

Comprehensive Research Paper on the Global Impact of Information and Communication Technologies

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ABSTRACT: Information and communication technologies are the revelation of this area. Most of people on earth have used at least one of those technologies directly or indirectly. In many developed countries, people could not have their daily work done in isolation of the technologies. Since the development of electronic computers in the 1950s, people have faced many changes at the microeconomic level and at the macroeconomic level. Students of history would realize technology has had many impacts and effects in people lives. This paper explores the global impact of information and communication technologies in many aspects economies, trade, governance, international trade, and managerial practices of organizations. In addition, the paper provides some recommendations and suggestions to government leaders on information and communications technologies strategy. Also, it provides some methods that could be used to improve the economic situation in countries by using information and communication technologies.

IMPACTS OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON THE ECONOMY:

Information and communication technologies (ICT) have many impacts on the economy in the world generally and in each country individually. Those impacts could be also seen at the macroeconomic level in a country or at the microcosmic level, which is at the household level. In regards to the macroeconomic aspect, ICT has had an obvious impact on growth and productivity of countries' economies. The computers are powerful tools that could help most of the industries to grow relatively faster than last century. On the other hand, researches show that the impacts of ICT differ from country to country, and from company to company based on the manner of implementation the technologies. For example, there are many companies in Saudi Arabia that implement high advance technologies to reach more customers such as telecommunication companies.

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Saudi Telecommunication Company (STC), as an example, has launched a Twitter account in 2007 to start contacting its customers, and interacting with them as support service. Now, the STC account in Tweeter achieved the title of the most interactive and responsive twitter account in the kingdom of Saudi Arabia. That helps the company to generate more profit by using this free tool in order to connect with its customers. Moreover; there are many new jobs created by using those new innovative technologies in companies. Many technologies and communications ministries have been established, which means many jobs are created. On the other hand, technologies have destroyed some jobs, especially the handicrafts, but the jobs that have been created by information technologies usage are more than that. For example, online employment marketplaces help about 12 million people around the world find work. The Internet helps to connect them with employers globally. Many obstacles face the unemployed people to find work such as the destinations, illness, or other religious purposes. Getting jobs in Saudi Arabia as compared to men, women face many difficulties in finding a job, due to the conservative traditions and gender segregation. In 2006, about 57 percent of university graduates in Saudi Arabia were women. The percentage of women in the workforce could not be neglected. As a result, many companies in the private sector started to create jobs by using the information and communication technologies such as online jobs. For example, in Mobily Telecommunication Company in Saudi Arabia, there are more than 1500 women in customer service representatives program for women to operate from home through the online marketplace.

A study by the World Bank reported that between 1980 to 2006 there was an increase by ten percent in Internet penetration results in 1.35% increase in GDP growth in developing countries, and about 1.19% increase in GDP in developed economies. That means the Internet has a strong impact on the economy of developing countries due to the lateness dealing with the information and communication technologies. In addition, the way of creating goods and services have changed as well as the huge increasing of labor productivity.

IMPACTS OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON THE TRADE:

Information and communication technologies have created competition between companies and industries. The market becomes more global. Customers could compare prices and qualities of products easily. In addition, because of the Internet penetration, many stores are online, and traditional stores have online stores, which increase the selectiveness of products in the market. For example, Australians will spend online about \$10 billion in the next five years. The growth of buying online is 11% annually. IBIS world research forecasts an 8.6% per year increase in online revenues in the next five years. In South Africa, 51% of people who have Internet access buy online. E-Commerce is the most effective key from Information and communication technologies. Many stores and companies have started spending more time on the Internet to accelerate online services such as financial services and customer care. The trade in Niger has also been changed since the introduction of mobile phone service. It reduced company loss because of different prices and increase the gain across markets, which is about 29% in average profits. Moreover, entering into important information such as prices and demand assists many people to know the optimal price for selling and buying as well as the actual demand for their products.

IMPACTS OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON THE INTERNATIONAL TRADE

Information and communication technologies have helped many countries especially the developing countries to increase the exports products. Many studies prove that the Internet has a significant positive impact on international trades. OECD studies conducted in 2004 show that increasing investment in information and communicating sectors can contribute to increases in productivity and trades. Even though the information and communication technologies have a deep impact on all aspects of the

economy, the most services in the information and communication technologies sector have contributed to trades and international transactions. Using the information and communication technologies reduces the transaction and transport cost. For example, many barriers between the buyers and the sellers have been distorted in the online markets. Many factories in the US have an online website the enable customers to buy directly from the factories. That decreases the cost of goods and services to become cheaper than any time before. In many developing countries where authorized agents' stores are not available so, many people countries buy a new phone from the main manufactures without waiting until the agent to bring it officially to the countries. Not only the customers get the phone early with fewer prices, but also, companies have another market to sell their products and increase their profit.

IMPACTS OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON THE GOVERNANCE:

The relationship between the information and communication technologies with governments in is not clearly understudying. ICT helps the developed countries to deliver public service for rural areas equally to the urban areas without spending much money. Due to the high penetration of the Internet and relatively cheap cost of computers in the USA and other developed countries allow the government to provides basic services for all population in any area around the country. On the other hand, many developing countries are working hard to achieve to be e-governance. Moreover, ICT helps governments to avoid using traditional paper, which cost much to prepare and storage to be more digitize documents with less cost of prepare, storage, and easy access. At the same time, e-governments save time and money for the citizens from going to governments' or ministries. Also, ICT provides real statistics for the administrators to have realistic monitoring about each department's progress. Taking India as an example where the progress of the government toward adoption the ICT and becomes relatively e-government shows us that any governments that want to success on this project should parallel with individual progress. Information and communication technologies 2015 shows that the individual usage of ICT ranked 121, whereas the government usage ranked 62. There was a huge gap in how the government used the ICT and how the individual used the ICT, which led to a failure of the e-governance project, as we can see in the ranking of government success in ICT (ranked 81).

RECOMMENDATION TO THE GOVERNMENT LEADERS ON THE INFORMATION AND COMMUNICATIONS TECHNOLOGIES STRATEGY:

After reading the ICT report, and comparing the data of developed countries with developing countries, I believe that the Internet is a basic element that all populations should have an access to. In developed countries, the Internet is considered a basic right for humans. Many tools of information technologies are based on the Internet. I would recommend that all the people who live in the rural or urban should have Internet access. Governments should focus on building a good broadband infrastructure for the Internet. Governments should provide Internet connection for people who cannot afford it by making the Internet available in the public area such as schools, universities, and libraries for free.

Providing the Internet access is not just the solution, governments should provide an education for how to use the information and communication technologies. Governments should adopt training programs for people who could not find time to study. Moreover, programs should be established in universities in order to increase the specialist's people in ICT.

Developing countries have many steps to take. One of the important recommendations is dealing with the gender gap in ICT access. Many women in developing countries do not have much time and money as men due to the discrimination in getting jobs. The government should explore how those barriers could be solved. Creating laws and regulations and edit the existing laws and regulations that could contribute to making the gap bigger. Many studies show that the illiteracy between women more than men. For example, 82 percent of men in Uganda are literate compared with only 64 percent of women. The majority of women in developing countries do not use phones beyond the typical calling. There is an obvious correlation between illiteracy and using ICT. Taking Pakistan as an example, it has ranked in the education in 2014 2.6 and in 2015 3.7. On the other hand, Pakistan has ranked in individual usage pillar in 2014 1.9 and in 2015 2. As we can see, education is an important key to increasing the information and communication technologies use.

Governments who implement the taxation on information and communication technologies should regulate this law. Many people not only in the developing countries but also developed countries could not afford the basic prices of information and communication technologies rather than pay a tax. Governments should remove the tax on people who could not afford to pay the basic price.

The continents are the other issue that should the governments solve. In developing countries, people

speak more than official language. For example, in India, there are more than 20 languages are spoken. Governments should increase the continents in the local languages. Moreover, the interpretation could solve the problem.

There are few countries that have ranked very low in NRI 2015 do not have an official department for ICT. Governments should create ministries that are specialized on the ICT. Having a governmental department has the positive impact on the market on ICT. Ministries on ICT are going to regulate the markets and have long-term strategies. That in the short term encourages local companies to invest in this field. The government should also make sure that the link between the policy formulation and implementation is strong enough to have positive progress. For example, after creating ministries in Pakistan in 2004, there are many telephone communication companies have entered the market, which make the competitions reduce the prices, and the internet and phone services relatively affordable. Finally, sustainability is very important in every aspect. Governments should develop sustainable plans that keep the work continues and do not stop after changing the governments

EXAMPLES OF GOVERNMENTS:

1. Pakistan

Pakistan has ranked in the Network readiness index 2015 111 out of 143 countries. There are many recommendations that Pakistan as a government should take it in order to enhance its ranking and have a good progress in future; First of all, the illiteracy in Pakistan is high especially in urban area. For example, in the Kohlu District, the percentage of literacy is 28%, which means there are more than 70% of people live in Hohlu District are illiterate. Information and communication technologies could be used in order to increase the literacy in those areas. There are many ways of doing that such as online courses.

2. Italy

Italy needs to raise the age of retirement up to 77 years old due to the high age population. Liguria in northwestern Italy now has the highest ratio of elderly. Using of Information and communication technology would be the solution the face the lack of labor. Implementing the E-government at high percent of its service would be necessary for the future of Italy. Presses in Italy have mentioned that Italy needs to have at least up to 2,000,000 immigrants annually to keep the work done. At the same time, the health services would be necessary because of the high percent of older such as health service at home by using The Internet, and

linking the hospitals with the specialists to be able to assist on time. Italy is an urgent case of needs the labor and information and communication technologies are the solution.

3. Saudi Arabia

Saudi Arabia is in a unique period of demographic. There is about 51 percent of the population is under the age of 25 and the official percentage of unemployment in Saudi Arabia is 6.1 percent, but there are many unofficial statistics claim that the percentage is high than 11 percent. The Saudi Arabic economy depends about 91 percent of GDP on oil. Many economists said that Saudi economy is not able to provide jobs at the percentage may increase at the double in the future. ICT provides economic opportunities to both urban and rural population and makes the market work more efficiently. ICT could provide more opportunities for unemployment people in Saudi Arabia to work. For example, producing films in YouTube are common. Many of youths in Saudi Arabia publish their work in the YouTube and get money from advertisements such as Sa7i.

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