

INTERNET AND ECONOMIC GROWTH

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In 2017, Facebook's founder Mark Zuckerberg published a manifesto about the future, where he argued that connecting everyone to the internet is necessary for building an informed community. His thoughts echo the thoughts of many others who have argued that access to the internet is necessary for solving the most pressing socio-economic problems of our times.

Originally initiated as a DARPA project to improve the communication system for American forces, the internet is now an integral part of our lives. From landline phones that could take substantial time to connect to the net, it's now just a click away. Still, a substantial portion of people around the globe don't have either access to it, or the access is uneven, slow, and bothersome. Realizing the importance of access to the internet, substantial sums of money have been invested in projects all around the world to expand internet's access. For e-g, a new initiative labeled 'LOON' has come with an innovative idea of expanding internet's access through stratospheric balloons. Since the height of traditional antennas is limited and it might not be able to set them up in many areas due to various reasons (like security), balloons can facilitate access in such areas without the need for towers.

What kind of effect can this critical technology have on economic growth? To contemplate the question, we have to understand the nature of such technologies.

It is what experts would label as 'general-purpose technology'.

Muhleisen (2018) terms such technology as the 'one that has the power to continually transform itself, progressively branching out and boosting productivity across all sectors and industries'. The changes wrought by them tend to bring enormous long-term benefits but are highly disruptive too. Historically, there are only three known examples of such phenomenon, namely the steam engine, the electricity generator, and the printing press.

The change that this technology has wrought has been tremendous in its magnitude. The examples are too many to cite in one place or one article. A 2017 report by McKinsey calculated that about 50 million jobs in the US would be transformed completely due to digitization. 'Smartphone' was unheard of at the turn of the 21st century. Now, an estimated 5 billion people have them! More importantly, the pace of transformation continues to accelerate. From quantum communications to 3D printing, the world is in a constant flux that has tremendous implications for the economy. Unlike the previous global pandemics (like the Spanish Influenza of 1918) that completely upended the working of economies, a substantial amount of COVID-19's economic devastation has been spared due to the availability of the internet which has allowed work-from-home, thus keeping the engine of the global economy running (albeit at a slower pace). Thus, the availability of the internet has become critical in today's economy, a fact that has led Dr. Nadeem Haq, VC PIDE, to call for internet to be treated as a right!

But does the availability of the internet automatically transform into an increase in per capita and aggregate income? Whatever transformation that has taken place, has it happened by accident or by design?

As Muhleisen points out, many benefits of general-purpose technologies like the internet come not merely by adopting it, but by adapting to it. He gives the example of ridesharing firm Uber that uses digital technology to deliver better services. Similar sentiments have been shared by other observers of note. One of the most famous quotes related to technologies like computers and internet comes from the famous Nobel-Prize winning economist, Robert Solow. In 1987, when personal computers and internet started assuming cult proportion and the US's economic growth began to be put down to this technology, he famously quipped that 'computer age is everywhere, except in productivity statistics. This became known as the 'Solow Paradox'. Simply put, Solow opined that the mere presence of computers and internet is no guarantee of income and productivity growth.

In the context of the above-stated, what can we state about the process of internet and economic growth? Specifically, does it hold any lessons for Pakistan? We can take a simple example to understand where we stand and how the process can benefit the economy and society. Pakistani government started adopting computers for public sector organizations in the early 90s. This was complemented by training in

various programs (like Microsoft Office package). This should, ideally, have led to a substantial lessening of paper-based work. But files and papers are still a massive part of government administrative business, with the expense on them increasing since that time. Similarly, the digitization of land records in Punjab should have led to an end to the patwari's role. Yet, they continue to be as strong and influential as they have ever been. On the opposite side of the spectrum, we have the example of NCOC using technology effectively to implement smart lockdowns!

This brings us to what Muhleisen emphasized: it's not just about adopting, but more importantly, it's about adapting! Those who have adapted well and tailored their system as per the technological trends wrought by the internet (private or public sector), they've realized plentiful bounty. Amazon, Facebook, Alibaba, and eBay are just a few examples of how the availability of a disruptive, universal technology brought in benefits worth billions of dollars. Of course, even more critical was the fact that people like Jeff Bezos had a plan about

optimizing upon it! Thus, for countries like Pakistan, it might not just be enough to have universal access, but to have a plan for optimizing its presence. Otherwise, violent organizations like TTP have also benefited tremendously from the presence of the internet, helping them effectively spread propaganda.

For the moment, there is no such plan and Pakistan is a bit of a Solow Paradox!

References

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4. 'Technology, jobs and the future of work' (2017). McKinsey Global Institute

⁹ Recently, Pakistan army soldiers as well as laborers lost their lives in Kurram district (formerly Kurram agency) where the laborers were trying to erect a mobile and internet tower.