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Internet Shutdown A Digital Discrimination For Ict-Based Education: A Multivocal Review Of Conflicted Areas

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Abstract

ICT-based education in Jammu and Kashmir is not encouraging. The school education in the conflicted areas usually face trouble with respect to the availability of ICT related resources. Despite being an integral component of the ICT, Internet connectivity both in terms of frequency and duration is lacking in the conflicted areas of J&K. The objective of the present study is to document the impact of Internet shutdowns and service restrictions', including an overarching statement condemning network disruptions, and highlighting the significant ICT-based educational loss caused when authorities shut down or otherwise disrupts connectivity in conflicted areas of J&K. The findings have been enlisted on the basis of voices collected by means of a bibliographic search to be compiled and for this information to be organized which permit the researcher to obtain a detailed description of the reality being analyzed. The outcome of this study explores the challenges being faced by teachers and students due to the internet disruption. And address to policymakers listing the consequences of such disruptions for educational damage in these areas. Further, long-term impact of internet shutdowns should be carefully considered by the government and stakeholders to find solutions for conflict-prone regions that avoid shutdowns, particularly in times of crisis.

Key Words: Internet shutdown, Digital discrimination, ICT, Conflicted areas.

Objective To study the impact of Internet shutdown and network disruption on ICT-Based Education in Conflicted Areas.

Methodology

This paper utilized an Multivocal review research methodology which includes qualitative synthesis, the purpose of which is to investigate a complex phenomenon of interest where events may not be manipulated and about which there are multiple, predominantly qualitative (but also quantitative) data sources in order to obtain a detailed description of the phenomenon being studied. The data for the present study is based on voices collected by means of a bibliographic search to be compiled and for this information to be organized which permit the researcher to obtain a detailed description of the reality being analyzed.

Introduction

Rights Con Brussels in (2016) an internet shutdown can be defined as an "intentional disruption of internet or electronic communications, rendering them inaccessible or effectively unusable, for a specific population or within a location, often to exert control over the flow of information." They include blocks of social media platforms, and are also referred to as "blackouts," "kill switches," or "network disruptions."Around the globe, access to digital communication technologies is much more of a privilege than it is a right. Governments routinely shut down or disrupt access to the Internet, cell phones networks, and other forms of telecommunication. Whether executed on a national level or targeting a city, region, or specific population, blackouts and related barriers to access are inherently indiscriminate, affecting people of all professions, creeds, ethnicities, political beliefs, and genders. Network disruption is the intentional, significant disruption of electronic communication within a given area and/or affecting a predetermined group of citizens. Nevertheless, specific disruptions often have great impact on particular groups. Large-scale disruptions constitute a radical form of digital repression one that curbs multiple rights established in international treaties while undermining local, regional, and national economies. Recent research recognizes digital discrimination in access to communication technology as a global trend that strongly affects disenfranchised ethnic groups, and large-scale disruptions only magnify this problem. Shutdowns may constitute a targeted form of digital repression that disproportionately affects a marginalized community and thus constitutes collective punishment.

Some of the earliest and most prominent cases of Internet shutdowns across the world arose from political compulsions. In 2005, the Kingdom of Nepal shut down its entire telecommunications network for two days. Fixed line telephony was the first to be restored within a few days, followed by Internet services, while mobile telephony was restored only after a period of 88 days(Peng Hwa Ang et al. (2012). The Arab Spring a wave of revolutions across the Middle East and North Africa in 2010-2011 marked the beginning of a trend in protest cultures that only increased over time. Since 2011, network disruptions and large-scale network shutdowns have become a widespread tool of information control. Governments in at least four continents (Africa, Asia, Europe, and South America) have shut down connectivity or social media in ways that vary in scope, precision, motivation, and impact. The practice of shutting down the Internet spread quickly to other countries and the reasons were no longer restricted to issues of large scale political opposition or violence. The reasons for shutdown now included fair administration of school exams, limit circulation of illegal content, etc. The increasing incidents of Internet shutdowns across the world raised much concern, particularly with regard to infringement of human rights. In an acknowledgment to this growing concern the United Nations Human Rights Council (UNHRC) passed a resolution on the promotion, protection and enjoyment of human rights on the Internet. The resolution specifically expresses concern about "measures aiming to or that intentionally prevent or disrupt access to

or dissemination of information online, in violation of international human rights law (UN Human Rights Council, 2016).

There are broadly two types of Internet shutdowns complete and partial(ISOC, 2017). Complete or total shutdown is when all Internet services are blocked without specific targeting of applications or websites. It targets either mobile or fixed line Internet access or both and disables users' access to the Internet in that country or region. A partial Internet shutdown involves blocking of specific content and communication platforms. While partial shutdowns are a growing concern with potentially high impact. Partial shutdowns, such as throttling or blocking are a growing concern with manifold implications. With Internet shutdowns on the rise, many studies and reports have looked at various dimensions of the issue. Although reasons behind Internet shutdowns are varied. In most cases the choice of shutdown is between shutting down access to mobile or both mobile and fixed line networks. It was observed that mobile networks were shut down more frequently than fixed line. Administrators indicated that mobile networks were more impacted primarily because they are more widely accessible, and therefore potential for damage is higher. Only in very serious cases of agitation did administrators also shut down the fixed-line network. GSMA. (2018) indicated that it often has more impact to shut down mobile internet than broadband internet. Impacts naturally vary depending on which network is shutdown. Another aspect is targeted shutdowns which can be understood as either preventive or reactive. Although reactive shutdowns remain the norm, preventive action is becoming increasingly common, most notably in anticipation of unrest, military operations, mass events, and elections. Throttling in the context of internet shutdowns is understood to mean the intentional slowing of an internet service by an internet service provider. Throttling is much harder to verify than other forms of shutdowns. Unless the throttling is exceptionally high and people are unable to upload or see images completely, many will fail to report or even to suspect intentional bandwidth tampering. In many places where shutdowns and throttling happen, access to quality internet connection is limited and the internet connection might not be stable. While the throttling data have documented is scant compared to information on the other forms of shutdowns, it can still see some patterns and trends. For instance, in some contexts, there is deliberate throttling of both broadband and mobile internet; while in others; there is deliberate slowing of access to only mobile internet and social media platforms. In contexts where the throttling is official, have noted that 4G and 3G mobile internet is downgraded to a 2G connection. Normally, a 4G and 3G connection will render 100mb/s and 3.1mb/s of data, respectively, while a 2G connection will only transmit 14.4kb/s. Downgrading mobile internet connections to 2G will effectively make it almost impossible to upload pictures, stream live, and share information quickly.

Findings

Internet Shutdown is Growing Concern in India:

India has experienced an explosion of government-led disruptions in the past few years, with a very high degree of decentralization (regional shutdowns ordered by state authorities. At a time when India is leveraging the impacts of a generative technology like the Internet to give boost and expression to Digital India, the rising number of shutdowns epitomizes the difficulties on the pathway to realizing India's digital ambitions. In India, the escalating number of shutdowns has not gone unnoticed. By 2016, India was topping the global charts on the number of Internet shutdowns. The Shutdown Tracker Optimisation Project (STOP) run by the civil society organization Access Now reported in September 2017, that India with 54 shutdowns had topped the list of 30 countries that witnessed shutdowns in the preceding 21 months. In 2017, the number of Internet shutdowns in India more than doubled from 2016, while the total hours of shutdown increased by only 20 percent. In 2018, the global Keep It On coalition (2019) documented more than 196 internet shutdowns around the world. Just as it has been since 2015, India was responsible for the majority: 67% of the world's documented shutdowns took place in India in 2018, with 134 incidents. The remaining 33% took place in a diverse range of countries. Countries like India which have laws that facilitate and legalize shutdowns tend to order more shutdowns. India's current regulations, described in the section above, allow temporary internet shutdowns for "public emergency" or "public safety." Such broad and vague grounds for cutting access can easily lead to misuse or abuse of this shutdown authority, and indeed, year after year, India tops the list globally for the number of disruptions. However, not all states in India order the same number of shutdowns. Some states, specifically Jammu and Kashmir, imposed more shutdowns than the other states in India. The combination of frequent and prolonged shutdowns is perhaps best captured in the Indian state of Jammu and Kashmir, which experiences regular, back-to-back shutdowns that conceal the real security situation in the region.

Digital Discrimination in Jammu and Kashmir:

India leads the world in ordering internet shutdowns, and both in terms of frequency and duration, Jammu & Kashmir accounts for more than two-thirds of the Indian shutdowns ordered. Taken as a whole, Kashmir's Internet Siege argues that the multi-faceted and targeted denial of digital rights is a systemic form of discrimination, digital repression and collective punishment of the region's residents, particularly in light of India's long history of political repression and atrocities. A UN report suggests that between April 2017 and May 2018, South Asia ranked highest on shutdowns in the world. Most of the shutdowns were in India, with half of all shutdowns in India reported from the Kashmir Valley. Sixty-seven percent of the world's documented shutdowns took place in India in 2018.Mobile internet data speed in Kashmir is mostly restricted to 2G internet (250kbps). Even this access remains extremely precarious as

localized shutdowns of the internet in specific districts or areas, often accompanied by mobile phone disruptions, are commonplace, sometimes lasting for up to a week. The location and spread of shutdowns are a crucial determinant of impacts. Internet shutdowns have been common place in states like Kashmir but have grown rapidly in number and spread to other states in the country. Some states have chosen to move towards more targeted shutdowns. Moreover, the geographical coverage of a shutdown is region specific. Difference in geography and terrain also impact the effectiveness of an Internet shutdown. For example, in Kashmir, administrators reported that where mobility was restricted by craggy terrain, even shutdowns surrounding a tower were effective in meeting the objectives whereas in smoother topographies, shutdowns need to be widespread to prevent escalation of violence to neighboring areas. On the other hand, the frequency of shutdowns in a region naturally depends on the overall socio-political climate. This is evident from the numerous shutdowns in Jammu and Kashmir compared to the rest of the country. With the increasing number of Internet shutdowns every year, it is evident that it has become a popular instrument of the state.

In early March 2020 as people in Jammu & Kashmir emerged from seven months of an internet blackout, they faced a new regime of highly controlled internet speeds, and unpredictable and ever-changing access. This was also the time when the Corona pandemic finally began to be taken note of by the Indian Government, and the scale of the crisis began to unfold. The unknown character of Covid-19, and the virulence and velocity with which it had travelled across the globe, meant that evolving information about its spread, and life-saving protocols for its treatment and prevention, circulated in real time over the internet. Many of these urgent updates, including those provided internationally by the World Health Organization, were in the form of data heavy PDFs and videos. The reduced Internet speed in J&K was simply not equipped to handle these.

Frequent and prolonged internet shutdowns enact a profound digital apartheid by systematically and structurally depriving the people of Kashmir of the means to participate in a highly networked and digitized world. “Social exclusion has become a major consequence of network shut-downs. Social exclusion refers to both individual exclusion and group exclusion from society or other groups. It results in denial of access to online teaching-learning opportunities, and public information.

Internet Disruption and ICT-Based Education in Conflicted Areas of Jammu and Kashmir:

The Internet has dramatically revolutionized the way we live. The technology that began as a simple network connecting a handful of universities in the 1960s has grown massively to become a fundamental and integral part of our education system. The role of the Internet in education is increasingly important as one move into school education. Most academic fields

include components that require online resources, and their absence jeopardizes academic success for all civilians. Qureshi (2017) and Jeffrey (2016) in prolonged blackouts, students at all levels fail to achieve success for this reason, as reported everywhere from Kashmir to Ethiopia. Furthermore, one third of the students that are enrolled in online courses via the online learning platform Coursera live in low and middle-income countries, which are more sensitive to disruptions and outages than high-income countries and are prone to numerous other forms of network instability (Robertson 2015). Prolonged disruptions perpetuate the digital divide and not only exemplify disproportionate repressive action, but also undercut educational opportunities.

While varied narratives exist on the impact of Internet shutdowns, it remains difficult to isolate the effects of the shutdown from the effects of measures such as a curfew that is imposed because of an existing law and order situation. While this was a problem in most states we surveyed, it held particularly true for Kashmir, owing to their long standing instability. Shutdowns were accompanied by curfews that limited physical movement of students. Therefore, in such cases, it becomes impossible for students to find alternatives to manage their studies and reported the inability to study online. The internet is undoubtedly an essential educational infrastructure in any context, for it is the base of almost all virtual learning. The same cannot be said for the approximately 30,000 schools and 400 institutions of higher education in Jammu & Kashmir, which are all systematically, denied access to the internet. Globally, teachers and professors began sending assignments and homework, and even setting exams, online. While the shift online has been rocky for many, since all do not have equal access to the internet, or to smart phones, the problems in Kashmir have been compounded by the prolonged and unpredictable nature of the shutdown, and are therefore of a different order. Internet shutdowns impacted educational institutions as well. Students from state like Kashmir reported inability to register for exams and access study material on the Internet. Particularly in Kashmir, even when students had broadband connections at home, speeds were abysmally low either due to throttling or generally poor quality of Internet connectivity. Internet shutdowns have affected schools and so far. Students from Kashmir unable to register for exams and access study content that is accessible on the Web. In Kashmir students have links with the internet at school, velocities were abysmally poor owing to throttling, or the Web access is usually of low consistency. A School in Kashmir they mentioned being unable to upload despite of low accessibility test content online. Schools in Kashmir reported that they were unable to upload study material online because of poor connectivity. Online material is often a substitute when classes are suspended due to curfews. The shutdown also prevented schools from coordinating with other franchise branches in the country for updates. The biggest cost for some schools was printing hard copies of question papers since they could not be accessed online. On top of shutting down all means of communication, including landline and mobile phones, the Indian government shut down the

internet in J&K, crippling researchers and students in schools, colleges, and universities across the mountainous state.

In 2017, schools had been shut for several months following a wave of protests; in 2016, educational institutions were closed consequent to the wide-spread protests that followed the killing of the militant commander Burhan Wani; in 2014, schooling stopped when massive and widespread floods caused a disruption for months across the valley. Going back even earlier, each of the years 2010, 2009, and 2008 were marked by long periods of mass protests, with educational institutions closed for weeks at a time. When the restriction on mobile internet was lifted on 26 January 2020, it brought a "tentative end to the world's longest internet shutdown in a democracy." The internet services restored were however both intermittent as well as restricted by the bandwidth provided. As teachers in the region took to holding classes over WhatsApp they have met with varying degrees of problems. Classes happening in real time are still patchy and easily interrupted, with many students forced to guess what the teacher is saying. "This happens regularly. Sometimes the screen of my phone turns blank and at times even the audio is erratic,". For students of all ages in Kashmir, the first anniversary of the internet shutdown in August 2020 marked the end of a full year without school, or college or university. This was unprecedented even by the miserably low standards of Kashmir, where students, teachers and institutions have learnt to cope with frequent disruptions to the educational calendar. This time around, the shutdown of schools, colleges and universities was precipitated by the abrogation of Article 370, and stayed in place for nine months, reopening only at the end of February 2020. A month later, just as they had finally sputtered to a start amidst the winter cold, India's Prime Minister Modi called for a nationwide lockdown on account of the Covid-19 pandemic, and educational institutions were closed once again. All across the world, the Covid-19 pandemic had seen educational institutions shifting online. With video calling services (such as Zoom, Skype, Google Meet), as well as online repositories making their services free (if only for a fixed period of time), online teaching got an unexpected boost. International organizations like UNESCO have further introduced programs like the Global Education Coalition to facilitate remote access for education. Globally, access is meant to be freely available for teachers, to assist them in their efforts to move online.

Currently, even the 2G internet access available to Kashmiris remains extremely precarious as localized shutdowns of the internet, often accompanied by mobile phone disruptions, remain commonplace, sometimes lasting for a week. As this report goes to press, there have been 70 separate shutdowns in 2020. Technology researcher, Prateek Waghre estimates a loss of around 3.5 billion hours (and counting) of disrupted internet access for approximately 12.25 million people. After 213 days (before 2G internet was partially restored in March 2020), the internet shutdown that began on August 4th 2019, was described as the longest running Internet shutdown in a democracy, and the second longest in the world, after Myanmar. The slowdown in internet speeds in place since March 2020 (and which continues through to the

publication of this paper) effectively cut off students in J&K from participating in and learning from conversations taking place between teachers and students across international boundaries, often on a daily basis.

Conclusion

The study establishes that Internet shutdowns are a policy concern. The central objective of the study is to arrive at estimates of educational loss due to Internet blackouts in Kashmir. The review analysis also revealed heterogeneity in impact and sentiments by location. Jammu and Kashmir can be singled out as unique with respect to its law and order situation and the overall impact it has on the educational environment. The impact of Internet shutdowns is felt more significantly on conflicted areas as they rarely have resources to invest in alternatives. Infrastructure availability must be aligned to the needs of a region, such that shutdowns do not handicap studies of the students. Where mobile networks are shutdown frequently, investments in fixed line connectivity could be considered. Other physical infrastructure may be improved to compensate for loss of education through the Internet. Moreover, as always, most of these regions would benefit from overall improved network connectivity.

The objective of the study is not to pronounce on the efficacy of a state decision on an Internet blackout, rather to estimate the educational loss associated with the event. Government actors are often familiar with some aspects of shutdowns (e.g. technical feasibility, impact, or remedy) but do not understand their full scope. The executive and judicial branches of government do not have the training that would provide them with this information. This may lead to disproportionate steps being taken to counter a perceived digital threat. Furthermore, while reports on the economic and educational loss of shutdowns may reach the highest echelons of a national government, they may not find their way to regional or local decision makers. The long-term impact of internet shutdowns should be carefully considered and technology companies should work with the government to find solutions for conflict-prone regions that avoid shutdowns, particularly in times of crisis. An extension of the result is that given the trajectory of digital education, the magnitudes of such impacts will necessarily increase in the future. Policy makers would be well advised to consider this loss in the final decision on a shutdown.

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