The Growing Global Digital Divide

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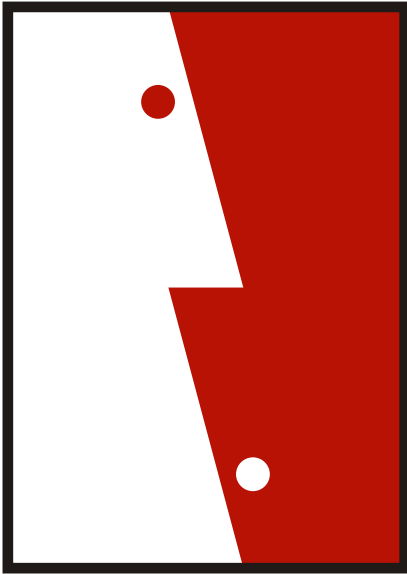
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Over the course of the past decade, the human race has made incredible strides in the collection and dissemination of information, particularly by means of the Internet. Although this information renaissance has been a boon for the development of knowledge and learning for mankind as a whole, it has unfortunately exacerbated the disparity between those who have access to information technology and the Internet (the tech haves) and those who do not (the tech have-nots). This disparity has been given the name the "digital divide."

The "global digital divide," however, must be distinguished from the "domestic digital divide," most commonly analyzed within developed nations. The domestic digital divide in developed nations, and particularly in the United States, has been the subject of intense scholarship and debate over the past decade and compares the technology "haves" and "have nots" *within* a nation. On the other hand, the global digital divide can be defined as the difference in access to computer and Internet technologies between inhabitants of developed nations and developing nations. This global divide has recently been, and will continue to be, a matter of growing global concern because of its deleterious impact on the efforts to bridge the economic divide among the developed and developing nations of the world. In fact, the World Bank has identified the global digital divide as one of the premier issues on the global agenda with implications for overall world health, literacy and commerce.[1]

This paper studies the causes of this growing chasm in access to information and Internet technology between inhabitants of the developed and developing nations. The paper will first explain how the inadequacy of technology and delivery systems in most developing nations altogether precludes a significant proportion of their populations from accessing these technologies. Part II will explain how the low average levels of literacy and household earnings in developing nations vis-à-vis developed nations hinder the ability of citizens of developing nations to access and productively use these technologies. The paper will then explain how language and cultural barriers present additional hurdles to accessing knowledge through these technologies by inhabitants of developing nations. Section IV will then explain how restrictive political and policy stances by the governments of certain developing nations may also curtail access and usage of such knowledge by citizens of these societies. The conclusion will recommend how lawyers from developing nations can play an important role in helping their nation's efforts to bridge the global digital divide.

I. Inadequate Technology and Delivery Systems

A major barrier for access to information and Internet technologies by the populations of developing nations are inadequate technology and delivery systems. Many developing nations have a poorly developed technology infrastructure including telephone lines, Internet services, and electricity services which inhibit a large proportion of the their populations from accessing these technological services.

For example, while developing countries have over 75% of the population, they have only 12% of the world's telephone lines.[2] Nearly 80% of the world's population does not have a telephone, and

1 Furthermore, the National Telecommunications and Information Agency has determined that the U.S. domestic digital divide endangers the health of communities, the development of a skilled workforce, and the nation's economic welfare. The global digital divide should result in same negative consequences to the inhabitants of developing nations. J.M Spectar, Bridging the Global Digital Divide: Frameworks for Access and the World Wireless Web, 26 N.C.J. Int'l & Com. Reg. 57, 63 (2000).

2 J.M Spectar, Bridging the Global Digital Divide: Frameworks for Access and the World Wireless Web, 26 N.C.J. Int'l & Com. Reg. 57, 62 (2000). (See cross-reference)

approximately 30% of the world's telephone lines are located in the Americas, with the bulk of them in the United States and Canada.[3] While most developed nations like United States, Canada and Sweden average about 644 telephone mainlines per thousand people, developing nations such as Sierra Leone, Mozambique, and Nigeria average about 4 telephone lines per thousand people. Additionally, the United States has over 975 Internet hosts per ten thousand people[4] whereas most of the developing nations of Africa have less than 0.05 Internet hosts per ten thousand people.[5] In Africa, a new applicant for a phone service often waits two to five years to obtain that service.[6] Even at African universities, where technology usage if more prevalent, most institutions are plagued by the absence of phones, electrical outlets, and inadequate national infrastructure.[7] Most of these universities are also "facing severe financial crises" making it "impossible for many of these universities to tap into the technological revolution."[8]

In terms of computer ownership, the United States has more computers than the rest of the world combined.[9] There are an estimated 429 million people online globally, but this represents only 6% of the world's entire population; and of those 429 million, 41% are in North America.[10]

These statistics seem to present almost insurmountable challenges to bridging the global digital divide. However, the World Bank, USAID, and other government and multi-national organizations have provided funding and expertise to help developing nations in their efforts to overcome these hurdles. For example, The U.S. Agency for International Development launched its Leland Initiative in 1996 to promote Internet connectivity in Africa. The initiative has led to significant advances in the development of infrastructure and measurable increases in the usage of the Internet in these African nations.[11] Furthermore, the World Bank and USAID are working with African governments to establish a regulatory environment that would encourage critical information technology investment.[12] In spite of these efforts, Africa will not match the level of information technology expansion by the rest of the world, and its 2.5% share of the world's Internet connections may decrease over time if efforts are not stepped up.[13]

II. <u>Disparity in Average Earnings and Literacy Levels</u>

Two significant hurdles in the efforts to provide access to information technology and the Internet in developing nations are the lower average earning and literacy levels of citizens of less developed nations vis-à-vis those of developed nations.

A prohibitive barrier for inhabitants of developing nations with respect to accessing these technologies is the expense associated with such technologies. In most developing nations, the costs of hardware, software, and connection fees are so high that Internet access remains out of reach for the majority of the population. For example, the cost of using the Internet in Chad in 1999 was $10.50, while the average yearly salary of its citizens was only

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3 Id.

4 Id.

5 Id.

6 Id.

7 Id.

8 Id.

9 Digital Divide Network Staff, Digital Divide Basic Fact Sheet, www.digitaldividenetwork.org/contents/stories/index.cfn?key=168 (last visited Sept. 16, 2002).

10 Id.

11 See Congressman Ed Royce, U.S. House of Representatives, Bridging the Information Technology Divide in Africa, www.digitaldividenetwork.org/contents/stories/index.cfn?key=140 (last visited Sept. 16, 2002).

12 Id.

$187.[14] It would be almost impossible for a citizen of such a nation to justify using the Internet at such an incredibly steep rate in comparison to his or her earnings. Further, as Internet technologies become more developed over time and require the use of interactive graphics and multimedia software such as Java applets, Shockwave animations, and RealAudio videos, high-speed Internet access may be needed to access this information.[15] The higher costs of high-speed Internet service would create an even higher economic barrier of entry for citizens of developing nations, and preclude an even larger proportion of these populations from using these technologies.

In the more impoverished communities within developing nations, a family's day-to-day concerns are food, water, clothing, and other basic needs. Access to technology, although economically beneficial in the long-term, is a luxury for families that need to address their basic needs. One solution to these economic barriers to entry, especially in the case of the most impoverished communities, is for the government to provide subsidies and incentives to citizens who choose to learn and use such technologies, particularly in a way that allows them to improve their economic well-being and standard of living. There have also been successful programs in the rural villages of India where private individuals and government bureaucrats have created kiosks or libraries which provide computer and Internet access to the full community.

In addition to the economic barriers to entry, the low average levels of literacy of inhabitants of a developing nation may also inhibit these individuals from productively using information technology and the Internet. Assuming that the Internet content is in a language that a citizen of a developing nation understands, there are three added requirements for that individual to be able to productively use the Internet: basic literacy, computer literacy, and information literacy. First, a user must have basic literacy skills to be able to read and understand the content on the Internet. In addition, the user of the technology must have computer literacy skills, or the ability to operate and function within the computer environment to get access to files, programs, and the Internet. Lastly, because the user must sift through large amounts of data, the Internet requires the user to have a high level of information literacy, or the ability to sift through information and glean what is important and reliable.[16] A large proportion of the population in developing nations are illiterate, and therefore do not even meet the minimum literacy requirements to be able to use these technologies.

A solution to address the limitations of an illiterate population is to create audio and video content in the indigenous language of the user. However, this may involve the additional costs associated with high-speed Internet access in order to effectively show this content, and ultimately make this option cost-prohibitive. The creators of such content must therefore selectively use text, pictures, and video so that the content is easily navigable and understood, but the content is still accessible by a normal Internet connection. A separate and more overarching issue for developing nations is the need to increase basic literacy levels; this would garner numerous benefits for their citizens, one of which would be a step toward productively accessing and using information and Internet technologies.

14 Peter K. Yu, Symposium Bridging the Digital Divide: Equality in the Information Age: Forward, 20 Cardozo Arts & Ent LJ 1, 12 (2002).

15 Id.

16 Julia Gordon, Symposium on Living Independently: Impact of Science and Technology on the Elderly: Article: Legal Services and the Digital Divide, 12 Alb. L.J. Sci. & Tech. 809, 812 (2002).

III. Language and Cultural Barriers

Language and cultural barriers also play a role in deterring citizens of developing nations from accessing information technology and the Internet. With respect to language limitations, due to the origins and early development of the Internet, most Internet content is available in English only.[17] As a result, those inhabitants of developing nations who are not educated in English will be unable to understand a vast majority of the content in the Internet, and also have difficulty in accessing information in a language that they understand. However, with the help of free online translation services and increased production of Internet content in languages other than English, the language barrier is slowly crumbling.[18] Nevertheless, this remains a concern in the coming years. This problem could be addressed by the governments of developing nations if they created websites that would help navigate their citizens to websites using their local languages and if these governments created or translated useful content for their citizenry.

Cultural differences between the developing and developed nations may also potentially stifle the acceptance of the Internet among certain populations in developing nations. In general, the lack of local information and cultural diversity makes the Internet unattractive to many people, especially those in developing nations.[19] These populations may also view the Internet as a vehicle to perpetuate American culture, or ideas from the Western world, that they may believe play a role in marginalizing their local cultures. Both of these ideas, however, can be turned on their heads if these communities are encouraged to create Internet content about their local cultures and content relevant to their communities. This will allow them to share ideas with one another and even members of other communities.

IV. Political and Policy Distinctions

Efforts to bridge the global digital divide may also be hindered by political and policy stances of the governments of developing nations. These governments may question the need for initiatives to provide their populations greater access to information technology and the Internet, or decide that there are more pressing needs for the nation. In more restrictive societies, governments may curtail efforts by their citizens to access content on the Internet.

In spite of global efforts to bridge the global digital divide, decision makers in governments may serve as impediments in the efforts to achieve this goal.   Even in the United States, a nation committed to providing universal access to technology and the Internet, there are important policy makers who are skeptical of the efforts to bridge the domestic digital divide. After his appointment, recent U.S. Federal Communication Commission Chair Michael Powell articulated his suspicion of the digital divide, which he said is used to justify wrong-headed government initiatives designed to provide poor people with access to technology. Further, in describing the divide, he stated "I think there is a Mercedes divide … I'd like to have one; I can't afford one."[20] Powell's comments represent the beliefs of skeptics in the governments of developed and developing nations, who believe access to technology is a luxury and may also believe that it

17 Peter K. Yu, Symposium Bridging the Digital Divide: Equality in the Information Age: Forward, 20 Cardozo Arts & Ent LJ 1, 14 (2002).

18 Id.

19 Id.

20 Andrew G. Celli, Jr. and Kenneth M. Dreifach, Symposium Bridging the Digital Divide: Equality in the Information Age: Postcards from the Edge: Surveying the Digital Divide," 20 Cardozo Arts & Ent LJ, 53, 61 (2002).

should only be available to the elite in society. Initiatives to bridge the global divide will likely face at least some political resistance from skeptics in developing nations. Organized efforts by indigenous leaders, possibly with the support of non-indigenous leaders and institutions such as the World Bank, may be required in some developing nations to push these initiatives to bridge the global digital divide.

Governments may also argue that they first need to address more pressing needs of their citizens such as education, health, water, jobs, and infrastructure. These are valid priorities for a developing nation, but such a nation's blind eye toward initiatives to bridge the global divide are short-sighted because many of its pressing needs can be more quickly alleviated by providing their populations access to technology. In 1995, the World Bank reported that "The information revolution offers Africa a dramatic opportunity to leapfrog into the future, breaking out of decades of stagnation or decline." The World Bank further warned that, "Africa must seize this opportunity, quickly. If African countries cannot take advantage of the information revolution and surf this great wave of technological change, they may be crushed by it."[21] Among other advantages of these technologies, governments and individuals could use these media to easily disseminate educational, health, weather, agricultural, and electoral information to citizens of the state. By and large, with the encouragement of multi-national organizations like the World Bank, developing nations (and particularly those in Africa) have recognized the need for greater technology connectivity in their populations in order to achieve greater economic growth.[22]

In developing nations with more restrictive governments, such as communist states or dictatorships, the leaders of these nations may decide that it is in the best interests of the state to limit access to content on the Internet. The Internet, by design, is difficult to control and allows viewers to read content promoting democracy, human rights, and a civil society, as well as transparency, openness and accountability of government agencies. Some governments may find it in their best interests to prevent universal Internet connectivity to restrict access to such content by their citizens. The prospective benefits of economic and educational prosperity as a result of greater Internet connectivity may be stifled as a result of these policy decisions. Multi-national organizations and other nations will need to work with these governments to help them overcome their fears and find creative solutions to help them slowly change their policies toward greater Internet access. A positive example of this is the Chinese communist government, which had initially tried to restrict access to the Internet by their citizens because of concerns about content. However, the Chinese government has slowly recognized the great potential for economic growth and improved quality of life for its citizens as a result of these technologies and has allowed its citizens to access content on the Internet.

VI. Conclusion: *The Role of Indigenous Lawyers in Addressing the Global Digital Divide*

The global digital divide will continue to grow unless the causes of the digital divide, as described above, are not addressed in each of the developing nations by a concerted effort of indigenous (and non-indigenous) government leaders, academics and professionals. In particular, lawyers within developing nations can play an important role in helping address some of the causes of the

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21 Congressman Ed Royce, U.S. House of Representatives, Bridging the Information Technology Divide in Africa, www.digitaldividenetwork.org/contents/stories/index.cfn?key=140 (last visited Sept. 16, 2002).

22 The U.S. Agency for International Development launched its Leland Initiative in 1996 to promote Internet connectivity in Africa which African governments have welcomed. Further, the World Bank and USAID is working with African governments to establish a regulatory environment that would encourage critical IT investment. Id.

global digital divide.   These indigenous lawyers can help change policy and law within their nations to help remove unnecessary political and societal constraints that inhibit citizens from freely and productively accessing information and Internet technologies.

Specifically, lawyers can work with policy makers and legislators to create a body of information technology and Internet legislation   to improve technology infrastructure and provide subsidies and incentives to the population, among other things   in order to provide citizens improved access to these technologies.   In order to develop this body of legislation and understand the information technology regimes of other nations, lawyers can participate in international councils and consortiums and work with like-minded lawyers of other developing nations.

Secondly, lawyers in developing nations can advocate against and litigate within their own societies against laws that present unnecessary hurdles to the spread of information technology and access to the Internet.   Lawyers must take steps to ensure that the elite of their nations do not create laws or regulations that create barriers inhibiting access to information technology and the Internet by the dispossessed segments of their populations.

Legal professionals along with policy-makers, academicians, international bodies, and other interested parties will have a serious challenge tackling the causes of the global digital divide in the beginning of this millennium.   But if these efforts are successful in the coming years and these technologies become accessible and productively used by the citizenry of more developing nations, this will lead to unprecedented economic, educational and societal advancements in these nations.