

The fundamental right to connectivity

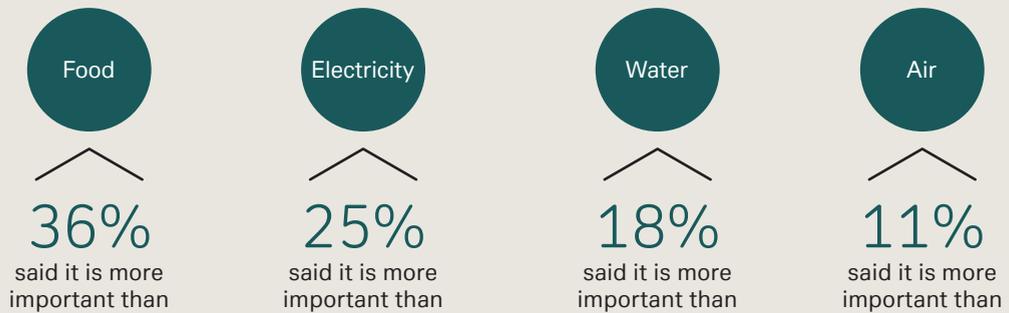
Apjit Walia



The founding fathers gave Americans several basic rights with life, liberty and the pursuit of happiness as the inalienable rights. This decree that was signed almost 230 years ago with several amendments continues to evolve, and with the events of this year, a basic question comes to mind. Do we need to have tech connectivity as a fundamental right for every American?

Earlier this year, we ran a survey of Americans with dbDIG where we asked how important tech connectivity is to them. The responses were fascinating from across all age groups but the ones from 16-24 year olds showed us where we might be headed as a society. More than one in three Americans in this age cohort said connectivity is more important to them than food; 11 per cent said it is more important than air.

In a survey of 16-24 year olds, when asked how important is connectivity to them



Source: dbDIG

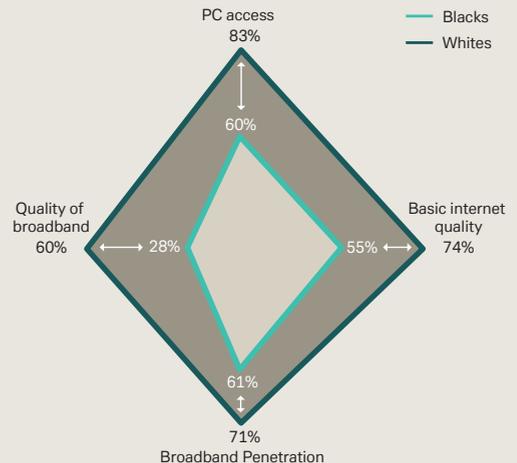
Given the level of entrenchment tech connectivity has reached in the socio-psychological roots of the country, it is only a matter of time before this premise will start to gain a much larger narrative nationally. As covid has shown, not having tech connectivity does not just impact one's quality of life or their "pursuit of happiness" as the founding fathers wanted us to have, lack of tech in the year of 2020 could be a death sentence. With the economy recovering post-covid in a potential K shape, the haves seem to be recovering faster but the have-nots are struggling even further. Inequities have manifested in many places, and significantly in Tech. This Tech divide in America runs deepest along two vectors: 1) The gap that is based primarily on race, 2) The gap that exists between urban and rural areas.

The Racial Gap

We wrote in September on the digital race divide in our report ("America's racial gap and Big Tech's Closing Window") where we found vast disparities across race in access to connectivity and ownership of basic tech hardware. The results show a staggering gap across all

parameters – the most important being that broadband penetration among Blacks, at 61 per cent, is a decade behind that of Whites. As shown in the following chart, the gap between Blacks and Whites permeates across the tech spectrum from computer ownership to quality of internet and even basic levels of connectivity.

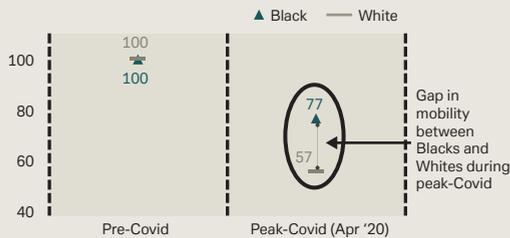
US racial digital gap – Blacks vs. Whites



Source: NTIA, dbDIG

To understand the effect of the inequity in tech, we worked with DbDig to examine the movements in majority Black areas versus majority White areas. Across the three major cities in the country, one sees significantly higher mobility during peak covid lockdowns in Black neighbourhoods than in White neighbourhoods. The average of the three is a breathtaking gap for the month of April, the peak for covid lockdowns, as shown in the following chart.

Mobility levels of Blacks vs. Whites pre and post-covid

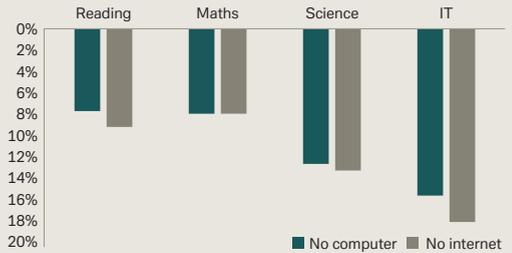


Source: dbDIG

Not surprisingly, the racial digital gap also impacts educational outcomes of school students. A survey conducted by the US Census earlier this year of households with children in K-12 schools revealed that just 62 per cent of Black households said that they had the technology to allow children to do their online schoolwork at all times compared with 73 per cent for White households. Furthermore, 9 per cent of Black households stated that they “rarely” or “never” had the technology for online education versus 4.3 per cent for White households. A 2018 report by the US Department of Education highlights the significant gap in education outcome of schools students based on access to technology – eighth grade students who did not have access to a computer or to internet scored 8-18 per cent lower in four subjects (reading, mathematics, science, and IT) compared with students who had access as shown in the following chart. Expectedly, the gap was highest in IT – 16 per cent lower for students who did not have access to computer and 18 per cent for those without access to internet.

The \$15bn Racial Digital Gap Initiative we propose is a five-year program that would cover 10 million low-income Black and Hispanic households (annual income of <\$30,000). More

Score underperformance of students with no access to computer/internet



Source: US Department of Education

than half of these households do not have proper broadband connection and a similar proportion do not own a computer. These households would be provided a broadband plan, a computer and a one-year tech training program targeting middle and high school students within the target population.

The training program would seek to provide a foundation of tech skills, covering a range of topics from basic computer literacy to professional computer applications to coding. Our contention is this plan be sponsored by Big Tech companies, giving them an unprecedented opportunity to address the issue of digital inequality while generating significant goodwill across the political spectrum. To put this figure in context, it is just 0.75 per cent of the \$2tn increase in market cap that Big Tech has benefitted from during the post-covid period. Another comparison is the close to \$20bn Big Tech has invested in an emerging market such as India in just the last few months to gain access to the Tech market there. In comparison, the average per capita income of the minority demographic in the US is more than 2.5 times that in the Indian market.

Our plan argues for \$15bn of investment into US minorities over five years where Big Tech can drop close to \$20bn in just couple of months in an emerging market to gain a foothold. The framing of context is key – there is an incredible emerging market right here in the big cities in America and investing here would go a long way in addressing the racial digital gap.

The Rural Gap

While the racial digital chasm is primarily underpinned by affordability, or rather lack thereof, the gap between urban and rural areas

is one related to network availability. Given the low population density of vast parts of rural America, fixed broadband infrastructure is not a very commercially feasible proposition. Further, the rural-urban gap in terms of network coverage widens rapidly with increasing speeds as shown in the following chart. In the not-so distant future, speeds of 25/3 mbps will be grossly insufficient.

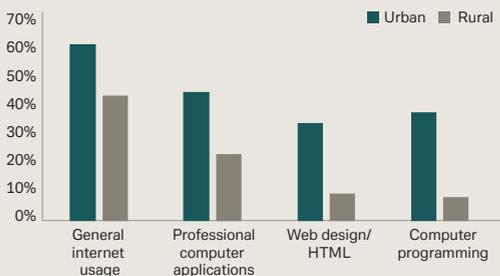
Fixed broadband coverage – Urban vs. Rural



Source: FCC

The rural sector also suffers from significant deficiencies in terms of digital skills – as our dbDIG survey shows, the proportion of rural population with expertise on key tech skills (not considering internet usage) is only about a quarter (web-design, programming) to a half (computer applications) of their urban peers. The lack of access to broadband and digital skills drives a meaningful gap in economic productivity in the rural sector.

Percent of people with tech expertise – Rural vs Urban areas



Source: dbDig

The debate on how to address this rural gap continues unabated and there have been several proposals over the years to address it from the Connect American Fund to the Rural Digital Opportunity Fund, mostly arguing for dramatic increase in funding to broadband or mobile broadband. We believe Low Earth Orbit (LEO)

broadband services, while still at a nascent stage commercially, have the potential to eventually provide affordable high speed internet to rural areas, especially the highly underserved/unserved remote ones. The sceptics, including the FCC, remain adamant given the nascent stages of development, but we believe one has to take a radical step here given the dire need for bandwidth in these areas.

LEO satellites differ from the traditional GEO satellites as they operate as a constellation of very small satellites (that can weigh up to 97 per cent less than GEO satellites) and at a much shorter orbit to earth (about 1/20th the distance from earth of GEO satellites). The latter is the critical feature which enables LEO broadband to overcome the major stumbling block of traditional satellite broadband services – that of high latency.

There are stumbling blocks including high launch costs and short life expectancies, but there have also been successful breakthroughs with Telesat testing speeds as high as 1.2 gigabits per second and SpaceX downloading speeds of 100 megabits per second and noting that speeds of 1 gbps are achievable, equivalent to fiber broadband. We envision that if the government and technology leaders, such as Amazon, form an ecosystem that evolves the revenue and business models of these companies, the combined investments and effort will drive down launch costs rapidly and dramatically reduce complexities to a point that this medium will become affordable and reliable to homes anywhere in sparsely populated areas in the country.

As we emerge post-covid, the growing need for uniform Tech access across the population is gaining a national narrative. If policy makers and the corporate sector approach this issue holistically, we hopefully will not be in a world where a person has to risk their life during times of peril just because they live in a different part of the country or have a certain skin color. Covid has taught us many things. Tech connectivity being a lifesaver and eventually a fundamental right should be the foremost lesson of this time.