

Digital Divide in Indian Country: Obstacles and Opportunities for Native American Communities

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Introduction

During the 17th Century, Europeans first made contact with the native inhabitants of North America. By 1830, the Indian Removal Act was forcing Native Americans in the Eastern portion of the continent to relocate West of the Mississippi River. During the next one hundred years Native Americans continued to lose land rights, and thousands perished from war and disease. “Deculturization” and assimilation projects stripped Native Americans of their language and cultural heritage by removing children from their families for years at a time, forbidding them to speak their language or practice cultural traditions in an effort to conform them to the majority culture.

Rarely has there been a time in American history when Native Americans have enjoyed the same freedoms and advantages of European descendents. Native peoples were not given US citizenship or the right to vote in national elections until 1924. It took some states, including Arizona and New Mexico, an additional twenty-four years to grant voting rights to Native Americans. During the latter part of the 20th Century, the United States began reinstating and passing new laws that granted Native Americans religious freedom and rights to resources on reservation lands.

With such a brief history of egalitarian existence in this country, Native Americans are still struggling on many levels to catch up with the rest of the nation. Unsurprisingly, a high percentage of Native people find themselves on the wrong side of the digital divide, lacking access to technology and resources that many Americans take for granted.

Terminology

Some terms used in this paper have multiple meanings and interpretations. For the sake of clarity, the terms below are defined for the purposes of this paper.

Native American

Native American or Native refers to all American Indian tribes and communities, whether or not they are federally recognized by the US government. Native American includes the Aleut and Eskimo populations residing in northern regions of Alaska.

Indian Country

Indian Country generally describes all Native American communities throughout North America. Indian Country refers to Native communities both on and off reservation lands.

Digital Divide

“Digital divide” has many, often conflicting definitions. Much of the current literature simplifies the digital divide to refer to the gap between the technology “haves” and “have nots.” However, the issue of the digital divide is fairly complex, and for the purposes of this paper includes not only computer and Internet access, but corresponding computer training and development, information literacy, and the means to learn and apply concepts.

Native Americans in the United States

According to 1990 Census data, there are 2,172,000 Native Americans in the US, which is approximately 7 % of the nation's population. Native populations in the United States are comprised of a rich collection of distinct cultures. There are over 500 federally recognized tribes in the U.S. today, and many more that do not have recognition. There are at least 250 Native languages spoken, but as a result of vigorous assimilation programs by the US government during the late 19th and early 20th Centuries, just under ten percent of the Native population (282,000) speak their traditional language in the home today,ⁱ and many Native Americans speak only English.

Demographic information for Native Americans varies widely between studies, and national averages often fail to provide an accurate portrayal of circumstances faced by some Native communities. Although individual tribes such as the Tulalip in Washington have enjoyed successful economic development in recent years, studies show that Native Americans continue to lag far behind Whites in a number of areas, most visibly in income and education.

Currently, one in four Native Americans lives in poverty, and unemployment rates are as high as 60% on some reservations,ⁱⁱ well above the national average of 5.8%. The per-capita income of Native Americans is \$8,234,ⁱⁱⁱ nearly two-thirds below the national per capita average of \$21,587. Some Natives, such as those living on the Navajo Nation are particularly destitute. According to 1990 Census data, half the households on Navajo Nation, over 29,000 homes, lack complete plumbing and nearly the same number do not have adequate kitchen facilities.

With such high levels of poverty, it is unsurprising that Native Americans also lag far behind the rest of the US in terms of education. Lack of economic resources impact local education systems, often resulting in dilapidated facilities, inadequate teaching materials, and difficulties recruiting and retaining qualified teaching staff. 1990 Census data show that only 65% of Native Americans complete high school. Some communities have been even less successful; only one in four of adult Navajos have graduated from high school.^{iv} Although the Bureau of Indian Affairs operates schools specifically for Native American children, many are under-funded, and student achievement test scores of Native students continue to rank far below the national average in reading, writing, and math.^v

A National Overview of the Digital Divide ***Computers and the Internet***

The United States is one of the most connected nations in the world. Nationwide, 42.1% of American families own their own computer.^{vi} There are many factors that dictate the demographics of computer owners, with income being one of the most important. For example, urban households with incomes of \$75,000 and higher are twenty times more likely to have access to the Internet than rural households at the lowest income levels, and are nine times as likely to have home computer.^{vii} It is important to note that the nation's most affluent families, *regardless of race*, are connected to the Internet at approximately the same rate.^{viii}

Because of correlations between income levels and population density, urban communities tend to see higher rates of home computer ownership and Internet access than their rural counterparts. For example, 57% of rural residents do not have Internet access, and 42% do not use computers.^{ix} Low-income households in rural areas are the least connected, with computer and Internet access rates dropping consistently as communities become poorer and more isolated.

Telephone Service

Although most people do not immediately think of telephone access as part of the digital divide, it can provide a fairly accurate indication of how connected a community is. In the US, telephone penetration rates are about 94% overall, with Whites, Asian/Pacific Islanders and households with older individuals having the highest rate of telephone access.^x Low-income and minority households are less likely to own telephones. Telephone access is far below the national average in rural areas, and many households in isolated areas lack home telephone service altogether. With 80% of Americans accessing the Internet through dial-up service,^{xi} lack of telephone service can have a significant impact on connectivity.

Digital Divide in Indian Country

Computers and the Internet

Many Native Americans live on reservation land. Reservations tend to be rural, and many have little infrastructure, economic development, or resources. Some reservations are several hundred miles from urban areas, and reservation residents tend to be somewhat isolated. These conditions often result in limited access to technology for most reservation residents. Native Americans are among the least connected people in the United States. In rural Native communities, only 9% of households have personal computers, and even fewer have Internet access.^{xii}

Subsequently, computer access for most Native Americans is outside the home, and is primarily in libraries, community centers, and schools. Studies show that Native Americans have high Internet usage at K-12 schools (36.5%) and the library (17.3%),^{xiii} indicating that Native populations will take advantage of technology when given the opportunity.

Telephone Service

The Telecommunications Act passed in 1996 mandates that all consumers in the United States have telephone access. Despite this ruling, telephone penetration rates for Native Americans vary widely and lag far behind the rest of the nation overall.

Statistics on telephone service to Native Americans are inconsistent but do indicate that Native populations are generally underserved. The U.S. National Telecommunications and Information Administration states that 76.4% of Native households have telephones.^{xiv} However, a study done by the National Congress of American Indians found that only 39% of rural households in Native communities had telephone service, and^{xv} Department of Commerce statistics show that in some areas, telephone penetration is as low as 20%.^{xvi} In fact, 82% of households on the Navajo Reservation do not have a telephone,^{xvii} effectively rendering basic telephone service a luxury.

Lack of telephone service clearly has serious ramifications for more isolated households. Obviously, this is a substantial barrier for obtaining Internet access. More importantly, it means that basic communication is often difficult, hindering or making impossible daily tasks that other Americans complete without a second thought. More importantly, the lack of basic telephone service can mean disaster in an emergency situation.

Obstacles to Bridging the Digital Divide

High rates of poverty and subsequent low education performance have serious implications for many Native populations. However, these are not the only issues Native Americans face when trying to improve their conditions. Lack of infrastructure makes

connectivity incredibly difficult. There are also very low levels of economic development taking place on many reservations. Until these issues have been resolved, bridging the digital divide for Native Americans will be difficult at best.

Lack of infrastructure

One of the major obstacles to higher rates of connection is the absence of telecommunications infrastructure on many reservations. Native Americans in rural or isolated areas that do have computers may not have any ability to connect to the Internet. Households without phones face incredible expenses to gain access; it can cost up to \$10,000 per mile to bring telephone access to rural areas. This is a price most Native Americans families cannot pay, and one that phone companies are not willing to absorb. Lack of basic telephone or cable service means that Internet access is available only through costly satellite connections, which is an unlikely solution for a household with a yearly income of \$8,000.

High cost of Internet access

For Native Americans that do have telephone service, dialing in to the nearest ISP is often a toll call, and can be too expensive to be effective. Discussions that took place during the NCAI Tribal Leader Digital Divide Summit revealed that one of the top barriers to household Internet use was lack of ISP numbers that were local.^{xviii} Without a cost-effective means of Internet connection, Native Americans will continually face limited options for access.

Low education rates

Lack of education is a major factor in predicting Internet use. Poor and incomplete education results in low literacy rates and lack of basic comprehension skills, creating substantial barriers to computer and Internet use. Only 6.6% of Americans with an elementary school education or less use the Internet.^{xix} Without access to adequate education that is on par with the rest of the nation, Native populations will lack the skills and knowledge necessary to take full advantage of computers and related technologies.

Minimal economic development

Some Native communities have seen substantial success with economic development plans. Tribes, particularly those in less isolated areas, have been successful with gaming and tourism, providing not only tribal income, but employment opportunities for many Natives in the community. Other Native populations lucky enough to have natural resources on their reservations are able to generate income through sales or leases to outside sources.

Despite individual success stories, Indian reservations remain some of the poorest areas in the country. Some are so destitute they are essentially third-world nations residing within the borders of the most affluent country in the world. The poorest counties in the country lie within the Pine Ridge Oglala Lakota (Sioux) Reservation. Pine Ridge residents have limited health care service and no public transportation, and there is only one grocery store on the reservation. Rates of disease for cervical cancer and diabetes are hundreds of times the national average.^{xx} Pine Ridge residents have the lowest life expectancy in the Western Hemisphere, second only to AIDS ravaged Haiti. There is almost no business or industry on the reservation to provide employment opportunities, resulting in abysmally high unemployment and poverty rates.

Unfortunately, economic development relies heavily on infrastructure. Reservations with few paved roads and limited phone access are unlikely to appeal to investors or businesses with

development plans. Native communities like Pine Ridge with few resources and little infrastructure will unlikely see much economic or telecommunication development, virtually ensuring that Native Americans will continue to be left behind technologically.

Implications

Access to digital tools is becoming increasingly necessary to compete and succeed in today's information age. Without telecommunications infrastructure and equipment that is on par with the rest of the nation, Native communities will continue to lag behind in education, income, and development.

Data shows that when Native Americans are given access to technology and the means to use it, they will take full advantage of those opportunities. Department of Commerce statistics indicate that, when given access to computers and the Internet, Native Americans are some of the highest users of the tools to find employment information.^{xxi}

Connectivity provides a means for Native Americans to take control over their lives. The Internet can provide access to employment listings and the opportunity for Native Americans to create their own income by developing Web-based businesses. It also increases education opportunities, such as distance programs that allow Native Americans to take courses and earn degrees without costly relocation efforts. The Internet also provides access to other information resources such as online databases and newspapers. For communities with limited or no library services, the Internet can help meet information needs that might otherwise be neglected.

Being connected provides access to valuable resources for Native cultures and languages. There are many online resources that focus on the preservation of Native languages, providing dictionaries, audio files of words and sounds, and alphabets for many different languages. In an era when many of the last speakers of a language are elderly, these online resources can be critical in the preservation of languages that would otherwise die out. The Internet also provides a critical forum for Native peoples to communicate with each other and share experiences and information. There are many web sites that act as a portal, providing access to a wealth of information on all things relevant to Indian Country. Natives that are not connected have little opportunity to take advantage of these resources.

Conclusion

Studies have shown that simply donating computers and equipment to communities in high-poverty areas is not enough to help bridge the digital divide. With the technology must come training and development to provide individuals with appropriate tools and skills to continually learn and improve. The Bill and Melinda Gates Foundation provides an excellent example of a holistic technology program for Native communities. The Gates Foundation has recently completed a large-scale program to bring technology equipment, training and access to reservations in the Four Corners area. Technology trainers spent weeks with grant recipients, teaching them computer and technology skills. Those who received training can in turn train others in the community, increasing the computer literacy rate throughout the reservation. Additional grants for access provide satellite connectivity and have resulted in a well-connected community, providing opportunity for Navajo and Hopi peoples where little previously existed.

Programs like these can help overcome infrastructure and development issues, but they will not solve the problem entirely. For Native Americans to truly bridge the digital divide, they will need the same economic and educational opportunities that so many Americans have access to.

Programs to increase technology access will also need to consider the culturally specific needs of Native American communities. Says Evans Craig, a Navajo technology consultant: “Traditional culture's emphasis on self-sufficiency, combined with the historically negative treatment by the U.S. government, has created a climate wherein Native American communities are wary of programs imposed upon them by individuals or organizations perceived as "outside" of tribal associations.”^{xix} For technology programs to be successful, they will need to complement those cultures rather than override them.

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