# Policy Brief # PB-52-2018

October 02, 2018

**Building an Inclusive Digital Economy**

**Asad Ejaz Butt**

# Building an Inclusive Digital Economy

Asad Ejaz Butt[1]

## Abstract

This brief proposes an inclusive modeling framework to realize the growth potential of ICT-based governance, policy, health, education and economic platforms. The inclusivity of the digital economy, one that is created out of and is a product of the demand and supply potential of the IT technologies and is supposed to nurture on the premises of IT advancements like high-speed internet connectivity, mobile technologies and big data analytics is determined through and proven by assessing IT poverty on three broad levels of engagement; gender, region and linguistics.

### 1. Defining the Digital Economy - Problem Identification

Academics, industry experts and stakeholders involved with research and implementation regarding the digital economy in Pakistan have found it difficult, as it appears from the diversity available in the takes on the DE, to define what a digital economy is and to build a consensus on the proposed definition. Justifiably, the digital economy has been hard to define for two very obvious reasons; (i). the commodities that it represents (see below) are constantly evolving - given the exponential rate at which digital technologies are being produced, it is an administratively arduous task to ensure that the current size of the economy is a representative one and; (ii). The boundaries between the "digital" and the non-digital" are porous and hence to limit the scope of analysis to technologies that are only digital and devoid of any non-digital specifications is difficult to the extent of becoming an impossibility. But despite the acknowledgement of the lack of consensus in defining the digital economy, one has the freedom to do a selective analysis on technologies that have a significant uptake and have become quite popular for either ease of use, convenience, access or affordability.

[1] The Author is the Director of The Burki Institute of Public Policy (BIPP)

Therefore, an imperative towards defining the digital economy is an understanding of the kind of commodities that make up the economy. For the purpose of this brief, we assume the DE to comprise Information and Communication Technologies (ICTs) and technologies outlined by OECD's 2015 study on the 'outlook of the digital economy' including, (i). internationally cutting-edge network technologies, in particular ultra-high-speed network transmission technologies; (ii). data processing and analysis technologies, including pattern recognition technologies; (iii). device, sensor and robotics technologies; (iv) software development and non-destructive testing; and (v). highly developed multilingual speech translation systems (vi). industrial ICT applications, (vii). IT security research, (viii) microelectronics and (ix). digital services) connected objects, (x). supercomputing, (iii) cloud computing, (xi). big data analytics, and (xii) security of information networks.[2]

As an outcome of this brief, the digital economy - that includes and permeates sectors including banking, retail, energy, transportation, education, publishing, media or health will be analyzed to determine (i), its current situation in Pakistan and (ii). Policy recommendations and interventions that can ensure constant and perpetual growth.

## 2. Situation Analysis: (i). Identifying the Current Lags in Policy, Process and Implementation

The growth impacts of ICT-based economic interventions are established and well-known. According to a report by Strategy& (formerly Booz & Company), the "digitization" of the economy could yield as much as $4.1 trillion in GDP for the world's poorest people. This would create 64 million new jobs and help lift 580 million people who currently live on less than US $4 per day. Therefore, the multiplier effects of an IT turnaround cannot be rejected infact the ICT-based interventions and digitalization of the economy can become imperative sources of alleviation of multi-dimensional poverty and an important end towards localization and achievement of the sustainable development goals (SDGs).

However, countries, regions and gender cohorts continue to experience something we'd refer to as IT poverty. This can either be defined as the failure to get embedded in the global or regional network of IT technologies, take for instance getting connected through popular social media platforms or mobile applications, or utilizing the digital platforms for economic objectives. Survey research and empirical evidence could confirm how people in the developing world, despite being connected to various digital platforms have been unable to use them as sources of income generation.

[2] The technologies mentioned are a collection of ICT technologies used in Japan, Germany and OECD (2015), OECD Digital Economy Outlook 2015, OECD Publishing, Paris.
DOI: http://dx.doi.org/10.1787/9789264232440-en.p.24

The IT poverty is assumed to be a product of the following four factors:

1. Access: Increasing evidence regarding lack of access either due to social and economic barriers or of technological advancement in a certain area/region is surfacing.
2. Affordability: Pricing distortions and exchange rate disparities disable people from the poorest of the poor regions of the world to afford technologies that are usually produced in the developed regions of the world.
3. Awareness/Education: The utilization of advanced technologies is as much dependent on the being aware that su8ch technologies exists and in what situations can they be utilized as much as it dependent upon the education. The low literacy rates in the developing world especially reading and writing illiteracy are constraints that need to be acknowledged.
4. Social and political barriers: includes the stereotypical prohibition of women education especially one that is technology-based.

## 3. Current Policy Framework

Pakistan's federal IT policy was formulated in 2000. The policy was devoid of an implementable and workable framework that could be something like a roadmap of future line of action. All it did was to put forth governmental aims and commitments towards forging an IT revolution in the country through digital platforms like the internet and mobile technologies. While it sufficed the requirements of the time, the demands of 2015 forward are much different and thus require more robust planning and policy-formulation from the government.

The government of Punjab released its new IT policy in 2016. The new IT policy is a comprehensive plan for uptake and adoption of ICT in Pakistan. However, the situation analysis conducted as an essential embodiment of the policy framework reflects on the dismal historic progress made within IT in Pakistan. The policy outlines six key areas of IT intervention in Punjab namely Education, Empowerment, Economy, Engagement, Employment and Entrepreneurship.

The 6 E's will act as guiding principles to launch the envisaged IT revolution in the province. A coherent intervention plan - that ensures ICT adoption and uptake for provision of education, empowerment of the poor and marginalized factions of the society, economic growth, engagement with regional and global entities, employment for the unemployed and business opportunities for the small and medium enterprises – is formulated and proposed in the current policy framework.

The inclusivity of the digital economy that will be created as implementation outcome of the current policy framework of the Government of the Punjab needs to be determined through analysis conducted at the three distinct levels outlined below:

i. **Gender:** Women are, on average, 21 percent less likely to own mobile phones or go online than their male counterparts.[3] The lack of internet and ICT access of women renders the digital economy to be exclusive for males which leaves out estimably 51% of Pakistan's population thereby reducing the growth and economic and technical potential of the digital economy.

**ii.** **Regional:** Regions within the country that have been mapped as having multi-dimensional poverty in the range of 70-79% are ones that have zero or minimal level of connectivity to broadband networks. While mobile networks continue to exist and expand within most of Pakistan's remote and less-developed areas, the quality and efficiency of service is highly questionable. The IT poverty of these regions is quite likely to aggravate and advance the already prevalent multi-dimensional poverty in these areas further disadvantaging the poor and marginalized factions of the society. This analysis emanates from the assumption that utilization of IT technologies has multiplier effects and can be an effective tool to mitigate the incidence and intensity of poverty.

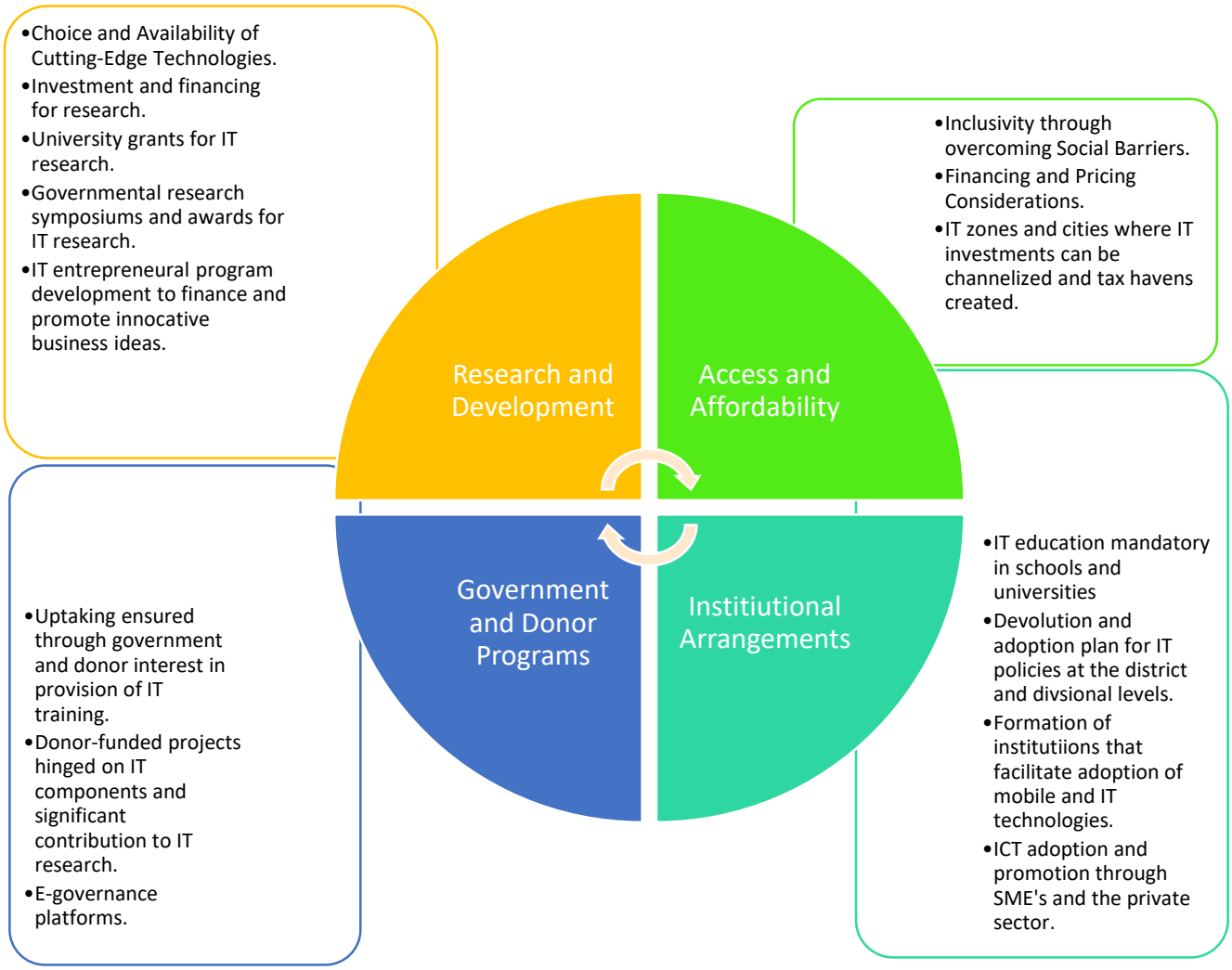
iii. **Linguistic**: The primary user language of most digital technologies is English which excludes a majority of non-English speaking population from using ICT-based and internet platforms that could enable digitalization of the Pakistan economy. The linguistic inclusion must be ensured to embed a major linguistic cohort that is currently unconnected and unable to benefit from the economic and technical potential of the digital economy

## 4. Proposed Modelling Framework: Agenda Setting

The proposed model to realize the expected positive growth impacts of an ICT uptake, especially in developing countries of which Pakistan is of primary interest in this brief, is elaborated below. The model comprises of a few inter-linked agenda items that are backed by implementable, plausible and workable policies to actuate and realize the growth promise of channeling and mainstreaming the IT technologies mentioned in the preceding discussion.

[3] Women and Mobile: A Global Opportunity," GSMA Mobiles for Development and the Cherie Blair Foundation for Women, January 2010. Available at http://www.gsma.com/mobilefordevelop m e n t / w p - c o n t e n t / u p l o a d s / 2 0 1 3 / 0 1 / G S M A _ W o m e n _ a n d _ M o b i l e - A_Global_Opportunity.pdf.

**Figure.1:** Inclusive Model to Realize Full Growth Potential of IT and Mobile Technologies




## 5. Policy Recommendations:

As outlined under the modelling framework provided above, the following program, institution and policy level changes are recommended to ensure (i). growth in digital economy of Pakistan and, (ii). The successful enrollment of the unconnected gender, regional and linguistic cohorts with a view to maximize their earning potential and improve standards of living.

1. **Price Stability:** Prices of mobile and internet services are on the decline.[4] While this is bound to create an excess demand for the services as an increasing number of consumers will afford the luxury of mobile and internet services, the quality of service that has improved exponentially since the onslaught of the IT era is seriously endangered. Therefore, optimal price levels that are affordable for consumers but ensure maintenance of a certain price floor must be determined and set through governmental regulation in the sector.
2. **Research and Development:** The IT and mobile industry in the country needs to develop research and development as a core task to improve continuously the service they provide and to be able to effectively engage with the potential markets.
3. **Demand Responsiveness:** The disconnect with the market especially when it comes to pricing the technologies, delivering the demanded service and unlocking new markets, the local industry in Pakistan lags far behind international standards.
4. **IT Zones and City:** IT zones must be mapped out to channelize financial, intellectual and physical resources from the government and the private sector towards the zones and cities mapped out for the purpose of IT advancement.
5. **Small-Medium Enterprise (SME) Development:** Easy credit and financial instrument enactment for the SME sector can ensure greater innovation and increased production of digital technologies.

## References:

1. OECD (2015), OECD Digital Economy Outlook 2015, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/9789264232440-en
2. Digitization in Emerging Economies: Unleashing Opportunities at the Bottom of the Pyramid," Booz & Company. Available at http://www.strategyand.pwc.com/media/file/Strategyand_Digitization-in-Emerging-Economies.pdf
3. Shah.R and Jaisinghani.P, 2014. Toward a More Inclusive Digital Economy. US Agency for International Development.
4. Women and Mobile: A Global Opportunity," GSMA Mobiles for Development and the Cherie Blair Foundation for Women, January 2010. Available at http://www.gsma.com/mobilefordevelop m e n t/ w p - c o n t e n t / u p l o a d s / 2 0 1 3 / 0 1 / G S M A _ W o m e n _ a n d _ M o b i l e - A_Global_Opportunity.pdf.

[4] The technologies mentioned are a collection of ICT technologies used in Japan, Germany and OECD (2015), OECD Digital Economy Outlook 2015, OECD Publishing, Paris.
DOI: http://dx.doi.org/10.1787/9789264232440-en.p.17