

Impact of the digital divide



OECD (2001, P5) defined the digital divide as “ the gap between individuals, households, businesses and geographic areas at different socio-economic levels [and other demographic levels] with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities.” When we refer digital divide, we refer not only the opportunities to access to or use of ICTs but also the ability or knowledge of using ICTs. Besides, the statement “ nearly everyone has a mobile phone” is falsified, 15% adults in US didn't have cellphone until 2011 (Zickuhr, 2011). Therefore, digital divide still is an important issue. Digital divide exists in different countries and different regional areas and social groups within countries. There are two types of digital divide: domestic digital divide and international digital divide. In this article, I will discuss domestic digital divide at first. Then I will discuss international digital divide and how it forms. Finally, I will discuss why digital divide matters.

Couldry (2007) pointed out the complexity of digital divide. He thought digital divide was complex because there were at least two situations of digital divide: domestic divide and international divide. First, it involves the gap between those who can access to ICTs and those who cannot within countries. Secondly, it involves the absolute gap of communication facilities, information transmission capacity, the amount of computers and network hosts, the amount of telephone users and such other aspects between countries.

Within countries, people have different access to ICTs because of their gender, income, race and region (Rice, 2006), which splits them into

information rich and information poor. In US, the poor, the old, minorities, less educated people and rural residents had less access to ICTs. Comparing racial groups, African-Americans and Latinos have less access to and worse skills of ICTs. Because of poverty caused by racism, they have limited opportunities to learn about and use ICTs. Until 2011, 82.7% Asian-Americans could access to the Internet and computer, but only 56.9% Black and 58.3% Hispanic could. Besides, rural Native Americans possessed the fewest telephones, followed by rural Hispanics and rural Blacks. Black households possessed fewest PCs. Comparing age groups, 95% of people between 18 and 34 were cellphone users, and only 48% of people older than 75 used cellphones. 59% and 52% US citizens possessed desktop and laptop, and only 28% of people over 75 possessed desktop and 10% possessed laptop. Until 2013, 81.9% of people between 35 and 44 could access to the Internet and computer, while 61.7% of people older than 55 could. Besides, rural young under 25 possessed fewest telephones, and rural old over 55 possessed fewest PCs. Comparing income groups, the poorest households in central cities possessed fewest telephones, followed by the rural poor and the urban poor. The rural poor possess fewest PCs. Comparing educational level groups, 89.9% of people with bachelor degree or higher could access to the Internet and computer, but only 36.9% of people without high school degree could (File, 2013; Mossberger, Tolbert, & Gilbert, 2006; NTIA, 1995; Zickuhr, 2011). Unbalanced ICTs use also can be found in Canada. The old and the poor had less access to cellphones and Internet. Only 3.5% of people from the lowest income group could access to the Internet (Sciadas, 2000). Additionally, unbalanced Internet use between different social groups and regional areas was obvious in China. Until 2007, among Internet users, <https://assignbuster.com/impact-of-the-digital-divide/>

32. 3% of them were students, while only 0. 4% of them were peasants. 82. 9% Internet users were urban residents. The Internet penetration rate was 20. 2 in urban areas and only 3. 1 in rural areas. East areas had higher penetration rate than central and west areas. Until 2012, Internet users increased to 516 million. 55. 9% of them were male and 44. 1% were female. Besides, 29. 8% of people between 20 and 29 were Internet users while only 4. 8% of people older than 50 were Internet users (CNNIC, 2007, 2012). From these data, we find domestic digital divide occurs in both developed countries and developing countries.

Furthermore, with the rapid development of ICT and expansion of globalization, international digital divide becomes an important issue. Nowadays, countries have more connections with each other than before, and they have more influence on each other as well. Digital divide between countries causes serious problems.

Firstly, ICTs develop rapidly in both developed countries and developing countries. The UN Millennium Development Goals report: 2008 showed the number of fixed telephone and mobile users increased from 530 million in 1990 to 4 billion. From 2005, the number of new mobile users rapidly increased by more than 500 million, and until 2006, the total number of mobile users increased to more than 2. 7 billion. The amount of mobile users grew faster in the areas where the amount of fixed telephone users was small. In 2006, the number of new mobile users increased by 60 million in Africa. There were more mobile users than fixed telephone users in almost every country. By the end of 2006, 22% Africans use mobiles, and 3% Africans used fixed telephone and 5% Africans used the Internet. By the end

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of 2006, 1.2 billion people on the earth could access to the Internet, which occupied more than 18% of the whole population (UN, 2008). Network construction improves poverty alleviation, education and employment in developing countries. With the development of technology and the widespread use of broadband, there were more opportunities for developing countries to catch up with developed countries.

However, according to current spread speed and development trend, although developing countries showed faster rates of growth in network development than developed countries (Fink & Kenny, 2003), the digital divide will exist for a long term and hardly be diminished in a short term because the existing gap between developed countries and developing countries was huge. The UN Millennium Development Goals report: 2008 showed Internet penetration rate was 58 in developed countries and 11 in developing countries and 1 in the least developed countries. Until 2006, there was no commercial broadband service in most countries in Sub-Saharan Africa, and even if there was, people cannot afford to the expensive service fees. But broadband technology stimulates the wide use of Internet in developed countries. The Global Information Technology Report 2007-2008 published by World Economic Forum (2008) ranked the Networked Readiness Index of 127 developed and developing economic entities which occupied 95 percent of global GDP. The top 20 were: Denmark, Sweden, Switzerland, Finland, the Netherlands, the United States, Singapore, Iceland, South Korea, Norway, Hong Kong, the UK, Canada, Australia, Austria, Germany, Taiwan, Israel, Japan, Estonia. Most of them were European and North American developed countries, and only a few of them were emerging

economies. Most Asian, African and Latin-American countries were ranked low. Data from International Telecommunication Union showed in developed countries about 77% people could access to broadband Internet, while in developing countries only 31% could. What's worse? There were about 4.5 billion people cannot access to Internet, which occupied 66% of the whole population on the earth (Chinn, & Fairlie, 2007). In 2001, the computer penetration rate and Internet penetration rate of North America were 61.1 and 49.8 respectively. In contrast, they were only 0.5 and 0.6 respectively in South Asia (Chinn, & Fairlie, 2007). In 2002, 59% US citizens used Internet, but only 4.8% Chinese used Internet (Chen & Wellman, 2004). Until 2011, the Internet penetration rate of Iceland was 97.8, and the average rate of top 50 countries was 78.6, but the rate of the rest of world was only 25 (Internet Usage Stats and Population Statistics, 2011). From these data, we could find huge a digital divide between developed countries and developing countries.

International digital divide continues to enlarge as the gap of economic development and education level between countries enlarges. The difference of economic development between countries is a main cause of digital divide. In the early stage of development, a large amount of fund needs to be invested in digital information industry and information communication infrastructure. Developed countries possessed more resources including but not limited to capital to innovate and apply to ICTs. They had abundant money investing in research field and ICT infrastructure construction, while many developing countries could not afford to undertake large amount of capital investment. Therefore, developed countries had more advantages in

digital information industry, especially in research field. Many underdeveloped countries became digital indigent countries because of underdeveloped digital information technology and infrastructure. Lack of telephones and computers, low network transmission capacity and deficient telecom infrastructure increase the difficulties to start digital economy for developing countries; lack of updated software and technology and expensive Internet service fees impede the development of digital information technology in developing countries. Therefore, an increasing number of developing countries became more backward as they are isolated by digital technology and information resources; developed countries enjoy the convenience of low-cost and high-speed information. Imbalanced distribution of information is closely related to imbalanced distribution of global wealth.

Additionally, the difference of education level between countries is another major contributor of international digital divide. Education level determines people's ability to use and develop digital information technology, and people's ability of ICT use determines the foundation of developing a digital information technology society and how much technology weighs on the economic structure of their country. Because of better education, people in developed countries are better at using new technologies than people in developing and underdeveloped countries. In developing and underdeveloped countries, the low level of ICTs education was attributed to the following reasons (Nair, Kuppusamy, & Davison, 2005). Firstly, there were no sufficient ICTs facilities in the school. For instance, in Argentina, 82% private schools and 51% public schools had ICTs facilities; in Peru, only 13%

public schools had ICT facilities, so students had unequal access to ICTs (Hilbert, 2011). Secondly, there were limited numbers of competent teachers who master ICT applications in educational institutions in these countries. Thirdly, there were short of public ICTs facilities for educational purpose in these countries. To sum up, the backward education level directly restricts the development of ICTs in developing countries.

Digital divide should be attached importance to, because it negatively affects social and international stabilities. Digital divide widens the gap between rich and poor, polarizing people within countries, causing social conflicts, enlarging the gap between developed countries and developing countries, hindering the development of developing countries, and leads to digital hegemony which threatens international security.

Firstly, an increasing domestic digital divide leads to many social problems within countries. Now it's information society, and information becomes more important than capital. Poverty means not only wealth shortage but also information shortage. People need unblocked and updated information to innovate or catch the opportunity to make fortune. Limited access to ICTs means limited opportunities to create fortune, and digital divide increases the polarization of the rich and the poor within countries. Wealth gap in virtual world is related to wealth gap in reality. People who are excluded by information society are isolated from mainstream political and economic life and have to suffer from long term poverty and developmental stagnation. Increasing digital divide makes people who have gotten rid of poverty become poor again. If this problem is not solved, the informatization of a country cannot be accomplished, and digital divide will split people into two

worlds. One world is heaven for information rich while another world is hell for information poor, and the polarization of wealth becomes more serious and leads to social tensions. What's worse? As information technology grows so fast, the period of upgrading become shorter and new digital divide comes when old digital divide still exists.

Secondly, digital divide widens the wealth gap. It is the product of wealth gap, and it widens this gap, which forms a vicious circle. From economic perspective, ICT becomes a new source of fortune, and digital divide increases the difference of ability to create fortune in information era. Large amounts of labor are idle and large amounts of labor can only work in traditional agricultural sector and traditional industrial sector because they lack relevant knowledge and cannot engage in modern economic activities which create a great deal of fortune. Besides, the difference of ability to use information technology and obtain useful information between people from different countries and different social groups leads to the Matthew Effect. Because of digital information technology, rich become richer and poor become poorer; developed countries become more developed and underdeveloped countries become more underdeveloped. Therefore, ICTs benefit people and countries on the advantage side of digital divide and widen the development gap between those "haves" and "have nots".

Thirdly, international digital divide hinders the economic development of developing countries. In the information economy era, ICT plays a vital role in the enhancement of productivity, creativity and competitiveness of a country, and information and talented people become vital endogenous variables. In that case, the advantages of cheap labor and abundant land

and resources in developing countries are weakened, and the international competitiveness of developing countries is lowered. In developing countries, most people work in primary and secondary industry, and only a few people engage in ICTs related work. In china, only 200 million Internet users engaged in E-commerce, including online shopping (CNNIC, 2012). Raven, Huang and Kim (2007) thought there were many obstacles in using the Internet and e-commerce in developing countries, such as low demand of commercial network integration caused by poverty, and lack of infrastructure to participate in network commercial activities because of no support from government. Inactive involvement in digital economy hinders developing countries from benefiting from increasingly growing digital economy, which increases the economic gap between developing countries and developed countries. As developing countries lagged far behind developed countries at first and disadvantaged is intensified by digital divide, developing countries suffer from serious asymmetric information and have less opportunities to create fortune. To conclude, digital divide increases the differences of economic development between countries and negatively affect the economic development of developing and underdeveloped countries.

Finally, digital divide also causes digital hegemony. Some countries which have monopoly in digital technology field obstruct and suppress the freedom of using and developing information technology for other countries and impose their own values and ideologies on other countries in order to benefit themselves. Digital divide provides opportunities for those countries to carry out digital hegemony. For example, until 2002, US had 4. 11 million to 4. 12 million Internet hosts, which occupied more than 80% of the total amount of

hosts in the world (Norris, 2000). Besides, most information on the Internet was provided by the United States. US government uses its absolute advantage on the Internet to conduct ideological and cultural infiltration into other countries. US tries to dominate other countries in digital field and control users' computers instead of letting users control their own computers.

In conclusion, the development of ICTs has greatly changed the way people live and work and become a driver of the expansion of economic globalization. Besides, it brings about opportunities for developing countries. However, there's a huge digital divide between people with different genders, races, socio-economics status and nationalities. Digital divide causes two main problems. Firstly, digital divide intensifies unfair allocation of social wealth and other social conflicts. It turns information poor into real poor. Lack of information means lack of opportunities to make fortune, and limited money means limited access to ICTs. Those who cannot access to ICT cannot benefit from ICT. Digital divide forms a loop of poverty for the poor. Secondly, digital divide brings about challenges to developing countries. As the progress of ICT promotes social and economic development, digital divide widens the gap of national power between developed countries and developing countries as well as threats international security and stability. Therefore, problems caused by digital divide should draw attention from governments, international organizations and academia. To diminish domestic digital divide, government should narrow wealth gap nationally as well as identify people who are on the disadvantage side of digital divide and effectively support them. Diminishing domestic digital divide maintains social

stability and promotes the balanced development of a country. To diminish international digital divide, developing and underdeveloped countries need to invest more in constructing of infrastructure of ICTs. Governments need to invest largely in education and skills training to cultivate a large number of information literate or qualified personnel who have the ability to innovate and master advanced technology. Besides, developed countries should break technological monopoly and support developing and underdeveloped countries financially and technologically. Furthermore, international organizations need to financially support developing and underdeveloped countries to construct infrastructure of ICTs and provide opportunities for technical personnel from these countries to go to developed countries to learn advanced technology and be trained. Diminishing international digital divide not only narrows the gap of national power between countries but also balances global economic development. Above all, digital divide is a vital issue which needs to be pay attention to.