CAN WE HAVE INTERNET FOR ALL?

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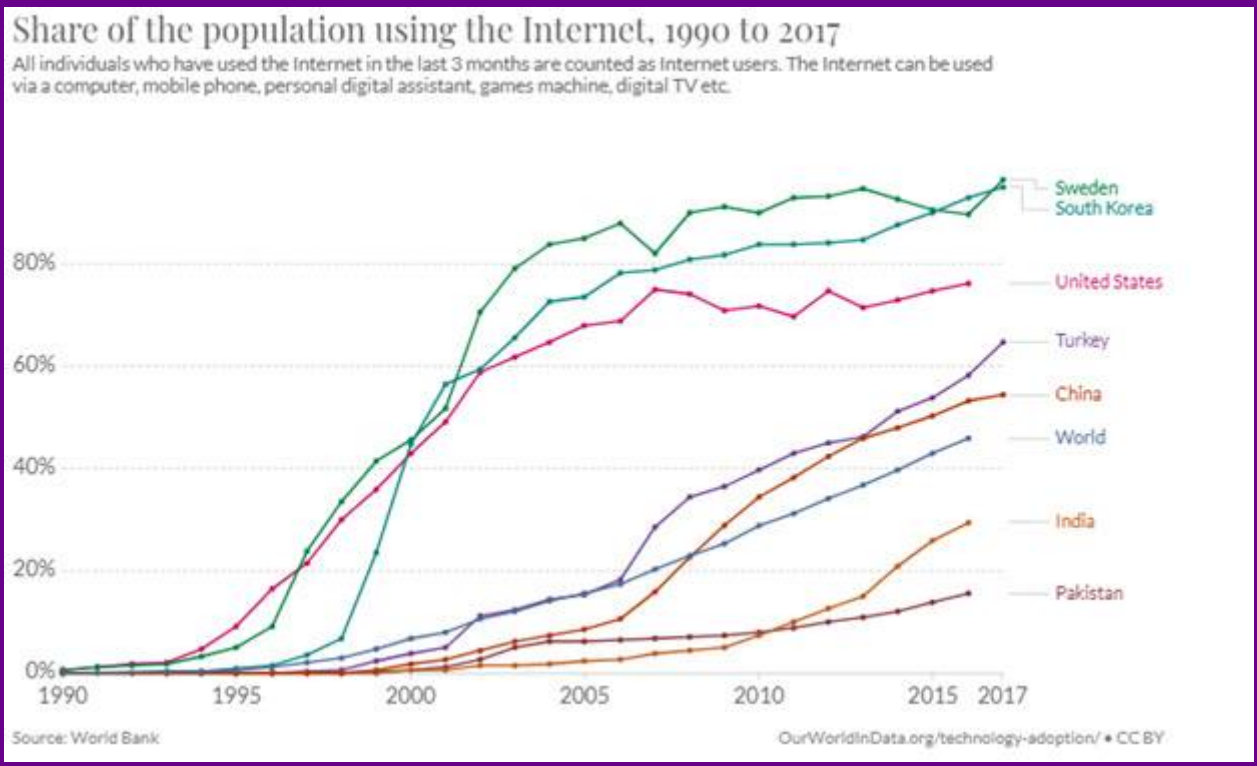
COVID-19's spread poses a threat to humankind, as the pandemic has forced many worldwide activities, especially educational activities, to shut down or change drastically. Education institutions have had to adapt to e-learning to use existing educational platforms to slow the spread of the virus. Digital learning is challenging at many levels, with limited or no-access to the internet has been one of the biggest challenges. If a student doesn't have a device to connect with in the first place, finding a stable internet may be the least of their concerns. And often, they have no option but to share with other family members who are also engaged in online classes or are working from home.

According to UNESCO, only around half of the world's households (55 percent) have access to the internet. In the developed world, 87 percent of people are online, compared to 47 percent in developing countries and only 19 percent in least developed countries. In Pakistan, only 7 percent of individuals have computer devices available, and only 67 percent of those have computers at home.

Figure 1: Internet Usage Across the World (1990-2017)

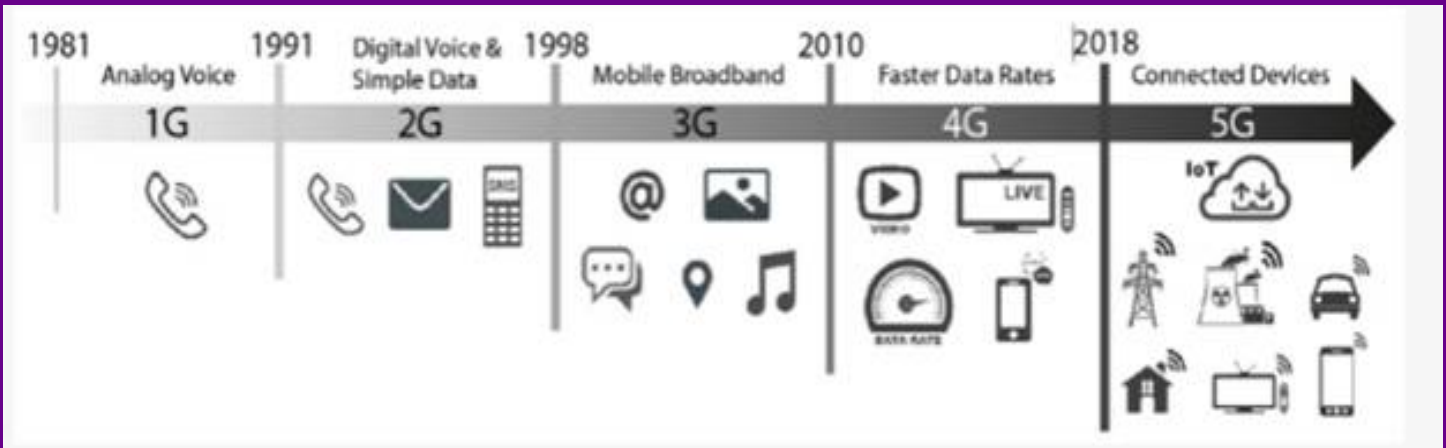


Countries that wish to stay competitive in the global economy are speeding up their adoption of 5G technology. South Korea, China, and the United States are leading the world in developing and deploying 5G technology. Sweden, Turkey, and Estonia, for example, have taken major steps to make 5G networks commercially available to their residents. Because of a lack of enabling environment (current regulatory structure, finance) and the unaffordability of smart devices, the Pakistani market is lagging in adopting 5G technology. Major advantages of 5G are greater speed of data transmissions, lower latency. These make it essential for technology-controlled businesses like the autonomous car industry and remote surgeries.

Our market isn't ready for such businesses because Pakistan is still battling to penetrate 4G, which again suffers from a lack of smart devices and smartphones. Nearly half of the subscribers use 2G technology with a less expensive mobile phone (clearly we are content with '90s technology while the rest of the world enjoys the 21st century, see Figure 2). But why is this so? Well, affordability of the devices is one of the biggest impediments. Pakistan cannot capitalize fully on 4G

and users don't have 4G devices. Clearly then, it is suboptimal to divert to 5G – we need to first assess our abilities, infrastructure, and technology to adapt to 5G. We need to develop an entire ecosystem to leapfrog because service providers alone cannot ensure the availability of 5G.

Figure 2: Evolution of Mobile Communication with Main Features, from 1G to 5G. Source: Guevara, L.; Auat Cheein, F. The Role of 5G Technologies: Challenges in Smart Cities and Intelligent Transportation Systems. Sustainability 2020, 12, 6469.



The PIDE Reform Agenda for Accelerated and Sustained Growth clarifies that Pakistan's future development will depend on the provision of internet to all. PIDE also recently organized a series of "Internet for all" webinars and invited CEOs of telecommunication companies to discuss and debate: (1) the major challenges faced by telecom companies (2) the financial resources required to make high-speed internet accessible to all? and (3) can the State incur this expenditure?

Telecommunication companies face a key issue in the government auction of spectrum release. Pakistan has released the smallest amount of spectrum in the world, and we do not release new spectrum every year. The government hoarding of the spectrum is a short-term money-making activity to fund its budget deficit. It creates an artificial scarcity of spectrum, forcing service providers to pay high costs for new spectrum release. Many countries have experienced high spectrum prices in the early stages of telecom development. However, they quickly identified and addressed these mistakes. We must understand that companies overspending on a spectrum means they have fewer resources left for business activities. They will be unable to improve quality or coverage, putting their long-term growth at risk. Pakistan must learn from other countries' experiences and overcome spectrum concerns to provide faster services in the long run.

Both optical fiber and internet penetration are low in Pakistan, with only 10 percent of mobile towers having optical fiber connections. Optical fiber firms face similar challenges in the absence of a unified strategy or framework. Civic authorities see this as a money-making opportunity to collect a fee for laying optic fiber cables. We can lay service corridors for optic fibers along the side of highways. Companies interested in laying optic fiber can avail those services and pay a fee to the government for utilization.

Funding should not be an issue as we have a Universal Service Fund (USF) and Ignite-National Technology Fund (Ignite). These two key funds, that are generated by telecom firms and controlled by the government. We must use these funds wisely to ensure that everyone has access to cheap internet and gadgets. These finances are sufficient, so the government does not need to incur extra expenditure.

We have learned from the pandemic that life without the internet is very difficult. The internet has become a divider rather than an equalizer by providing services to selected segments only. The earlier gains being made towards achieving SDG goal of primary school education may be wiped out. This is a cause for alarm for all of us. Children from poor families lacking devices and/or internet connectivity are more likely to be denied education. This will further increase the existing educational disparities. The hardships of life will continue for a lifetime because careers, wealth, and health are closely linked to educational attainment.

The telecommunication sector must be recognized as a sector that requires a sustainable framework to develop. With shifting market dynamics, this sector stimulates and helps other sectors, such as education, commerce, health thrive in the economy. We must redefine our goals with evolution of technology. We must ensure internet for all is a sustainable way to achieve economic growth.