

HOW IS ICT SHAPING THE ECONOMIC LANDSCAPE IN TRANSITIONAL BANGLADESH?

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Abstract

Information communication technology (ICT) has a significant impact on the national economy of Bangladesh. Nowadays, people recognize ICT as a critical driver for the governance and economy of Bangladesh. Though ICT is crucial in representative and democratic governance, it also persuades significantly in the business and service sector of Bangladesh. The present study focuses on the nexus between ICT and the economy, which shaped the economic governance landscape in transitional Bangladesh. The study endeavors to answer the questions on how ICT is triggering the economy and economic governance and how it indicates the future role of ICT in management and development. The study followed the content analysis method and was primarily based on secondary data sources to reach the inferences. The results found ICT a comprehensive platform that includes the different stakeholders and emphasized the trade-off between them and the national economy. It is also found that ICT helps the government identify the synchronized ideas of various stakeholders that coordinate their actions and produce services for home and abroad. The study concludes by arguing for the management of ICT and wrapping of multidimensional data, and it could likely boost the economy and incentives required for the government to act in support of governance in the future.

1. Introduction

Bangladesh is one the fastest growing economy of third-world countries. It has overcome many challenging barriers in transforming from an under-developed country to a developing and approaching a middle-income country by the next few years. The political stability and assertive attitudes towards foreign direct investment have pulled the country to achieve this alteration within a short period during this journey. The densely populated country also gets a continuous dividend from her working labor forces; however, most are unskilled labor. In these circumstances, Information communication technology (ICT) is booming its economy by the many unexpected and programmed economic dividends by her young generations. As a result, the government has to focus on their well-structured policy and programs where the whole world is shifting the governance pattern from a traditional to a digital one. The political manifesto of the current government was the digital transformation of governance and economy to strengthen the governance for social and economic security and minimize the inequality for the mass people as inequality prevails and hinders the more significant part of her population from many opportunities and services. To encounter all these barriers, the government primarily focuses on initiating digital service delivery in different government and public offices as pilot projects. Besides, many skilled

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people, especially the young generations, are involved in outsourcing and making money through online service delivery. As a result, within a few years, the contribution of service sectors sharply increased their stake in national GDP and continuously supporting to pile the investment in our national economy for long and self-sustained development. The increasing rate of mobile and internet subscribers is the sign of Bangladesh is the growing economy among the nations that have made a remarkable success in the last few decades. The present study aims to identify the triggering factors of ICT that boost the economy and shape the current landscape of economic governance in Bangladesh.

Like other South Asian countries, Bangladesh implemented ICT policy and different acts to meet socio-economic problems and accelerate the economy. These policies and acts also get some success and few failures resembling other neighboring countries. It is pertinent to include all segments of the population under the coverage of service in a country irrespective of caste, religion, and region to get a benefit. However, it is a great challenge for a government to ensure the inclusion of all people within a policy framework. To overcome all difficulties again, ICT can be a lifeline and can show a new moon for the government of developing and underdeveloped countries. Though many social science scholars and policy-makers were concerned about the equal distribution of internet access, the issue still is considered a solid barrier to the successful implementation of ICT policy. The current study attempts to exemplify the ICT role in the case of Bangladesh and how it comprised all barriers into an opportunity to shape the economy to strengthen for future sustainability.

2. ICT- Policies, Laws, and Acts in Bangladesh

Bangladesh had started its journey towards digitalization from the end of the last century by the pioneering role of the current government when they came into power after 25 years of liberation. The ruling party is now trying to strengthen their long-cherished desire to make Bangladesh a developed and prosperous country called “Sonar Bangla,” the golden Bangle that was the commitment from the father of the nation before liberation. Bangladesh got independence under the leadership of Bangabandhu Sheikh Mujibur Rahman and his party Bangladesh Awami League, the current ruling party. The government is adamant in its goal to make Bangladesh a digital country. In response to it, the government initiated single-minded ICT plans to eradicate poverty and connect the society in a single wave of governance which was their electoral commitment before coming into power. Digital Bangladesh has become a fashion among the ruling party politicians when they talk about the development of the government in any social or public media. Though the policies formulated and few implemented, those did not focus on the digital inclusion and empowerment of the mass people of Bangladesh before 2009. The current government made historic efforts towards the digitalization of the country while both the youth and society were waiting for such a scheme. It will lead Bangladesh into the global market with its’ young and energetic labor force to earn more and more foreign currency through digital labor supply and establish a solid and efficient service pool in different ministries and departments of the government.

Year	Policy/law	Implementing body/organization	Objectives
2018	Digital Security Act	Ministry of Post and Telecommunications, Ministry of Science, Information and Communications and	<ul style="list-style-type: none"> To identify, prevention, restraint, judgment, and other subjects related to national digital security and digital crime

		Technology	
2016	Digital Security Act	Ministry of Law, Justice	<ul style="list-style-type: none"> ● To legalizing and ensuring the security of ICT
2010	<ul style="list-style-type: none"> ● Post Office Amendment Act ● Telecommunications Amendment Act ● International Long Distance Telecommunication Services (ILDTS) Policy ● Bangladesh Hi-tech Park Authority Act 	Prime Minister's Office (PMO), Ministry of Post and Telecommunications, Ministry of Science, Information and Communications and Technology and other ministries, like Finance, Industries, Law Justice.	<ul style="list-style-type: none"> ● To accommodate the new changes in the sector ● To accommodate the new changes in the sector ● To facilitate low-cost service including VOIP services, so that the vision of Digital Bangladesh comes into a reality ● To boost up hi-tech industries and services in Bangladesh
2009	<ul style="list-style-type: none"> ● National Broadband Policy ● Right to Information (RTI) Act ● National ICT Policy ● Bangladesh Telegraph and Telephone Board Amendment Act ● Technology Amended Act 	MoPTIT and Bangladesh Telecommunications and Regulatory Commission (BTRC) Ministry of Law, Justice and Parliamentary Affairs	<ul style="list-style-type: none"> ● To ensure easy accessibility to the internet and effective service delivery ● To provide legal power to citizens to seek public service-related information ● To provide an up-to-date and comprehensive framework for the development of ICT with action plans consistent with the vision of Digital Bangladesh ● To accommodate the new changes in the sector ● To update the ICT Act 2006 to accommodate the new changes
2008	<ul style="list-style-type: none"> ● ICT Policy (Review) ● Secretariat Instructions 		<ul style="list-style-type: none"> ● To expand and diversify the use of ICTs to establish a transparent, responsive, and accountable government along with developing skilled human resources and enhance social equity ● To legitimize the use of ICT in administrative activities and communications
2006	ICT Act	Ministry of Law, Justice and Parliamentary Affairs	<ul style="list-style-type: none"> ● To ensure legal recognition and security of information and communication technology
2005	Copyright Amended Act	Ministry of Law, Justice and Parliamentary Affairs	<ul style="list-style-type: none"> ● To protect intellectual property rights computers, software, e-mail, websites, and other modes of electronic communication Technology

2002	ICT Policy	MoPTIT, BTRC, Bangladesh Computer Council (BCC), and Prime Minister's Office (PMO)	<ul style="list-style-type: none"> ● To promote and facilitate the use of ICT in all sectors and ensure transparent and efficient governance
2001	Bangladesh Telecommunications Act	MoPTIT and BTRC	<ul style="list-style-type: none"> ● To form an independent commission to facilitate telecommunication services across the country
1998	National Telecommunications Policy (NTP)	MoPTIT and BTRC	<ul style="list-style-type: none"> ● To ensure the rapid growth of telecommunications technology to ensure socio-economic development

**Table 1: ICT policies, laws, and acts in Bangladesh
(compiled and modified by authors from ICT policies, acts, laws) [1], [2]**

The government has to formulate further acts and policies to support digital Bangladesh. Many new efforts added and yield benefits to the rural people who were primarily out of the purview of governmental service traditionally. Based on the (Access to Information) A2i project of the government, more than 5000 digital centers have been established to connect people and provide service from door to door to the mass people. Several financial services are in operation in Bangladesh that connected a significant part of the population who were outside of the financial inclusion in the national economy. For example, banking becomes more and more flexible in Bangladesh due to its digital transformation and people becoming more interested in institutional financial services for their economic activities and transactions. It is a continuous process, and challenges are there; the government is approaching digitalization and transformation and dreaming of being a self-reliant country soon and will be developed shortly if other things remain constant.

3. Research Methodology

There are many crucial methodologies to evaluate ICT performances in an economy, while this study is mainly content analysis based on secondary sources of data. As many dimensions are involved in the economic landscape where ICT is vital nowadays due to its array and scope in the modern democratic governance system. We include different types of sources: published articles, governmental reports and policies, newspaper articles, academic journal articles and textbooks, web pages, etc., for this review. The sources were selected based on their inclusion criteria for the study where the conditions are: all sources related to ICT, only English literature are selected, the journal articles are not only Bangladesh perspective while reports, policies, and news articles are solely Bangladesh related. Though the ICT is our central theme but to elucidate the extensive role of ICT, we include other aspects of ICT to get more widespread data to make our discussion nuanced and authentic.

4. Results and Discussions

Bangladesh earned about \$1 billion by exporting the ICT product while more than a hundred thirty ICT farms produce ICT products (i.e., software, IT solutions, IT security, etc.) for domestic and international markets. The growing local and international demand for ICT products creates an excellent opportunity for the educated and talented Bangladeshi youth to involve in the economic process without any governmental intervention, which increases the economic dividend for the

government. At the same time, it does not need to invest a lot for the introduction. However, to make a sustainable economy in the twenty-first century, it is inevitable to focus on ICT and its issues for long-lasting benefits for the economic growth and development in governance. It is expected that within this year, the earning from the ICT sector will reach \$5 billion.

In contrast, the mounting asset of ICT supports the crucial pillars that ultimately transform Bangladesh's economy into a digital one. Therefore it will underpin the knowledge economy of Bangladesh for future sustainability by the year 2041. The current prime Minister of Bangladesh declared the visions for “*Digital Bangladesh*” where it identified human resources, citizens, and digital governance for the development of human resources, involving and connecting people and digitalization in government where the advancement of the ICT is vital to meet these targets for practical and viable transformation.

4.1. ICT and Development of Human Resources

The demographic structure of Bangladesh is one of the prospective ones that will benefit in the coming years as the most significant numbers of youth are educated and forthcoming for the economy and transformation. To make this transformation sustainable, the government has to have political will and policy guidelines for the future. To support this, the government of Bangladesh initiated different rules, regulations, and policies to strengthen national development's decisive objectives and goals. The demographic structure of Bangladesh has surprisingly created more opportunities even in many adverse local and global crises. As a result, the government gets extra benefits from her recent demography.

The population size of Bangladesh opens numerous possibilities for the future. The Government of Bangladesh (GoB) desired to be a global gateway for the digital world because ICT sized modern life and governance, and all economic activities are attached with it. Various initiatives have been initiated to promote an expert, organized, and digital-ready pool of endowments to respond to government desires. However, the higher education sectors of Bangladesh, not totally science, technology, and engineering centered, produce more than half a million university graduates every year; thus, unemployment is increasing among the educated and graduates along with their frustration. It was not applicable for those who graduated from a science-based subject while many are from arts and humanities backgrounds but eventually switched their career in the ICT sector through post-graduate training from different governmental and non-governmental organizations in Bangladesh. There are several dedicated foundations and advanced training programs that are operational. It is imperative to increase this talent pool's numbers to deliver value on a global scale.

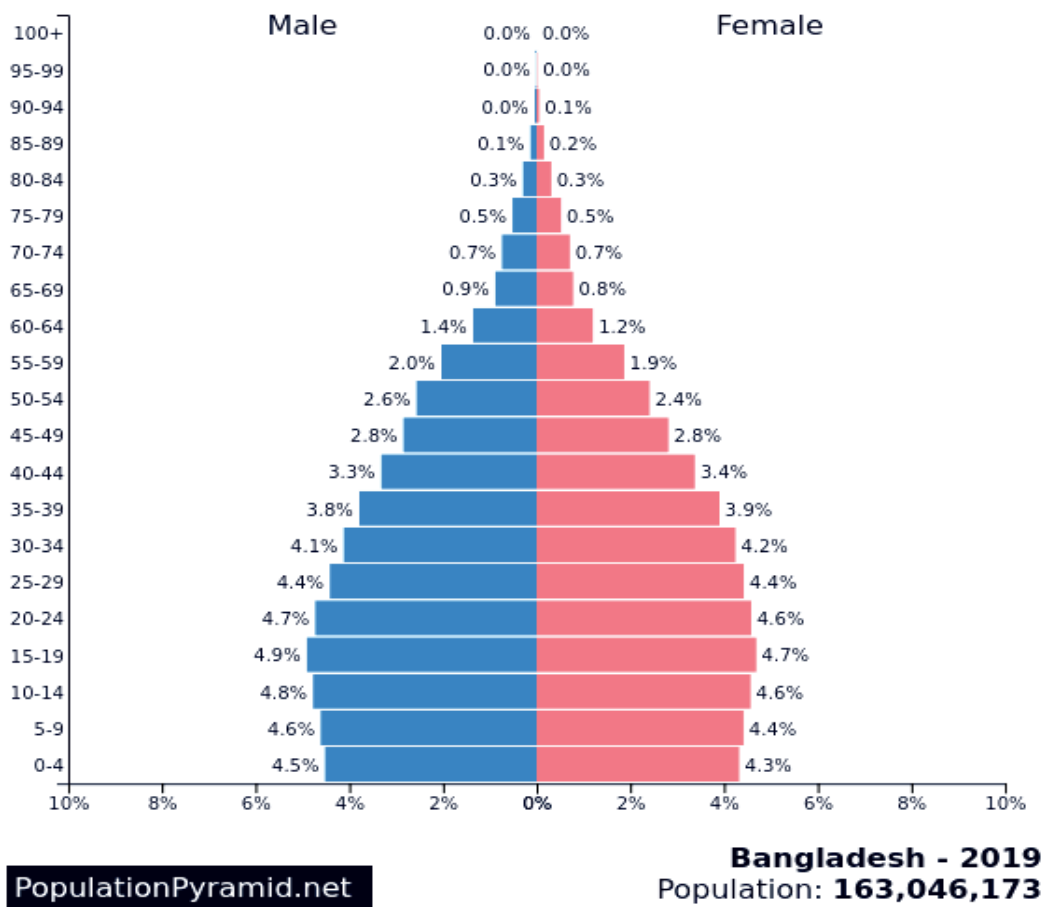


Figure 1: Population Pyramid of Bangladesh as 2019 [7]

The increasing numbers of trained ICT personnel boost the sector every year to capture the global market to meet the local and international demand for ICT products. Last year Bangladesh qualified and produced more than sixty-five thousand ICT experts by its dedicated training program for strengthening the preparation for the establishment of a global ICT hub. All of them are trained in Information Technology (IT) or Information Technology Enabled Services (ITeS). Based on the report of Oxford Internet Institute, Bangladesh was the second-largest country from where the online workers worked in the world online pool. As a result, the educated youth and the government are concerned about the prospects of this sector. In many universities, the government established specialized labs to promote and augment the skill of ICT.

Besides, many informal training centers also provide training for the interested youth that add a new speed to this sector. Similarly, the government also invested in frontline tech centers with the partnership of global leading technology partners like IBM. In preparation for the ICT sector's future sustainability with its human resources, Bangladesh has a strong focus on skilled and trained professionals in embryonic technologies- Big Data, Data Mining, Artificial Intelligence, Blockchain, and the Internet of Things.

It is essential to strengthening human resources as it is considered the lifeblood of any country or organization. To make a dynamic and develop the country and a proud nation in 21st century ICT is inseparable from shaping the society and economy. So we can say that Bangladesh is on the right

track to prepare and furnish its workforce in leading to the global competitive online market to earn more foreign currency to boost its economy with the earnings from other subsectors.

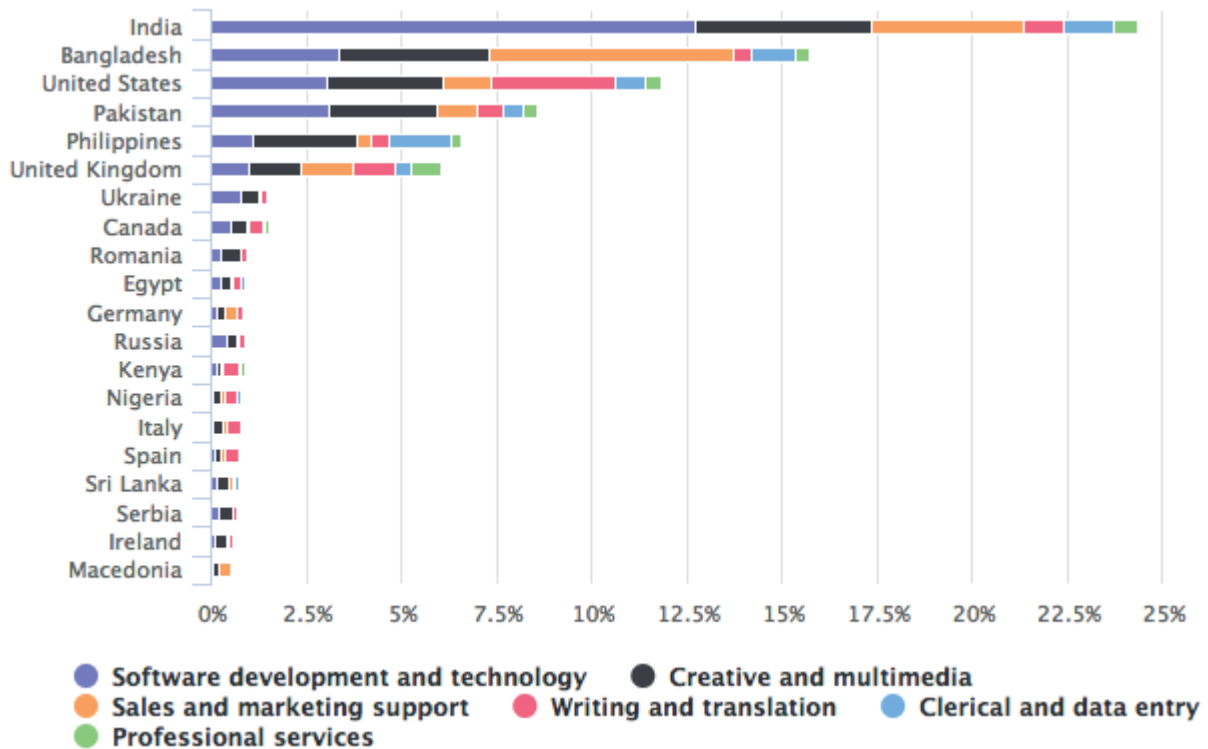


Figure 2: Online Labor Index top 20 worker home countries. The image is taken from Oxford Internet Institute (OII) website. [9]

4.2. Connecting Citizen for Sustainable Development through ICT

Democracy is not just a form of government nor a culture of modern politics but itself a way of life that people would like to live in every corner of the society throughout the world. Many countries fought for their rights and dignity, and many left their country due to a loss of connectivity with their government. Many countries of the world imposed suitable policies in their governing structure to involve and connect their people to get more and more support from them and produce prioritized and cost-effective services for their citizens efficiently. Modern life is becoming more challenging in the past; thus, the government must be more cautious in spending money. ICT made a revolution by cost-cutting instruments and a mechanism to connect their citizens and efficiently respond to citizens even in an adverse situation.

By this year, the government of Bangladesh is committed to connecting every citizen of Bangladesh through internet connectivity. However, Bangladesh is one of the top mobile markets in the Asia Pacific region, making it easier for the government while people are coming to step forward to respond.

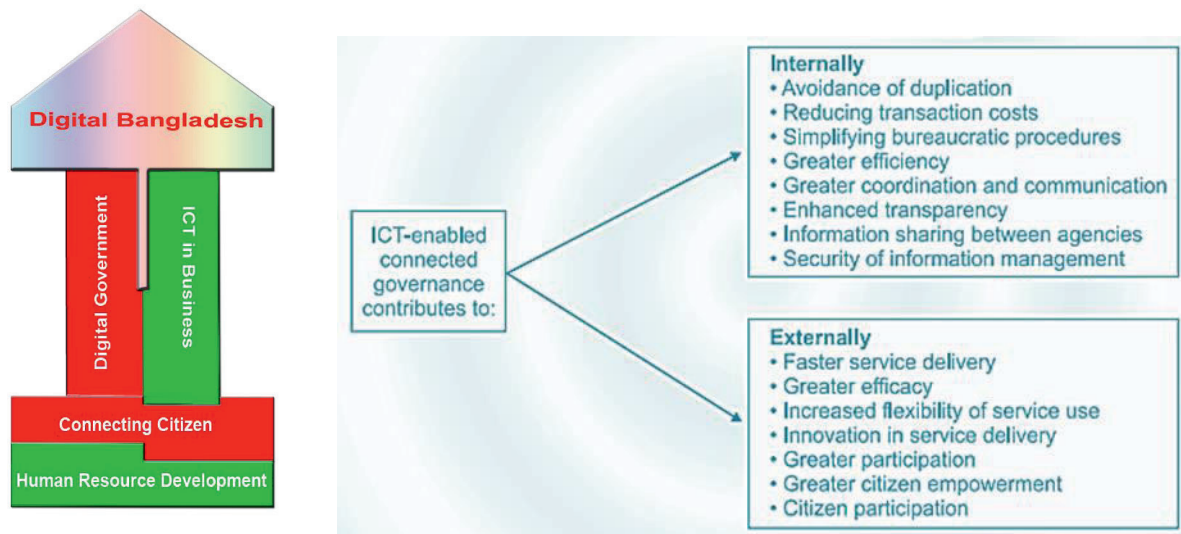


Figure 3: Digital Bangladesh and Role of ICT in Governance [8], [4]

In Bangladesh, about 160 million mobile subscribers while ninety-three million people are connected with internet facilities. The seamless connectivity also benefits the people with high-speed internet and most advanced facilities by the positive attitudes of the government. Two submarine cable connections also added more and more suitability for strengthening the ICT productivity of the country. Due to this, the people living in remote areas are also connected to the high-speed internet facility. Furthermore, the government creates opportunities to attract investors and interested individuals and groups from home and abroad by establishing twenty-eight high-tech parks to guarantee a gainful space for companies. The government is attentive to the booming atmosphere for the associates and financiers who wish to take advantage of the opportunities that Bangladesh offers.

4.3. ICT in Governance

E-governance is one of the primary building blocks for Bangladesh towards digitalization. Bangladesh is approaching forward and driving its steer to the digitalization that is strengthening and hastening the local economy at the regional and global level. By definition, e-governance is simply applying ICT to all aspects of government business where it makes sense to improve the efficiency and effectiveness in the achievement of policy and program outcomes. As Riley defined, E-governance is “an opportunity for governments to get closer to the citizen and build a partnership with diverse communities of interest, practice, expertise, conviction, and interdependence.” [5].

Participation Indicators	Conventional Governance Models	Digital Governance Models
Mode of Participation	Representative	Individual / Collective
Domain of Participation	In-Situ	Ex-Situ
Approach to Participation	Passive / Reactive	Pro-Active / Interactive
Impact of Participation	Indirect / Delayed	Direct / Immediate

Table 2: Comparison between Conventional and Digital Governance Model

The government of Bangladesh is driven to digitalization in governmental portals and trying to incorporate innovative services through ICT. By 2023 the government wishes to start digitalization in the passport and visa application; however, the government has already made few steps to make it more convenient. In one portal and articulation of more than 45000 websites of government offices are now under the umbrella of digitalization. In rural areas, the government also established more than 5000 digital centers countrywide to create an opportunity for digital services for the citizens to minimize the digital divides. These digital centers are serving mainly rural areas to connect the rural community in the governance system. Every union (the lowest tier of local government) has at least one digital center where people usually visit to get their digital services.

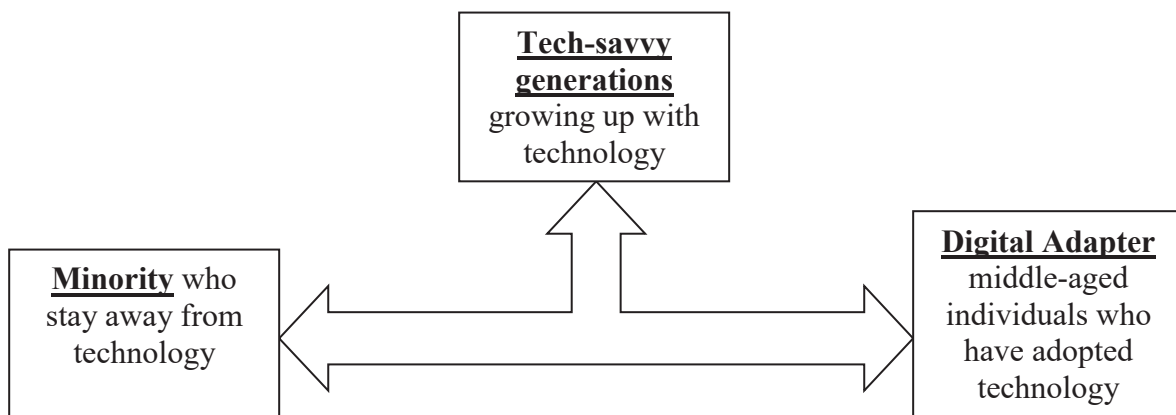


Figure 4: Design for citizen inclusion in digital transformation

Bangladesh National Digital Architecture (BNDA) confirms the interoperability for e-governance and recognized by the WSIS (World Summit on the Information Society) for its initiatives for digitizing the governing system since 2014. The digitization process also extended by providing digital IDs to 100 million people of Bangladesh, one of the biggest volumes in the world. As a result, people can be reached and connected without any middleman with the services in and outside the country. To accelerate the service and connectivity within different ministries, the government established a Digital Service Accelerator to expedite and promote e-services of various ministries. The government also designed the service to connect a diverse group of people based on the social strata and class, which yields more productive results towards the goal and transformation for digitalization.

4.4. Development of ICT Industry in Bangladesh

The ICT industry in Bangladesh is swiftly emerging and becoming a vibrant one as it is the fourth pillar of the digital transformation of Bangladesh. Through continuous support from the government, the ICT industry has become strengthened nowadays as it has become more viable to deliver innovative and faster service delivery than earlier. Bangladesh provides services in different domains comprising financial, telecommunication, healthcare facility and IT, ITeS, and some leading global companies.

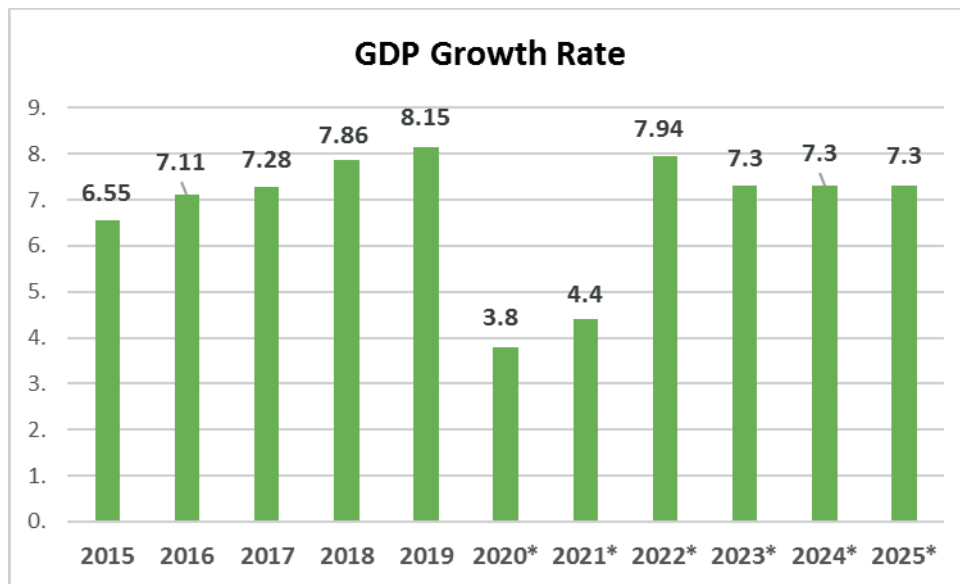


Figure 5: GDP growth rate of Bangladesh [3]

Bangladesh is experiencing one of the fastest-growing economies globally and earning the right to be called one of the prospective countries in the future. It maintained a good and steady economic growth rate in the last couple of years and strengthened the future with solid support from diversified areas of the economy. Due to its speedy and balanced economic growth, Bangladesh became the 2nd largest economy in South Asia [10] and 41st globally and will be 25th within the next ten years [6]. After this growth, the most potent and vigorous factor is the well-designed use of ICT to incentive progress in every area.

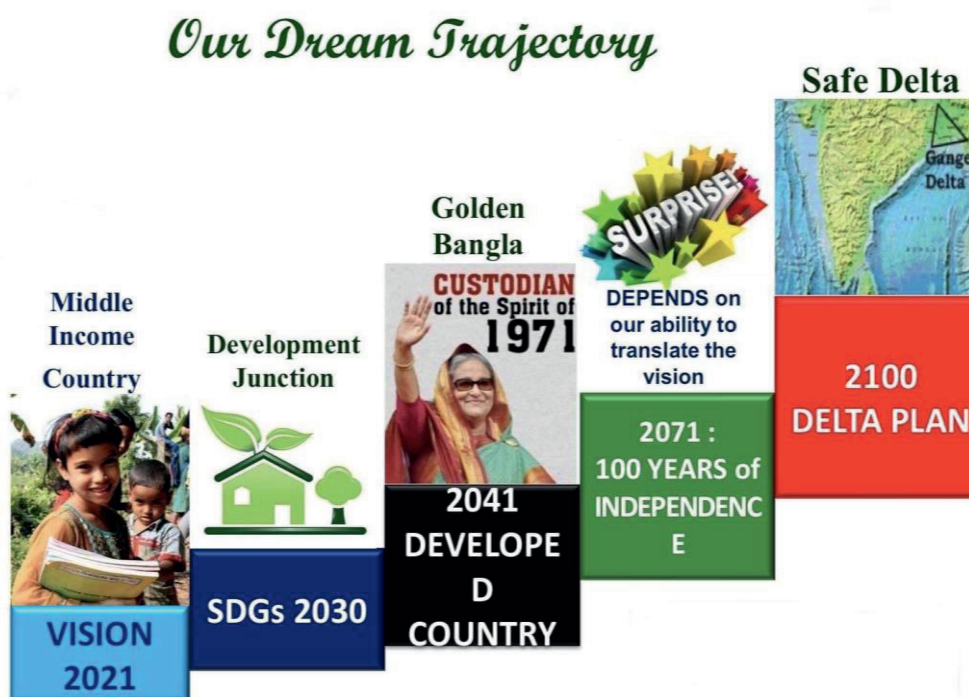


Figure 6: Our dream Trajectory

5. Conclusion

To conclude the paper, the ICT policy has made a tremendous success in the economic sector. However, it needs many more reforms, including different segment people and reducing the inequality and empowerment of the disadvantaged group of people for maximum output. Development is a multidimensional concept that requires overall development. Digitalization only cannot make it possible without good cooperation with other policies and ministries. Digital transformation can boost the process if the infrastructure is well equipped to implement digitization in every sector of Bangladesh. It is essential to reach and connect mass people with the governing process. It will empower them through connectivity, which will allow them to contribute to strengthening democratic governance today and tomorrow for a better and developed nation. Finally, it can be said that ICT played a crucial role in the economy as it is the driving force of a government. In the case of Bangladesh, ICT needs continuous support from the government side as it can play its role. More and more youth could get a chance to produce more earnings for Bangladesh to reshape the economy into a developed one.

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