Digital Discrimination: Economy, Polity, Society

JESUS AND MARY COLLEGE

THE CONTRARIAN

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THE ECONOMICS MAGAZINE
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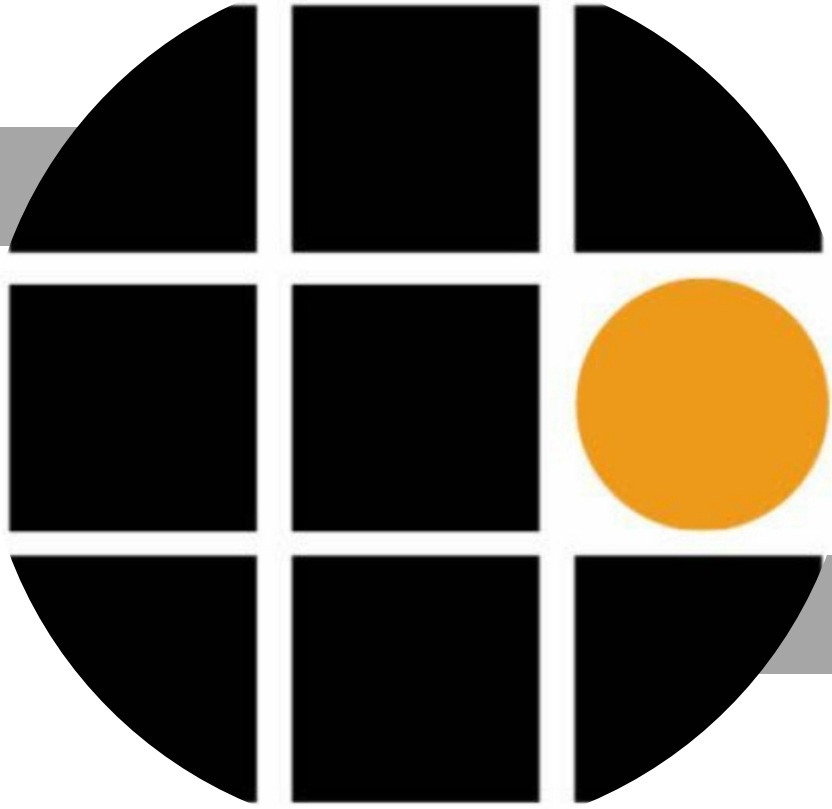

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EDITORS' NOTE


RIYA GANGWAL


PARIDHI PURI

The evolution of development processes is affected by macro parameters that remain static for the longest run, until events of the capacity of the Industrial Revolution are occasioned to transform the way nations envisage development. While the Covid-19 pandemic was largely propounded as an event that compelled governments to rethink their long-term development strategies, and deflect it towards emphatic creation of human safety nets, this was perhaps also one of the most intensive propellers of a long-standing *Digital Revolution*.

The way rapid digitization impacted all specificities of our material, emotional, and psychological lives within a span of past two years, was unparalleled to anything witnessed previously around digitization. The most vulnerable individuals and social communities saw their deprivation being amplified at the behest of unrestrained paradigm shift towards digitization.

Besides, concerns have been enlarged dangerously due to presence of tech giants, which capitalized on the shift of focus, even as they proved to be instrumental in helping us run our routine lives with lesser difficulty in a pandemic-stricken world. Such a presence of larger-than-state agents in economic fabric undermines an individual's choices in terms of what they can and cannot subscribe to – both in terms of goods, as well as discourse/opinions.

This generated a whole new bracket of 'victims' of digitization, who faced the threat of data privacy breaches, unusual regulation of freedoms, and a hazy sense of self.

The way this Digital Revolution has panned out, has led to considerable differentiation among who gets affected, and to what extent. Hence, the terminology of '*Discrimination*'.

We're cognizant of the critical role of digital media in bringing this magazine to our readers. Yet, in this edition we enhance our grasp of the breadth of discrimination imposed by digitization. We explore these processes in their multiple facets, explore digital prejudice for a wide spectrum of social identities, and reexamine the factors determining the victimization of a few select. The scope of this issue is radically broad, and our writers have attempted to produce vital aspects of the theme, positioning their perspectives carefully and objectively with the assistance of rigorous research. The photographs accompanying each article have been accordingly curated to reflect the key idea of in the text.

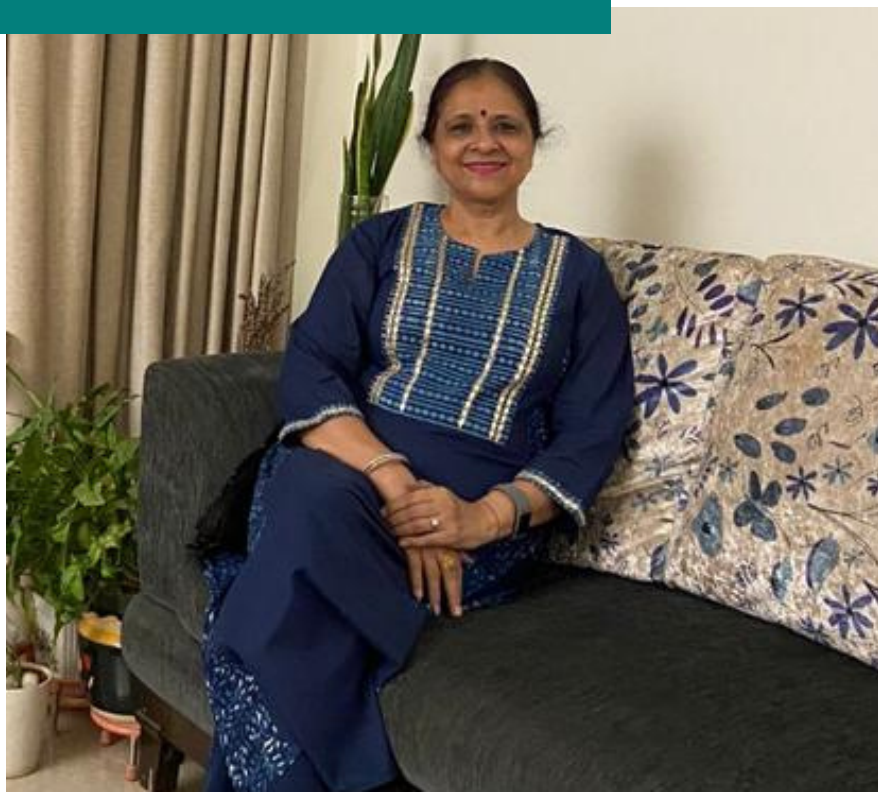
We envisaged this edition as an enabler for readers to look beyond the obvious manifestations of digitization. We seek to drive perspective-creation ability, instead of merely serving pre-conceived perspectives. As a group of female undergraduate students, materializing this magazine – albeit digitally – has endowed us with an individuality within the labyrinthine accumulation of research in academia. We bear in our minds the commitment towards equalizing the differences and mellowing the discrimination that persists, and foster this magazine as a step towards the same.

Warmly.

RIYA GANGWAL
Editor-in-Chief

PARIDHI PURI
Deputy Editor

FROM THE TEACHER-IN-CHARGE



'The Contrarian', the annual magazine published by the Department of Economics, Jesus and Mary College, encourages students to form opinions and challenge the status quo. It is an academic space, where students engage in pluralistic thinking, discuss and learn together. Aligning with the mission of the college, The Contrarian is an initiative promoting critical thinking and holistic development of the students.

The Contrarian has an expansive reach with members from different departments of the college and a broad base of readers.

Every year a specific theme is taken up, and this year's edition explores *Digital Discrimination: Economy, Polity, Society*. While the global digital shift catalyzed by the pandemic has made internet and ICT aid an inseparable part of life, the digital divide can be observed at multiple levels.

As per media claims, India is home to 12 percent internet users globally, yet half the population has no access to internet. Educational institutions made a paradigm shift, when they switched to online teaching, however a large proportion of students did not have the digital facilities to engage in e-learning.

Digital discrimination has been taking place even before the pandemic on the grounds of poverty and gender, pandemic has just exacerbated the existing digital inequality.

Issue 2022 addresses these concerns. The magazine has gamut of articles from students, faculty and alumnae and I am sure it will be an enriching read for all our readers.

- Ms. Smita Gupta
Teacher-in-charge
Department of Economics

CONTENTS

ARTICLE BY FACULTY

EDUCATION AND SKILLS

By Dr. Jasmin
Assistant Professor, Department of Economics

Unemployment is a socio-economic challenge and a pertinent concern for policy makers. Rise in the unemployment rate in India from 2.1% in 2011-12 (NSS-Employment Unemployment Survey, 2011-12) to 6.1% in 2017-18 (Periodic Labour Force Survey, 2017-18) perturbed the nation. Statistics speak volumes of the miserable situation the educated youth of the country are in.

The unemployment rates for educated youth were high before Covid-19 shook the world – undoubtedly, the numbers would have worsened during the pandemic. Unemployment among the educated youth raises important policy questions; despite formal qualifications, the educated young labour force of the country fails to get absorbed in the job market, is it because the education imparted in the country does not equip the youth with the skills required in the job market? Is the nation not being able to adequately generate jobs that are suitable for our educated unemployed? Both these issues require policy intervention.

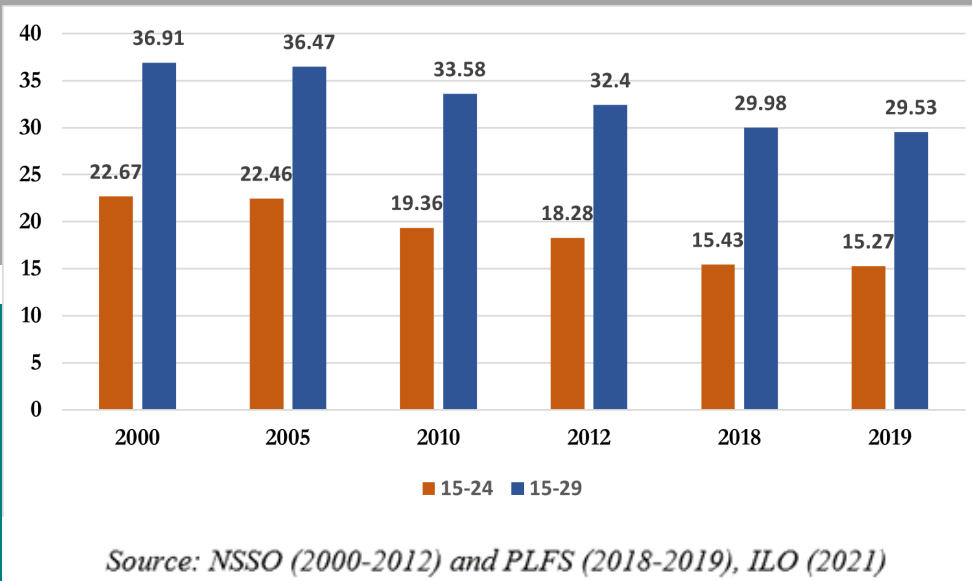
Table 1 : Unemployment rate (%) among the youth in India

Education	2011-12 (15-30 years)	2017-18 (15-30 years)	2018-19 (15-30 years)	2018-19 (>30)
Illiterate	1.7	7.1	6.05	0.57
Upto Primary	3	8.3	7.05	0.77
Middle	4.5	13.7	11.6	1.08
Secondary	5.9	14.4	13.6	1.46
Higher secondary	10.8	23.8	19.6	2.04
Graduate	19.2	35.8	33.7	3.06
Postgraduate and above	21.3	35.8	32.7	4
Total	6.1	17.8	16.1	1.24

Source: NSS 2011-12; PLFS 2017-18 and PLFS 2018-19; State of Working India (2021)

A quality job is what everyone desires and is a life goal for many. If one fails to achieve this goal, after having worked tirelessly to get all the degrees, its sure to cause both economic and mental distress. Youth unemployment is most likely to spur social tensions in the country. If we fail to tap the potential of our youth, it will be a loss for the economy as a whole. Needless to say, this will also give way to social unrest, crime, and unlawful activities. The need of the hour is to rethink the human resource strategy of the country at the levels of imparting education, skilling and creating enough quality employment opportunities.

Figure 1 : Share of youth age cohorts in the labour force (%)



Source: NSSO (2000-2012) and PLFS (2018-2019), ILO (2021)

India is a young country, with a high share of young individuals in the population. Defining 15-24 or 15-29 as the age cohorts for the youth, ILO Research Brief (2021), reports that the share of 15-29 age cohort in the 15+ population was 41.5% in the year 2000, which had fallen marginally to 37.5% in 2019. The shares for the age cohort 15-24 were 28.8% and 25.7% respectively. Figure 1 shows the share of these age cohorts in the labour force, and reveals stark facts. Labour share of the age cohorts is lower than the share in 15+ population, also the decline in labour share is faster. This suggests that the young people are exiting the labour force at a faster rate. A part of the reason could be greater educational engagement of the youth, resulting in a delay in joining labour force. The other reason could be disappointment due to long spells of unemployment – the youth might very well choose to drop out of the labour pool.

Table 2 Share of youth age cohorts in the labour force (%)

Year	15-19	20-24	25-29
2000	9.24	13.43	14.24
2019	3.76	11.51	14.26

Source: NSSO (2000-2012) and PLFS (2018-2019), ILO (2021)

Table 3 depicts the trends in educational attainment of the Indian youth. The share of young individuals with at least secondary level of education has risen, while proportion of illiterates or near illiterates has rapidly declined among the youth. The efforts of the government to increase school and college enrolment has paid off. Students and their families today, consider higher education to be important, hence, the improvement in educational outcome. The country takes pride in the rise of the number of universities and colleges. As per the All India Survey on Higher Education 2019-20, the number of universities has risen by 30.5% since 2015-16, while for the colleges this rise has been by 8.4%.

Table 3 : Share of youth as per educational attainment in the total population of the age cohort (%)

Year	Less Than Primary Education			More Than Secondary Education		
	15-29	15-24	15+ (aggregate)	15-29	15-24	15+ (aggregate)
2000	37.2	33.2	52.5	28.1	28.8	21.5
2005	31.0	27.7	47.0	31.2	31.7	24.0
2010	21.4	17.7	39.3	31.2	31.7	24.0
2012	20.1	16.4	38.5	45.4	47.8	33.3
2018	10.9	8.2	29.0	54.4	58.8	37.7
2019	9.5	7.2	30.7	56.6	56.9	39.3

Source: NSSO (2000-2012) and PLFS (2018-2019), ILO (2021)

Table 4 extracted from Bisht & Pattanaik (2021) indicates that the employability of the youth has risen in high and medium skill occupations. This implies that, the education process in India needs to be made holistic, complemented by intensive skill training and experiential learning. Educated and skilled young individuals are what the job market needs. Re-thinking the economy's approach to imparting education and skills, and effective implementation of the same, is the impending necessity.

Table 4 : Distribution of youth employed in different skill categories

Age	2011-12				2017-18			
	High Skill	Medium Skill	Low Skill	Total	High Skill	Medium Skill	Low Skill	Total
15-19 Years	5.2	56.3	38.6	19.1	4.7	63.2	32.1	13.7
20-24 Years	9.6	57.5	32.9	36.4	11.7	61.3	27.0	34.8
25-29 Years	14.2	54.4	31.4	44.6	16.9	56.3	26.8	51.5

Source: NSSO (2011-12) and PLFS (2017-18), Bisht & Pattanaik (2021)

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ARTICLES BY ALUMNAE

'A CYBORG MANIFESTO': AN EXPLORATION

By Srishti Pal
Class of 2020, Department of Economics

The Cyborg Manifesto by Donna J. Haraway is a post-modernist and post- humanist essay criticizing identity politics and attempting to construct collective consciousness through recognition of cyborg. With the advent of technology, the boundaries between man and machine have blurred leading to creation of cyborg- a genderless organism.

According to Haraway, we are all cyborgs where technology has become an extension of ourselves. For example, using alarm clocks to wake up in the morning, using mobile phones to communicate, social media apps to express and google maps to navigate. During the covid-19 pandemic, we witnessed, saving of lives through ventilators, support groups on twitter, virtual workspaces and greater dependency on machines to survive.

It is the "illegitimate child of capitalist technocracy" and rejects theories of origin which embody patriarchy. Haraway believes the cyborg has the potential to transcend sexual differences and reject social hierarchies based on patriarchy.

It seeks to reimagine the world in all its aspects, from material objects to human relationships and psyche - this is a genderless world where individual history of origin is non-existent, and hence the social bases of oppression get eroded. The ideas that build around collective consciousness of evolving relationships, ideologies and sociological realities, simultaneously investigate a world where all of it is redefined by technological headway.

Haraway's cyborg manifesto is one of the fundamental texts in feminist theory that considers the impact of technological changes on human bodies and gender relations and calls for a movement to reject the binaries that have genesis in patriarchal ideology —such as body/psyche, matter/spirit, emotion/mind, natural/artificial, male/female, self/other, nature/culture.

THINKING THROUGH THE EFFECTS OF FORCED DIGITISATION WITH THE PANDEMIC

By Simran Manchanda
Class of 2020, Department of Economics

In economics, we believe in the Romer Model which underscores the importance of technological advancements in sustained economic growth. However, as we read through empirical observations by Amartya Sen and Pranab Bardhan, we realise how growth might not trickle down to development of all demographics.

In this article, we reflect on discriminatory effects of digitisation, especially forced digitisation during pandemic across broad parameters of economy, polity and society. It might be worthwhile think through competition vs discrimination and to focus on mitigation strategies in the play by Government and NGOs

At a time when growth rate was slowing down, with pandemic setting in digitisation became the only way to keep the show running. Right from Work-from-home culture setting in to telemedicine, accessibility and availability to the internet became an absolute essential.

However, when men are 90% more likely to own a mobile phone than women, with only 15% rural internet penetration in the country and 80% of the content on the internet being in English; disparities are bound to increase.

Despite an increase in the number of wireless subscribers in the past few years, disparities in urban-rural divide were widely seen during the pandemic. As per NSO's statistics, most of the Internet-enabled homes are city-centric, with 42% connected to the internet. In rural India, however, it's relatively a third, only 15% are connected to the internet.

Given close to 70% of our population lives in rural areas, adverse effects can be expected on educational outcomes, telemedicine outreach thereby affecting the ability to harness demographic dividend in the future.

In order to bridge the rural-urban divide, Government of India initiated Bharat Net Project to ensure optical fibre connectivity at 100mbps speed in villages. Coupled with PM Digital Saksharta Abhiyan aimed to spread digital literacy in rural areas.

Although on educational front, there has been democratization of resources in terms of MOOCs, DIKSHA platform etc., but missing students by virtue of lack of access to the internet has thereby led to discriminatory effects.

At a time when we already have an under-representation of women in politics, bias in access to digital resources can further lead to suppressed ways of raising opinions and mobilizing voices. Understanding that close to 50% of our population is women, in order to support women candidates in higher competitive exams Udaan scheme was launched. Additionally, there are campaigns in place like National Scheme of Incentive to Girls for Secondary Education (NSIGSE), Beti Padhao Beti Bachao etc.

Along with trickling effects of poor internet access based on regionality or gender, there has been a direct effect on the economy. Where digital players flourished, being on the internet became an absolute essential in the lockdown period.

NGOs have had their share of contribution in terms of starting one-on-one classes to educate through WhatsApp calls, delivering reading materials at doorstep and creating radio channel information dissemination.

Considering the programs and policies to improve digital access got wings with pandemic, continued efforts in direction would be very helpful in streamlining governance, widening digital economy and improving social awareness

DATA SOURCE

TRAI Internet Access Reports

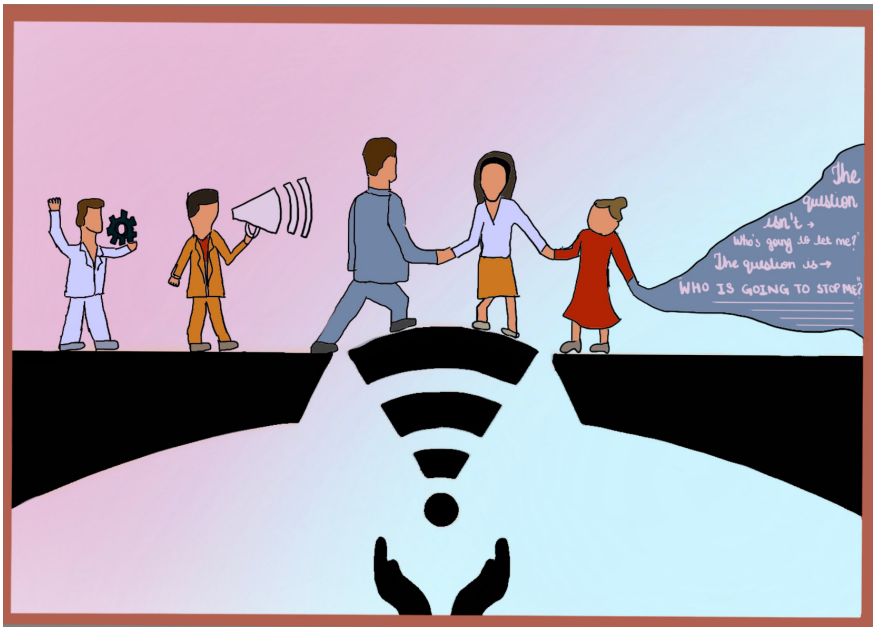
MEMBERS' ARTICLES

The Politics of Liberation in Digital India: Case of "Empowerment" under the Technocratic Vision

By Sania Javed
Photo by Divya Bahl

The emergence of new technologies has been an effect of and response to the global shift towards discourses of an interrelation between increased digitization and "development". The post-industrial shift towards an information society has had an all-encompassing effect on the dynamics of politics or the lack thereof and policy across continents. The 1990s witnessed the progressively intensifying tension between the popular denunciation of the neoliberal policies and the middle classes driven by the schemes of consumerist liberalization and fetishization of technology. Hence, the façade of empowerment (to overcome the underdevelopment in the rural spaces), became the one to put India in the most promising light amongst global competitors. The push towards an information-driven society is sold as a reconciliation between capitalism and the interest of the marginalised. Therefore, with the reconstitution of Indian democracy in digital times, the gaps between countries, regions, across classes and gender have only widened.

The consequences of the neoliberal world order have resulted in a hegemonic information discourse and an ideological storm, which uncritically revels in the ideas of new opportunities, individualism, and increased innovation in a digital economy.



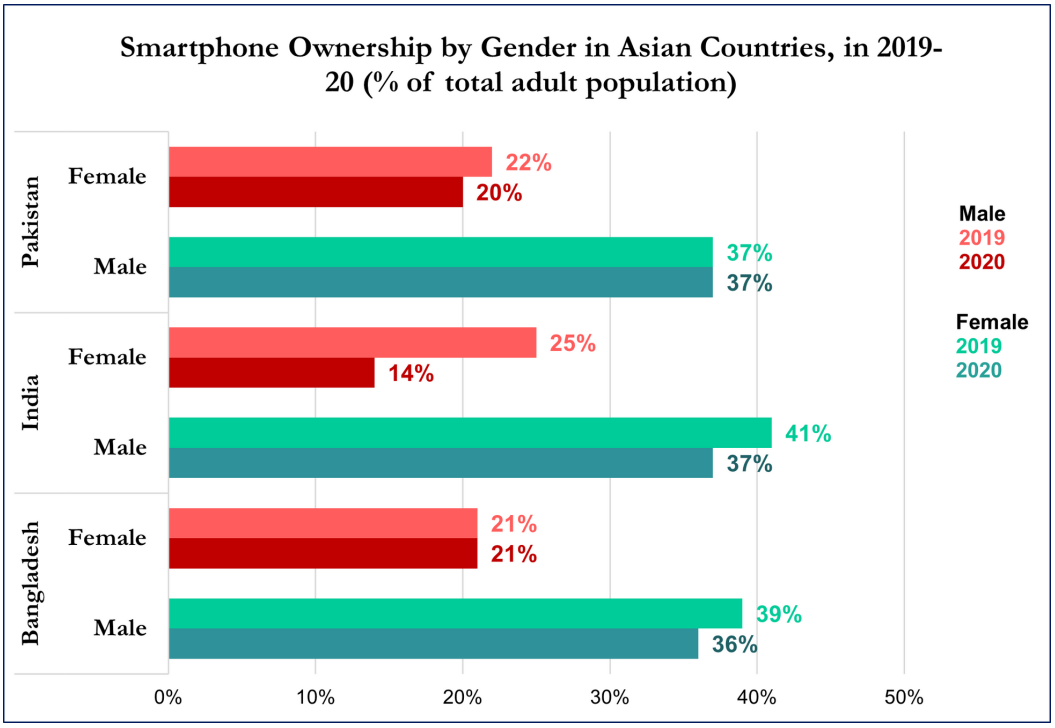
Technology, Gender and Development

The techno-driven and market-centric approach of the information society fails to address the matters of gender justice in terms of power differentials between classes (Mazzarella, 2010). In a country like India, with multiple dimensions of inequalities, the degenerative techno-driven model as means of social and economic development erases the significance of irreducible social realities. A push to increase digital literacy drives, the promotion of vernacular digital resource production, and the creation of digital platforms for citizen consultation and collaborative governance are seen as core strategies. The Information and Communications Technologies (ICTs) are designed in a male-dominated environment that doesn't correspond to the needs of women. Popularly, this phenomenon of disparities in access and use of ICTs by women and men is termed the 'gender digital divide'.

Such has been the aim of the Digital India campaign which claims to create a digitally empowered citizenry. The campaign's genderless if not gender-blind policies conveniently obliterate women's roles as active political and economic agents (Gurumurthy, et al., 2016).

In 2020, 25% of the total adult female population owned a smartphone versus 41% of adult men. It can be seen that within Asia-pacific, India had the widest gender gap in internet usage in recent years, a gender gap of 40.4% with only 15% of women accessing the internet versus 25% of men.

In the case of India, an alternative vision of digital India needs to be proposed to support local public access programs with gender equality, an emphasis on the link between women's participation online and their equal status as economic actors and politicians in society.



Data Source: Mobile Gender Report 2021

In comparison, in other Asian countries, the gender gap stood at 39.4% in Pakistan, 11.1% in Indonesia, and 2.3% in People's Republic of China (Mobile Gender Gap Report, 2021). The same report concluded that Indian women are 15% less likely to own a mobile phone, and 33% less likely to use mobile internet services than men.

Despite the mobile ownership gap reducing from 26% to 19%, and mobile internet use gap from 67% to 36%, between 2017 to 2020, South Asia continues to have the widest mobile gender gaps globally (Mobile Gender Gap Report, 2021).

The idea that development action in the third world would be through the same trajectory as experienced by developed capitalist economies only disregards the failure to deliver in most South Asian countries, except in some parts, which is followed by desperate attempts to salvage the harm done by the digital divide.

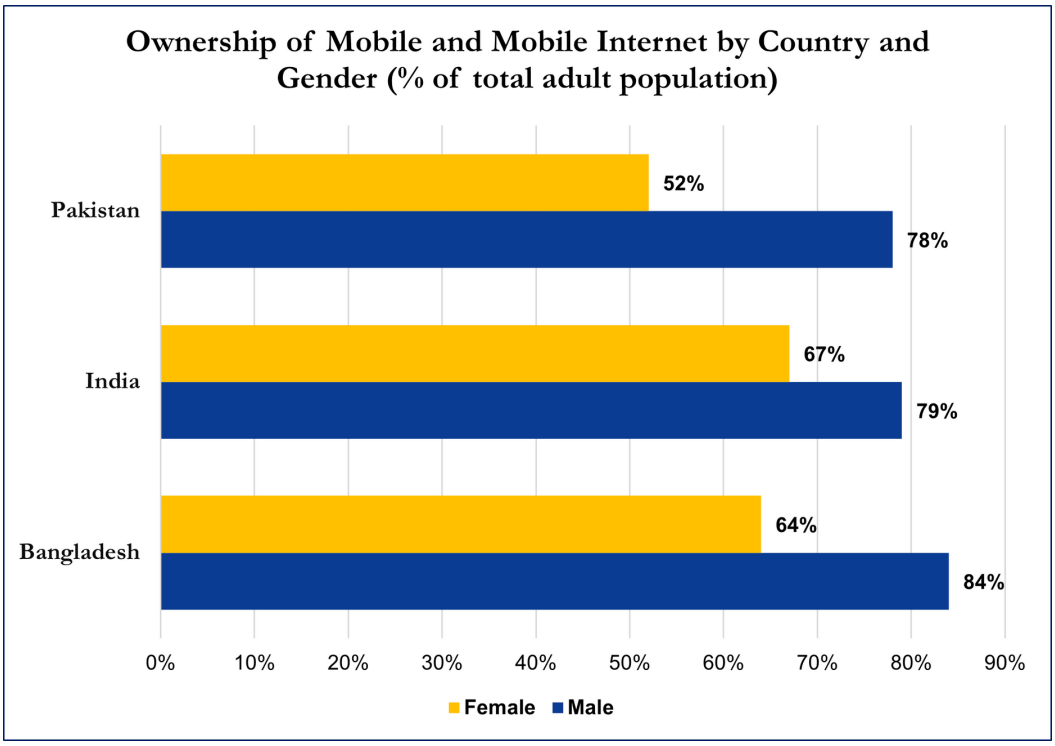
A political approach to women's access to the internet is an important starting point. The substantial resources, skills, and perspectives to participate in the social model of the information society are intertwined characteristics of the idea of empowering access (Gurumurthy, et al., 2016).

Narrative of empowerment

The question of "access" that concerns the masses, continues to be ignored in the current digitally-motivated regime. The privileged urban population, the new middle class, continues to be the target and an uncritical supporter of the state's developmental narratives of upskilling and entrepreneurship.

At the same time, research published by the Digital Empowerment Foundation in 2018, shows that about 90% of rural India's population is digitally illiterate. A continued propagation of illusional ideas of development by the leaders has rendered the larger set of population, living on the periphery, to be further marginalised.

One example is the pandemic-mediated higher education that has been a commentary on the exclusionary vision, insensitivity of state policy and the disconnect that persists from the social realities of India. The proposal to introduce a 'Blended Mode of Education' under the New Education Policy (NEP), to further the online technologies in the Education sector has been a mockery of the problem of access in a country where only 47% of households receive electricity for more than 12 hours a day (Scroll.in, 2020).



Data Source: Mobile Gender Report 2021

According to the 2017-18 National Sample Survey Report on education, only 24% of Indian households had an internet facility. 16% of the households receive one to eight hours of electricity daily and 33% receive nine to twelve hours. The same report suggests that only 8% of all households with members aged between five and twenty-four have both a computer and an internet connection. Even though information and technology have the potential to act as a means of liberation and resistance for the masses, the flawed ideas of delusional empowerment will only accentuate the crisis of furthering inequality under neoliberalism. The pandemic has unashamedly exposed the lack of digital infrastructure and the structural biases and imbalances that exist in the state machinery.

It is critical to politicize the policy globally and nationally and imperative to accelerate the infrastructure development to make the existing system truly inclusive and accessible to all sections of the population, instead of releasing far-reaching, ambitious policy documents with flamboyant details and vocabulary.

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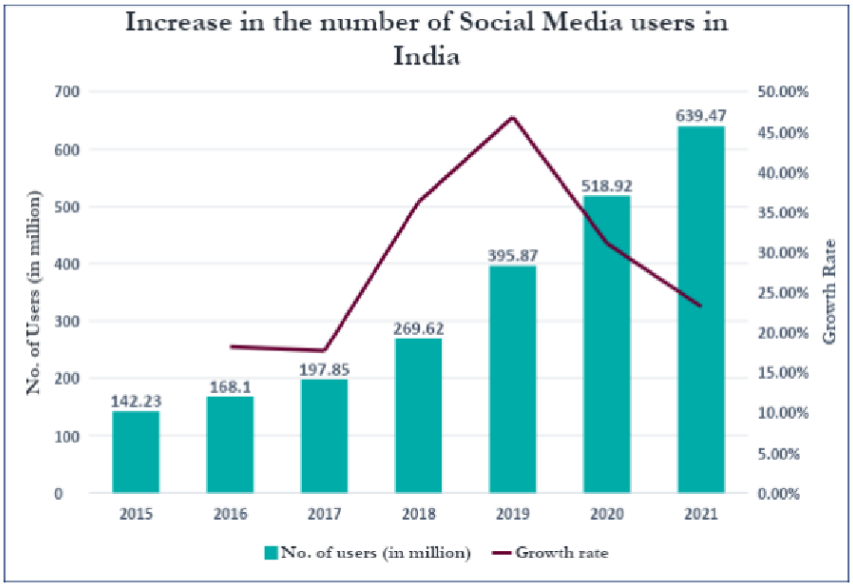
Digitization of Public Discourse: An Enquiry into Requisite 'Skills'

By Riya Gangwal

Hashtags these days seem to emit a potential force which captures commoners into the impression that they possess power to direct, modify and improve discourses, by being heard and understood as soon as they have articulated themselves. A common human error is to overestimate the control people may have over the discourses they are creating, over the propensity of their being meaningfully heard, and over the ability of influencing events and decisions that follow such discourses.

Digital platforms, in recent years, have become strong markers of the socio-political narratives in a country. Social media (SM) platforms in particular document this mood very directly, especially as perceived by those who constantly consume from and pour out opinions on such platforms. Even though the digitization of this information exchange is certainly not a novel phenomenon, there has been a dramatic spike in the number of people subscribing to various platforms, more so due to prolonged lockdowns amidst the COVID pandemic. According to a Statista report (July 2021), estimates for 2021 show that SM users in India increased by 4.5 times of those in 2015. By 2040, they are predicted to increase to almost 1.5 billion.



Data Source: Statista 2021

Another stark distinction around SM usage is the acknowledged consciousness of most nations about the transgression capacity of these humongous tech giants. This usually materializes in the form of censorship on content, blockade on free flow of information, digital transparency, and imposition of monetary responsibility on companies for the content they display. The digital platforms in return portray this to be a State-sanctioned attack on free speech instead of requisite regulation on their own activities, and claim to uphold individual liberty. Given this backdrop, it becomes pertinent to enquire into what exactly festers the digital space when it comes to public debate addressing socio-economic issues, and why exactly are we still unequipped to march ahead without worrying.

In a stark dichotomy, authoritarian regimes have been feeding on the technocratic tools for a long while now. India, for instance, was the largest source of information requests to Twitter, accounting for 25% of total requests globally, as reported by the biannual Twitter Transparency Report (July 2021).

Locate this in the context of the Indian government's unprecedented access to citizen data via 'welfare' programs like the Aadhaar, the Aarogya Setu app, and the very latest Digital Health ID. This, when collated with exposition of data provided by digital platforms on behavioral patterns, traits, choices, and actions of citizens, has high potential of State misuse and strategic propaganda. Scholars studying propaganda and trends in public opinion in general, and Twitter/Facebook activity in particular, claim to observe a methodical recreation of propagandist and biased information on these platforms.

This account fully obfuscates the stated democratic character of social media. The liberal democratic ideal of open access and free speech for all finds itself hamstrung amidst this juxtaposition of digital supremacy and state-sponsored disinformation and bias. The version from India, the description of which goes beyond the scope of this article, is particularly disturbing – the fear of State misuse only multiplies in case of an authoritarian dispensation constantly cracking down on minorities, activists, journalists, and anyone who is a potential information source for the public. As Pratik Sinha, founder of Alt News, informed *The Hindu* (2019), bot accounts on platforms like Twitter operate with a pre-designed bias and target individuals; and that the problem gets more serious when the Prime Minister himself follows such accounts. The narratives that thus exist on SM have enormous probability of diminishing important discourses around socio-economic issues like economic growth, social inequality, discrimination, among others.

People's psychological reliance on digital tools is another reason to explain why unskilled operation of these platforms can be hazardous. Since the flow of information here is quick, unrestrained and to a vast extent unverified, it becomes exponentially easier for people to put out an opinion without being held reasonably accountable for it. Acting on certain human prejudices, such users tend to function solely based on ideological affinity rather than facts, and thus carry the potential of skewing or dismissing the nature of public debate around critical issues. This is particularly problematic for those who subscribe to digital platforms for news and opinion-formation – while ideological battles are necessary, they're not sufficient for a healthy democracy.

Tied to this is another problem, that of extreme invisibilization of the issues of individuals (and even communities) who can't access these platforms and technology. Despite liberals claiming social media to be a democratic space which has provisioned an agency to a lot of marginalized groups, these spaces are still often condemned for their dialogue being largely about the liberal "elite". While politics has fewer reasons to entirely ignore the masses left out of the digital space, it becomes easier for politicians to sweep under the carpet issues that might be affecting a large swath of citizenry. It leads to systemic erasure of experiences of suffering from the public domain, as people subscribe mostly to what is being spoken of on SM platforms, and perceive that to be their immediate social reality. This, yet again, enormously diminishes the scope of public discourse, and impacts the politics and governance that happens in the country.

This marks the reality of the gross absence of *skills* required to make effective and constructive use of social media while engaging in discussions. Human behavior of addictive consumption (even of content), and our democratic institutions are yet to adapt to the massive impact potential digital technology has been displaying for a very long time now. Even as we suppose to hold the tech giants accountable and attempt to check their power (read: Information Technology Rules 2021), our attempts don't signal towards any improvement in situation in the near future. In fact, while we do hold them intelligently accountable for any social damage they may cause, we must address the problems arising at our end.

Things such as echo chambers, gatekeepers, misinformation, organized fake news and unchecked hate attack our independent existence in the digital space. We must consciously work towards developing a culture of bettered tolerance in discussions, fact-checked consumption of content, sourcing information from multiple non-digital sources, ending the culture of impunity for organized trolling and abuse, and most importantly, viewing discourses as more important than individual opinions. Even the State can only be checked in its divisive pursuits once we acknowledge that our debates need to unite us solving problems, instead of dividing us over the problem itself.

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Accomplishing Equality: Indigenous People And Connectivity

By Gauri Gupta
Photo by Suzane Tappe

Why are the same groups of people always denied access to all services, privileges, and rights? Why have some of the necessities that the state is intended to provide for all its citizens been snatched away by the few privileged at the top of the socio-economic pyramid? These communities have been excluded for generations based on the persisting norms of inequalities of caste and tribe. Digital inclusion of such fellowships is seen as a wagon to social inclusion that ensures disadvantaged groups have access to Information Communication Technologies (ICTs) and the skills to use them, to be able to participate in and benefit from an electronically mediated knowledge economy. A 'digital divide' consists of multidimensional viewpoints of technological inclusion: an access divide; a skill divide; an economic opportunity divide, and a democratic divide. Tribal communities stand out as being among the most unreserved and undeserved populations concerning broadband deployment.

In millennial times, the definition of the 'Digital Divide' has moved beyond physical access to the Internet but focused more on concepts that are concerned with issues around culture, social mobility, and differentiated uses of the Internet.

The digital platform doesn't have value in, and by itself, but instead, as a medium that expedites access to other opportunities, which the tribal people cannot use. Indigenous people are using the internet to disseminate historical, tourist, and commercial information to their communities. They propagate their beliefs and presence in their language to create a sense of belongingness and provide a point of view that may not have found a voice in the mainstream media. Despite being in the top five nations in the total number of internet users, the World Development Report noted that over 1.063 billion Indians were offline. A gap in skill and physical access to Information Technology creates this divide. It's difficult to develop technical skills without access to technology, yet having access to technology without first knowing how to use it's obsolete.

Poverty and socioeconomic restrictions digitally exclude individuals at the bottom of the economic ladder because they cannot afford modern communication technologies and the costs associated with upgrading equipment, and training assistance. For instance, data plan prices at 100 rupees shouldn't cost more than 34 rupees, if India has to make the internet affordable for 80% of its population.

Profitability in rural areas is less; therefore, operators don't invest in building suitable infrastructure and the barriers are exacerbated by the lack of awareness about the benefits of ICTs, despite their availability. The National Optical Fiber Network project, initiated by the government, aims at providing stable and affordable connectivity in over 2,50,000 Gram Panchayats, with non-discriminatory access to the network. Low literacy level, generally observed in tribal communities, is a major impediment in increasing internet penetration since digital content and information are designed for an audience that possesses a particular level of literacy and has discretionary money to spend.

Poverty persists in indigenous communities, contributing to overcrowded households, which can be hazardous to health, particularly during COVID. They're particularly vulnerable during times of distress because they lack access to effective monitoring, early-warning systems and are the last to receive important updates on health procedures, which are important for prevention. Aboriginal populations in Jharkhand's Gumla district are often reluctant to visit primary health centers, partly because they rely on 'baidh' (traditional healers) and partly because medical staff ill-treats them. Hence, it's important to ensure all communities have equal access to telehealthcare. The divide has also hindered them from harnessing e-commerce opportunities for a long time.

The government and TRIFED provided financial aid to tribesmen who were having difficulty selling their products owing to the lockdown and subsequent market slump. It put its products on e-commerce platforms Amazon and GeM and offered substantial discounts to promote the products and clear the stocks.

A lack of motivation due to the perception of limited relevant content can compound this. The lack of literacy and interest are the major contributors to why people stop associating themselves with the benefits of the internet, assuming that technology is not for them. Especially during the pandemic, it's imperative to make sure that literacy rates among tribals aren't further deteriorating due to a switch to hybrid education.

Despite the government's efforts to ensure that online education sessions reach all students through mobilizing digital equipment, leaders working with Adivasi-backward communities say that many pupils from marginalized groups still do not have access to modern education.

However, the overall alienation from the social framework discourages the advancement of tribal areas. E-governance, mobile health, and digital finance are at the forefront of policy deliberations at the federal level. The sobering reality of India's ongoing digital divide, however, dampens all of this excitement. Digital empowerment is known to increase awareness and independence, which some may interpret as a threat to the established social order. This way of thinking has resulted in numerous village-level community councils establishing limitations on the use of mobile phones and social media, particularly by women. What India needs is for policymakers to conduct a rigorous data-driven exercise to determine which factors are causing what level of exclusion and what can be the possible reasons for the same?

We will only be able to tame the beast of India's digital divide if we fully understand it. Even though 66% of the country's population lives in its villages, rural internet density is just 25.3. In comparison, urban areas have a significantly higher density of 97.9.

This means that for every Indian who has access to the internet, there is at least one who does not and that person is most likely living in a rural area.

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'Students, Am I Audible?'- Navigating the Digital Education Divide in India

By Akshita Pareek

'Students, am I audible?', *'Can you hear me clearly now?'* and *'Is the screen visible to you?'* are some of the most common questions heard by students in India who have the luxury of owning digital devices- smartphone, computer, laptop or a tablet, a stable internet and power connection. In the COVID times, technology and technology-aided education seem to have become indispensable, despite their inaccessibility for most of India. Over 1.26 billion children worldwide have been affected by school closures due to the pandemic and India comprises over 320 million of these learners (World Economic Forum 2020). While the use of virtual tutoring, video conferencing tools like Zoom, Skype, Google Meet, etc, and online learning software has upsurged, neither these services have been able to reach every student all corners of the country, nor has this abrupt transition been able to compensate for the absence of classroom experience. This has produced what is called the digital education divide- an uneven distribution in the access to education. This is evident in terms of regions (urban/rural), states, class and gender. The "Key Indicators of Household Social Consumption on Education in India" Report, based on the 2017-18 National Sample Survey (NSS) shows that internet penetration in India has been haphazard and exclusionary.

Less than 15% of rural households have Internet as opposed to 42% urban households. Further only 13% of rural residents possess the ability to use the internet. For a country with 66% population in rural areas, this is quite skewed. In terms of class and economic status, based on usual monthly per capita expenditure, the divide is the deepest. In the poorest 20% households, merely 2.7% have access to a computer and 8.9% to internet facilities. In case of the top 20% households, the proportions are 27.6% and 50.5%. The disparity is also apparent among states. The proportion of households with a computer varies from 4.6% in Bihar to 23.5% in Kerala and 35% in Delhi. The difference is starker for internet access. In states like Delhi (highest access of 55%), Kerala, Himachal Pradesh, Punjab and Uttarakhand, more than 40% households have access to internet while the proportion is less than 20% for Odisha, Assam, Andhra Pradesh, Bihar, Jharkhand, Chhattisgarh, West Bengal and Madhya Pradesh.

Here Assam has the sharpest inequalities, with almost 80% of the richest urban homes having Internet access, which is denied to 94% of the poorest rural homes. Here, it is essential to mention that having internet access doesn't guarantee its usage. The NSS report points out low digital literacy with just 20% above 5 years of age and 40% in the critical age group of 15-29 years.

An NSSO 2014 report highlighted that 32 million children were already out of school before the pandemic and this number has only increased since March 2020. Out of an estimated 320 million, 158 million girls are at risk are at a risk of dropping out. In addition, India has had the highest gender gap in access to technology in West Asia in recent years: gap of 40.4% with only 15% women accessing the internet versus 25% men (International Telecommunication Union 2021). More fundamentally, only 25% of the total adult female population owned a smartphone versus the 41% adult men (Mobile Gender Gap Report, 2021).

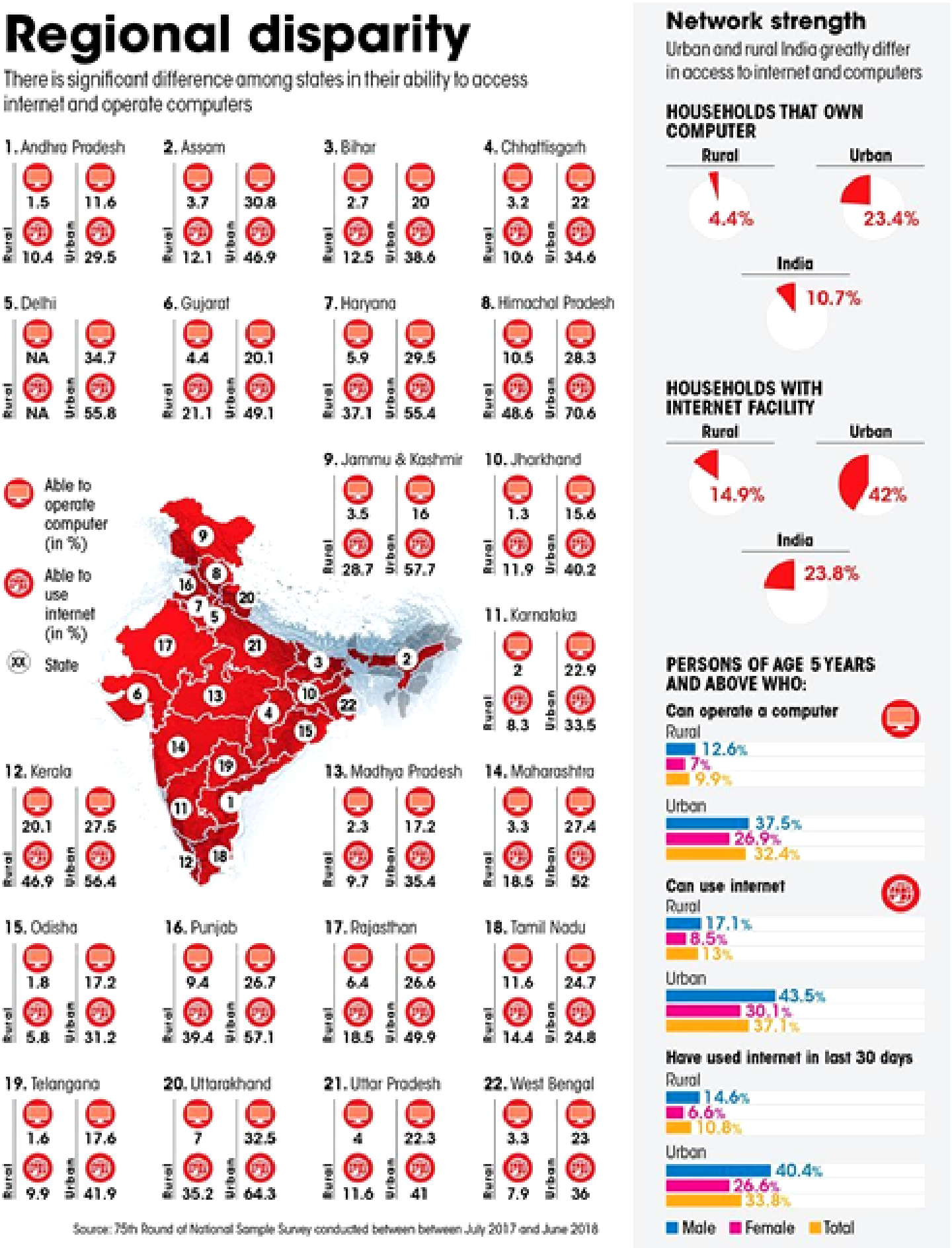

Fig.1: Regional Disparities in Internet Access in India

Source: World Economic Forum

The patriarchal preference of educating the male child even during financial constraints, while excluding girls from similar treatment, explains the cause of gendered education divide. The rural-urban and class-based divides must also be viewed with a gendered lens; patriarchal monitoring of women's internet access and activity alienates them from digital education and skills, and subsequently employment opportunities. The analysis of digital access will be futile if divorced from issues of power cuts, internet connectivity and costs.

While government schemes like Sau Bhagya try to provide electricity to all households, its quality and availability in hours/day paint a different picture. Mission Antyodaya, a nationwide survey of villages by the Ministry of Rural Development in 2017-18, showed that 16% of India's households received 1-8 hours of electricity daily, 33% received 9-12 hours, and merely 47% received it for more than 12 hours a day.

Regular, predictable and strong internet connectivity have been quite elusive too. A survey by Quacquarelli Symonds (QS) (2020) revealed that home broadband users, over 3% faced cable cuts, 53% faced poor connectivity and 32% faced signal issues. In case of mobile data, 40.2% faced poor connectivity and 56.6% faces signal issues.

On cost, Observer Research Foundation's estimates show that each GB of data has costed low-income households (earning less than US$2/day) 3% of their monthly income versus 0.2% for middle-income households (earning US $10–$20 per day). Such spending becomes troublesome when families have borne lockdown-related job losses and wage cuts.

All these statistics suggest that while students from better-off families can use additional personal resources for obtaining digital education, those from the underprivileged backgrounds are likely to succumb to this lack of adaptation.

Here, it's noteworthy that children in many tribal villages are worse off, with access to education entirely severed in the absence of technology and connectivity People with disabilities are also differentially impacted through this divide. Government intervention can go a long way in reducing this digital divide. Despite initiatives from central and state governments like the National Knowledge Network, Bharat Network, National Digital Literacy Mission, Digital Saksharta Abhiyan, and several campaigns under Digital India like PM Gramin Digital Saksharta Abhiyan scheme, to connect the entire country and improve internet access, there hasn't been enough expenditure on improving the digital infrastructure for remote learning.

In fact, in 2020-21, the budget for digital e-learning was reduced to Rs 469 crore from Rs 604 crore in 2019-20. This needs to be improved along with aggressive subsidization of phone data and phones for people in rural areas.

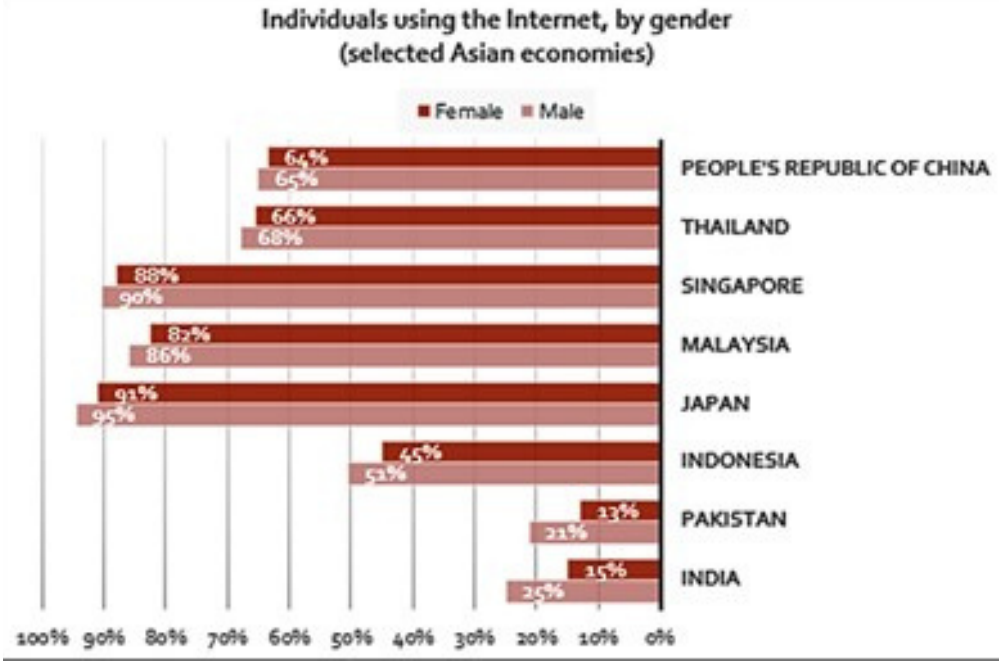

Fig.2: Gender Disparity in Internet Usage across South Asia

Source: International Telecommunication Union 2021

Some State governments' and NGOs' interventions have lessons in the making, like Rajasthan government's Social Media Interface for Learning Engagement (S.M.I.L.E) programs.

S.M.I.L.E program connect teachers and students through WhatsApp, phone calls and use concepts like 'Mohalla classes'- in-person classes in community spaces with a small group of students, teacher home visits, along with recorded video content & quizzes, and the unique 'Aao Ghar se Seekhe' initiative, are a case in point.

Similarly, ThinkZone, a start up from Odisha uses Interactive Voice Response (IVR), SMS and radio to help households with no internet access and has partnered with a local radio channel to broadcast activity-based learning modules for students. Overall, a hybrid model which combines the offline and online set-up, is required to bridge this digital education divide - till the time a gradual but complete return to physical mode is accomplished, in addition to an emphasis on development of indigenous and inclusive digital infrastructure.

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Insurance Sector In India: Unraveling the Dichotomy

While insurance revolves around the concept of safeguarding against adversities, the digitalisation of the insurance sector has kept out most of the vulnerable groups amidst the pandemic.

By Kavya Tandon

Sunny Side Up

Opening up LIC's website, you are greeted by a brightly coloured robot face. That's MITRA LIC's new virtual assistant. It provides you with the option of switching languages, contacting customer support, answering FAQs and much more. This is just one instance of the shift towards digital means brought in by COVID-19 to the Insurance industry. While the shift was already in process, the COVID-19 pandemic expedited it when the Indian government announced various lockdowns and the whole country shifted to the online mode. Tools like predictive analytics, machine learning and AI have started being used in the everyday functioning of insurance companies and they have not only increased the turnaround time but also played a part in enhancing accuracy. Drones will soon be used to assess farmer and crop insurances, telematics to assess car insurance premiums and much more. The digitisation of the insurance industry is picking up pace.

According to the Insurance Regulatory and Development Authority of India (IRDAI), the Insurance sector is expected to grow 40-50% in the next 5 years, seeing that it's already on its path to recovery.

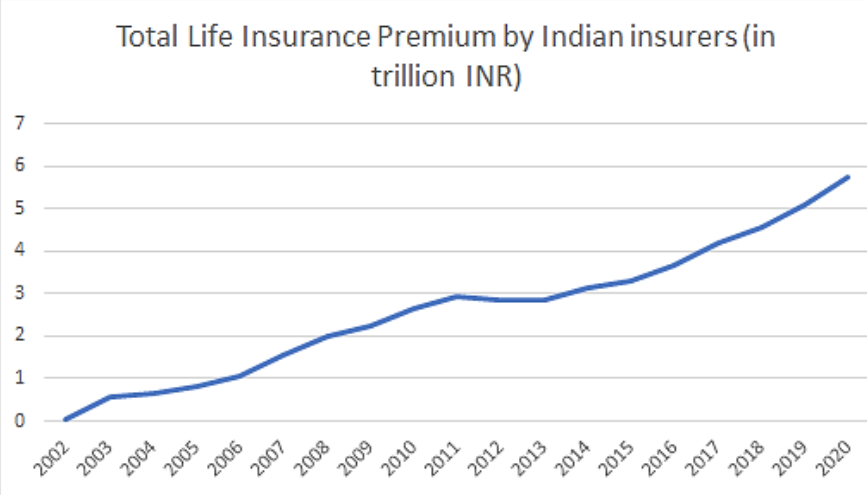

Fig.1: Growth in Life Insurance takers in India between 2002-20
Source: Statista 2021

Business premiums have seen a 16% year-on-year growth. The life insurance industry was 21% higher in February 2021 as compared to February 2020. The online mode, while decreasing the new issuance of car and travel insurance policies, created a whole new market of cybersecurity insurance. The health insurance industry grew by 41% in March 2021 as people started to realise its importance. Insurance is now considered a necessary risk mitigation tool, and not just an investment product for the wealthy - a much-needed mindset change in a country where the insurance penetration rate is far below the global average (NITI Aayog, 2021).

The Impact of COVID -19 on the Insurance Sector in India

The Insurance sector in India is growing at 18% per annum, as announced in the Union Budget 2020. Life insurance has 75% of the market share in the insurance sector and until Covid-19 hit, growing at 11-12% annually. The pandemic disrupted it in 2 ways - it reversed earlier gains and opened new paths for future growth. The purchasing power of the people fell and hence the issue rate of new policies fell. Increasing health expenditures also resulted in more redemption of the policies.

State	% of households where at least one member was covered by health insurance			Share of those insured under govt. schemes*	% houses which consulted the public health sector if sick			% houses which consulted the private health sector if sick		
	Urban	Rural	Total	Total	Urban	Rural	Total	Urban	Rural	Total
J&K	19.2	10.1	12.7	84.6	87.2	92.5	91	12.1	5.6	7.4
Manipur	12.3	15.3	14.2	64.6	78.6	86.6	83.5	20.7	12.2	15.4
Bihar	11.6	15.1	14.5	29.3	24.6	18.5	19.4	71.5	72.9	72.7
Maharashtra	20.1	19.9	20	49.1	30.9	40.6	36	67.1	58.2	62.4
Nagaland	15	23.1	20.5	73.1	61	75	70.5	36.9	18.6	24.5
Sikkim	31.2	21.6	25.7	60.4	81	92.5	87.7	18.3	6.8	11.7
Karnataka	28.2	28	28.1	46.4	45	61.5	54.7	53.1	37	43.6
West Bengal	25.9	31	29.3	89.4	62.4	73.2	69.6	33.4	21.5	25.5
Tripura	24.9	36.5	33	53.3	87.2	95	92.7	11	4.4	6.4
H.P.	37.1	34.1	34.5	52.5	77.5	84.3	83.3	16.4	13.3	13.7
Gujarat	36.3	41.1	39	87	46	59.6	53.8	51.1	38.6	44
Mizoram	41.2	52.8	46.4	93.2	83.3	94.6	88.4	16.1	3	10.3
Kerala	47.2	55.4	51.5	90	72.3	79.3	76	27.2	20.1	23.5
Assam	50.1	61.9	60	3.5	67.2	86.2	83.1	29.5	9.5	12.8
Telangana	52.9	65	60.8	99	36.7	35.5	35.9	58.5	59	58.9
Meghalaya	52.8	66.5	63.5	93.2	60.9	83	78.2	35.7	13.1	18
Goa	65.1	67.5	66	89.2	57.3	67.8	61.6	42.5	32.1	38.3
Andhra	62.2	73.7	70.2	100	37.5	43.2	41.5	56	51.2	52.7

*Employees' State Insurance Scheme (ESIS), Central Government Health Scheme, State Health Insurance Scheme, Rashtriya Swasthya Bima Yojana (RSBY), community health insurance programme

Source: NFHS-5

Fig.2: State-wise percentage of Rural and Urban population insured under government schemes and consulting private health sector when sick

As the health of the economy deteriorated, people lost jobs and had to take pay cuts, which made them miss out on paying their premiums.

But at the same time, seeing the catastrophic events and realising the importance of risk-preparedness, an increasing number of people in 2021 started buying insurance which is evident by the increase in its growth rate. The online mode also created a demand for new and personalised services. A recent report by Hiscox (2019) shows that the business world incurred insured cyber losses of $1.8 billion in just 2019, showing a massive 50% year over year. This became worse in 2020 as the world faced geopolitical instability and uncertainty. Observing the rising needs of online operations, insurance companies tended to issue cybersecurity insurance policies.

Challenges faced by this sector and Government intervention

Even as the pandemic forced people to default on their premium payments, the insurance sector was already facing challenges. Public sector companies dominate the insurance market and their main motive is public welfare. This creates a deadweight loss to society due to market inefficiency, and 82% of the losses suffered in this industry stem from public companies. Cybersecurity concerns in India are also a huge obstacle and the trend of cybersecurity insurance hasn't caught on to the large masses.

The insurance policy penetration in India is dismal. In 2001, it was 2.71 % and currently, it is 3.71 %, which is way below the global average of 7.31 % (The Economist, 2020). The situation is worse when looking at the numbers from rural areas.

Recently, the government increased the FDI limit from 49% to 74% and plans to infuse Rs. 3,000 crore in the sector to tackle these challenges and propel the insurance sector on its path to recovery.

Examining the Inequality

Nearly 90% of the workforce is in the informal sector with no minimum wages or social security and with very low disposable income. According to an ILO report (2021), more than 40 crore informal sector workers faced extreme poverty due to the pandemic in India alone. The informal sector workers spend a higher percentage of their income in healthcare as compared to the formal sector employees. The digitization of insurance has rendered this tool out of the reach of those who would benefit the most from it. While government schemes have been launched to improve the rural penetration of insurance, there is a lack of hard evidence showing any significant results. Figure 2 shows a frightening trend. Even after the number of people insured is abysmal, a lot consulted the private health sector when they fell sick. With the private health care cost rising, the medical bills force the poor into even greater poverty.

While digitising the insurance sector is a phenomenon beneficial to those who have access to the internet, the distrust of the poor in public healthcare facilities is a problem that needs immediate attention. Insurance, something already considered elusive by most of the Indian population, has been made more inaccessible to the working-class population. The presence of a large portion of the population not being able to access even the most basic of insurance products to the soaring heights of digitalisation this sector is about to achieve - a dichotomy exists.

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Still Inaudible: The Digital Discrimination In J&K

Impact of world's longest internet shutdown

By Shreya Baru
Photo by Khyati

While the world was adapting to the new normal viz; the virtual mode, owing to the pandemic; the people of J&K were still enduring the ills of 2G, the students were still inaudible attending online classes with this snail pace internet.

On 5th August 2019, the Union government passed the J&K Reorganisation Bill 2019 that came with a series of challenges for the people of the valley. However, there were many speculations among the people about the plan secretly being implemented because of the sudden deployment of thousands of Indian troops, calling off a major Hindu pilgrimage (Amarnath Yatra), tourists being asked to leave the state, etc and these movements took place few days before the abrogation. The key step which led to the digital divide was the midnight blockade of the internet in the whole erstwhile state with some regions even facing suspension of mobile and landline services. It marked the beginning of digital discrimination in the present UT with the longest internet shutdown. These instantaneous restrictions also included the imposition of Section 144, the shutdown of academic institutions, etc. On 31st October 2019, the J&K state was formally bifurcated into UT of J&K and UT of Ladakh.

Even though the bill was passed and implemented, yet the people weren't ensured of digital rights. It was only a day before Republic Day that the internet was restored but with the meagre 2G speed. It was the tentative end to the world's longest internet shutdown in a democracy.

Meanwhile, there were many petitions filed against the internet blockade, the most significant being the case of the Anuradha Bhasin vs. The Union of India case. Apart from this, there emerged a new trend of VPNs among the population which persisted even after the restoration of 2G. VPN is Virtual Private Network that permits the users to access the web through proxy servers, thus hiding their location. It spread like wildfire in the region but as it is said you have to take good with the bad, where many used it for educational and entertainment purposes, others relied on it for their business. Many suffered due to it not being safe and their data ultimately being leaked. As a consequence, the VPNs were also banned, the rationale being its misuse, as stated by the Police. The circumstances deteriorated, even more, when COVID-19 set afoot, which eventuated a complete lockdown in the whole country, obstructing the offline classes and heading the students into a darker abyss of online classes with 2G.

Campaigns and petitions were being filed, but none of them was loud enough to be heard. Either the demand was refused, or deferred, or was extended for further review. Covid-19, 2G restrictions and power outages combined, made education inaccessible for several.

According to the report of the Kashmir Chamber of Commerce and Industry, the lockdown caused a decline in the economy of Kashmir. In the period between August and December 2019 only, there have been around 5 lakh job losses in the region. In July 2020, a report compiled by The Forum of Human Rights was released by the name "The Impact of Lockdown on Human Rights", according to which J&K's economy by July 2020 which is roughly 1 year has faced a loss of around 40,000 crores since the revocation of the article 370. On the other hand, the unemployment rate in J&K remained twice the all-India rate.

An internet shutdown tracker run by a digital rights organisation "Software Freedom Law Centre" showed that since 2012, there have been 433 internet shutdowns in India, of which 226 were in J&K only. In 2020, there were 55 shutdowns in India, with 46 of them in J&K. A report from the Indian Council for Research on International Economic Relations had stated that internet curbs between 2012-2017 had cost Kashmir's economy Rs.40 billion.

In comparison, the first five months of the 2019 shutdown cost the economy more than the sporadic shutdowns of five previous years. Other than this, Banking and Finance also went through a major setback. The internet shutdown also disabled access to all modes of net banking as well as various online payment portals. The hardest hit by the blockade were start-ups whose operations were framed on the internet. Even the schemes like "Digital India" and "Ayushmann Bharat" and many more depend on the internet as it forms the basic thrust of these, but due to low-speed internet, people couldn't take benefit of it.

The first detailed report on internet blockade released by the Jammu Kashmir Coalition of Civil Society (JKCCS), called this internet blockade "digital apartheid". As per the report, the multi-faceted and targeted denial of digital rights could be a systematic form of digital discrimination, repression and collective punishment for the region's residents. Thus, the communication blockade impacted the erstwhile state on various fronts, affecting enterprise, people's health, start-ups, students' schooling and education etc.

On 5th February 2021, the 4G services were finally restored, but this cannot compensate for what the students, the health workers, the entrepreneurs, and the common people lost and most importantly, what the economy of the UT lost. For a resident of J&K, internet shutdowns are quite common as the region witnesses many every year. But this particular incident came to light. It was the longest internet shutdown in any democracy whereas other cases are often ignored and not paid much attention. A very recent case of this was seen when a famous separatist leader in J&K died in September 2021. Following his death, restrictions were imposed in the valley, including the internet blockade in some regions for 2-3 days. This points towards the fact that despite outrage against the 2019 internet shutdown, there have been no constructive measures to stop this digital discrimination.

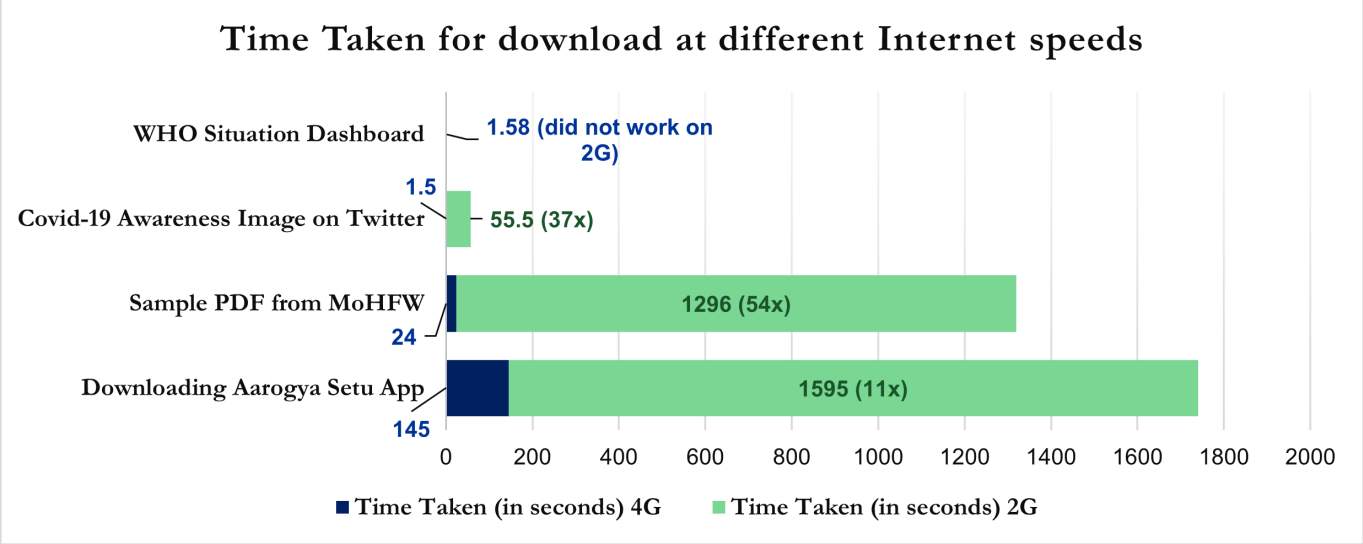

Fig.1: Comparison of 2G and 4G internet speed
Source: Kashmir's Internet Siege by JKCCS;
Waghre, Prateek; Implications of 4G and 2G Connection Speeds on Web performance, SSRN

Now with the whole country moving towards digitalization, the government needs to acknowledge that these internet shutdowns cannot always be defended in the name of national security. The shutdown was more than a year-long and no serious threats to national security were visible all-round the year. Even if one had to protest or show their resentment against the blockade, they were unable to do so due to the restrictions.

The indefinite internet ban is undoubtedly a matter of concern. It is high time that we understand this digital discrimination and its ramifications on the lives of all the citizens and the economy of the region.

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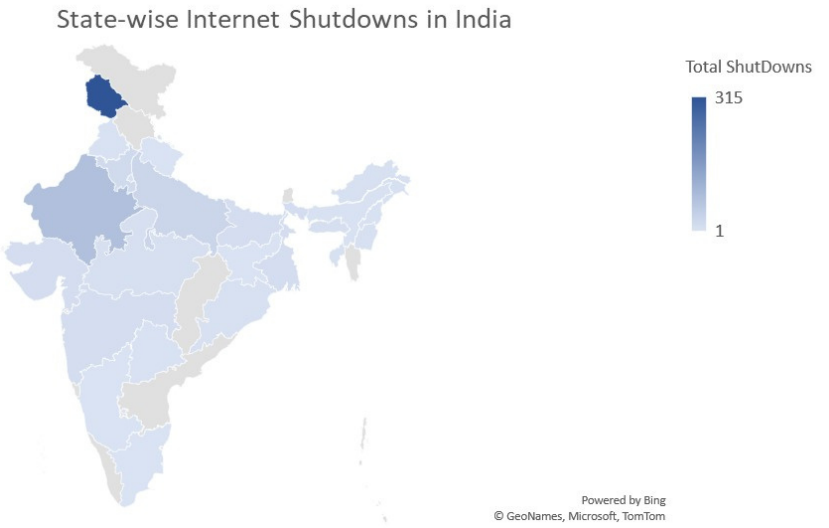
The Saga of Internet Shutdowns in India: Clamping Down Digitization

By Sanaa Munjal



Data Source: Internet Shutdown Tracker

A widely used tool by the Indian government to shun dissent and the voices of citizens is the Internet Shutdown. The shutdowns refer to a partial or complete disruption of fixed-line or mobile Internet, ordered by the state that renders inaccessibility to the Internet, for a specific group of people, within a particular territory in the country. The curbs on the press, Internet, and information during times of political unrest, protests, or dissent are now an everyday phenomenon. Across the world, these shutdowns are a handy tool for the fulfilment of government's purposes.

As per the report by Freedom House, only 18 out of the 70 countries assessed are completely free, with 31 and 21 countries considered partly and not free at all, respectively. India, being a democracy, stands as a partly free nation with a score of 49/100. India's ranking is swiftly stumbling on notable indices like the Economist Intelligence Unit (EIU)'s 2020 Democracy Index. The rank fell to 53rd due to issues like 'crackdowns' and 'democratic backsliding' by authorities. The nation now also ranks 111 on the Human Freedom Index out of 162 countries. The pictures portrayed don't seem too bright for the country on the international forefront.

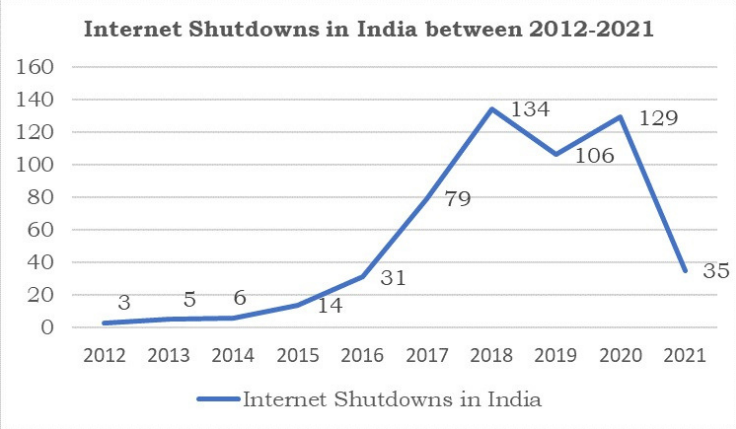
The Government of India also instituted the Temporary Suspension of Telecom Services (Public Emergency or Public Safety) Rules in 2017 to regulate the suspension of services due to public emergency or for public safety. But several activist groups have alleged that these laws provide the government with leeway and a form of legal backing to human rights abuses and unlimited authority with little to no transparency and accountability.

The justification for the Internet suspension is to quell national threats, maintain public order, prevent violence, protests, and organization of political opponents and halt the spread of disinformation. India has been a witness to extreme forms of state violence, police brutality, killings, etc. These digital blockages lead to a social, political, economic, and humanitarian impact.

As per the data available from the Internet Shutdown Tracker, we can see the prevalence of Internet shutdowns in the country. Since 2012, the total number of tracked cases has been close to 542. The number has only increased since then, with the highest in 2018, with 134 shutdowns. The heatmap depicts that the Union territory of Jammu and Kashmir has faced the highest number of Internet shutdowns.

In two years, 2019 and 2020, it is said that the government imposed the most prolonged Internet shutdown in democracy in Kashmir in the wake of abrogation of Article 370 of the Constitution. The complete Internet connection was restored after approximately 552 days. There have been numerous other shutdowns in states like Rajasthan, Uttar Pradesh, and Haryana, following controversial judgments or incidents to quell potential protests. When the controversial Citizenship Amendment Act, 2019 (CAA) was passed, it led to widespread protests. Again, the government took the route of Internet blockages to silence the masses and suppress voices.

Apart from the legal implication of these shutdowns, they also lead to serious economic consequences for an economy. As per Top 10 VPN, India was the most impacted nation in 2020 with economic damage of $2.8 billion and approximately 8,927 hours of Internet shutdown, the highest globally, impacting 10.3 million Internet users. Internet blockages have far higher costs which outweigh the benefits, leading to economic losses, fall in productivity, trust, and confidence, among other factors. The supposed reasoning given by the administration and governments is that Internet shutdowns are to silence protests and reduce violence, which at the same time leads to a curb on digitization. Technology is an advancement worldwide that acts as a democratizing influence and gives society a voice and freedom to express in several ways.



Data Source: Internet Shutdown Tracker

Dissent and disagreement are at the roots of any good democracy, which have found a whole new meaning aided by the Internet and technology. These are essential to maintain checks and balances, but the practices adopted by the governments hamper the momentum of such movements.

Internet blockade must be the last resort for a government, and alternative measures must be used to deal with sensitive situations like protests and violence. It is essential to reiterate the fact that restrictions are never a solution. Citizens, activists, and rights groups need to act as watchdogs to prevent such issues from prevailing and hold the administration accountable. There is a need for a better and reformed regulatory framework to improve transparency. It is essential to ramp up our infrastructure, our tech-based policies and tighten up all loose ends because such acts are detrimental to the very essence of democracy.

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Siloed Monomania: Wisdom, Ideology and Religion in the Digital Age

By Rishika Verma
Photo by Suzane Tappa

Digitisation and Religion may intuitively seem to be extraneous or unrelated, but they are indeed two sides of the same coin; the conjugating link being the rise of monomania. "Digital Religion does not simply refer to religion as it is carried out online, but more broadly studies how digital media interrelate with religious practice and belief."

While the government has made great strides in digitising India to connect rural areas with high-speed Internet networks and improve digital literacy, it has also taken two steps back. Lobbying against minority groups, toying with the social fabric of the country and advancing divisive ideologies when it should be amongst the underpinning principles of the government to support and aid the empowerment of minority communities, has all led to a growing sentiment of neglect and abandonment amongst the minorities.

Digitisation has caused much political and religious upheaval - through social media campaigns targeted at certain vulnerable sects of society. Whether it be the use of religion as a marketing tool in personal emails or majoritarian violence which makes its presence palpable on social media through extremist groups masquerading as harbingers of justice to further their vitriol against marginalised communities, there has certainly been an unambiguous upward trend in the digital hatred that transcends our computer and mobile screens.

Retail companies and multinational restaurant aggregators like Swiggy, Zomato have also used this narrative to their advantage to amp up sales during the festive season. Nonetheless, it is important to note that social media has also made way for potent discourses and movements which have led to the obliteration of many archaic and backward laws and sections of the Indian Penal Code, including much-needed alterations in personal laws.

The digital age has also triggered a paradigm shift in the way people perceive their own religious identities. In recent times, we have seen people's religious beliefs be recast into jingoistic and sectarian dogmas with political undertones because they often confound personal opinion with factual information, thus posing a serious threat to any piece of veridical information which remains at the risk of being adulterated by subterfuge.

Several studies have found that young people find religious self-disclosure to be a particularly onerous task; one which is seen to be a fraught proposition. They often find themselves in a cleft stick while moulding and determining their outlook towards society in its entirety, having to walk a tightrope; separating critical realism from pragmatism.

This might seem somewhat of a preposterous take at first, but there is empirical evidence that supports the line of reasoning that digitisation has indeed unleashed a community across social media that has created an echo chamber of sorts amongst like-minded people. A study by Jonathan Bright on the effects of social media and its role in ideology and extremism found that political groupings on the extreme ends of the spectrum are often more likely to form such echo chambers. All of this together has given an ascent to this monomania leading to a mental intoxication of connectedness, consequently imploring the masses to buy into the narrative and multiple elements leading to the mass formation (or mob psychology) and ultimately, totalitarian thinking.

Ideology is seen as a set of beliefs about what is fair and just in this world. Ideology may not be empirically grounded because sometimes someone's principles of "fairness" and "justice" override observed evidence. Dr Ed de St. Aubin defines religion and ideology as "A set of individual religious beliefs that are conceptualized as a component of personal ideology, which is one's value-laden philosophy of how life should be lived and of what forces impact human living."

The role of all the stakeholders involved in this process has also had a massive impact on the way this digital monomania has taken its course. Studies have shown that more individuals are susceptible to media influence as a result of the divisive character of such a digital discourse. This has proved to be especially detrimental to their perception of minority communities, extending beyond the realms of religion and tenets of political dialogue. It thus becomes increasingly imperative for society as a whole to unshackle itself from the stultifying embrace of this convulsive phenomenon, especially at a time when people continue to conflate rebellion with resistance and opinion with ordinance.

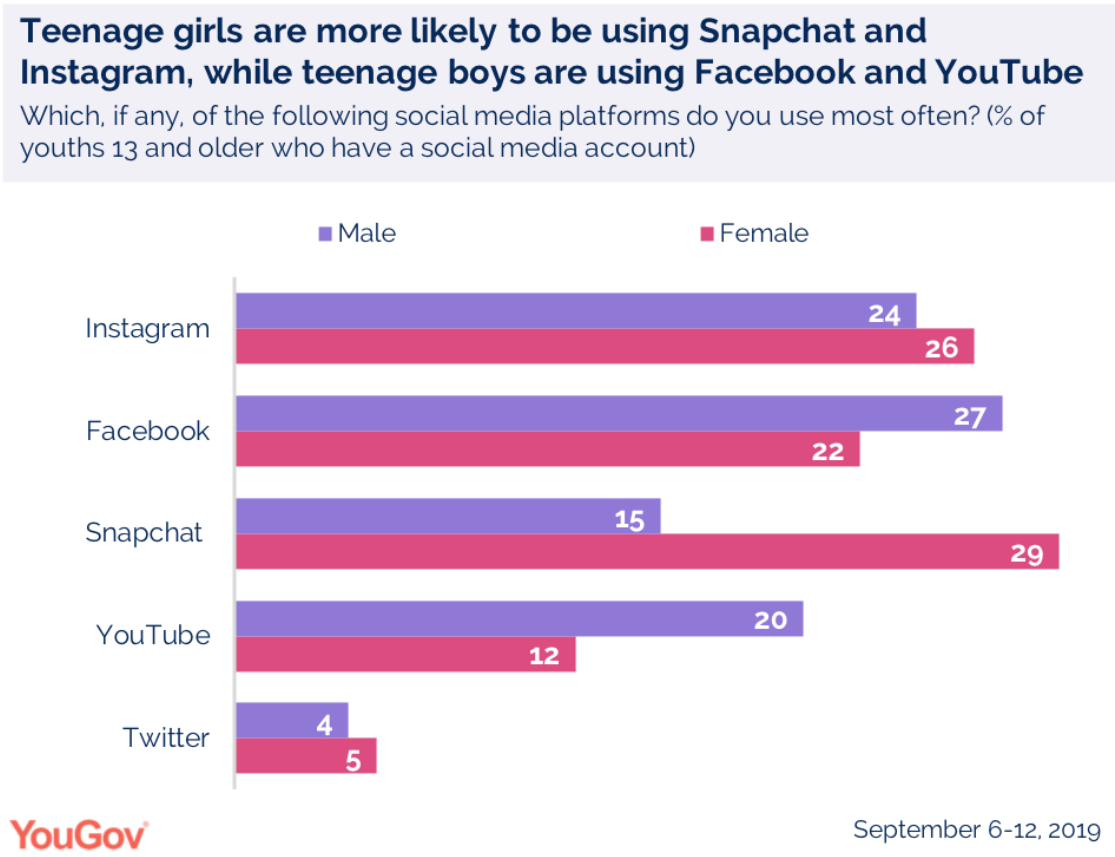

Image Source: YouGov America

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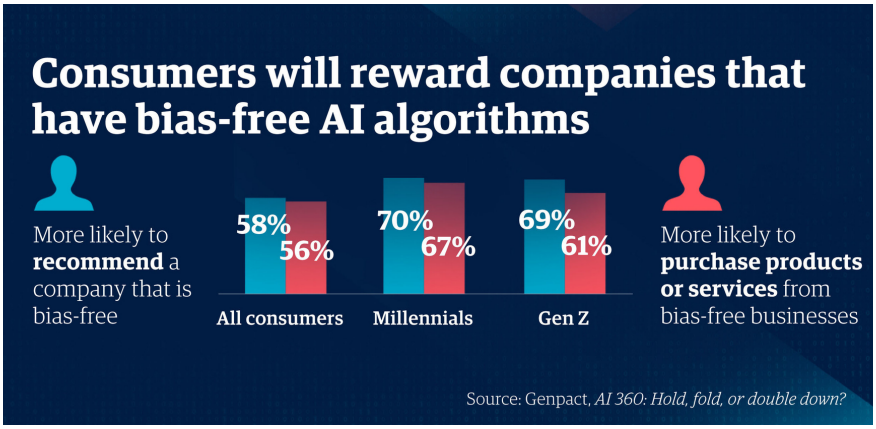
Algorithm Generated Bias: Detectors or Discriminators?

By Sanya Nayyar

In today's digital world, technology in the shape of artificial intelligence is governing the decisions we make daily from recommendations on social media platforms to making digital payments. One of the main reasons behind the introduction of AI in the market was it being a better option in reducing inefficiencies and increasing accuracy. But amid all the noise, many forgot that if humans are error-prone, this doesn't necessarily make artificial intelligence error-free. Humans are the ones behind AI and its framework. So, depending on who designs them, how they're created, and how they're eventually used, these systems might be biased. This is what is referred to as **algorithmic bias**. The algorithms risk reproducing and magnifying human prejudices, particularly those impacting vulnerable sections of the population.

Many companies and even governments are slowly shifting to AI to make their decision-making process more sophisticated as well as automated. A check on algorithmic bias has become more important than ever when algorithmic bias can potentially harm various stakeholders including creators and operators of algorithms, programmers, government and industry leaders.



Source: Genpact

A persisting question that arises amidst this is whether algorithms are detectors or if they're the source of discrimination in spreading biasedness. Joanne Chen, Partner, Foundation Capital, rightly said, "AI is good at describing the world as it is today with all of its biases, but it does not know how the world should be." Foundation Capital is a venture capital firm comprised of former entrepreneurs that assists firms in growing. Tackling bias is not easy and there are various reasons why AI technology can be biased - insufficient training data and implicit biases being critical gaps. Apart from this, one of the main reasons for biases could be the presence of historical data. If historical biases are taken into account, the model makes the same types of mistakes that humans do.

For instance, an MIT researcher named Joy Buolamwini discovered that algorithms powering three commercially available face recognition software systems failed to recognize darker skin complexions. Most face recognition training data sets are approximately more than 75% male and more than 80% white. In response to Buolamwini's facial-analysis findings, IBM and Microsoft pledged to improve the accuracy of their facial recognition algorithms for darker-skinned faces. Inadequate or over-representation in the dataset can skew the result in a particular direction. Another issue leading to prejudice in AI is lack of diversity.

Even some of the top tech giants face the problem of equal representation and diversification in the workplace. For example, Facebook has seen a meagre increase in the number of black employees from 3 % to 3.8 % in the workforce in the past six years. Technical postings are held by even fewer individuals with darker skin tones. Also, a study by Genpact AI 360: Hold, fold, or double down? shows that, while 67 percent of customers are concerned about AI discrimination, and 64 percent worry about AI making choices that affect them without their knowledge. Figure 1 shows how consumers prefer bias-free companies and are highly likely to purchase goods and services by rewarding them.

In the real world, could the AI be anytime completely unbiased? The answer is simply no, because these biases are created by humans and are getting constantly updated; moreover, that too is being checked by humans only. AI can only be as good as the quality of data it is fed, and the people who provide the data. To ensure a fair and ethical deployment of technology, a balance in AI and machine learning algorithms with constant monitoring is required.

Measures should be taken to ensure a fair working of algorithms. Acknowledgement of the possibility of bias is the first step in any mitigation approach. Algorithm operators must create a bias impact statement to measure the extent of biases and its impact on the people. A three- fold debiasing strategy of dividing the task operation into three categories of Technical, Operational and Organizational should be followed to ensure transparency and accountability of work. Knowing about the differences and biases is not enough, companies can use this knowledge to find the root cause of the findings. They can contribute to the efficiency by providing intensive training, doing in-depth research in algorithm working and cultural changes. Algorithmic hygiene should be practised to identify and mitigate discrepancies in AI technology.

Some of the other steps that can help in mitigating the biases in AI technology are introducing a feedback system to keep a check on algorithms and including a diverse team in building algorithms.

To make the technology fair for all, three questions should be answered before using AI:

- Who are the people making algorithms?
- How will algorithms help in fighting bias?
- What impact will it have on people?

AI is considered one of the most transformative technologies. It has seen exponential growth worldwide. The genuine concern of biasedness persists but if it is handled properly, a lot of scope lies in this field. Systemic discrimination could be reduced by improving the algorithm structure - thus, making it safer for a lot of people. Algorithm literacy should be imparted to the users to stress the close interlinkage between algorithm progress and ethics. It will not be wrong to say that algorithms are the detectors that can be the discriminators if not monitored properly.

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The Pegasus Project- An Unwelcome Future of Privacy Breach and Dystopian Surveillance

By Clare Ann Biju
Photo by Civia Mary

Amid the highly turbulent reaction to the government's response to the coronavirus pandemic, or lack thereof, a ubiquitous concern of the citizens around the globe is now at the forefront of political discourses, concerns that have been proven to be true, costing the lives and freedom of numerous whistle-blowers. Is our Right to privacy being violated, moreover, is anyone really safe from surveillance, regardless of their political affiliations and socio-political status?

A consortium of international media organizations launched a journalistic investigation, The Pegasus Project, into the NSO Group, an Israeli surveillance company. The leaked database contained an alarming 50,000 numbers, including more than 300 Indian numbers. Forensic analysis by Amnesty International showed traces of Pegasus activity in at least 37 phones, of which 10 are Indian. The privacy breach was not limited to particular classes but included people belonging to multiple facets of society, from ministers, judges, businessmen, activists. The NSO Group claims that its clients are state and state agencies, and, ironically, they have also acknowledged the human rights risks of spyware that could be potentially misused by states and state agencies for reasons that have got nothing to do with national security.

The Indian Government was quick to absolve itself of any involvement, and deflect the blame to forces that were trying to "malign the Indian democracy, and its well-established institutions", in the words of the IT Minister, Ashwini Vaishnaw. The implications of this reveal are conspicuously disturbing and raise many questions regarding the stability of our democracy. The cogency of elections is under scrutiny, and the people's trust in the potency of the government and its branches is dwindling.

Violation of data privacy is often justified in the name of "national security" but the background of the proven targets in India suggests that they have no link with any national security investigation, this demonstrates a clear agenda of discriminatory surveillance that is a means to political attack. Further, the Privacy laws in India are woefully inadequate and their implementation is impaired. There is a need for the introduction of strict legal standards and transparent grievance redressal mechanisms. India reported 1.16 million cyber security cases in 2020, a whopping 3 times increase from 2019. 1 million credit card records was reported to be hacked from the customer database of Dominos in April 2021. In May 2021, Air India reported that hackers had compromised their servers and accessed the personal data of 4.5 million fliers.

These attacks have caused a general distrust among the public and have also subsequently affected their faith in the laws that govern the nation.

Data privacy is incredibly important to marginalized communities, and loss of privacy will generally threaten a person's sense of self-expression. A harrowing incident that reflects the state of the dooming level of privacy that is being afforded to us right now, WhatsApp confirmed that Dalit activists and journalists were under surveillance of the Pegasus spyware for a two-week period until May 2019. Oppressed and underprivileged communities also face increased threats of violence and retaliation for their activism, since they are socially and politically vulnerable.

As individuals, we must have conversations regarding data usage and privacy. While the brunt of the responsibility of legislation should not be falling on the shoulders of the people that have no electoral power, our privilege of access to social media platforms, books and information should prompt us to raise awareness about the impending massive threat to our privacy and the government's dubious responses to it.

The government must pass all-inclusive data protection laws, and hold companies and institutions accountable in case of a breach of trust while handling people's personal information. Companies must be required to undergo regular data security assessments and their privacy impact must be scrutinised. Independent and well-organised data protection authorities must be set up to regulate privacy laws. Portals that are specifically set up for redressal must be easily accessible to everyone, and the process must be hassle-free, while also ensuring that the responses to the concerns of the citizens must also be provided promptly.

Privacy is a fundamental constitutional right, as ruled by the Supreme Court of India in 2017. India treats the data generated by its citizens as a national asset, something that it can use to guard its interests and strategies. The nation's Data Protection Act of 2019, formulated per the EU's General Data Protection Regulation, covers a lot of grounds, albeit with some faults of its own. The Bill allows the processing of personal data in the interests of the security of the state, following the procedure established by the law, and also permits the processing of personal data for investigation and prosecution. This is a huge threat to the right to privacy of the citizens of India, given the weak state of legislation against state surveillance in India.

Surveillance is a tool used by governments and mega-corporations to further their agendas of control and subservience. When they are privy to personal contacts and information, not only are they wielding it against us for commercial purposes, but it facilitates an elaborate and long-standing political ambush too. The national security of a nation is absolutely important, but it must not come with the infringement of human rights and civil liberties.

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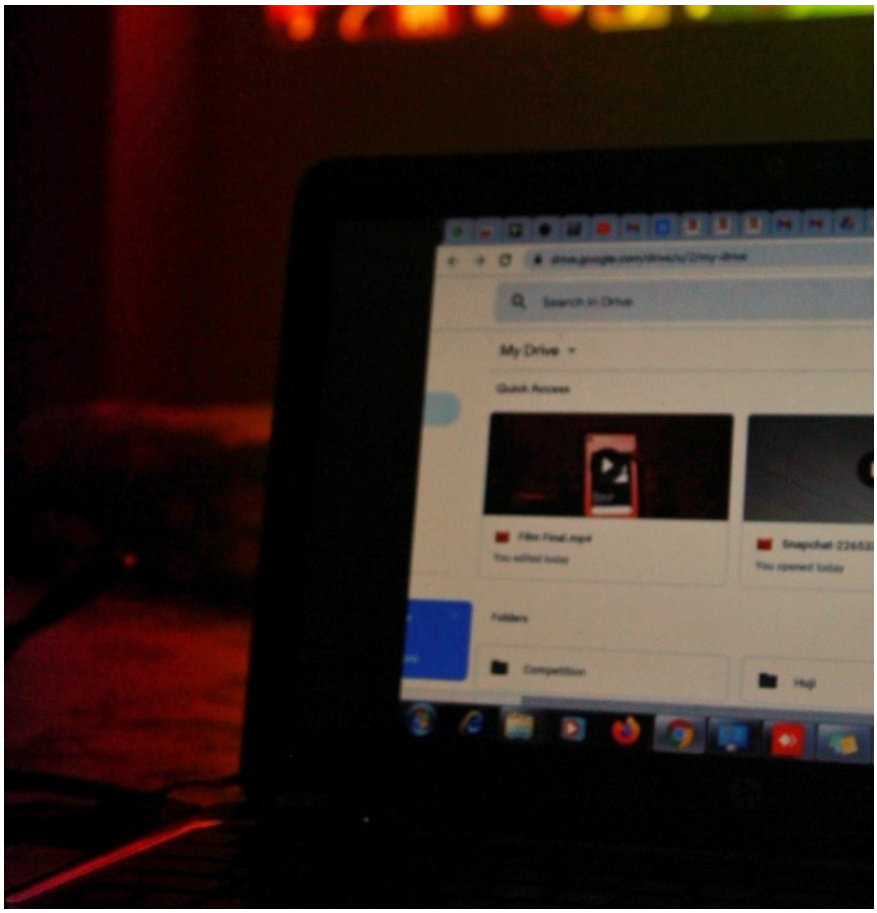
Surveillance by Big Data Companies- A Threat to Privacy?

By Abhilasha Saxena
Photo by Khyati



Clive Humby, a British mathematician and data scientist originally coined the phrase "Data is the new oil" and since then the importance of data and data analytics has been ever increasing. "Big data refers to extremely large datasets that can be analysed computationally to reveal patterns, trends and associations." The 21st century has witnessed the emergence of a large number of platforms that utilize this immensely valuable asset. These platforms have realized the fundamental value of data and have learnt to make efficient use of it. They have become responsible for the management of digital markets.

Five large corporations, namely, Google, Apple, Facebook, Amazon and Microsoft, popularly known as GAFAM, top the rankings of market capitalization and form the "Internet Oligopoly". These major digital corporations provide informational infrastructures that function as new public utilities. For example, Google's Mail and storage systems are used by almost all public and private institutions. This gives Google massive control over the data of its users. On the other hand, Facebook, after taking over Instagram and WhatsApp, controls the bulk of social communication on the web. The use of these applications has become a necessity today.

Most users around the world are forced to accept situations in which they are intensely monitored by private companies. In essence, GAFAM Corporations are exercising digital domination all over the globe.

The degree of surveillance capitalism that we as users are being subjected to, is immense and hence dangerous at times. Surveillance capitalism is "an economic system centred around the commodification of personal data with the core purpose of profit-making." The mere thought of giving away so much of personal data and information to corporations, whose sole purpose is profit-making, tends to be nerve-racking. The question that arises here is whether the data we are giving away is in safe hands or not. Users are almost helpless in a situation like this. Pervasive surveillance compels them to give away their personal information in exchange for access to information. They are unable to protect themselves from the oligopoly of big corporations.

The actions of the digital dominators are commonly justified by presenting them as agents of progress. Accepting their guardianship is considered the only way to enjoy the practical advantages of technology.

Surveillance by big data companies can turn out to be a threat to users if data management is poor. A few of the big data privacy risks have been mentioned below:

Big Data Privacy Risks

1) **Data breaches:** If out of date software and weak passwords are used to protect data, there is a greater chance of information being accessed without authorization. This can cost a great deal of money to the corporation along with loss of reputation.

2) **Data discrimination:** Data may consist of customer demographic information as well. This information might be misused to develop algorithms that penalize individuals based on age, gender, or ethnicity.

3) **Greater vulnerability to Cybercriminals**: Personal Data is essentially the data through which a living individual can be identified. The leakage of such data makes users more vulnerable to cybercriminals.

The Facebook-Cambridge Analytica data scandal is one of the biggest known data breaches till now. Data collection was done through an app called "This Is Your Digital Life". Data of up to 87 million Facebook Profiles was harvested through it. "Cambridge Analytica used the data to provide analytical assistance to the 2016 presidential campaigns of Ted Cruz and Donald Trump."

A former Cambridge Analytica employee disclosed information about data misuse by the company in interviews with The Guardian and The New York Times. Later, Facebook apologized for its role in data harvesting and their CEO Mark Zuckerberg testified in front of Congress. In July 2019, Facebook was fined $5 billion by the Federal Trade Commission for violating the privacy of its users.

In the previous year, there have been multiple instances of online leakage of Aadhaar data through government websites in India. Just recently, an RTI query forced UIDAI to reveal that about 210 government websites had made the Aadhaar details of people public on the internet.

The problem was so rampant that a simple google search would reveal thousands of databases like Aadhaar numbers, names, names of parents, PAN numbers, mobile numbers, religion, bank account numbers, IFSC codes and other information. To maximize benefits received out of big data and minimize threats to users, corporations must harness such data with utmost caution.

Proper management can reduce risks and protect sensitive data. Traditional privacy processes cannot handle the scale and velocity required to handle complex and large datasets. Hence, creating a framework that can handle the volume, velocity, variety and value of big data is the first step that needs to be taken. A few tips for ensuring better privacy of big data are given below

Developing big data privacy and protection strategies

- Defining and managing data governance policies can help in identifying what data is critical and why, who owns the critical data, and how it can be used responsibly.

- Tools of artificial intelligence and machine learning can be utilized to discover, classify and understand data at a massive scale. Information gathered from such data can be used to develop and implement intelligent big data management policies.
- Continuous risk analysis for sensitive data can help in understanding its risk exposure.
- Fast and efficient data protection capabilities, including dynamic masking and encryption for big data, can help in protecting the privacy of users.
- The status of big data privacy indicators should be measured regularly to protect sensitive information.

Ultimately, the safety of big data does not just depend on what laws are in place. It depends on how effectively technology can react to, and defend against, cyber threats. What remains to be seen is whether data protection laws can keep up with the endlessly advancing digital age or not!

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Evaluation of Media Consumption in Digital Diasporas

By Paridhi Puri
Photo by Tanya Gupta

The digitization of our lives in the past few decades has prompted the replication of socio-cultural realities on the internet - in the form of disembodied communication networks and widespread trans-nationalization of labour and businesses. Social movements, conversations and critical formulation of gendered roles emerge in the wake of media interventions facilitated by the internet, and this essay evaluates the ubiquity of digital diasporas and their cultural footprint in the way we perceive our identity. Digital Diaspora is an interdisciplinary term embedded in the premise of Internet-specific, network-oriented technology; and is responsible for the extensive social application of the political, geographical and historical specificities of its origin.

In Digital Diasporas: Identity and Transnational Engagement (2009), Jennifer Brinkerhoff elucidates the impact of digital networks on the increase of social capital - and how their intersection provides the collective identity of an individual, especially in the media landscape. The cultural attributes of cuisine, music and heritage as "Indian" are located on the internet, and consequently assumed to be representative of national identity.

Such sociocultural and technically produced time-space compressions enable Indian diasporas to be globally networked and to relate, as well as access their identities both from the actual geographical nation-states and through the diasporas. These identities are reproduced within sociocultural digital places manufactured by computer software and hardware. Diaspora communities are notable for administering their mobilized identity toward elevating the quality of life for citizens in their homeland as well as the host land.

Through the creation of cyber communities, digital diasporas counter the marginalization susceptible to violence - since these cyber communities potentially prevent conflict through opportunities to express sentiments and bond with others online. Members in these cyber communities express their dilemma and resentment through the medium, as the degree of difficulty of communication in the physical world is made simple in the cyber world where an individual can be relatively anonymous. It is important to note that the most advanced digital diasporas aim to improve policy and institutional frameworks in support of both the targeted homeland demographic and diaspora contribution practices.

Much of the quantified engagement on digital platforms does not explicitly attempt to be legible to a humongous audience. For instance, a lot of participation on Facebook happens in closed groups with members largely from the university or the same shared geographical space. While most of these interactions in the online space did not seek to transcend the spatial or the temporal, they did utilize these platforms strategically to facilitate engagement in ways that are meaningful and coherent. A notable example is the creation of local-language Wikipedia pages to facilitate solidarity and shared expression among people not well-versed with English as a dominant language. In her book Digital Diasporas, Labor and Affect in Gendered Indian Digital Publics (2019), Radhika Gajjala illustrated an episode of a protest organised by students pursuing higher education in a state-funded Women's Studies Center (WSC) to object to the wrongful termination of one of the faculty members. The usage of traditional media was employed - by writing letters to the governor and various teachers' associations in the state. However, they participated in extensive documentation of the protests on Facebook as evidence - thus using it as a prominent tool for subversive memory-making, besides a medium of communication. This was largely orchestrated due to a lack of efficient mobilization of support online - students from other departments were warned against participating in the protest with threats of suspension, and students from other institutions might not have required background information regarding this issue.

Thus, in their own narratives, the beginning months on social media networks were more observational than conversational - which was characterised as both non-expertise and fear of being policed for their dissent. However, with time, their interactions with feminist and Ambedkarite activists and authors burgeoned. They used the space to shed light on mainstream media's silence on caste-based atrocities while expanding engagement with alternative media like Round Table India, Countercurrents.org, TwoCircles.net, and Savari to debate sexist or casteist portrayal in popular cinema, have discourses on opportunism and appropriation in electoral politics, and also engage in scholarship like in the case of Dalit History Month. This delineated their distinct role in the growing Ambedkarite counterpublics in digital spaces. Their recognition as counterpublics is the appropriate iteration of their practice - since they protested their exclusion from not just feminist digital publics, but also metropolitan feminist academia, and subsequently were able to articulate themselves better. Consequently, this led to the widening of digital fields of caste politics - in the intersectionality often missing from feminist spaces, and as a means of calling outcaste privilege. Often the purpose of the presence and performance of digital diasporas is not persuasion as much as it is agitation - the deployment of different scripts to be visualized for the politics of emotion that is vital to the comprehension of the motives, nature and impact of a community's experience. Thus, digital diasporas help an individual navigate the complex patterns of globalization and localisation in relation to media consumption, and are in turn constructed by the free labor citizens contribute toward the building of these spaces.

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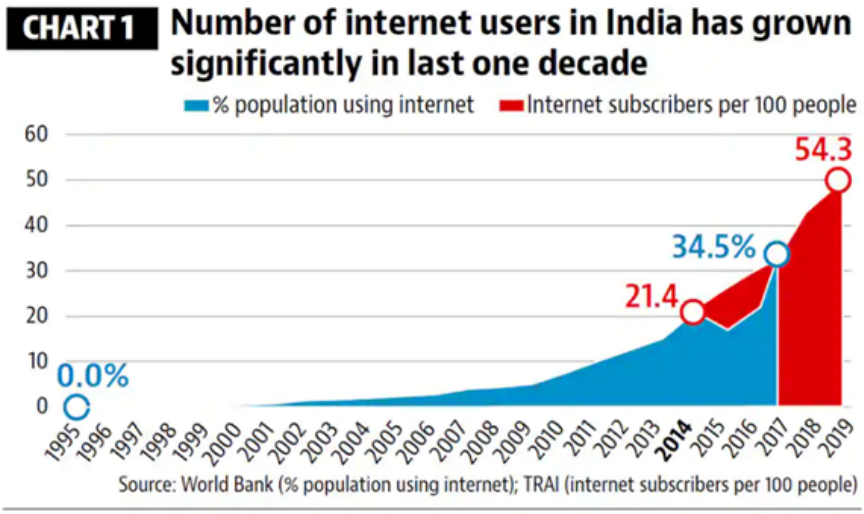
Addressing the Digital Divide in India

By Navdha Malhotra
Cartoon by Civia Mary

As we enter the twenty-first century, human-computer interaction has increased dramatically. The ability to use computers and the internet to fully immerse oneself in the economic, political, and social elements of the globe has grown increasingly crucial. This technology is not, however, available to everyone. The "digital divide" refers to the widening gap between disadvantaged members of society, particularly the poor, rural, elderly, and crippled, who lack access to computers and the internet, and the wealthy, middle-class, and young people who have it. (Roberts, n.d.)

The value of the digital revolution in terms of economic growth, job creation, and human development has skyrocketed. The digital revolution is turning out to be a sprint. India has already made a significant step forward in the digital revolution, with a total number of internet users exceeding that of certain industrialized economies. It gave birth to Google's CEO and sent millions to Silicon Valley.

In many domains, India ranks first in artificial intelligence (AI) talent penetration on online job marketplaces. Despite this improvement, India's digital divide continues to be wide and profound. It's multifaceted, and it's spreading between states, inside states, and within gender groups.



Source: World Bank (2018)

With the advent of the new digital revolution, which is in AI, and which will unleash a larger wave of digital change, this digital divide is projected to increase in the future. Unfortunately, most underdeveloped countries, like India, don't have the financial resources to take advantage of the new digital revolution. (Mishra, 2020)

Although, internet has spread in India, gaps in access remain. More than 700 million people (nearly 50% of the population) live without internet access despite having the second largest online population.

The geographical disparity is also significant, with internet density in rural areas, where more than 60% of the population lives, remains low at 25% compared to metropolitan areas (90 percent). There is a significant digital divide between the leading and lagging regions, with states like Bihar and Uttar Pradesh having very low internet use density. In India, there is a significant gender digital divide, with much fewer women having access to mobile phones and internet services.

In comparison to other emerging economies, India's digital sectors still account for less than 10% of GDP. While e-commerce income has increased at an exponential rate around the world, it still accounts for less than 5% of all trade in India, and more than 80% of all retail transactions are still conducted in cash.

The pandemic has exacerbated the country's digital divide, worsening already stark levels of inequality and weighing on economic growth. The COVID-19 pandemic has highlighted and widened the gap between private and public educational institutions. Because the more affluent student population is more likely to have constant internet access and mobile devices at home, private schools in India had an easier time shifting to online learning. Government institutions, on the other hand, do not have the same level of access to e-learning technologies. Furthermore, students who attend government-funded institutions are more likely to have unstable electricity, poor internet access, or uncomfortable housing conditions, all of which make online learning difficult. The digital gap in India is posing a challenge to the country's current educational practices for all students. Digital connectivity is more important than ever before in ensuring that students can continue their education even when schools are closed.

Digital inclusion is critical for a successful pandemic recovery. The "new normal" is becoming more digital than ever as countries around the world try to recover from the novel coronavirus. Meetings, social events, and other large gatherings are increasingly turning to internet options to practice social distance and limit the danger of sickness spreading. Life is placed on hold for the many people in India who do not have access to stable internet connections. As a result, as society returns to life online, these folks fall behind. A few huge businesses are beginning to dominate the digital sector, prompting fears of "digital colonialism."

A free-market strategy was once seen to be the best option, but the market-based approach has begun to change toward a more regulated method. At the national and global levels, the move to a more controlled approach—how data can be collected, stored, and processed—is still in its early stages, and it presents numerous societal and ethical concerns. As private companies investigate internal ethics boards, external audits, and governance frameworks, determining the boundary between self-certification and regulation remains a major difficulty.

Promoting indigenous ICT development can be quite beneficial. The objective is to promote low cost mobile phones. It's worth looking into how to locate spectrum efficiently in huge contiguous chunks. At the school/college level, digital literacy requires extra attention. There will be a multiplying effect when these pupils will teach their family members. Higher levels of digital literacy will boost computer hardware adoption across the country. The production of content in Indian regional languages, particularly those relevant to government services should be a priority for state governments.

If India can invest more and establish digital ecosystems in sectors like agriculture, education, energy, healthcare, and logistics, it can benefit greatly from the digital revolution. Digital technology can also add value to government services, such as subsidy transfers and procurement, as well as improve labor markets and minimize fragmentation in the informal sector, which employs the bulk of the workforce. How to scale up digital investments remains a major concern.

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DIGITAL CAPTURES

Photo Essay by Khyati

CONTEMPORARY DIGITAL HORRORS

Multifaceted nightmares brought along with Digitalization have been quite an underrated yet impactful concern of this era. This divide does not only range back to individuals, but eats up institutions, as a whole. Social media bullying, cyber-crimes, data thefts and what not - recent occurrences include complete internet shutdowns in the eight Sister States, and especially not to forget Jammu and Kashmir. The world's paradise is certainly still thriving in black and white times, facing not only the most internet bans, but power shutdowns as well. The manhandling of information and a breach to privacy by global software and application-based companies such as Facebook do take up a heavy toll on the democratic functioning of polity and society.

Apart from having influences on political and social aspects, the damage done to the economy remains unaddressed - the trope of digital dominance being the harbinger of progress does not account for the economic pain of those left out of the technology's loop! This isn't entirely a problem of equity and access. In a positive sense, it has certainly boosted small businesses, but on the other hand gives birth to innumerable frauds, raising crime rates even further. The way the digital revolution has been playing out, there are consequences for efficiency too, in terms of economic policy being driven by digital giants, causing welfare loss for innumerable users.

Accessing people's morality on the basis of their personal chats, and detaining persons solely on the basis of a virtual reality has become something more than common. These are some horrendous drawbacks linked to irrational digitalization in the garb of progress. Threatening polarization, misinformation, economic divide are only the tip of the iceberg - the problems trace deeper. This isn't just a loop, but a vicious wired stance on the moral requirements of the present. We as humans, are left as nothing but slaves of our new masters- the digital era, tangled like never before, stuck deeper and deeper, to an extent where we have lost sense of ourselves and around.

REVISIT
REVIEW
RETHINK

FROM THE PERIPHERY, TO THE MAINSTREAM:

Digitization of Finance

By Nicole Srishti Basile

Technology has transformed lives in unimaginable ways. Human dependence on technology during the ongoing COVID-19 pandemic is proof of it. Education, shopping, governance and even medical consultations (and a lot more) has now shifted online.

The new normal has also brought with it a new digital era. Finance and banking is not an exception. The use of paper in the modern financial system, even as bonds, securities, etc is beginning to fade and is being replaced by their corresponding digital counterparts. The drop in usage of paper cash is another major trend that gained further momentum during the COVID-19 pandemic.

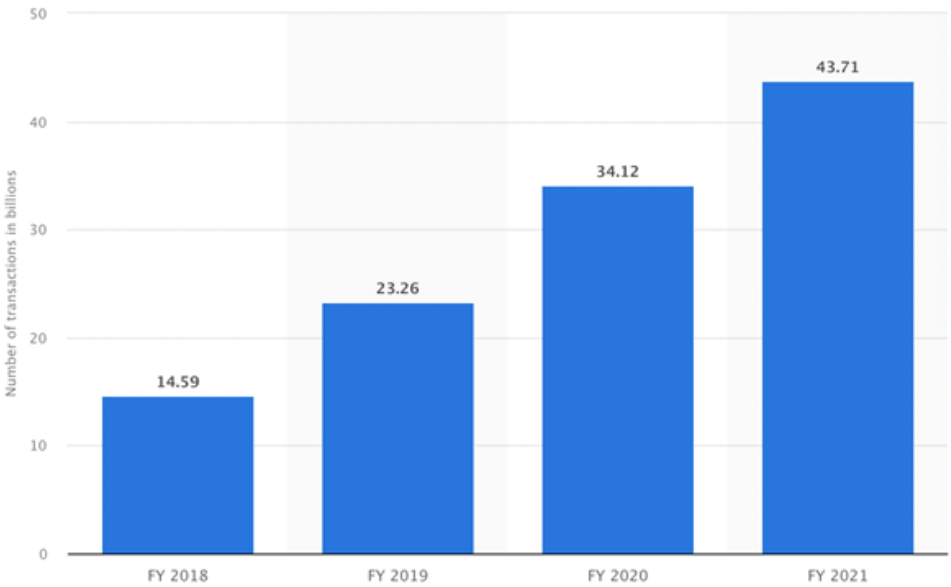
With the concepts of sustainable and inclusive cities taking center stage, digitisation of the finance sector became inevitable. Over the last decade, the concept of digital currency has been widely deliberated by central banks, economists & governments. Digital currency, put simply, is currency in an intangible form that can be accessed digitally with supportive technology such as PCs, mobile phones, or the web.

One of the major advantages of digital currencies is that it facilitates universal access. People who do not have bank accounts can still manage money using their mobile phone and the internet. An interesting piece by Sheri Byrne- Haber highlights how digital currency is especially useful for those who are physically challenged.

The interest among central banks to explore digital cash or currency stems out of specific policy objectives like facilitating negative interest rate monetary policy or drivers like providing the public with virtual currencies that carry the legitimate benefits of private virtual currencies while dodging their negative economic impact.

The vision of a digital movement is slowly transforming into a reality. In India, demonetisation followed by the need to avoid paper cash during the coronavirus pandemic led to the widespread usage of digital currency.

In September 2021, Finance Minister Nirmala Sitaraman stated that India has the highest Fintech adoption rate of 87 percent as opposed to the global average rate of 64 per cent, which shows that India is witnessing transformation in the financial sector.



Source: Statista

Cryptocurrency, a form of digital currency, has been seemingly gaining popularity for its numerous benefits like instant settlement, low reliance on centralized banks, and improved availability in remote locations. Lower costs are involved and the hassle associated with producing, transporting, and securing physical currency. Central banks across the globe have had varied stances on the credibility of using cryptocurrencies. While several countries have embraced this form of digital currency, the Reserve Bank of India (RBI) has not been in favour of cryptocurrency and has reiterated its reservations in its Biannual Financial Stability Report (FSR) that was published in December 2021. Compromised consumer protection, facilitation of money laundering and price volatility are some of the major setbacks that were stated by the RBI in the FSR.

The RBI, however, has started making concrete moves into the digital currency space and is coming out with its own digital currency. It has proposed amendments to the Reserve Bank of India Act, 1934, which would enable it to launch a Central Bank Digital Currency (CBDC) as an effective response to the pitfalls of cryptocurrencies. "A CBDC is the legal tender issued by a central bank in a digital form. It is the same as a fiat currency and is exchangeable one-to-one with the fiat currency. Only its form is different," as per the RBI.

CBDCs have the potential to provide higher seigniorage due to lower transaction costs, reduced settlement risk and their introduction could lead to a more robust payment option. While it is a welcome move, there are several concerns regarding data privacy. Thus, the associated risks need to be carefully evaluated against the benefits.

As per the IMF, digital forms of money could be a boon for emerging market and lower-income economies if the transition is well managed and regulated. However, there are costs attached since emerging emerging economies vulnerable to whiplash effects from volatile capital flows. Hence, finding the right balance between innovation and risk management is a crucial aspect. Digitisation of finance is especially an effective tool that can be harnessed to create greater inclusivity and access to credit. It is crucial in bringing about larger socio-economic positive outcomes and has an added benefit of facilitating reduction in informal economic activity.

There is an increasing trend in internet and electricity penetration. Digitisation of finance initially used to work only on the periphery, but now its reach is far and wide, even in areas where the physical set up of banks is nearly impossible. Around 15-20 years ago, it would have been difficult to imagine the amalgamation of finance and digitization but today, it is difficult to separate the two. The pandemic proved to set up a pathway of transition from traditional methods to digital innovations in finance. This is only to improve with better implementation of schemes such as BharatNet taking shape. At the same time, one must be cognizant of the existence of the digital divide that could curtail the success of fintech. Governments play a pivotal role in ensuring the benefits are equitable.

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THE DIGITAL PRAXIS OF WELFARE PROVISION

The practice of welfare delivery has been digitized heavily in recent years. **Digital Literacy and access** become pertinent for efficient functioning of any digital ecosystem; more so if it pertains to welfare delivery, so that exclusion errors due to digital inadequacy can be avoided. Using NSS 2017-18 data, certain crude parameters have been used to reflect on digital access and literacy in India. ***By Riya Gangwal***

Graphs generated on Microsoft Excel (Office 365)

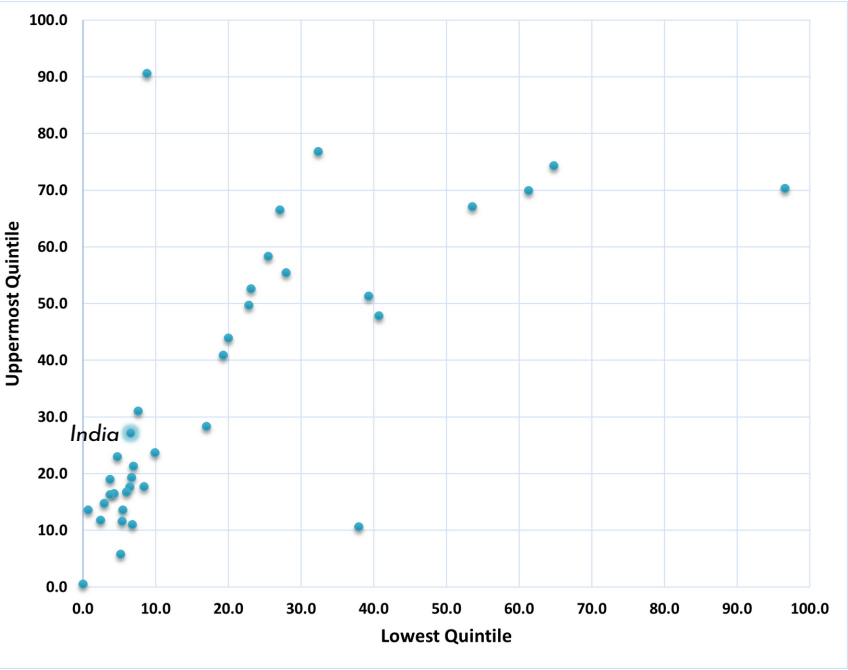


Fig.1: State-wise Percentage of Rural households with Internet

(for top and bottom 20%)

Internet availability is dismal in most states for Rural households, indicated by the clustering in the bottom left corner. Also most of them are collected towards the left, signifying the glaring class disparity (Lowest and Uppermost quintile).

The national average is: 6.6% in lowest quintile, and 27.1% in uppermost quintile, for rural households.

The outliers (having high internet access in both quintiles) are majorly Union Territories of Lakshadweep and Daman & Diu, and the State of Sikkim.
Delhi's 90% upper quintile houses have internet, compared to only 8.9% in lowest quintile.

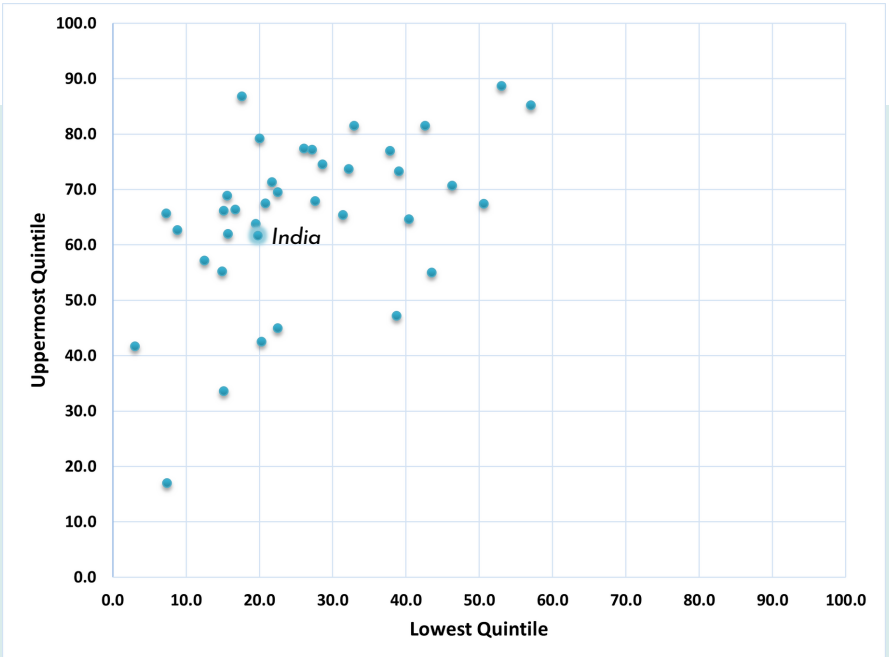
Fig.2: State-wise Percentage of Urban households with Internet

(for top and bottom 20%)

Internet access in urban areas is significantly higher than in rural areas. The class disparity is existent, albeit less stark than in rural areas.

The national average for India is: 19.1% in lowest quintile, and 61.6% in uppermost quintile, for urban households.

Most states cluster towards the left, signifying high access in upper quintiles, but dismally low access in the lowest quintile.
Andaman & Nicobar fares most poorly - 7.4% access in lowest quintile and a mere 17% in upper quintile. Haryana has lowest access (3%) in the bottom-most quintile.



Source: NSS 75th Round (2017-18) Report on Household Social Consumption of Education in India

Fig.3: Percentage of households having a Computer, by State

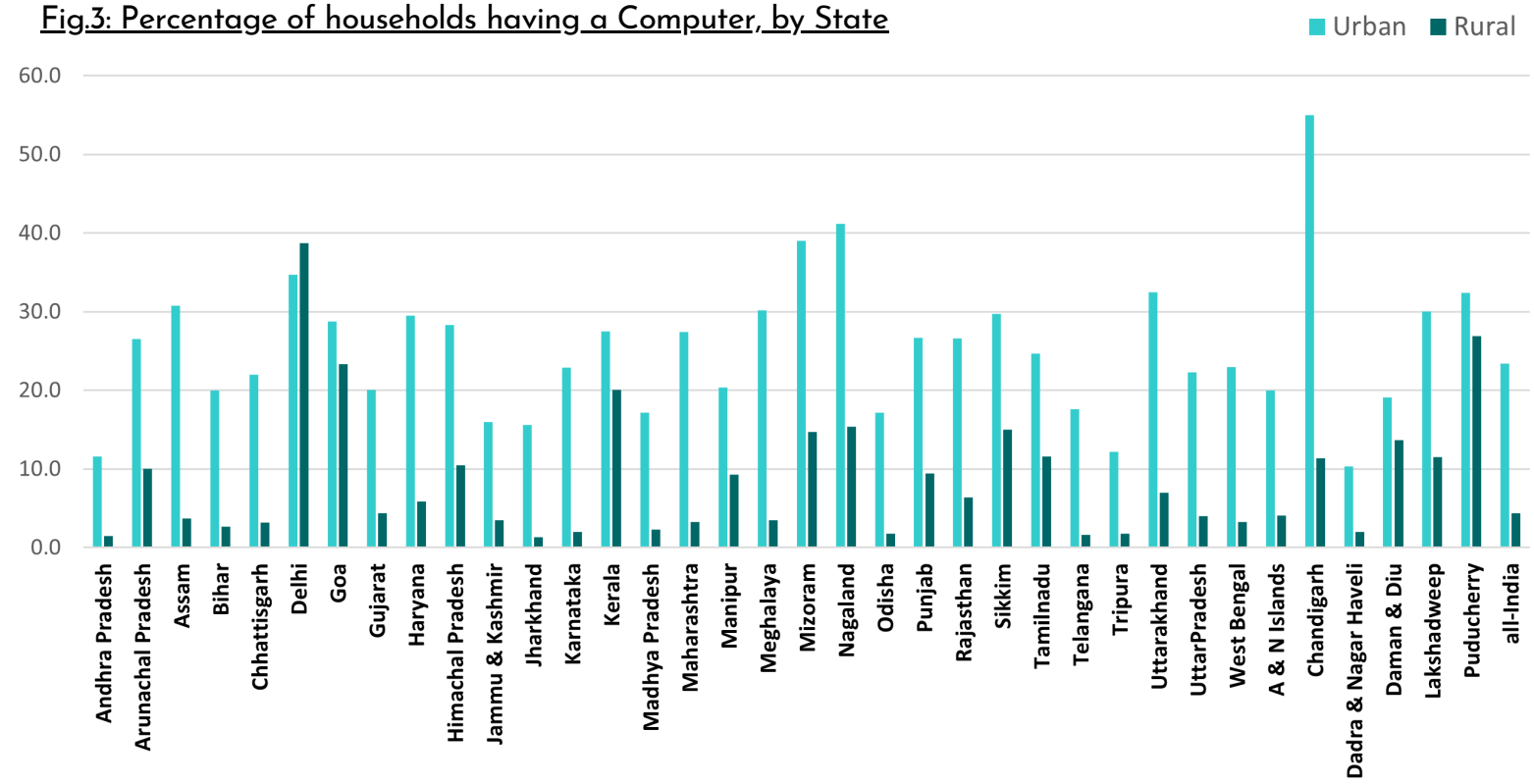
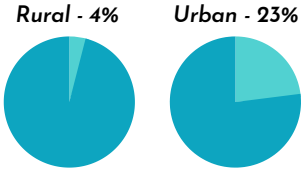


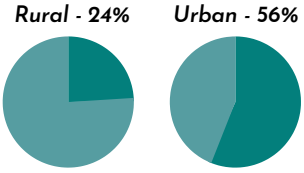
Figure 3 and 4 display the massive interstate differences across computer possession and internet availability in India, while also revealing the obvious urban-rural divide.

As we encounter these realities, it is important to acknowledge that people in poorer states, and in rural, less-developed regions, are mostly the ones who are potential beneficiaries of welfare schemes.

Computer possession among households

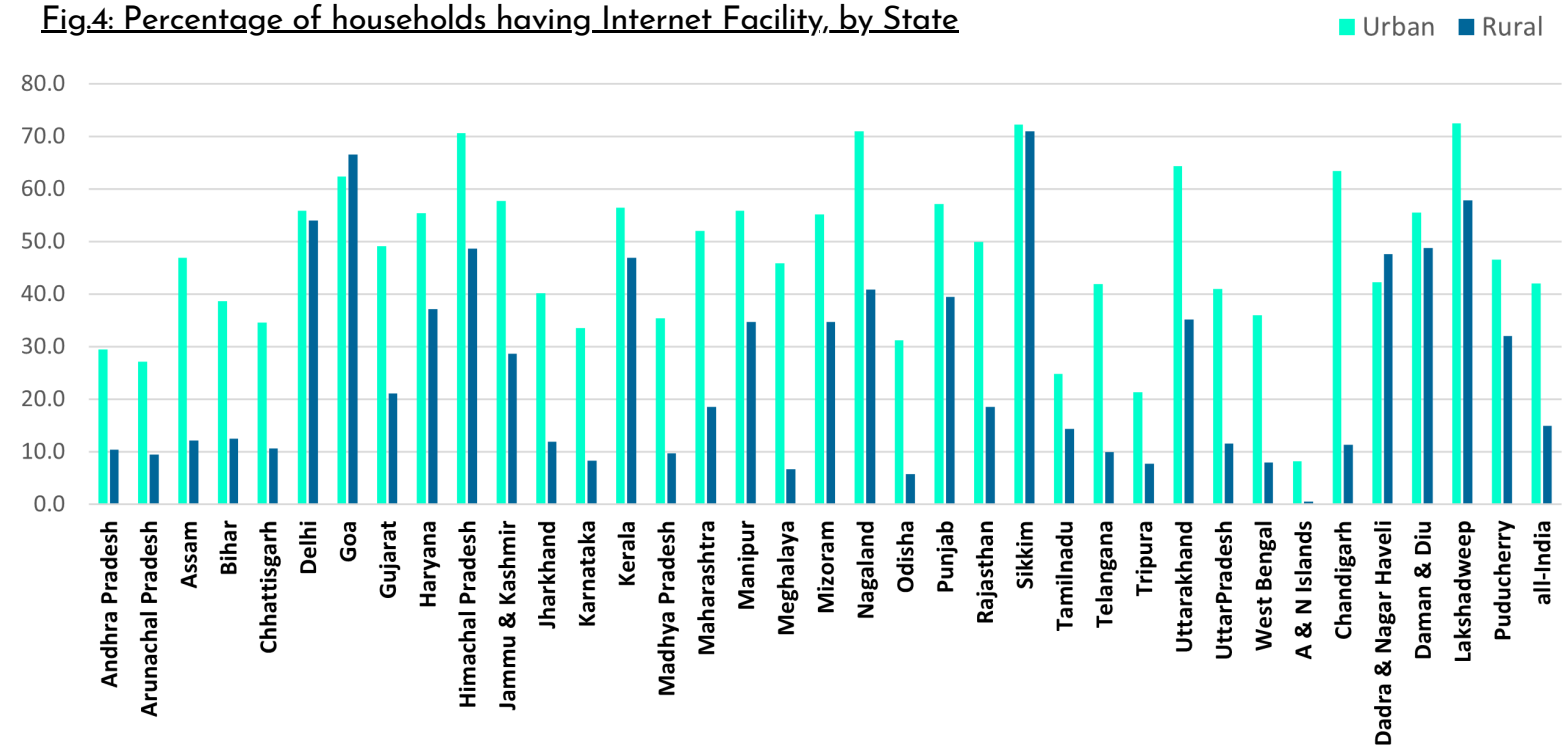


Computer operating ability among 15-29 - year - olds



Digitization is not the panacea for efficiency. The absence of computer/smartphone./internet and other relevant digital infrastructure and knowledge can systematically keep potential beneficiaries out of the loop.

Fig.4: Percentage of households having Internet Facility, by State



Source: NSS 75th Round (2017-18) Report on Household Social Consumption of Education in India

GUEST ENTRIES

The Contrarian invited entries from all across Delhi University colleges and beyond, for the purpose of publishing them in the magazine, under two broad categories - **Research Articles, and Graphic Designs (Infographics/Photo Series/Cartoons)**. Numerous entries were received as a part of this competition and the Editorial Board had the privilege of scrutinising them, to finalise the following as winning entries-

1. ***Abhivyakti Mishra (Article)*** **~ Daulat Ram College, University of Delhi**
2. ***Bhavya Pandey (Article)*** **~ Daulat Ram College, University of Delhi**
3. ***Anisto Issac Saju (Cartoon)*** **~ St. Joseph's College (autonomous), Bangalore**

DIGITALISATION, THE GIG ECONOMY & WOMEN

By Bhavya Pandey

Digitalisation - of businesses and of work, is a process that has the potential to affect most productive and economic activities in an economy, involving sectors ranging from agriculture to service providing. As the markets' 'invisible-hand' tends to become virtual (and increasingly invisible), many big players are expanding to achieve global reach. At the same time, there is a sense of impending doom – that of the reinvention of colonialism in the twenty-first century, by market giants, through the domination and direct control of digital technology in various contexts. By controlling the digital ecosystem, consisting of softwares, hardwares, data, and network systems, countries or even multinationals can exercise control over the decision-making, market participation, production, and other related activities of people. This can further lead to economic domination and hence control over the political situations, cultural atmosphere, and social capital of a region. While there has been a rise in economic and political concentration in the technology industry, it has also been observed that there is an underlying structure beneath it.
The structural domination of the digital ecosystem is undermining national and local sovereignty, mainly since it is a privatized form of political, social, and economic governance (Fries, 2021), and also leads to the reinforcement of gaping inequalities in socio-economic set-ups.

According to a report by the United Nations Conference on Trade and Development (UNCTAD) (2019), Amazon has become the world's leading retailer, ahead of Walmart, which was originally a brick and mortar retail company. However, with 2.2 million workers, Walmart has four times more employees than Amazon. This sheds light on the extent to which digitalisation affects employment and even working conditions, and calls for a need to analyse its impacts on the transforming labour markets and changing working conditions. In particular, this phenomenon has pushed individuals as well as policymakers to respond to fast-paced technology-led changes in the labour market with initiatives towards life-long learning that encourage greater adaptability and resilience in the face of inevitable dynamism.

However, in countries such as India where the informal sector employs around 80 per cent of the labour force and produces about 50 per cent of the Gross Domestic Product (GDP) (Bhandari, 2021), the onset of digitalisation and platform-based technologies have the potential to contribute to incremental improvements in labour conditions, albeit with the caveat of greater risks. As a result, with an expansion in the gig economy, focused effort to leave no one behind becomes increasingly important.

The gig economy in India mirrors the long withstanding, deep-rooted inequalities which are characteristics of the conventional labour market, specifically that of women's engagement in what is considered 'productive' work. The rise in digital aggregator platforms has facilitated work flexibility and increased job opportunities to a great extent, however, a major issue in this regard is the classification of jobs, that is, whether the worker is considered an employee of the platform or an independent worker (De Stefano and Wouters, 2019), which has significance with respect to labour rights. It frequently implies that gig work pay is lower than minimum wage, employees must manage unexpected revenue streams, and they frequently work without the normal labor protections of an employment relationship. Furthermore, the gig economy in India comes with limited social benefits and less bargaining power for women, as age-old issues of occupational segregation and gender pay gaps follow them into the new platform-based employment streams.

The reasons for these challenges range from safety and mobility issues to gender norms, and what are considered "appropriate" jobs for women - such as those in hospitality and wellness or beauty services (Raman & Saif, 2021).

A survey conducted by an employment consultancy showed an 8% to 10% gap in earnings between men and women working for digital platforms in India (Kar, 2019). Access to digital services also poses an impediment for women to participate in the gig economy since a mere 21% of women in the country have access to mobile internet (GSMA Connected Women, 2020). In redressal, the Code on Social Security passed by the Indian parliament in 2020 has called for the setting up of social security funds for informal workers at both the Central and State levels and also makes provisions for registration of all three categories of workers - unorganised workers, gig workers and platform workers (PRS India, 2020). However, besides government regulation, there is also a need for aggregators and platforms to take on the onus of putting in place adequate socio-economic safety nets for workers by "giving working people a just share of economic progress, and respecting their rights and protections" (ILO, 2019).

Since it is more common for women to be underpaid for platform-work, they can benefit from transparency in market rates and increased bargaining power to assert themselves in the informal labour market. Lastly, improving women's digital literacy can go a long way in curbing the deepening of inequalities and ensuring that they can truly participate in all sectors of the economy, with autonomy, representation, and equal pay.

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DIGITAL DIVIDE AND THE ECONOMY OF MIGRANT LABOURERS

By Abhivyakti Mishra

When the lockdown was announced back in 2020, it was unclear how many migrant employees elected to make the long trek home. According to a recent central government study, roughly 10.35 lakh migrant labourers are currently accommodated in government and non-governmental organization-run shelters. According to Census 2011 data, this represents only 15% of the total migrant labour population in the United States. Despite the digitization of beneficiary identities, it appears that when migratory workers leave their towns or cross state borders, they lose tangible access to vital social safety nets.

India has a large internal migration population. According to Census 2011, 6.78 crore migrants are counted as major and marginal employees in Indian cities, with 83.5 percent working in blue-collar jobs, mostly in the informal sector. However, because migration patterns are so complicated and dynamic, policy approaches have thus far fallen short of delivering appropriate social security to migrants. The government's response to the COVID-19 problem exemplifies this.

Most declarations made by state and federal political leaders before the lockdown made no mention of migrant labour protections. The number of migrants fleeing for their homes was greatly overestimated and completely unexpected by those in charge of the lockdown.

However, complaints of the finance minister's aid package, which now looks to be virtually ineffective for migrants, can be applied to the usual operation of this cash or in-kind direct benefit transfer (DBT) programme. The Pradhan Mantri Garib Kalyan Yojana (PMGKY) has mostly relied on digitally-enabled components of key public programmes, including electronic payments to MGNREGA recipients, Aadhaar-based public distribution systems (PDS), and cash transfers to PMJDY bank accounts. The fact that the current humanitarian catastrophe has arisen despite the administration's zealous efforts to harness digital identification in this way is telling. This indicates that migrant communities' weaknesses in accessing fundamental social safety nets are becoming more entrenched.

When the lockdown was announced, the source of income for many of these migrant workers was slashed to zero, savings is an elite concept for them. When your survival literally depends on how much you worked in the day, the days you don't work make your survival ten times difficult and adding to that the days when you don't even know that how long will this uncertainty run.

According to ILO data (based on a sample of 58 countries), young men's employment fell by 11.2 percent and young women's employment fell by 13.9 percent in the second quarter of 2020. According to the ILO, the effects on young men and women in middle-income economies were roughly doubled.

It also refers to US data that suggests that even a moderate recession – one that raises unemployment rates by 3 percentage points – can result in a loss of earnings equal to 60% of a year's earnings. (COVID-19 Has Increased Youth Unemployment, 2021)

MOST VISIBLE CRIPPLING EFFECT OF THIS DIGITAL DIVIDE

When parents lost their jobs, and it was pathetically difficult for the family to survive, education which is one of the most crucial things for the generations to come, is the only thing that is compromised. The lack of energy is a huge barrier to making use of online education. According to a Ministry of Rural Development survey conducted in 2017-18, just 47% of Indian families have access to more than 12 hours of power each day, and more than 36% of Indian schools are without electricity. This suggests that while students from higher-income families can easily adapt to remote learning, students from lower-income families are more likely to succumb to inefficiency and lack of adaptation, either due to the inaccessibility of technology or their parents' lack of education to guide them through tech-savvy applications. (Agarwal, 2021)

According to UNESCO, the education of over 154 crore pupils has been affected around the world as a result of schools being abruptly closed owing to the pandemic. There are now fears that not everyone will be able to return to school when classes start. Several experts in India have expressed concern about the growth in school dropout rates as a new socio-economic dynamic emerges in the post-Covid-19 environment. Around 15% of pupils enrolled in Delhi government schools have been absent from alternate classes held online or over the phone, according to Delhi Deputy Chief Minister Manish Sisodia. Over 1100 Delhi government schools have around 15 lakh pupils enrolled. (Mishra, 2020)

WAYS FORWARD

Extending rations to migrants without digital restrictions to alleviate immediate hunger, advancing and strengthening pension payments, and the prime minister's somewhat ineffective call to employers to pay daily wage employees in full have all been proposed as relief measures in reaction to the lockdown. The inherent disadvantages that migrants confront, on the other hand, can only be overcome through sustained state measures specifically targeted at mobile populations.

The state's ability to identify vulnerable populations across programmes should improve as our digital systems improve. Beneficiary databases should be interoperable to the point where the end service provider (a fair price store owner or an ASHA worker) may determine the individual's entitlements using any identity they supply. Migrants should be able to identify themselves as such in public scheme databases in order to get social security benefits in the regions they are relocating to.

Simultaneously, the rules for paying during such "extraordinary" circumstances must be explicitly specified, maybe through the creation of a national contingency fund that is not tied to any particular state or scheme and is simply for migrants to receive social security. The revision and strengthened implementation of the Inter-State Migrant Workmen Act, which entitles out-of-state workers to a number of welfare payments, could be one way of identifying and enfranchising migrant workers. (Guthala, 2020). Millions of poor urban migrants lost their jobs as a result of the national lockdown, and many were forced to "reverse-migrate" back to their communities over large distances on foot. However, the rural areas from which they came were already suffering from severe and rapid economic and ecological degradation, and they were unprepared to deal with the unexpected increase in demand for livelihood possibilities.

The economic hit inflicted on the global economy in 2020 was "far deeper" than the one seen in 2009, following the global financial crisis. The consequences were felt all over the world. In April 2020, the US experienced its highest rate of unemployment (14.8 percent) since records began.

The challenge of the economic disenfranchisement of young people is also featured in the World Economic Forum's Global Risk Report 2021. "Today's youth already bear the scars of a decade-long financial crisis, an outdated education system, and an entrenched climate crisis, as well as violence in many places," the report says. (*COVID-19 Has Increased Youth Unemployment*, 2021)

The crisis of 2020 was something unheard of especially of our generation, the world turned upside down for everyone but everyone didn't have a survival crisis as big as the migrant labourers. India as a nation caters to one of the biggest migrant labour populations in the world, as the virus isn't going to leave us any time soon, we should be planning our trajectories well so that those on the lowest side of the equality pyramid don't suffer as harshly as they did in 2020.

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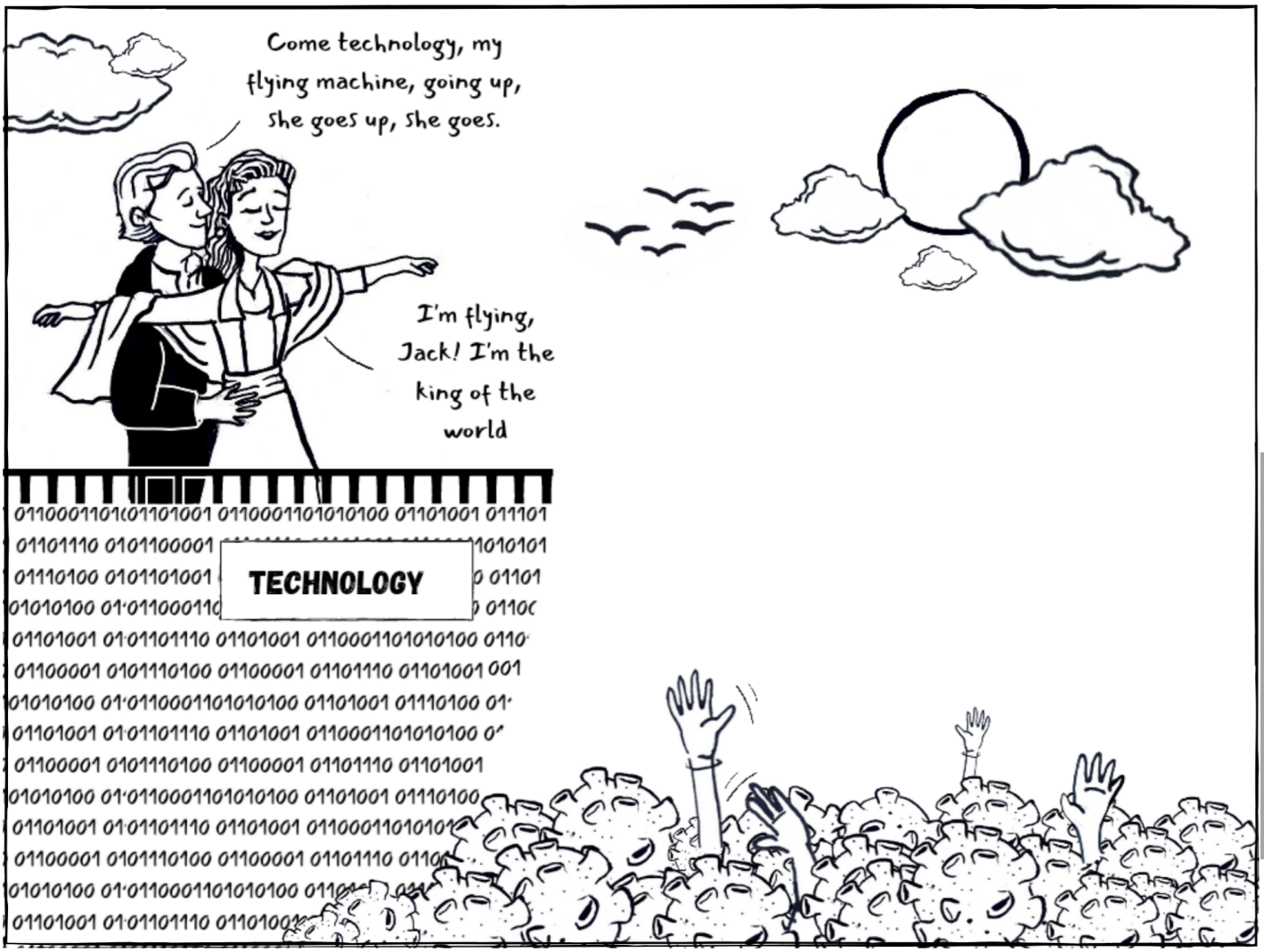
SLAVES OF TECHNOLOGY

By Anisto Issac Saju



DISCOURSE CAPSULE

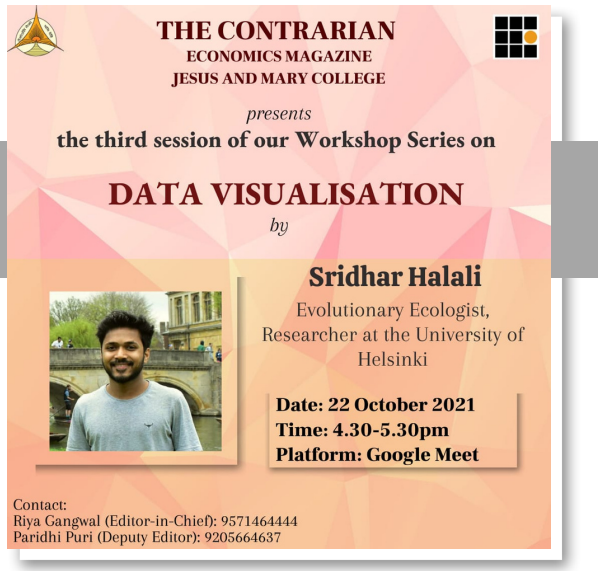
July-November 2021

ACADEMIC RESEARCH WRITING WORKSHOP

The Contrarian organized a **Workshop Series on Academic Research Writing**, which encompassed three sessions spread across three months. The resource persons addressed the Contrarian members and the students of the Economics Department.

The **first session** was conducted on August 23, 2021, with **Ms. Annapurna Mitra** who is an Economist at the Strategy, Policy and Review Department of the International Monetary Fund. Ms Mitra highlighted the importance of data sets and the coalescence of existing research and policies in the process of writing for policy research or policy makers. She went on to call attention to the commonalities between the two, whilst highlighting the significance of understanding the status quo as well as the implications of what we propose through our research.

The **second lecture** was conducted on September 13, 2021, with **Ms Dweepobotee Brahma**, Assistant Professor, Centre for Mathematical and Computational Economics (IIT Jodhpur). She discussed academic writing as a process involving multiple stages, and expounded the specifics of each process, from giving a working title to our work, to adding citations and doing the final edits.



The **third session** was conducted on October 22, 2021, with **Mr Sridhar Halali** who is an evolutionary ecologist and a postdoc researcher researching butterflies at the University of Helsinki. The session was based on data visualisation, and Sridhar used the tools of software R to highlight the importance of moving away from conventional methods of visualizing data, and understanding the various aspects of data through various kinds of graphs.

POLICY DISCUSSION

The Contrarian organized an **interactive short film screening** themed - '**War Economy: Afghanistan in Perspective** ', to envisage a better grip of the impacts of war-like conditions and violent instability in countries, on humans at the macro as well as micro-level. The short film chosen for screening was titled *'How the 20-year war changed Afghanistan'*, a Financial Times (July 2021) film available on YouTube. The film was followed by a well-researched **graphical presentation** analysing the socio-economic situation of the country that has borne the brunt of war, which has resulted in poor economic growth, weak institutions, absence of job diversification, high inflation, creation of refugees, and the perpetual terror of war and death. The effects of this on economic activity, and the effects of restricted economic activity on people in turn was broadly the theme explored by members in the discussion.

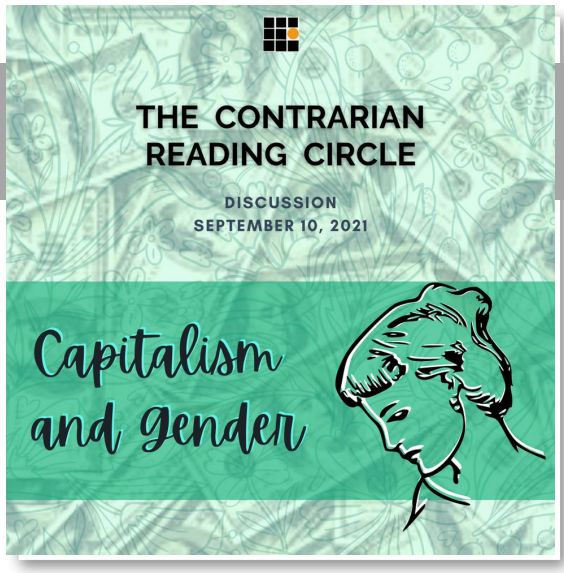
PANEL INTERVIEW

On November 16, 2021, The Contrarian held a Panel Interview on **'Socio-economic Inequalities in India'**. Presiding over the panel were **Dr. Anjana Thampi** (Asst. Professor, OP Jindal Global University) and **Ms. Aditi Priya** (Founder, Bahujan Economists), both having an expansive body of work to their credit, on the theme of inequality.

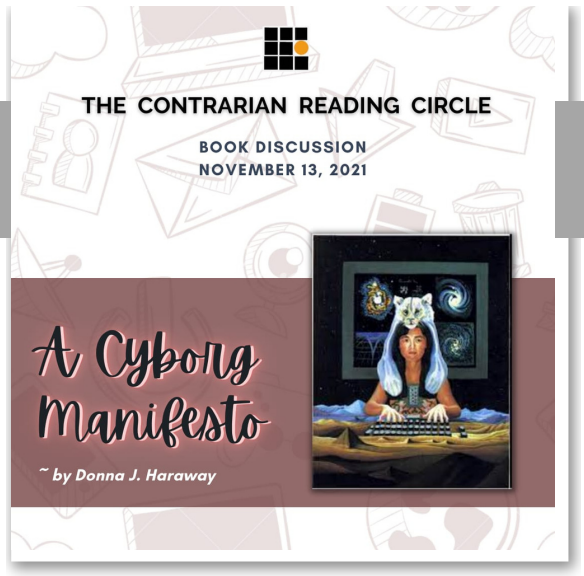
The interview spanned insights on their journey into the academic space, their research experience, their observations and opinions on inequality in India. Discussion pertained to wealth, historic origin and oppression, health and education, labour, dimensions of gender, caste, class and overarching socio-economic factors that define the specificity of inequality in India.

Further, a perspective on policy response of the state over all these years was delved into. Through this interview, we aimed to present a picture of evolving inequalities in multiple domains pre- and post-pandemic, and attempted to understand our role in creating inclusive academic spaces and bridging long-standing gaps.

THE CONTRARIAN READING CIRCLE



On the 10th of September, 2021, the Contrarian Reading Circle conducted a discussion on the theme '**Gender and Capitalism**'. The circle explored the works and contributions of Jayati Ghosh, Ann E. Cudd, Tithi Bhattacharya, Dalia Gebrial and the likes. This was an acknowledgement of the perpetual ignorance and invisibility of women and other gender minorities in the processes of production and economic organisation. Capitalism drives and informs contemporary economic thought and political choices within and across nations, and through this discussion we aimed to adopt a gendered lens while inquiring into the tenets of capitalism.



The Contrarian Reading Circle members gathered on 13th November 2021, to review and discuss '**The Cyborg Manifesto**', by Donna J. Haraway, wherein the members were guided in their discussion by **Ms. Srishti Pal**, an accomplished alumna of the Economics Department of JMC (batch of 2020). The book is an enormously radical text in terms of the author's interpretation of individual existence, gender, technology, capitalism (and the socialist thought) and everything affecting human behaviour. It abandons rigid boundaries between human and machine, and re-imagines a genderless world without any trace of people's origin, where oppression is hard to exist. The members found this to be a riveting, thought-provoking read.

ABOUT THE COVER PAGE

Design by~
Vanisha Bardar & Stefiya Thomas

This magazine has been envisaged with the intent of delving deeper into the democratic, 'social-equalizer' facade of digital technology. While it doesn't raise dissent against the incessant digitization and tech-novation happening as a partial inducement of the Covid-19 pandemic, it objectively looks at the fallouts of this seemingly emancipative messiah, in terms of how digitization actively keeps out the most socio-economically vulnerable groups and communities from the loop of deserved rights & opportunities.

Contextually, unbridled espousal of digital technology by producers and consumers of goods and services has led to creation of inequalities, which trace back to inequality of wealth, income, and social identity. These inequalities have been re-defined by the creation of alternate channels through which individuals &/or communities can be hindered from accessing services and opportunities. This is the discrimination induced by the digital revelation, remaining largely unnoticed and unheard in public conversations.

The existence and exacerbation of such deprivation and discrimination is contained in the essence of the cover page, whose design serves to mark two things at once - the presence of a less-observable deprived world within the world driven by digitization, and our chronic ignorance towards it as we allow digital media to engulf us inside out.

We seek to convey, through a glance at the cover page, that digitization may be efficient, may even be extremely necessary for a progressing nation, but it is certainly not sufficient to address all our problems. And there we need to rethink, both policy and action!

~ Riya Gangwal

The Team

2021-22

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