

The Role, Impact, and Usage of Information Technology in Higher Education Institutions (HEIs) in Pakistan

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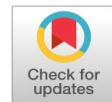
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Abstract: There are two chief objectives of this article. The first object is to get assess and possible issues from three claimed fundamental levels of the digital divide for Pakistan. Secondly, this study explains their main aspects as determinants and their implications, a procedure that provide critical lessons on learning and consequences in Pakistan. This study starts by describing the three levels of digital segregation and their importance in Pakistan's higher education (access, use, resources, and processes). The first issue seems to be the difference in the accessible ICT equipment (access split). The second issue is resources and processes (for example, Market Dynamics and Community Policies). The third appears to be used (split use). The use factor also includes the use of ICT in the education sector and the level that is likely to reduce labor costs. Critical assessment of the above-mentioned domains could point to the access, role, impact, use, and contribution of Information Technology to the courses and provision of Higher Education Institutions (HEIs) in Pakistan. Similar studies in developed countries such as Europe, the USA, and Australia have identified the above domains as the main reasons for analyzing and addressing these issues of access, use, and digital segregation. This is one of the reasons to draw attention. Significantly, the use of ICT is very important in many aspects, for example creating information, sharing, and public participation as important tools for Universities. Finally, in Pakistan, the project seeks to address ICT-related issues of production competition as seen in European higher education institutions. Therefore, this work will provide some possible explanations for the technological advances that occur because of the loss of older employees to their employment opportunities.

Keywords: Knowledge transfer and acquisition, Educational learning, Information technology, ICT, Digital divide, Higher education

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INTRODUCTION

Through mixed methods mainly literature review, this work contextually examines; (1) accessibility, (2) utilisation/performance use, and (3) contributions (resources, dynamisms, & policies' applications; just three of digital divides applied on Pakistan Universities as a case study regarding impacts on learning outcomes or student's quality. Among paradoxes are the ICTs' measured contributions to 'Productivity' and 'how the information and communication technologies (ICT)s' adaptation impacts the older aged workers in Pakistan. To set a better ground for the foregoing, it is inferred that "digital Economy" imply the extent by which the economic activities are generally delivered based on digital technologies. The digital economy is also called the Internet Economy, or Web Economy. The term 'Digital Economy' was first coined by Tapscott (1998; 2008). He describes the Age of Network Intelligence as an all-encompassing and influential force in the integration of social media, computer (computers, software, services) and content (publishing, entertainment, and information providers), multimedia inspired communication and freeway information, interacting and doing business in society (Tapscott, 2008). Also, he referred to networking of humans through technology who can combine their knowledge and creativity for new social norms on wealth creation and social development. Thus 'Net Generation' terminology came forth, which infers to using digital technology for changing ways individuals and society interact. People are being forced to

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reconsider old notions of economy, wealth accumulation, business organisations, other institutional structures, and operations as a result of a new era. Such transformations in social and economic connections both have benefits and drawbacks.

What is Digital Divide?

It refers to gaps created between those with more in comparison to the ones with less or limited access to technology applications. This inequality ability could be due to a variety of dynamics, including individuals' disadvantages, location wealth and regional access (metropolitan versus rural), extent of intense use, literacy, or interests in the relevant technological nature, and many other factors including the auxiliaries to the technology as well as affordability. The latter does not only refer to poverty of the people in the area as well the country's capacity and capability to support the relevant infrastructures as impacted by the global digital divides an international issue. For example, the OECD report (2015), concludes that digital divide is a term that includes disparities in access and utilization of Information and Communication Technologies (ICTs) between individuals, households, businesses, geographic areas, and countries, and it reflects many variations between and within countries. This clearly refers to "access" as the major cause of the divides. The foregoing as well denote to cost, expertise, useable skills, applicable education levels, presence of auxiliary tools like computers, networks, electricity/power, support information and maintenance, rapid changes in technology status, lower-performance older computers compared to new ones and the ability of advancing catching up education endeavors that can help in closing the divides. This matter of challenges of closing the divide gaps is further examined by examining issues relevant to "Developing Countries".

Digital divides in developing countries: As the case study - Pakistan: Definition of "Developed versus Developing Countries" has been principally enhanced about significant differences in global digital divides in terms of accessing and using the ICTs. Though the concept of a global village now being used, it does not refer to equitable use of the ICTs but rather possibilities of connecting links that has been brought about by the rapid development of information technology (Iskandarani, 2008). Despite the rapid development and dissemination of information and communications technology (ICTs) in introducing radical change to several elements of human existence around the world, access inequity still remains depending on who owns what? Indeed globally, "Internet" has changed and impacted the ways we all communicate and socialize. Thus, making ICTs almost an fundamental part of all happenings mainly in developed countries. As well, these developments have provided potentials for further divides in support to their economic growth, opportunities, market share sucking more economic advantages from developing to developed countries, information sharing, knowledge creation and engagement in the application of the apparent increased democracy, thus putting the developing countries in novel struggles of added catching up.

The novel struggles due technology divides are not only instigated for the developing countries, but as well new ones also have in the former; for example, in regard how young and older people adapt to the technological use (age divide), how men and women use it (gender divide), poor and rich people using it (income divide), metropolitan versus rural people use it (geographical and contextual situation divides), the list goes on. Notable, these divides are also different compared those in developed versus developing countries. As well, these differences could be explained by the differences in knowledge between information-rich and information-poor countries With the rise of the Internet, many saw this as an instrument that would allow the people from all around the world to interact, operate a business, and live side by side in digital universe. Notwithstanding, most of this is true for the developed world, that had more access to information technologies for longer periods of time, indicating possible improved skills in their use (information processing use).

Given the technology applications' divides that exists in the world today, issues concerning the imbalances need to be genuinely reduce the growing divides for better development (Couldry, 2003) as development is mainly sustainable if based on knowledge sharing, creation, and engagement a main outcome from good information technologies. It is very hard for developing and relatively information poor countries to achieve relative level of developmental results while having high levels of gaps in ICTs, which include reasons of the large digital divides in Developing versus Developed countries. In Pakistan, the gaps negatively impact on the acquisition of improved education deliveries, knowledge and information sharing, skills/abilities enhancements, individual empowerments, impacting University/tertiary education delivery in teaching and learning. Also, it extends the impacts to the choices and control exercise available over their environments, work improvements, its existing conditions, and quality of

life and living conditions in general.

It is asserted that use of ICTs tends to run parallel to higher education attainments i.e., greater amongst the Educated people are much more likely to be connected and have access to global networks, and they are more likely to be living in metropolitan (Couldry, 2003). As a result of its accumulation in urban areas and cities nearby global activities, "Internet" diffusion and distribution in developing countries is believed to increase the digital divide. Most regions and people in the rural area tend to be left out because of their limited access to the technologies. For example, Developing Countries like Pakistan are limited in their telecommunication infrastructure, Internet services and content provisions; subsequently being restricted in their strategies of dealing with information technology issues. Yet the foregoing is one of the most critical sources of value adding in an "Internet-based economy". The foregoing also imply exclusion from the Internet based economy thus, limitations in catering for the countries' own developmental needs, in addition to other negative effects in the society.

Due to the above-mentioned effects, Pakistan is very busy grappling with enormous social problems like improving illiteracy, health and well-being, education, poverty eradication, communication with people and other programs impacted by the Internet uses. The nation has over 210 million people (UN Population, 2018) majority are 'Young' 59% of the population under the age of 30 (UNFPA Annual Report, 2014). As young people have shown better inclination of responding to ICTs than the older ones; a potential of using ICTs in the knowledge dissemination is obvious in addressing broader social matters, For example, in managing the population bulge in country's economic development and progress through ICT opportunities and prospects. This same media would help in addressing the accessibility, usage, resources, and mechanisms, as inferred to at beginning of this work. In the following parts, let us address the main goal of exploring the digital divides in a developing country, Pakistan, seeking to highlight some approaches for bridging the gaps.

Digital divides in Pakistan: As fore-pointed out in the introduction, Pakistan still has substantial ICTs limitations in accessibility, use, contributions (refer to the contents in the introduction), and it is a later starter. If ICTs' development in the region is examined, for example, Internet access in Pakistan began in the 1990s continuing to grow. Now, it has 5 broadband internet and 10 DSL providers. Broadband computers' use is the major internet access in Pakistan, followed by cellular devices (Jain, 2018). Even though the country has about 47.5 million internet users to the population of 210 million, the ratio is the 20th in the world. Also, it has 44.6 million mobile internet users. As well of the total population, 82% are mobile phone users, 31% smartphone, 10% have a laptop or some form of computer and about 1% with tablet users. These figures illustrate the extent of the accessibility, use, and the ICTs contributions. Notable, is that every day at least 58% of people make use of the Internet (Jain, 2018).

Further focus is on the divides caused by the access and skills application to the technological tools, instigated by various factors, e.g., in-adequate funding support, cost, region, availability of other auxiliary communication resources, relevant skills delivery and education, English language competencies (the technological knowledge is generally in English), and appropriate infrastructure (rurality) say the ones for Mobile phones signals transmission and Internet support. Kularski and Moller (2012) have examined the divides in Pakistan and note tremendous increase in the use of Mobile phones and internet generally with substantial variation some rural areas where infrastructure plays highly restricting roles. Also, they note non-homogenous internet's spread across the country, further 'digital divide' contributing facets to inequality access, use and impact of the ICTs. This impacts differently across ages, gender, income, religion, geographic location (how far from the main infrastructure) and education deliveries including Universities. For reducing risks of technological advancements worsening marginalisation and inequalities, the causes to divides need to be addressed. It is also noted that the divides sway social mobility, democratic participation, and economic growth. As well, Kularski and Moller (2012) note that ICTs divides are influenced by other demographic dimensions such as age, gender, income, education, quality of life and other life elements; thus, some are discussed below:

Age based digital divide: Reflecting on the users "Age based digital divide in Pakistan come out and it is categorized to be at a prime level. According to an investigation report, LIRNE Asia, (2017) a pro poor, pro market think-tank based in Sri Lanka notes that dominant active ICTs services users in Pakistan are from 15 to 65 years of age.

LIRNE Asia CEO (Galpaya et al., 2017) does research in the areas of information communication technology use in Asia. Also, reports on publications form the State Bank of Pakistan (SBP) 2020 quote; "in the last few years, Pakistan internet users are reflected by double digit growth of 10% effective 2007 now surpassing 16%. As a result, the Internet Service Provider Association of Pakistan (ISPAK), an estimated 25 million Internet users are there

thanks to broadband and mobile phone users. Of those 25 million Internet users, more than 15 million of them accept online services through mobile phones, thanks to mobile user packages and consciousness devices”.

There are reports that Pakistan Telecommunication Authority (PTA) website is having 152 million active cellular subscribers with good SIM registration system, which data is not illustrative of the gender specifics, nor income levels but just some use access and mainly not youth LIRNE Asia CEO (Galpaya et al., 2017). Nevertheless, limitations in the internet knowledge awareness generally are inferred to as a major bottleneck. The report further notes that in many Asian countries, including Pakistan, where just 30% of the population in the age group of 15-65 is relatively conversant with the internet, a lot of support is needed in the awareness raising. A question was asked whether the researchers measured extent of use of the internet without too much elaborated explanations, only 17% claimed to be conversant, a reflection of low level of awareness. Another investigation was directed among non-users seeking reasons why they do not use the internet? A key reason given is access and knowledge of using the internet including awareness limitations. Further checks on the extent of the internet knowledge among users (urban-rural groups), a relatively small gap of about 13% inadequacy was found in the Pakistan cohort and it was claimed to be the lowest found in the Asian surveyed countries. This was a surprise for it defeated the expectations, instigating further checks in the technology use basing on gender differences in Pakistan.

Gender and culture based digital divide: The claim is that Pakistan has a large Gender Digital divide where girls have less access and limited skills on how to operate computers and mobile phones.

According to LIRNE Asia report (2017) Pakistani women have been rated at 43% less likely to use the Internet compared to men. However, Pakistan is lower than 57% the Indian internet gender gap, and the 62% Bangladesh one. A lower gender internet user gap in Pakistan implies that it is doing better than its peers in Asia where about 60% of the age group 15-65 years have a mobile phone of some kind, not use the same access internet. This could be due to poverty not affording smart phones, women earning less than men, infrastructure, levels of education and other related socio-cultural barriers.

The gaps are pervasive, according to the World Bank report on Women’s Labor Force Participation in Pakistan (2018), and women’s economic empowerment remain a barrier, impacting the ICTs use Gender gap. Women have less opportunity for business development. Pakistan is placed 143rd out of 144 states in the clusters on the World Economic Forum’s Global Gender Gap Index in 2016, only above of Syria (World Economic Forum, 2016). Pakistan’s "Female Labour Force Participation" (FLFP) rate is 25%, compared to over 82 percent for men (WBG, 2018); a 30:14 male/female ratio (ILO, 2017). Generally these graphs show the economic differences between men and women, and also possible access to ICTs. The basis of the inequalities is obvious, as ICTs use significantly adds to poverty alleviation and overall economic growth.

Social and cultural norms tend to instigate barriers of ICTs access, and use; thus, widening digital divides. According to the Global Digital report, 2018, Pakistan’s social media landscape dominated by males, females lag behind. Out of Pakistan’s 35 million social media users, only 23% are female (Global Media Report, 2018; 2021). Women in Pakistan are 49 per cent less likely touse mobile Internet than men, which translates into 12 million fewer women than men using mobile Internet.

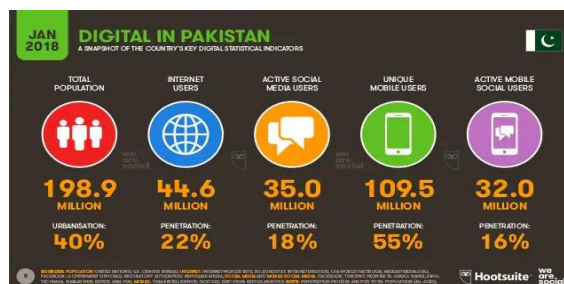


Figure 1: Pakistan’s Digital Landscape (Source: We are Social, HootSuite, 2018)

The reason behind women using fewer social media is that a lot of them are not financially independent and owning a smart phone requires money and in a lot of cases permission from the men in the house. Lack of financial inclusion and structural inequalities also limit women and girls’ access to and use of digital ICTs. Durrani

(2008) notes that Gender hierarchies produce barriers to ICTs use for women and girls, added to other forms of discrimination and disadvantage influences (Cummings & O’Neil, 2015). This highlights women’s marginalization mainly due to class, caste, religion, age, sexuality, or disability, resulting into negative people’s categorizations of men, women, or groups and their social or political contexts. Apart from the ICTs use gap, gender discrimination adds in inequitable and unfair treatment in society for rights, opportunities, and status. Gender discrimination is a widespread practice in Pakistan violating human rights (Cummings & O’Neil, 2015).

According to World Bank, the Pakistan average value of unemployment rate for females has ranged from 0.24% in 2007 to 6.18 in 2015. This is saying something about their underemployment, underrepresentation, thus their resources access for technologies acquisitions. The socio-economic challenges faced by women are more serious in rural areas, where centuries-old social cultural barriers limit their access to advanced education, and new knowledges. In turn, these the said challenges contribute to further women deprivations to equitable policies, and interventions, they are highly underrepresented in decision-making spaces, government, land, and property ownership, and in credit and financial acquisitions (Malhotra et al., (2012). The Pakistani women entrepreneurs especially those in rural areas must be household and financial supporter, tend to have limited knowledge, skills, restricted access to markets and slow adaptation to changes (Malhotra et al., (2012). Given the foregoing, Hinson (2011) advises that most of these barriers can be reduced through improved women access to information and communication technology, networks, and provision of the new learning by use of the missing digital presence.

The above-described circumstances in Pakistan influenced activism. Nighat Dad, a Lawyer, and an activist, founded the Digital Rights Foundation (DRF), a non-profit organization that defends online freedom for women and other vulnerable communities. She remarked that “Women should have equivalent admittance to technology, particularly in conventional cultures like ours, because we do not discovery the same free level in the public sphere”. “Not every woman can go outside of their house. Not every woman can enjoy the right to free speech or access to information, but technology can give them that freedom. Women in Pakistan with Internet access could start small businesses from home, earning incomes and gaining autonomy”. She believes that the Internet has the potential that empowers women, helping them connect to each other and to new outlets of expression. The table below provides comparative global insight of Gender Digital divide and includes Pakistan. According to it, only 6% women owns a smart phone compared to 15% men having their own smart phone.

Gender divide in many nations on smartphone ownership
Adults who report owning a smartphone

	Women %	Men %	Diff
Mexico	28	44	+16
Nigeria	21	34	+13
Kenya	20	32	+12
Ghana	15	27	+12
Spain	66	75	+9
Canada	63	72	+9
Burkina Faso	9	18	+9
Pakistan	6	15	+9
Germany	56	64	+8
France	45	53	+8
Vietnam	31	39	+8
Peru	21	29	+8
India	13	21	+8
UK	65	72	+7
Russia	41	48	+7
Venezuela	42	48	+6
Ukraine	24	30	+6
Tanzania	8	14	+6
Uganda	3	9	+6

Note: Percentages based on total sample. Only statistically significant differences shown.
Source: Spring 2015 Global Attitudes survey. Q71 & Q72.
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Figure 2: Smart Phone Ownership in Many Nations

Prominent, the digital uprising is generating new forms of privileges and discernment, as well as strengthening existing power structures, dissimilarities, and violence. While Pakistan’s National Information Technology (IT)

Policy intentions at binding the potential of ICTs for expansion, especially in the under served rural areas, it disregards the role of current gender disparities on the conceivable benefits of ICTs especially in marginalized rural regions of the country where this divide is likely to be most pronounced. This leads to examining the 'political nature of the practice'.

Political dimensions of the digital divide in Pakistan: While mainly digital technologies serve as communication facilitation tools, other times they could be used as political control instruments especially by power authorities. For example, the state has control over internet access and frequently controls internet admittance or repudiates the provision of internet services in definite geographical regions as a political instrument, which serves to overpower definite sections of the population. In 2018, internet services were locked down for up to a year in many districts in the frontier regions of (now former) Fata, KP and Baluchistan based on 'national security' claims. In other cases, the respective power upholds technology for say market or control objectives, for example, Gilgit Baltistan (GB) and Azad Jammu and Kashmir, the military-run Special Communications Organization (SCO) endures to preserve a domination and control over the provision of telecom and internet services. In April 2018, the SCO tested the decision of the Pakistan Telecommunication Authority to permit private service benefactors to launch 3G and 4G services in Gilgit. The issue of a geographical regional control has been impressed on above.

Area based digital divide and other digital divides: Age and gender are not the only problems that are producing digital cavity, locality, or geographical location (urban-rural) of an individual has been mentioned now requiring further exploration. It has been implied that urban-rural ICTs disparities, say in developing countries (Guillén & Suárez, 2005) are apparently coextensive with gender-based (Malik, 2007). In Pakistan, many rural areas are not part of the digital revolution (Shafique & Mahmood, 2008), thus, affecting education and healthcare provision sectors (Malik, 2007).

The urban-rural digital differences have been raised for several countries, and this is attributed to lots of reasons. For example, a US study, lists the following: unavailability of technology, inadequate bandwidth to access to ICT services and socio-cultural norms. Alterations in technology such as mainframe processors, internet rapidity and practical support have influence on the comprehensiveness of internet usage, interaction, and influence that an individual or social group can have online. This implies that definite fortunate groups, who can afford high-tech and wide bandwidth technology, are able to have an unparalleled impact on the internet. This is less expensive in cities than in rural areas.

Socio economic factors: It is well-known that having multiple ICT devices by themselves does not guarantee more efficient use; On the contrary, with the skills needed to facilitate the use of ICT which is an important predictor of profitable use. The higher costs of internet access in developing countries compared to their counterparts make it more difficult for the average person to have a reliable connection Internet (Brooks, Donovan, & Rumble, 2005). Without cost, a certain level of ICT capabilities and the quality of internet connectivity, poverty is one of the main factors contributing to the vast majority of digital divide (Hoest, 2001; Smith, 2005; Vodoz, Reinhard, & Giaouque, 2007).

In the case of Pakistan, what we should talk about it who look at digital segregation primarily as a question of access to ICT. However, focusing on the haves and have-nots is still worth researching on digital segregation, and especially in the current context because historically poverty is a major cause of segregation.

Achieving Excellence in Higher Education in Pakistan: Thus, Digital Divides

Because limits create lagging, culminating in social stratifications, the inclusion of information technology for learning activities has substantially changed societies, especially those who have easy access. This trend may be seen in Pakistan's higher education industry, which includes a variety of universities. Those who have access to new ideas become more empowered, while those who do not remain enslaved to the old. There are substantial disparities in how information and communication technologies are accessed and used. brought about by social and economic factors (education sector has been severely affected by this divide).

There is still a vague relationship between ICT and education. For example, many authors (Billon et al., 2009; Pittman, 2007; Skok and Ryder, 2004; Swain & Pearson, 2002) have shown a clear link between ICT and education, and others (Sims, Vidgen, and Powell, 2008) deny the significant impact of early ICT access to education. Recent research on the integration of ICT with education shows mixed results, Akçayır et al., (2016) binds the powerful influence of education on digitalisation. Deursen and Van Dijk (2014) found that less educated people use the

internet more than highly educated people.

Some causes for mixed outcomes: According to several researches, disparities are not vanishing in an increasingly connected society, and access to ICTs in Pakistan doesn't really benefit members of underprivileged families. This study raises many questions about whether the digital divide was adequately addressed during the conceptualization and early planning stages, when educational policymakers and universities determined to take necessary precursor to use ICTs extensively in teaching and learning. This provides a framework for further questioning and action in the right direction in the future.

The effects of the digital gap may be felt in all aspects of life, and in this article, we'll look at how the digital divide affects education in Pakistan, with a particular focus on the higher education sector. Access to ICT is a broad topic that includes hardware, software, auxiliary equipment, networking, and unlimited access to dependable information systems, especially in a formal educational setting. In Pakistan, unequal access to technology exists in every sector of society, but it is particularly noticeable and visible in the education sector.

The main contributors to this digital divide include poverty and poor infrastructure, corruption and bureaucracy, as well as lack of awareness and technical support, among other factors. Individuals from low-income households and backgrounds have limited access to information, which is critical for furthering education and developing new ideas (access).

The educational digital gap relates to the differences in access to and use of technology for education that lead to social injustice. The barrier that exists between socioeconomic groups is one that has three levels: access, classroom use, and student. Inequity is felt at the first level in terms of computer availability, power and types, internet, and software access across the institution, then the divide moves to classroom learning techniques, and finally the impact(s) on the students themselves. However, simply having equal access to technology will not close the gap since students must use and exploit technology in similarly revolutionary ways to reap the same benefits (equity may not fully deal with the deep ICT knowledge use and impact issue).

Many universities in industrialized nations are embracing technology, and practically all learning platforms have become digitalized, with activities such as assignments and presentations of learning material made available online. When compared to their less fortunate colleagues, pupils who have access to the internet have a significant competitive edge. Poor students will continue to be devoid of critical information about academia that is available online, and as a result, they will lag behind, as seen by their comparatively poor performance.

Most developing countries place a greater emphasis on technical training and less on knowledge development, resulting in half-baked graduates as a result of training due to restricted research capabilities and limited internet access, as well as low quality training equipment (Pittman, 2007).

Education is key element for achieving the desired results. It minimizes the problems that one experiences in life. The more knowledge one acquires, the more opportunities would likely open, enabling individuals to reach better job and personal growth opportunities. By gaining information, one becomes better equipped to deal with life's challenges and create solutions that aid in a country's progress (Suarez & Correa, 2012). The enormous digital divide in education is a significant impediment to growth since participants will be unable to quickly innovate new technologies or undertake research targeted at improving residents' living conditions. To appear competent, the majority of poor students in Pakistani institutions opt to major in low-level technical training.

ICTs play a critical role in transforming and upgrading educational systems and learning methods. As an outcome, the Government of Pakistan (GOP) recognizes that information technology has revolutionized every aspect of life and has become a driving force behind global initiatives to improve educational quality, such as the maximum provision and optimal use of information and communication technologies. ICTs' ability and possibilities for improving socioeconomic life are virtually endless. As a result, there is a pressing need to completely integrate ICTs into the education sector at all levels in order to fully realize their potential and address some bottlenecks to growth and quality education difficulties (GOP Report, 2007). It is argued that the GOP's decade plan guaranteed investment in the technology's infrastructure by fully recognizing the educational ICTs important significance.

For example, in the previous few years, it was aimed to increase the higher education system of the institutions to a global level (National Education Policy 1998-2010 for proper integration of ICTs in education). The National Information and Communications Technology Strategy (NICT GOP, 2003) have included the following six elements:

- Make use of ICT to broaden educational opportunities.
- Use ICT to improve the quality of teaching and educational administration.

- Use ICT to help students learn more effectively.
- Create complementary techniques to incorporating ICT into the classroom.
- Build on existing and effective ICT programmes' current experiences.
- Strengthen educational capability at the federal and provincial levels.

Despite the fact that the Higher Education Commission (HEC) has been in charge of creating, enhancing, and raising educational standards in Pakistan since 2002, it has failed to fulfill the world's ICT standards (according to the international global requirements and calibre report). However, claims have been determined to handle the issues posed by shifting information technology ages since the HEC's founding. HEC stated that information and communication technologies (ICTs) would be used as a driving factor for capacity building and socioeconomic development in Pakistan. Though it has claimed devotion and dedication to the goal as bold moves in extensively utilising ICTs in teaching and learning, as well as for the maximum supply of ICTs to all universities and degree granting institutions, reality contradicts these statements. The HEC, for example, must develop new, relevant, and up-to-date ICT policies and resources to address digital disparities at both the access and talent levels.

The above-mentioned measures must ensure that students who do not have access to ICTs are not disadvantaged in reaching their intended objectives (impact to the education outcomes). It's also worth noting that even when people have access to ICTs, there are still gaps in usage and deep knowledge. This supports the finding of a Pakistani study that "high Socio-Economic Status (SES) families tend to display good ICT usage." This is largely because these parents are often better educated, making them better able to provide for, nurture, and guide their children. However, the use of ICT in low-income households is often discouraging (Rich/Poor Family Digital Divide). Also, there are risks and ethical issues associated with using computers, which are frequently caused by a lack of parental supervision and direction, either because the parents are unaware of the situation or because they are not there when their children are working.

Despite HEC claims to have taken revolutionary steps to increase digital inclusiveness in the higher education sector, ICTs have played a detrimental role in enhancing the performance of higher education in Pakistan (questions in the promotion of higher education ICTs use). ICT-related policies are seemed to provide such a reasoning, a set of goals, and a vision as to how education systems will operate if ICT was included in the into teaching and learning, as well as how it will benefit students, teachers, parents, and the general public. HEC has initiated a number of transformation projects in the previous five years, including those for ICT development. Among the initiatives are significant measures to hire foreign university or faculty members, the launch of a PhD indigenous fellowship program, a six-monthly foreign research program, indigenous university linkage, the establishment of PERN-1 and 2, a digital library, the Pakistan Research Repository, university-industry linkage program, and the establishment of PERN-1 and 2.

Through ICT-related applications, the higher education scene has been substantially shifted to global competition. "The numerous efforts to reform process to revitalise institutions into world-class it seats in learning and research that have injected into the upsurge of intellectuals in different institutional initiatives," according to HEC's Annual Report (2018-2019). "The required extensive research actions integrated in the high-quality ICTs infrastructure and services educational provision of services in institutions throughout the country'.

Further Pakistan HEIs' Digitization: A Game-changer?

In Pakistan, ICT policies in knowledge transmission are essential, and they play a significant role in preparing students for the future work scenarios, therefore adherence is essential (Were, Rubagiza, Denley & Sutherland, 2007). Careful integration of ICTs into learnable content opens up opportunities for new skill acquisition, economic growth, and other advances (Were, Rubagiza, et al., Sutherland, 2007). Enhancing specific e-learning resources at institutional levels, such as tertiary, for example, allows for new forms of self-learning that are not constrained by old approaches. Tertiary institutions all over the world are eager for curriculum digitization and remote delivery to several stations at the same time. The Pakistani government has advocated for inexpensive infrastructure to allow the diffusion of knowledge and skills via e-learning platforms. The GOP has been talking about "state-of-the-art-smart classrooms" and "automated and integrated learning spaces" as part of its "digital learning project."

The preceding demonstrates that the establishment of e-learning resources requires growing attention. This also entails more staff training, as well as public-private collaborations to assist e-learning efforts in educational institutions. As a result, actions and plans are fueling and affecting each other in reciprocal ways. The implication is

that Pakistan's overall ICT policies, which appear to be narrow in focus, access, and implementation, affect not only internet-related technologies but also the entire eco-socio-space. For a variety of reasons, effectively bridging the digital divide necessitates a coordinated, holistic, cross-sectoral, and multi-stakeholder approach to policymaking. As part of the Government of the People's objective to improve citizens' quality of life and economic well-being, it strives to ensure the availability of accessible, affordable, dependable, universal, and high-quality ICT services, among other things (notes from Ministry of IT, and Telecom).

Despite the country going through the different phases of digital transformation with the help of international donors like UNDP, WDG and USAID, reducing the divides is quite a long way ahead. The more digitalization provides fundamental challenges to policymakers, the impacts to development continue along with some policies experimentations with new ideas. This calls for greater and more global cooperation and commitment, thus avoiding widening this digital gap. Nevertheless, the problem in Pakistan's educational system is not what needs to be done, but who will do it and how the aims are achieved. Therefore, one of the grand challenges of digital educational reform in Pakistan is the implementation process. The country has long history of producing excellent policy reports, plans and recommendations, which are hardly implemented (i.e., they lack both the capacity and implementation reforms will).

Illustrating the foregoing issue, United Nations officially classified India, Pakistan and Bangladesh as countries of 'medium human development' but their masses and majority of the people still live in poverty, working in precarious jobs with little security, amid glaring economic and social inequalities and injustices (lack of will of taking correction actions and inequities in income distributions). In these countries large proportion of the population face Financial constraints prevent them from purchasing ICTs or attending HEIs (Neves, 2010). The argument is that, while governments are mobilizing enormous financial initiatives to promote digital inclusion, the results and implications of these efforts are still inadequately managed (Dubey & Jyoti, 2011). This is particularly evident in social and political aspects, where only a tiny number of internet users use free public access centers or visit LAN Houses such as internet cafes. The usage divide is significant in both HEIs and the public at large.

Among compelling grounds for increased public access to ICTs include engaging development objectives, like quick and effective knowledge creation and sharing, exchange on key factors for economic sustainability and social conditions improvements. Insufficient policy regimes, limitations in the telecommunication networks, services, uneven ability to derive economic and social benefits from information intensive activities, and absence of locality created contents; these contribute to further digital divides, requiring broad systemic approaches as interventions (Wolff & MacKinnon, 2002).

Pakistan has shown itself to be woefully equipped to deal with the problems of the internet age. Cyber-crime regulations to safeguard internet users, for example, took a long time to pass and were thus completely absent until late 2016, when the Prevention of Electronic Crimes Act was passed. Although the act includes protections for user protection, it is also divisive because it grants the government considerable rights to restrict citizens' access to information and freedom of expression. The legal instruments have mostly failed to safeguard internet users, as their execution has been ineffectual due to judicial system flaws as well as law enforcement organisations' inability to deal with the scale and sensitivity of cyber-crime cases. To work toward ensuring this right in Pakistan, a more holistic and methodical approach to ICT policymaking is critical.

Digital inclusion as a solution: Lack of clarity and contradictions in grasping that why and what it takes to be a part of the information society that lead to educate regarding the roles and consequences of digital inclusions. For example, the job has been interpreted in new and dazzling ways as a component of the solutions to practically every gap in contemporary society, including poverty, economic inequality, educational needs, social injustice, unemployment, violence, and crime (Bonilla & Preto 2011). It is assuming that equitable digital inclusion is the answer to the aforementioned problems. In the "Information Society," Lemos (2003) questions the extent to which inclusion provides the material conditions for access to technology without questioning the cognitive processes involved, such as providing tablets to public schools and expecting the tablets to improve the quality of children's education in general.

Digitalization should look as to how efforts improve disadvantaged people's interactions and opportunity to engage and actively engage in current socio-technical processes. As a consequence, it is not just a terminological or semantic debate about the term "digital inclusion," as well as a social reading along with an analysis of the political interfaces between the actors participating, encapsulating their critical and constructive perceptions (Kok, 2006).

As a nutshell, digital inclusion policies and technology adoption should provide new social realities for individuals who have been left out of (information) society.

Bridging usage divide: The foregoing suggests that provision of technological tools; need to be supplemented with effective usage. In this regard, utilization of ICT in higher education institutions in Pakistan can be brought into examination. The usage element covers the ICTs' performance in the education space and the extent it could be reducing costs on human labour by increasing productivity. Existence, availability, and usage of ICT in education materials delivery not only should increase educational efficacy and efficiency as well improve knowledge and learning skills of the students. This intern obliges, encourages, and motivates the policy makers and educators to make inclusion possible by having a holistic technology specific policy in education sectors in Pakistan.

In Despite these efforts to place ICT as a central tenet of university teaching and learning, most university students and professors use computing technology only casually for educational purposes (Selwyn, 2006). The evidence for a positive impact of ICT investment on educational performance has already been discovered in previous literature on socioeconomic development and school performance. This creates an interesting contrast between previous research that finds no positive effects for students and analogous research on corporations that shows that ICT investment increases corporate productivity (Machin, McNally et al., & Silva, 2007).

Computer networks, according to Braak (2001) and Maurer (2017), provide big obstacles for education - learning. Teachers' use of Computer Mediated Communication (CMC) will only be successful in the future if the relationship between CMC's capabilities and teacher practice is made clearer. Teachers face a problem in integrating CMC not just for support activities, but also for teaching objectives. Students are presented with rich contexts and authentic assignments in effective learning environments. Several components of effective learning environments are used by many teachers in their classes. Furthermore, instructors' abilities to use ICT to enhance effective learning settings play a significant influence. Government has the responsibility to grow their abilities through training and development in IT-related difficulties and applications in teaching and learning efficiency through their particular departments.

The usage and impact of ICT in higher education sector is determines by the availability of well-equipped and maintained IT structure and facilities in labs and classes in college and university, availability of the IT services like internet, its bandwidth and speed is available for students to use latest technology in their studies. Students can develop their learning skills while using ICT. The internet can provide them with a lot of information, and the use of a digital projector can help them learn more effectively. It indicates that ICT can be utilized to improve educational efficiency at the local, regional, and national levels.

The role of ICTs across business sectors: The digital economy for Pakistan insights: ICTs have dramatically transformed the societies and the economies around the world and have become essentials part of our social life and cover almost all aspects of life. Economically, the widespread adoption of ICTs across business sectors, combined with the rapid decline in price and increase in performance of these technologies, these have contributed to the development of new endeavours and activities in both the private and public sector (Saeed, H.; Asghar, M.; Muhammad Anwar, M.; and Ramzan, M. 2000). All together, these technologies have expanded market reach and lowered costs, and have enabled the development of new products and services. This has changed the ways not only some products and services are produced, also in regard to whom and how these are delivered. Thus, business models have been adjusted according to the new realities and market demands among outcomes for creating widespread benefits for all companies ranging from Multinational Enterprises (MNEs) to start-ups.

Digitization focuses on how organisations may retain a competitive advantage in the digital age by building a successful platform strategy. This encourages individual and consumer activity and has resulted in the development of new payment mechanisms, including new types of digital currencies. The entertainment, news, advertising, and retail industries were among the first to be affected by the Internet. The first significant digital companies in such industries began by adapting old business models to better end-user equipment and more broad interconnection via the Internet.

Digital Pakistan

To compete with the rest of the world, Pakistan would need constant efforts and political commitment, substantial infrastructure investment, and suitable legislation before digital technology can have an impact on economic progress. The new Prime Minister of Pakistan, Imran Khan, has introduced the 'Digital Pakistan'

programme, which has sparked hopes that the government is making a serious effort to promote digital technology in the country. Access and communication, digital infrastructure, e-government, digital skill training and literacy, and entrepreneurship are the five core pillars.

- **Internet service and connectivity:** As a fundamental right, every Pakistani would have access to the internet. People can use technology to transform their lives because it gives them the power and knowledge to use it. The Prime Minister's vision of expanding people's connectivity is represented in the Digital Pakistan initiative, which will improve governance.
- **Digital infrastructure:** 'Digital identity' is the subject. Their goal is to make it easy to complete daily tasks swiftly and safely using cell phones. To stay up with worldwide breakthroughs in artificial intelligence and 6G technologies, the country's digital infrastructure must be built.
- **E-governance:** Aiming to digitize intra-government operations and processes in order to get away from paper-based operations and provide better service to citizens. It will increase overall efficiency and effectiveness by providing transparency, accountability, and reduced pilferage. This digitization plan includes digital payments and e-acquisitions, that will ensure transparency in governmental procurement activities and sales. It would find things simpler for entrepreneurs to start businesses, while also allowing the general public to conduct transactions using their mobile phones. It will also promote micro-finance, which has the potential to help small businesses by providing loans at far cheaper rates than the informal sector.
- **Digital knowledge and skills:** This would be especially advantageous to Pakistan's youth, since it would provide new jobs and make it easier for entrepreneurs to start enterprises with minimal difficulty. It will assist tech graduates in obtaining appropriate professions, as well as provide more work chances for women.
- **Culture of innovation and diffusion:** It will create conditions for start-ups through a culture of invention and diffusion. Through digitalization, country can develop a culture of innovation and creativity.

Addressing skills gap in IT: Unemployment, poverty, and armed violence in Pakistan have wreaked havoc on the country's economy and society, particularly among the youth. From an economic and social standpoint, developing young skills and capability is critical for Pakistan's long-term prosperity. Even as technology becomes more accessible and internet access appears to be becoming more widespread, a "digital divide" between rich and poor continues to exist, providing a severe issue for governments in emerging and undeveloped nations such as Pakistan. The rich and educated, according to the Pew Internet & American Life Project, are nevertheless more likely than others to have strong access to digital resources.

In the digital age, it has far-reaching implications for youth education and job creation. Inadequate access to technology can make it difficult for children and youth living in rural and isolated locations to develop the technological skills that are necessary for success in today's market. The IT skills gap demonstrates that businesses can struggle to locate, hire, and retain individuals with the IT skills they require to produce high-quality goods. According to industry analysts, the IT skills gap exists in Pakistan to varied degrees across all cities and provinces, depending on the size, population, and economic activity of the area. The most pressing question is how corporations and businesses solve these existing concerns in the short term in order to avoid them becoming larger problems down the line.

One example is the region of Khyber Pakhtunkhwa's (Pakistan's first Digital Economy Platform) launch of a comprehensive digital strategy in 2018, dubbed "Digital KP," which outlines a scheme on digital development with the primary goal of bridging the IT skill gap by encouraging youth participation in the digital economy. There is a considerable emphasis on fostering young employment development as part of this broader digital strategy. The availability of a skilled workforce is the initial building block in any employment creation effort. Thus, addressing youth employment through the digital economy, The Khyber Pakhtunkhwa Information Technology Board (KPITB) integrated digital skills. Initiative the "KP Youth Employment Program: Digital Skills for All" has the following three key building blocks:

Addressing 'supply side' constraint by building a skilled workforce: In KP, several programs focus on building the skill base of youth in the province. The flagship Youth Employment Program is Pakistan's first digital skills platform, connecting youth with training, skills, and employment opportunities, using a flexible and adaptive approach to accommodate the rapidly changing demands of the digital economy. An Early Age Programming course, launched in partnership with the Elementary and Secondary Education Department, focuses on teaching coding skills to secondary school students in a fun and interactive way, to prepare the next generation of knowledge

workers. Finally, the Digital Ambassadors Program brings digital literacy programming to underserved areas to ensure that that poor and marginalized communities have the skills to participate in digital life. These programs are the start to developing the skills for the future of work.

While recognizing the importance of promoting peace and resilience among Karachi's residents, particularly the youth, USAID has partnered with Aman tech and the United Nations Development Program to implement the Youth Workforce Development Program. This program aims to provide workforce development training to nearly 17,000 youth, including adolescent girls, from marginalized areas of Karachi. By engaging youth in productive economic activities, this program will create employment opportunities for adolescent girls in the garment and home textiles industry in Sindh (USAID, 2017).

Attracting 'demand' for knowledge workers: For KPITB, the next challenge is to attract and support investment and growth of digitally enabled businesses for job creation. Three pathways to digital employment were identified. The first pathway identified was through the growing area of online work, which enables peer to peer transactions in global marketplaces between employers and job seekers for different kinds of short-term work. Programs such as the Youth Employment Program directly facilitate learning around freelancing and gig work. The second pathway identified was around linking youth with the emerging domestic demand for digital skills. Pakistan currently is undergoing a digital transformation, with rapidly expanding mobile and broadband connections, and a growing number of domestic businesses digitizing their services. If the demand for digital skills grows consistently, many youths will find local jobs (both short term and long-term freelancing) and get access to international markets as well. The KP Government is looking to actively promote the growth of local IT and digital businesses through tax relief, promoting incubation and entrepreneurship in its network of co-working spaces, government and community incubation labs for innovation and creativity, called 'durshals' meaning gateway with the goal of enabling the youth to collaborate, innovate, access training, and launch new businesses, and through promoting these in annual tech events, such as the Digital Youth Summit. A recent assessment conducted by the World Bank found that Pakistan's Khyber Pakhtunkhwa has highly competitive operating costs and wages when compared to other cities in Pakistan and abroad. It also has a large, untapped talent pool, good universities, and large English-speaking population and is setting itself up nicely to attract outsourcing and product development work. The Government recently announced a package of support for businesses who invest in KP, including a mix of financial and non-financial incentives, and strong government commitment to the growth of this sector.

Ensuring infrastructure investments are commensurate with knowledge economy needs: The final building block for promoting digital jobs is to ensure the enabling infrastructure supports the knowledge economy. The government is investing in fibre optic networks with private partners under China Pakistan Economic Corridor (CPEC) project, as well as a network of co-working spaces to address gaps in access. Investments in BPO ready spaces in Peshawar and Abbottabad will attract international and national companies interested in taking advantage of KP's advantageous costs and talent pool. Finally, the Government has made steps to establish Pakistan Digital City, a 500-acre business ready park, in Haripur, the first ever in the country, located behind the capital's Margalla Hills. Kamran Khan Bangash, Special Assistant to Chief Minister Khyber Pakhtunkhwa tweeted at twitter (October 1, 2018) while announcing the provincial government's plan of launching Pakistan Digital City in the proximity of the capital of Pakistan:

"The cry of the day is demanding industrial revitalization in the IT sector. We're seeking preliminary survey responses from national and international investors and industries for the "Pakistan Digital City Haripur," which is only 30 minutes from Islamabad." # KP vision 2023, # KP goes Tech, <http://kpgoestech.com/techcity/pdc> (Bangash, 2018).

The Government of Khyber Pakhtunkhwa's Digital City of Pakistan (DCP) would be Pakistan's first digital city. A varied spectrum of commercial and technology businesses will be able to lease competitively constructed land. All potential investors' input and requests are being collected by the KPITB in order to construct the Digital City in accordance with industry-specific standards. The China-Pakistan Economic Corridor (CPEC), BRI's flagship project, was fast progressing, owing to rising cooperation between China and Pakistan, and the project's impact could be seen in the lives of Pakistanis, as evidenced by the evolving development index. Pakistan is well on its way to moving forward after many years of fighting terrorism, with 5.8% economic growth and better investor confidence. In 2017, during the Economic Forum, eBay CEO Devin Emerging and developing cited Pakistan as one of the world's fastest-growing e-commerce marketplaces.

Alibaba bought Daraz.pk, a significant e-commerce site in Pakistan, in 2018. This form of investment will benefit Pakistan’s vast revenues, target unregistered younger generation, and give not only capital as well as a foundation for creating digital firms. The World Economic Forum’s (WEF) Global Competitiveness Index (2018) represents the health of the world’s most competitive economy.

According to the current GCI index the conditions of Pakistan are shown in Figure 3.

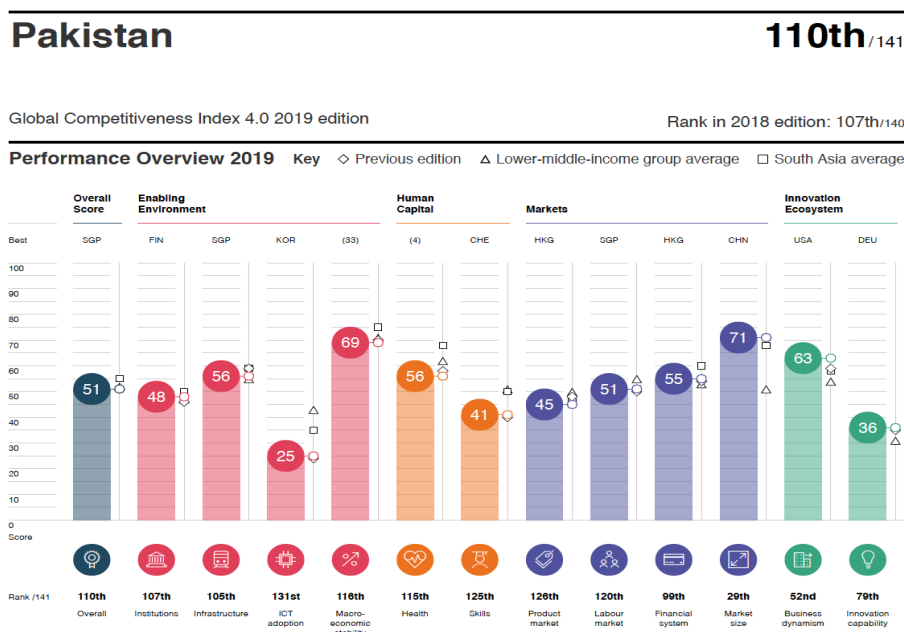


Figure 3: The Global Competitiveness Index (Source: World Economic Forum (2018))

Pakistan was ranked 109 in terms of institutions, 93 in areas such as infrastructure, 127 in terms of ICT adoption, 103 in macroeconomic stability, 109 in terms of health, 125 in terms of ability, 122 in terms of product industry, 121 in terms of labour market, 89 in relation to financial system, 31 in terms of market share, 56 in terms of business dynamism, and 75 in terms of innovation capacity out of 140 countries. Pakistan was rated 106th out of 135 countries in 2017.

Ultimately, Pakistan’s existing ICT strategy is too singularly defined on the availability of internet-related technologies, with very little attention given to other factors that affect access. Nevertheless, effectively bridging the digital divide needs a deliberate, holistic, cross-sectoral, and multi-stakeholder approach to policymaking that reflects a wide factors that affect one’s capacity to use the internet successfully. With a vision to improve Pakistani citizens’ health and economic well-being by ensuring availability of obtainable, affordable, reliable, universal, and high-quality ICT services, the Ministry of Communications Technology and Telecom of the Government of Pakistan is working on making Pakistan digital while trying to bridge the digital divide in terms of access and skills.

With the assistance of international donors such as UNDP, WDG, and USAID, the country has moved through several phases of digital transformation. Meanwhile, digitalization has posed significant hurdles for policymakers in countries of all socioeconomic levels. It takes imaginative thinking and policy experimentation to realise its full potential for the many, not just the few. To avoid widening the digital divide, it also urges for increased global commitment and cooperation.

Technological Advancement in Pakistan

There’s no questioning that the digital economy’s growth has finally opened plenty of new business opportunities. ICT is also helping underdeveloped countries thrive financially and culturally. Digital data can be used not only for development and to address societal problems, but it can also be used to improve economic and social outcomes, as well as a catalyst for innovation, creative, and labour productivity. Because 64 percent of Pakistanis are under the age of 30, and 29 percent of Pakistani were between ages of 15 and 29, Pakistan has significant strategic

endowments and growth potential (UNDP, 2018). Pakistan’s growing youth population offers both a demographic dividend and a problem in terms of providing enough services and employment.

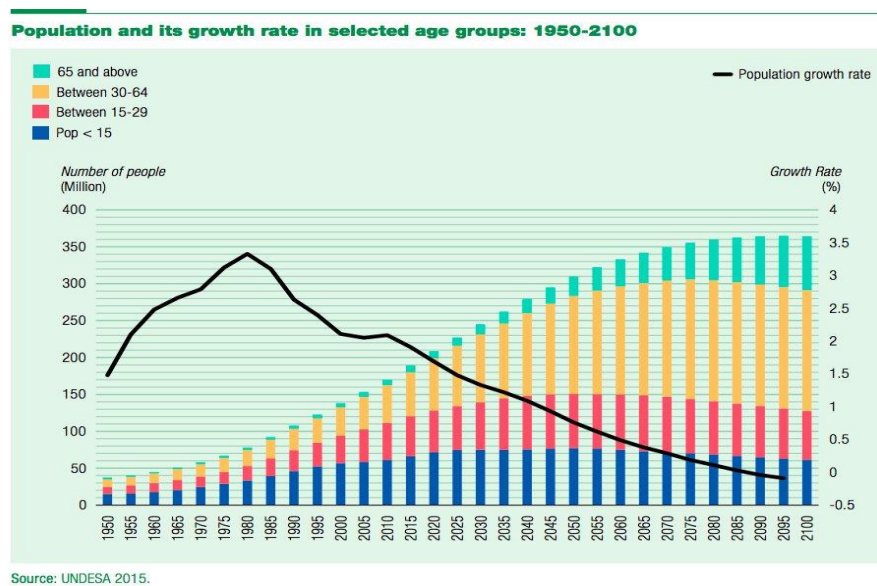


Figure 4: App Two-Thirds of the Total Population is below the Age of 30 (Source: UNDESA (2015))

The presence of this youth bulge raises a critical question for those in the realm of public affairs; Government officials, social partners, private companies, academics, civil society organizations and other key stakeholders to ensure that young people are empowered with digital skills to benefit from jobs and entrepreneurial opportunities for the digital economy and society. According to the findings of the National Human Index Report (NHDR) 2017, that young Pakistani aspires to be involved and make a difference. They are held back by a variety of factors including lack of quality of education and employment, as well as lack of opportunities. Young people aged 15-24 represent about a quarter of the total Internet use worldwide. In 2017, 70.6 percent of young people worldwide were online. Young people are "the first to adopt" ICT-based technology and can make growth and innovation in the industry. However, our young people are unaware of and misuse of it to create opportunities for their future, primarily for recreational purposes such as texting and photography is a very common activity for mobile phone users. Although most young people use the internet and are considered ‘digital ships’ but do not have job-related digital skills. This includes the advanced skills required to create information and ICT and the basic skills required to use ICT in work-related activities. The report estimates that there will be tens of millions of jobs for people with advanced digital skills in the coming years, with some economies predicting a skills gap for highly skilled digital workers etc. Economic Research Services (ERS) puts ICT professionals among their fastest growing jobs. Not only do these jobs exist, but they are also often well-paid jobs where employees earn more than their counterparts who do not have advanced digital skills.

Given these realities and the benefits of the digital economy, that there should be opportunities for them to not only use their digital skills but also use them as councilors to take full advantage of digital work. Digital skills are increasingly needed in the workplace around the world, as ICTs are rapidly transforming jobs in industries, including agriculture, entertainment, financial services, health, and transportation. Any person who has a cell phone installed now can ‘become a manufacturer, perform services, or at least set up services’ with the intention of earning more money, transferring it to the next salary payment, or making his or her own benefits. The digital age has begun. Pakistan has a population of 210 million people (UN Population Division, 2018), with about 59 million young people (UNFPA Annual Report, 2014) relying heavily on cell devices. Pakistan has three million basic telephone customers. However, mobile network subscribers have increased by 1.42 million this year. According the Pakistan Telecommunications Authority (PTA), there were 35 million social media users in Pakistan in April 2018, up from 18% at the end of January 2018 (See Figure 5).

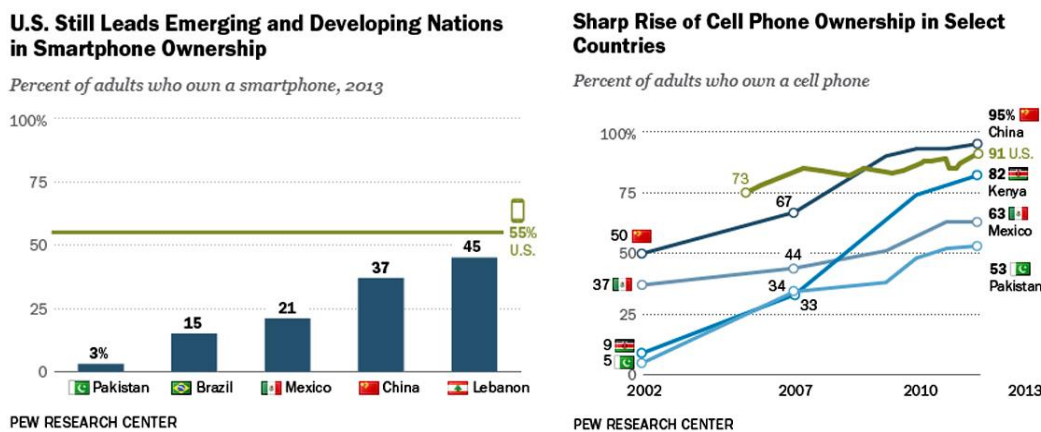


Figure 5: Smart Phone Ownership

In Pakistan, smart phone ownership has expanded at an astounding speed, with 53% owning one now, up from only 5 percent in 2002. 19% of mobile subscribers claim that use their devices to take pictures or videos. 29 percent say they use their phones to gather health information, while 38 percent say they use them for text messaging (PEW Research Report, 2013) A. Smith (2013) (See Figure 6 for details).

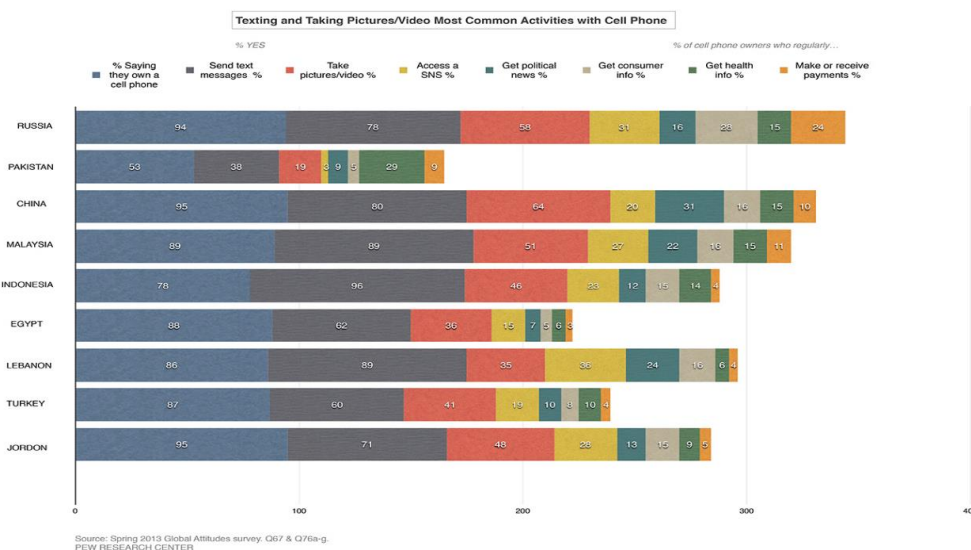


Figure 6: Mobile Ownership

In this emerging scenario, when the technological advancement and development is both drastic and disruptive, new skills or skill sets for the future will need to be defined and developed by having an integrated ICT vision for digital Pakistan with specific focus on youth and gender balance, and Significant skills are necessary for the deployment and implementation of big Artificial Intelligence (AI) systems based on ubiquitous connectivity, such as the Network, the Internet of Things (IoT), the Industrial Internet of Things (IIoT), and others. These Ai technologies will access to the available and use of services such as energy, agriculture, transport, education, the economy, finance, and trading, amongst many others. Many present basic skill sets will become redundant when the majority of mundane work associated with these disciplines is mechanized, For example, in the not-too-distant future, the proliferation of automated, self-driving autos may obviate the need for drivers, while robots and automated manufacturing technologies such as 3D/4D printing may obviate the need for fundamental manufacturing skills.

Nevertheless, a common ground may emerge in which humans develop or master skills in areas where computers may not be able of doing well, at least not in the near future or within the next few decades in our environment.

And in order to do so, we must have the passion, desire, and dedication to actively engage in the valorization and acknowledgment of the function of the youth worker as one of the most significant professions in the educational process. Young people's ability to realize their full productive potential and contribute to the economic development is limited by insufficient investment in their health and education. After establishing a clear and robust image based on inclusion and diversity, the next stage is to ensure that we have appropriate financial commitment, which is just as crucial as political commitment.

CONCLUSION

Pakistan, a nation with a population of more than 200 million is considered a 'Young Country' with 64% of the population under the age of 30 (PNHDR, 2017). About 31 percent of the population of Pakistan consists of youth, plummeting in the age bracket of 15-29. This "youth bulge" provides unique opportunities and resources for social economic developments and digital use in Pakistan. A big chunk of youth, about 32% is illiterate with limited ICTs skills, not only limiting their utilization of the digital technology but making them economically vulnerable to being drawn to violence, extremism, and radicalism and according to Goldstone (1991; 2001) this existence of 'youth bulge' can be easily associated with times of political violence and crisis in any context.

The future of Pakistan will be determined by those who are falling between 15 and 29 years of age today. There should be meaningful ways and channels to create significant opportunities in education, and employment that can engagement and empower young to play a positive role in economic performance of the country. Thus, through investment in ICTs skills utilization, development, and employment opportunities for youth, and by supporting increased digital use will not only help to reduce social and political violence and civil unrest (United Nations, 2016a) but also support establish a foundation for long-term economic growth, development, and prosperity in Pakistan through initiatives like the 'digital Pakistan Initiative'. Government of Pakistan would be able to reduce this risk through the provision of better opportunities to this 'youth bulge', by the expansion of higher education and by providing ICTs skill development, utilization and income opportunities which have a visibly pacifying effect on large youth bulges in low-income countries like Pakistan. Otherwise, Pakistan must get ready to be a country to grow older before it grows richer.

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