EXPLORING THE DIGITAL DIVIDE

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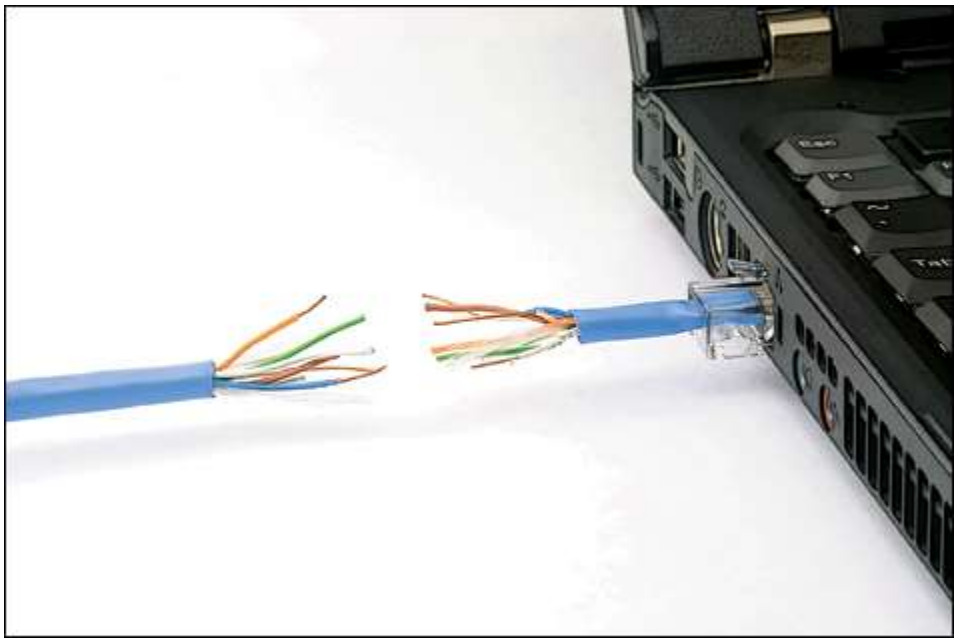

ETM 549 – Dr. Kenny Phan
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ABSTRACT

This paper explores The Digital Divide, a 21st century phenomenon affecting over 4 billion people globally. We will address the general concepts around this phenomenon, provide a framework around how this problem creates social and economic issues, and discuss the social impacts that are already being realized today as a result of this problem. Finally, current efforts to address this problem will be discussed and we will draw conclusions about our research as we explore the various government and non-profit organizations working to resolve this issue.

INTRODUCTION

THE IMPACT OF DIGITAL ON OUR LIVES

The life of an average American in today's society is immersed in technology. Our culture is synonymous with a connected lifestyle, where nearly all aspects of our lives are published, shared, indexed, and searchable. We make ourselves and the details of our lives available to friends, family, and strangers alike through various social networking outlets such as Facebook, Instagram, and Tumblr. We share and consume personal videos and photos through media sharing tools like YouTube and Flickr. We get the majority of our entertainment from online sources like Netflix, Spotify, and Hulu, and shop for goods and services through the Internet by way of Amazon, EBay, and Craigslist. Even the most basic tasks are now tied closely with the digital dimension as we rely on this technology for simple tasks like alarms, calendar entries, and reminders. Google, the most popular search engine in the world is also a verb in pop-culture, meaning "to search the internet for information" and representing the merging of technology into our normal lives. We turn to technology now more than we ever have in the past to help us navigate through the day, make personal connections, and record our experiences. Our relationship with 'digital' is an intimate one that has enriched our lives in many ways yet, despite its many benefits, this new relationship with technology is creating social gaps and further broadening the gaps between economic classes across the world.

This gap created by access, or lack of access, to technology is sometimes referred to as The Digital Divide. Selwyn states, "Some individuals have the most powerful computers, the best telephone service and fastest Internet service, as well as a wealth of content and training relevant to their lives… Another group of people don't have access to the newest and best

computers, the most reliable telephone service or the fastest or most convenient Internet services. The difference between these two groups is … the Digital Divide." [1] Through an investigation into the characteristics of The Digital Divide, a clear picture can be drawn regarding its impacts on society and what is being done to address these social problems and reverse this negative trend.

DIGITAL DIVIDE BASICS

Although the origins of the term "The Digital Divide" are uncertain, and despite that it was originally used to describe several different scenarios than how it has come to be known today, the popular meaning of the term originated from the US Department of Commerce's National Telecommunications and Information Administration through a report titled 'Falling Through the Net: Defining the Digital Divide', a third in a series of reports published in the late 1990s by the organization which defined it as 'the divide between those with access to new technologies and those without'. [2] Since its introduction, this term has become more commonly recognized to illustrate a technology gap that typically exists between the poor and middle class which is believed to be partly responsible for the widening of the gap and further isolation of those in lower income situations. Michael K. Powell, former chairman of The Federal Communications Commission (FCC) underscored the importance of access to technology when he wrote "Broadband access is the great equalizer, leveling the playing field so that every willing and able person, no matter their station in life, has access to the information and tools necessary to achieve the American Dream." He goes on to explain, "More and more, job listing are exclusively available online and as technology evolves nearly every occupation now requires a basic level of digital literacy with web navigation, email access and participation in social media.

To that end, Internet access and adoption opens doors to potential jobs and opportunities that would otherwise not be available to every American." [3] The key to this problem for those individuals affected is lack of access, however there are several different types of access that an individual may lack which could place them at a disadvantage. This lack of access to technology is defined as four successive types, which are:

1. **Mental Access**: Lack of mental access can be best described as a lack of elementary digital experience caused by lack of interest, computer anxiety, and unattractiveness of the new technology.
2. **Material Access**: Lack of material access is the type of access most commonly associated with The Digital Divide, which is defined as having no possessions of computers and network connections.
3. **Skills Access**: Lack of skills access is described as the lack of digital skills caused by insufficient user-friendliness and inadequate education or social support.
4. **Usage Access**: Lack of usage access is described as the lack of significant usage opportunities. [4]

Each of these types of access, or lack of access contribute to the widening gap between economic classes. In many cases, individuals are affected by one, many, or all types of lack of access, each further contributing to the likelihood that the individual will be at a disadvantage when competing for jobs and other opportunities with those who have access to new technologies and internet access. Lack of access to technology is cyclical in function, and represents a situation that is perpetuated further by lack of access to technology. This pattern is illustrated in Figure 1 below.

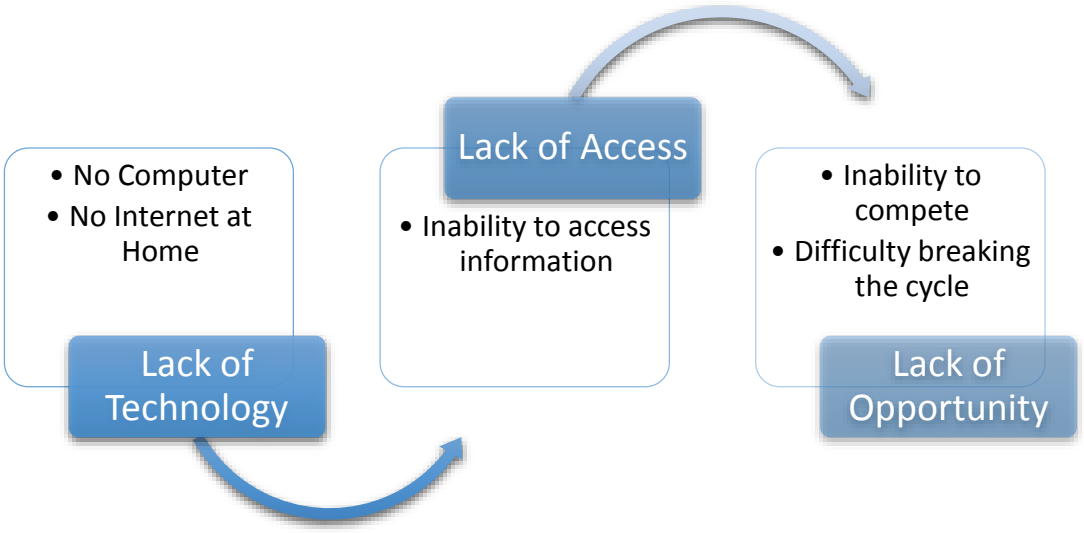

FIGURE 1

In the first step of Figure 1, Lack of Technology, individuals and families that are lacking adequate material access to relevant technologies such as home computers, smart phones, and convenient internet access, are thrust into the cycle. This lack of material access creates a situation where those affected individuals are then subject to lack of mental access and lack of usage access, whereby because of their inability to access information through technology they do not gain the necessary basic experience needed to pursue more advanced career opportunities through channels that rely on these technologies. This lack of mental and usage access then leads to lack of skills access, where the individual is thus unable to compete in a society that places emphasis on technology, and therefore the individual experiences a lack of opportunity. By lacking opportunity for new jobs, education, and other capabilities, the individual is unable to compete, and therefore unable to afford the necessary technologies, and the cycle begins anew.

SOCIAL IMPACTS

The impact of The Digital Divide is vast and far-reaching, touching all corners of the globe and all developed nations. According to West, “Over 3.1 billion people in the world have access to the Internet. This includes around 642 million Chinese, 280 million Americans, 243 million Indians, 109 million Japanese, 108 million Brazilians, and 84 million Russians. These individuals use the Internet for economic development, entrepreneurship, education, and health care.” He continues, “However, that leaves roughly 4.2 billion people outside the digital revolution. With Internet usage growing only 9 percent a year, around 58 percent of the world lacks Internet access.” [5] Access to technology creates new opportunities for those fortunate individuals, however those without that same access are unable to contribute at the same level as their peers. This impacts their personal lives, such as their level of personal income and ability to afford either basic or luxury items, or their capacity to care for their families, to educate their children, or to do things such as save for retirement. For those families that do not have access to technology, the children are at higher risk for repeating the cycle again given their growing unfamiliarity with the tools necessary to break the cycle. While the social impacts of The Digital Divide are great for the individual, society as a whole, and even those who are not negatively affected directly by it are affected. Those who are unable to attain access to technology are unable to contribute to society as well, and therefore the whole community is affected. These contributions have the potential to impact overall poverty levels, increase industry contributions, and reduce strains on social programs such as welfare. When applied to developing nations, West stated that “extending internet access to levels seen in developed countries today means that long run productivity could be enhanced by as much as 25% in

developing countries…the resulting economic activity could generate $2.2 trillion in additional GDP, a 72% increase in the GDP growth rate, and more than 140 million new jobs". [5] These improvements in the United States, one of the most developed nations on earth, would have a strengthening affect by helping to bolster the middle class and reduce poverty. Bridging The Digital Divide would also help create jobs and potentially new industries as a result, it would improve the average health of individuals as it would enable families greater access to medical care and preventative treatments, and the long-term positive impacts from increased education would be immeasurable.

EFFORTS TO ADDRESS NEGATIVE IMPACTS

There are a plethora of initiatives that are taking place nationally trying to bridge the gap between those who use technology regularly in their lives and those who do not. Three very notable organizations include: the Edge Initiative, DigitalLiteracy.gov, and Connect2Compete.

THE EDGE INITIATIVE – PUBLIC LIBRARIES

Libraries have a historical reputation to provide a variety of free services to community members – these free services have largely shifted towards a focus on technology. It was found that people use the library's internet and computers for a variety of purposes including "applying for jobs, doing homework, getting information about health care, finding out about government benefits and managing their finances" [6] according to a Pew study noted in The New York Times. The study also found that 92% of blacks and 86% of Latinos believe library Internet access is very important. [6] Clearly, libraries play an important role in providing services that are often unable to be found in other locations. The Edge Initiative works to "help

libraries create a path for continuous growth and development of their public technology services" [7] through strategic planning, access to best practices in technology service provisions, and access to tools and useful benchmarks. This initiative was founded by libraries and local governments across the country, led by the Urban Libraries Council and is funded by the Bill and Melinda Gates Foundation. Examples of benchmarks include "providing technology training in languages other than English in at least one local library location" and "providing on demand 30 minute one-on-one training to community members." [7]

DIGITALLITERACY.GOV

Digital Literacy was created by the Obama Administration and is designed to aid those who teach in digital literacy. It states that it, "organizes content conveniently, enables valuable discussion and collaboration among users and elevates best practices to improve the quality of digital literacy offerings." [8] The content covers a wide variety of topics in a multitude of medium. For instance, the site provides tutorials on the very basics of a computer including what a mouse and a pointer arrow are, to slightly more complex issues like the best practices for web design. These resources are crowd sourced – anybody can add to it and it is rated by users and then organized accordingly so that the most useful content can be found easily.

Digital Literacy also focuses on training for job skills – of which require technology. This includes training to create a resume, understanding how to search for a job and apply online, networking, and many other job related skills. [8] Therefore, in all, Digital Literacy has a very holistic approach to aid in fixing the digital divide, from the very basics of technology to the applied use of it through various facets of life.

CONNECT2COMPETE

Connect2Compete focuses on providing discounted Internet services, computers, routers, and technology training to homes across the country. Internet service is often provided for only $10 a month and refurbished laptops are often sold for $150. [9] There are three requirements that must be satisfied in order: at least one child must get discounted lunches from school (which is often used as a proxy to determine if a household is low income), must not have subscribed to internet service within the past 90 days of applying, and cannot have any outstanding bills or unreturned equipment. [9] This is done through partnerships with "Cox, Bright House Networks, MediaCom, Suddenlink, Comcast's Internet Essentials and others" [9] so those interested in receiving the benefits of Connect2Compete work directly with carriers in their area. Beyond the Internet providers, various major sponsors fund Connect2Compete.

CASE STUDY: KANSAS CITY

GOOGLE FIBER AND CONNECTING FOR GOOD

In 2011, Mike Liimatta and Rick Dean had the idea to provide technology training for non-profits. This training was planned to include topics like websites, social media, and marketing generally speaking. [10] They wanted to do this in order to help these non-profits push forth their causes and gain greater successes. However, at the same time in 2011, "Google Inc. announced that it had chosen Kansas City as the first city in the US to build its ultrahigh speed 1 Gb fiber network." Mike and Dean realized the implication this innovative technology would have on the community by providing a resource that has never been provided before to spur

entrepreneurship and innovation in healthcare, public safety, smart home initiatives, and more. However, they also noticed the negative implications this technology could potentially have on groups that have been historically been left behind.

Near this time, a study had been conducted that showcased the lack of digital access within Kansas City. The following were four major findings: [10]

- "25% of Kansas City residents don't have broadband Internet access at home. (3-5Mb)."
- "42% of those who don't use the Internet have annual household incomes of under $25,000, most of whom live in low income housing."
- "46% of nonusers are minorities."
- "70% of Kansas City Public Schools students do not have the internet in their homes."

It is clear from these findings that a large proportion of Kansas City was not using technology in their everyday lives and would not be receiving the benefits of Google Fiber – like the rest of the digital savvy community would be. The digitally literate, however, would be benefitting greatly from Google Fiber and exceeding the capabilities of much of the United States. Therefore, the digital gap within Kansas City had the potential to widen even further.

This is where the interests of Mike Liimatta and Rick Dean; they decided to create the organization Connect for Good: "the only Kansas City area nonprofit that has digital inclusion as its core mission." The organization provides a number of services currently, but initially focused on qualifying traditionally underserved communities for Google Fiber. Typically, only certain neighborhoods (known as "Fiberhoods") are considered for fiber installation, based on a

number of objective and subjective factors – Connecting for Good worked to broaden these factors to create more inclusive installations.

Connecting for Good now provides the following services: [10]

- **Free Digital Life Skills Classes** – These are free classes that are provided to community members (primarily "under-resourced families, senior citizens, and the disabled"), which focus on essential daily uses of computers and technology. For instance, there are classes focusing on "computer basics, setting up an email account, and an introduction to browsing the Internet." The organization also noted other classes like: finding healthcare information, social networking, banking online, and accessing government services. In all, these courses cover a lot of the core activities and skills that the digitally literate population has become accustomed to in order to run their lives effectively and achieve their goals. These courses are a major part of Connecting for Good's cause.
- **Internet for Low Income Families** – Connecting for Good has made major headway in providing free Internet access to low-income families, operating four free Wi-Fi networks in the Kansas City region. These networks cover a senior high rise, a low-income housing complex and a housing project – in all, providing free Internet to over 500 Kansas City homes. Recently, the organization has partnered with two other organizations to provide Internet for $10 a month to households with no credit checks or contracts.
- **Community Technology Centers** – The organization has created Community Technology Centers in "two of the most under resourced parts of the city." These are public computer labs with 25 computers, which are hooked up to the Google Fiber network.

The labs provide some of the classes previously described. One of the technology centers is also a café "creating the first public Internet café on the street." These centers provide a reliable and consistent location for community members to congregate in order to accomplish much of the essential tasks that rely on technology.

- **Mobile Computer Lab** – While the Community Technology Centers provide consistent locations for resources, Mobile Computer Labs organized by Connecting for Good travel throughout the region to serve the largest number or community members possible. These are computer labs equipped laptops, Chromebooks, and trained staff that come to the residents in key areas in order to provide the free digital classes previously described. These classes are provided in "libraries, schools, churches and other community facilities." Connecting for Good states: "In 2014, nearly 250 class sessions were held in Kansas City's urban core, reaching 2000 people." They also plan to work with groups throughout the community to plan "Family Computer Days", which focus on providing technology training and skills to the entire family.
- **PC Refurbishing Program** – Connecting for Good focuses on refurbishing used computers and providing them to low-income families that are unable to afford a new full-priced PC. Often, purchasing a computer is the prime factor in creating the Digital Divide. In 2014, Connecting for Good "provided nearly 1,000 refurbished computers to low income Kansas City residents for as low as $75.00." These PCs work like new and come with Windows 7 operating system. The income gained from selling these computers (even at this relatively low price) fund the other initiatives within the organization. Refurbishing computers is also important to Connecting for Good because

it emphasizes reusing instead of recycling – which is creates a longer lifespan of these resources.

- **Technology Help for Nonprofits** – Nonprofits often have a difficult time finding the funding to hire technology savvy staff or new computers in order to update their website, create a social media presence, or provide services that could be provided online. Therefore, Connecting for Good works to provide much of the same services they provide to the community at large (refurbished computers, classes, affordable internet access, etc.), but catered specifically to the needs of nonprofits. They believe "by assisting organizations that do good work with better technology at a lower cost, we know they will be able to help even more people."
- **Wi-Fi Communities** – Connecting for Good also provides free Wi-Fi Internet to housing facilities including: Juniper Gardents, Posada del Sol, and Rosedal Ridge. These housing facilities house primarily senior citizens and low-income community members.

From early 2011 to March 2013, over 2,000 people had taken courses provided by Connecting for Good. Of these 2,000 people, "25% had never used a computer, %75% had incomes of under $20,000 a year, 75% were over 50 years old, 80% were minorities (predominately African American) and 90% purchased a computer from Connecting for Good after taking the free classes." [10] It is clear that Connecting for Good provides many successful services that are critical for key residents of the Kansas City region who are traditionally left behind. Additionally, this provides a straightforward model that can be easily emulated in regions throughout the country and world.

CONCLUSION

The work being done to bridge the Digital Divide has primarily been accomplished thus far by nonprofit organizations and government entities, with few private companies (although some definitely exist). From the perspective of private technology companies, focusing on the digitally illiterate or low-income communities may seem like a risky or poor business decision. For instance, one may think, "If these people do not know how to use technology and they've never purchased this sort of technology before, why would they be my customer now?" However, it is critical to note that there are barriers other than interest that have caused community members to forgo technology including: lack of access to technology, lack of education regarding technology, lack of training, lack of usage, and other factors that may prevent otherwise interested individuals from participating in the technological community as participants, contributors, and consumers. In that sense, those currently without Internet or PCs are all potential customers if the opportunity was provided. Therefore, if a company were to aid in the provision of Internet and PCs to these people, there is the potential to open up a whole new set of consumers – expanding their market share substantially. With such a large portion of people, even providing services at a discounted rate could produce significant revenues. Furthermore, companies benefit from receiving the general goodwill that is created from altruistic activities, as the benefits from demonstrating good corporate social responsibility for an organization and its community may ultimately outweigh the benefits of adding additional customers or users of technology. The Digital Divide is a global problem, and a social problem. While the negative impacts may not directly impact those individuals and corporations fortunate enough to have access to these technologies, we all share a

responsibility to help bring those who are impacted across the divide, for the benefit of our economy, our population, and the prosperity of future generations to come.

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