who don't have access to Internet connections and partnered up with Internet service providers to subsidize Internet plans and make learning on digital platforms affordable. Rwanda and Kenya waived Internet charges for students, while Bhutan and the Kyrgyz Republic are providing them with additional data so that they can access online education easily". [16] India on the same lines had developed a ray of hope in edTech in the shape of National Digital Educational Architecture (NDEAR). "Set up as a digital pathway to the policy goals envisioned in the National Education Policy, 2020, NDEAR takes on a 'Open Digital Ecosystem' approach, where a set of principles, standards, specifications, building blocks and guidelines seek to enable different entities to create elements of the digital education ecosystem. At its core is the principle of interoperability, i.e., enabling disparate education related tech systems to "talk to each other" seamlessly, rather than operating in silos, thereby multiplying the possibilities of impact." [17] In yet another initiative 'Think Zone' a user friendly module is providing access to education free of cost to early grade learners using non internet based technology. It ensures education to such learners without requirement of smart phones or internet the learner content is provided to learners through phones, text massages and voice calls. "Although digital learning programmes like e-Pathshala18, DIKSHA, NROER, NPTEL, e-pgpathshala, SWAYAM and Swayam-Prabha DTH channels were already operational to facilitate blended learning, more digital schemes such as the PM eVidya-One Nation One Digital Platform were introduced in May 2020 to strengthen e- learning". [18] **"**PM eVidya, which offers

multi-mode access to digital/online education, consists of e-content for reading, radio podcasts for the visually impaired, and dedicated channels for every class from the 1st to 12th standards, called 'One Class One Channel' ". [19] Similarly, "Code Unnati 21, an initiative to foster digital inclusiveness in India, established in 2017, has trained over 410,930 children and adolescents in digital literacy – primarily HTML5, MS Office and Scratch — through its Integrated Digital Literacy curriculum. It's Ok To Talk, an online platform, allows children and young people to share experiences and seek online support on mental health and wellbeing. Since 2016-17, the 'English and Digital for Girls Empowerment' (EDGE) initiative of the British Council in India has been concentrating on empowering girls with basic and functional digital and English language skills". [6]

DISCUSSION AND CONCLUSION

From the above data it can be concluded that India's majority of population lacks access to internet and ICT tools. Their inclusion in electronic space by meeting their digital needs is the fundamental necessity of today. There is a dire need to formulate policies on digital empowerment of such learners. At present India is lacking the necessary infrastructure to teach its learners digitally. Hence to narrow the digital divide, we have to provide uninterrupted internet connections and electronic devices which can be done through partnership with mobile networks. Countries like USA are providing tablets and internet access to students which have greatly benefitted the marginalized learners and had also improved the quality learning particularly at graduate level. India under the initiative of "Make in India" can manufacture such equipments which can serve both process i.e. indigenous manufacturing and bridging the digital divide. The government has also to invest heavily in bringing a reliable electricity supply to even the most remote areas. "As far as future of digital divide is concerned in India, it is really very difficult to predict it. But, it is true that the present situation in India is not alarming (if not highly satisfactory). The gap of digital divide is getting narrower. It is expected the government policies and public private partnership will help in bridging the digital divide. But, it is not possible to completely bridge the gap of digital divide in India, as gender, age, culture, language, sex, etc. are all fundamental components that often affect daily activities and experiences including the virtual world". [20]

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