

Digital Divide Implications and Trends

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INTRODUCTION

Within the past decade, a growing body of evidence supports the ever-widening technological gap among members of the society and world, in particular children and the elderly (NTIA, 1995, 1997, 1999). This “digital divide” has become a leading economic and civil rights issue. The digital divide is referred to as a social/political issue encompassing the socio-economic gap between communities that have access to computers, the Internet, and other information technology-related services and those that do not. The term also refers to gaps that exist between groups regarding their ability to use ICTs (information and communications technologies) effectively and the gap between those groups that have access to quality, useful digital content, and those that do not. Disparities in computer and information technology use can be found among individuals in rural, urban, and suburban locations, with the division drawn upon socio-economic lines. This trend indicates that those who have the means only become more information-rich, while those who are poor and of the working class are lagging even further behind. The groups identified who lack access to information and technological resources include: minorities specifically African American and Hispanic Americans, those who are poor and of the working class, individuals of low income, those who possess less than a high school level of education, children of single parents, residents of inner-cities and rural areas, and the elderly (NTIA, 1995, 1997, 1999). Despite the current literature on this issue and the efforts of state and local government agencies, the current literature indicates that outside of a person’s workplace, educational institutions are the second most frequent place where individuals have access to the Internet. Since many in society do not have adequate knowledge of technology to pass onto their society, community, or children, educational institutions will serve as the

catalyst for preparing America’s community for the age of technology. Since educational institutions are important for information and technology literacy and access, the federal government has arranged for funds to aid America’s schools in purchasing technology infrastructure and professional developments. Educators, community development personnel, and technologists should be aware of the government initiative to help bridge the information and technological divide. With this in mind, the aim of this article is to discuss specific aspects of the digital divide and to provide strategies where educator, community development personnel, public policymakers, and the general citizenry can practice helping shrink this growing technology gap.

BACKGROUND

The “digital divide” is the phrase commonly used to describe the gap between those who benefit from new technologies and those who do not—or the digital “haves” and the digital “have-nots.” The concept of the digital divide was originally popularized with regard to the disparity in Internet access between rural and urban areas of the United States. More importantly, the term deals with the socio-economic issues relating to information, communication, and technology access. In the mid-1990s, research on digital divide focused on *who is connected*. As we move further into the twenty-first century, the key question to be answered deals with the notion of *who is or who will be served*. The “digital divide” can be further explained in the concept of a division between those with access to new ICTs and those without, from a political, economic, social, and public policy standpoint. The “digital divide” has become a critical issue for countries, one that if left unchecked, threatens to increase economic inequality and sharpen social division.

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The National Telecommunications and Information Administration (NTIA) in the U.S. Department of Commerce has released five reports examining this problem, all under the heading “Falling Through the Net” (NTIA, 1995, 1997, 1999, 2000). Each study has reached the same glaring conclusion: the digitally divided are becoming more divided. In its most recent report, the NTIA (1999) writes:

The data reveal that the Digital Divide—the disparities in access to telephones, personal computers (PCs), and the Internet across certain demographic groups—still exists, and in many cases, has widened significantly. The gap for computers and Internet access has generally grown larger by categories of education, income, and race.

Excerpts from 1999 NTIA report include the following information that reveals the disparity in the information, communication, and technology access and utilization in the following:

- income
- education and
- ethnicity, income, and race

Clearly, according to a variety of demographic indicators—income, education, race, and more—there are significant disparities in one’s ability to access and use modern technologies. However, regardless of the social, economic, or racial characteristics one attributes to the digital divide, it is clear that there are two distinct groups that have emerged as a result of the information age: the digital “haves” and digital “have-nots,” or the information “rich” and the information “poor.” By defining the digital divide in these terms, one should draw attention away from the mere concepts of technology infrastructure and training, and move towards a more holistic conceptualization that looks at how new technologies can serve to empower individuals, families, and communities.

Foulger (2002) described the implications of the divide in regarding basic infrastructure, economy, literacy, information, and health:

- **The Basic Infrastructure Divide:** Production and distribution is only one of many areas in which the infrastructures of digital “have-not” countries or societies are an order of magnitude

or more behind digital “have” countries or societies.

- **The Economic Divide:** The countries that are least prepared to bridge the digital divide have average GDPs per capita that are more than an order of magnitude lower than the countries or societies that have already bridged the digital divide.
- **The Literacy Divide:** Literacy rates in some digital “have-not” countries or societies are less than 20%, but even countries that claim literacy rates as high as 100% may supply most citizens with two or three years of education.
- **The Information Divide:** All media, including newspapers, radio, and television, are in short supply in many digital “have-not” countries or societies.
- **The Health and Lifespan Divide:** The countries or societies that are least prepared to bridge the digital divide have average lifespans that are not much longer than might have been expected 2,000 years ago. They also have the highest infant mortality rates and the highest rates of HIV infection.

Barriers to Equity

Lack of access means more than inconvenience—it means lack of educational opportunities. Lack of access is considered challenges for equity and fairness by some population groups. For instance, those learners who are not able to grow up playing and learning with computers can be less comfortable using them and may develop feelings of helplessness or negative beliefs about technology. Many fields in the sciences and mathematics rely on computers or other technology, so when pupils reach upper levels in high school, they may not be comfortable enough to take courses that employ abundant technology. This reluctance in middle and high school, in turn, blocks access to similar classes in college and in the job market later.

Roblyer (2006) indicated that four groups do not enjoy equity regarding computer and technology use in schools, and thus, in time may not reap the benefits of a technology-based economy: pupils from low-income homes and schools, minority pupils, pupils with special needs, and girls. The result of not having equal access can be far-reaching for all of these groups.

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