INTERNET CONNECTIVITY FOR ALL

India's Fight Against the Digital Divide

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Compared to India's 73 years of Independence, the Internet is relatively young. While the birth of the Internet dates back to the 1960s, India went online first in the 1986 when it was launched by the Educational Research Network (ERNET)—a joint undertaking of the Department of Electronics (DOE) and the United Nations Development Programme (UNDP). At that time, the use of the Internet, however, was restricted for educational and research communities. It wasn't until August 15, 1995, that the Internet was opened up for people by Videsh Sanchar Nigam Ltd. (VSNL), now known as Tata Communications Ltd.

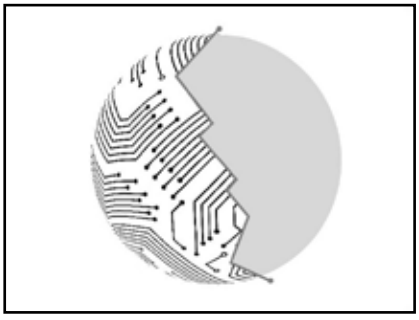
While India is now only second to China in the number of Internet users, it still remains largely unconnected. In terms of absolute numbers, in 2019, rural India has almost the same number of Internet users as urban India (192 million). But given the disparity in population distribution, the Internet penetration in rural India is just 36%.

It has been 25 years since the Internet was thrown open for the public but here we are, still talking about a digital divide that continues to exist, pushing people further into marginalisation now than before. But what exactly is 'digital divide' in this day and age is the foremost question which needs to be understood.

According to the Merriam-Webster, a popular American dictionary and not a technology information platform, digital divide is the economic, educational, and social inequalities between those who have computers and online access and those who do not. It addresses differences among groups that can access the Internet and those that cannot.

Meanwhile, the Census looks at literacy as the ability of persons to read and write their names in any recognised official language. However, we know that is not enough. Similarly, owning a mobile phone is not the same as being 'digital.' Even owning a smartphone is not enough to be 'digitised' unless one has connectivity and knows how to access relevant and timely information on the Internet.

What does that mean for India? There are 731 districts in India; out of which around 300 are officially recognised as backward. This means the development indices here are poorer than the rest of the country. There are over 566 million Internet users in India but only 200 million are from rural India, which accounts for almost 67 per cent of the country's total population. Given the vast demographic divide, the most backward communities, some of which are not even recognised, still face information poverty in this digital shift.



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Further, the gender gap in India is one of the highest in the world. When it translates to mobile ownership, the gender gap stands at 26 per cent. Only, 16 per cent women are connected to mobile Internet. This lack of access to connectivity continues to increase the existing information darkness in these regions, impacting over 800 million people.

As we take big strides towards becoming a digital India, more and more government service accessibility is moving online too. Application forms for government schemes or circulars on official notices are now posted online first, then made available offline. Think of the employment sector now, a

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sector that is already struggling in India due to lack of jobs. The Indian government employs the largest workforce, 21.5 million people. If the government decides to collect all job applications online and conduct all job examinations online, several of those living in rural and marginalised communities would either be deprived of the opportunities or will be forced to go long distances to find a region with seamless Internet connectivity. This will come at additional cost, thus creating an exclusionary environment.

Today, the scope of digital opportunities is far wide, diverse and aplenty than it was before. In fact, we've come to a point where our dependency on digital infrastructure, digital content and digital economy is so high that a person who is not connected to the Internet is being adversely affected.

While there are millions of individuals who are yet to be connected to the Internet in India, there is a vast institutional divide as well. Hospitals, administrative offices, schools, colleges and village councils lack access to high speed seamless Internet connectivity and staffers lack the required digital education to access it. Given the opportunities that the Internet brings to each of these institutions, thereby impacting the lives of the masses, it is something that India as a country should ponder upon.

Panchayats or the village councils are self-governing local bodies at the lowest level of governance. There are 250,000 panchayats in India, and each panchayat is represented by 10-15 members. These are bodies that provide village members with information about governance in their areas, facilitate funds for rural development and enable access to public schemes and services. Functional Internet connectivity and the knowledge to leverage it, would allow the panchayat to distribute information more effectively and efficiently up the hierarchal governance structure as well as reach out to citizens via mass communication channels in real time.

Panchayats, which govern about 67 per cent of the total population and are responsible to deliver information and services across 29 state subjects, have been promised fibre optic lines of 100 mbps. However, thousands of them are still deprived of even 10mbps broadband connectivity. While the government claims to have connected one-third of the total panchayats with optic fibre cable, in reality far less panchayats have functional Internet connectivity.

When Digital Empowerment Foundation (DEF) carried out a spot check in 2018 of 200-odd panchayats across the country to see availability of functional broadband connectivity, less than 13 per cent village councils passed the test. This clearly means that 250,000 offices are digitally challenged, digitally

divided and digitally subjugated but not digitally connected. In such a scenario, to expect that each of the 250,000 village councils will have a website of their own — just like the district administrations and state governments — is far from reality and dreams of digital inclusion.

Millions of Indians who live below the poverty line are dependent on the government for even the most basic of needs. The local public distribution shop (PDS), which supplies ration at subsidised rates to those living below the poverty line, now requires a functional Internet connectivity to match the biometric details of the beneficiary with that stored on the Cloud, before distributing the rightful supply of ration to the person. In the absence of a functional Internet connectivity or glitch in the biometric machine, which could last anywhere between a few hours to a few weeks or even months, the intended beneficiary family is deprived of grains and pulses.

For urban populations that are higher up in Maslow's hierarchy of needs, digital tools, technologies and contents have made access to opportunities easier. Instead of eating out or stepping out for groceries, you can now order online. Instead of waiting in the sun to hail a cab, you can call for one through an app. Instead of visiting stores across the town for the perfect pair of shoes, you can browse through the browser window

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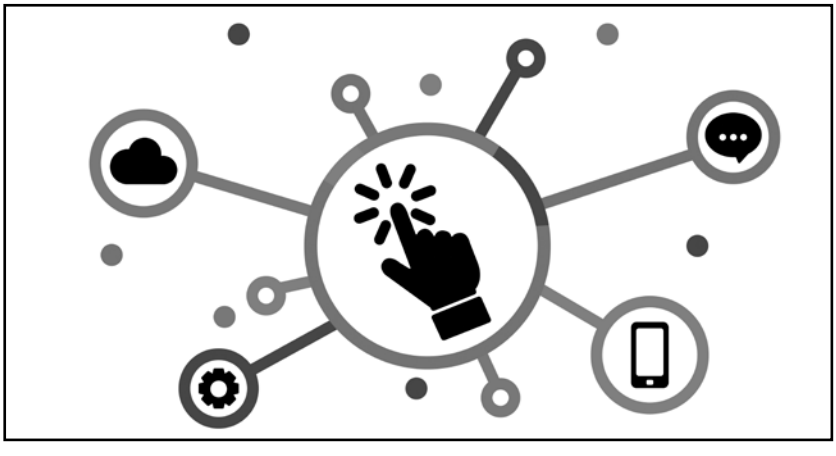
from the comfort of your bed. Waiting for the medical report to arrive, you need not travel again to the doctor's clinic, instead you can simply download it off the website.

However, access to the Internet for rural populations brings with itself basic needs and amenities, which millions are still deprived of. Let's take the example of education and health.

Considering that India suffers from a huge dropout rate—62.1 million children are out of school according to the Ministry of Human Resource Development—there is a need to focus on education and student well-being. There are about 1.4 million schools in India.

Let alone computer education classes for students, not all schools have functional Internet connectivity for administration purposes. It is believed that not more than 20 per cent of these schools have dedicated computer or IT labs for students. In some schools, there are no computer teachers, in others, students are only learning about the Office Suite because there's no Internet. It must also be noted here that even in a digitally well-equipped school, digital education is viewed as a separate individual subject studied once or twice a week rather than a medium for holistic learning across all subjects. When these 227 million students, who are currently enrolled in schools, graduate over the next 15 years, they will not be ready for the jobs of the future because Indian schools have largely kept them on the wrong side of the digital shift.

India has huge infrastructure for health. There are about 184,359 government health centres, nearly 860,000 frontline



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health workers and over 1.8 million women working with Anganwadis (courtyard shelters designed as mother-and-child care centres to combat child hunger and malnutrition) in India who have been deployed at the village and hamlet levels. These workers, all of whom are women, are essentially hired by the government to maintain maternal and child health care. However, India is home to the largest number of hungry people with over 200 million marked with food insecurity. According to UNICEF, around 38 per cent of children younger than five years of age are stunted in India and the mortality rate stands at 39.4 per 1,000 live births. This is so because the health care providers are unavailable at various government sub-centres at village level and primary health centres. The vacancy rate is high. The centres lack health facilities or even regular visits by experts.

Most of the health problems in the world are preventive rather than curative. People don't require large-scale diagnosis or other health facilities; they just require a system in place where they can get regular and updated guidance and consultation from doctors or other medical experts. In villages, where experts or medical facilities are absent, availability of broadband connectivity can introduce the services of doctors through video conferences, thus giving a boost to health standards in the region. Similarly, updated information on tablets available for use for frontline health workers would go a long way in ensuring nutrition and sanitation standards, and enhanced mother and child care. However, at present, Internet penetration in the rural health system is intermittent, patchy, unreliable and not efficiently linked to the larger public health ecosystem. This creates a gap between health seekers and health care providers, which has become ever so widening in the digitally developing country.

If the government meets its promise of providing 100 mbps Internet connectivity to all panchayats—under the ambitious project of BharatNet—the panchayats can further distribute the Internet to health centres and educational institutions. Further, they can even provide connectivity to markets and enable thriving businesses where people can remotely procure and sell. India's economy is largely dependent on agriculture and 156.4 million micro, small and medium enterprises (MSMEs). Ironically, farmers and MSMEs are part of the large number of individuals and institutions that are not connected to the Internet, and are therefore unable to leverage it for business. Here, the digital tools might be available to them, but the knowledge to use the devices contextually and timely may be missing.

Over the years, DEF has redesigned its rural digital infrastructure and education models around institutions. It does not enter a village setting and cater to individuals alone through its Community Information Resource Centres (CIRCs). Rather, it links these CIRCs to the institutions connected to five key areas — education, health, finance, governance and livelihood. And the results have been impressive and far more impactful than they would have been if the organisation only catered to individuals. In the last 17 years, DEF has established more than 190 CIRCs across 95 districts of 23 Indian states and Union Territories.

A few years ago, under the project 'Digital Panchayats,' DEF trained a thousand village council representatives from 1,000 village councils in digital literacy through these CIRCs. This helped the members to understand the relevance of various mass messaging tools, including social media. It also helped them learn ways to navigate government websites

for information and leverage available information to better deliver entitlements to citizens at their doorsteps.

The organisation is also currently working with district public libraries in Telangana to revive them as community hubs of knowledge. It is doing so by digitising the available infrastructure and turning them into centres which people can visit to access digital content.

In the last 10 years, DEF has worked with 10 artisan clusters to introduce and facilitate adoption of digital tools and technology—that ranges from advanced design software to WhatsApp—in the processes of market research, designing, production, retail and marketing. This has reduced the reliance on exploitative middlemen and enhanced the knowledge of market trends, allowing artisans to produce contemporary handloom and handicraft products.

Given the demographics, economy and geographical distribution of the population, India is certainly a mobile-first country. This means that not all persons go through the transition from radio to television to pagers to laptop to tablets to phones. Instead, for millions, the transition has directly been from radio to mobile phones. Today, there are over a billion mobile phone subscriptions (SIM Cards) in India. The number of smartphone users in India is expected to rise to 859 million by 2022 from 468 million in 2017.

As more and more Indians get access to smartphones and mobile Internet, the government must ensure that all public institutions—and not just urban services—are well-connected and well-integrated with each other. This will provide digitally enabled services efficiently to citizens and save their time, energy and cost. And this cannot be achieved by working in silos. There is a growing need for the government, private sector, civil society and representatives of the public to come together and engage in design thinking.

In the absence of a consciously-driven design thinking process, there is bound to be consumer dissatisfaction and adverse effects on the lives of citizens. For example, when the Andhra Pradesh state government decided to link all its PDS shops with biometric system for the distribution of ration, 37 per cent of the population were turned down ration because their thumb impressions weren't recognised by the biometric machine due to several possible reasons. In some cases, citizens were denied their right to subsided ration because they did not have the 'mandatory' Aadhaar identification card. In some other cases, the individuals had an Aadhaar Card, but the Point of Sale (PoS) machine was out of order, or there was no electricity supply. In yet other cases, the citizen had an Aadhaar Card and the PoS machine was functional but there was no Internet connectivity in the village. There were also cases where everything was in place—Aadhaar, PoS and Internet—but the machine refused to recognise the biometrics of a rugged thumb.

India already has over 200 million people using WhatsApp on a daily basis. Instead of celebrating this huge digitally connected population or fearing the scale of possible misinformation exchange they pose, India needs to prepare for the next 1.1 million people who are yet to come online. What India needs is a robust digital infrastructure that spans across the length and breadth of the country and the rural and urban demographics. What India needs is a repository of information and database that meet the contextually relevant and timely needs of the population that may or may not know English, a language that continues to dominate the Internet. What India needs is a governance system that can truly integrate digital technologies at an intra-ministerial or department level as well as at an inter-ministerial and department level. What India needs is a public institution system that leverages the opportunities that digital holds for it. What India needs is a contextually relevant digital education system that integrates the knowledge of digital into all aspects, sectors and subjects of life.