

## Chapter 19

# Connection Disparities: The Importance of Broadband Connections in Understanding Today's Digital Divide

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### ABSTRACT

*In assessing the integration of the Internet into society, scholars have documented that certain sectors of the population are disadvantaged by their lack of physical access to computer resources. The disadvantaged have traditionally included the less educated, nonwhites, females, the elderly, lower income people and third world citizens. Scholars are now beginning to go beyond basic issues of access to address differences in Internet experiences among Internet users. However, few digital divide researchers focus on the importance and impacts of the various types of connections people use to log onto the Internet. Among U.S. Internet users, we examine which is more important in determining Internet use, the traditional digital divide factors or type of connection. This study examines a wide range of online activities that provide vital information and services for Internet users. We find that connection disparities explain more variance in time spent online engaged in essential tasks, than most other long-established digital divide measures.*

### THE TRADITIONAL DIVIDE

Initial concerns surrounding the digital divide revolved around issues of access. Certain segments of the population were more likely to have access to computers and the Internet than were other segments. The initial wired population in the United States reflected the more privileged Americans in

that they typically had elevated income, education and occupational prestige; they were also more likely to be white, male and young (Fox, 2005; Savage & Waldman, 2005; van Dijk 2006). With the traditional demographic gaps in material access to the Internet starting to narrow in the United States, researchers have started to focus on other dimensions that distinguish different types of Internet users and subsequently, the variability in benefits that are derived from different types of Internet

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usage (Cotten & Jelenewicz, 2006; Davison & Cotten, 2003; DiMaggio et al., 2004; Hargittai, 2002). Once connected to the web, other factors intervene in determining the value a person gains from using the Internet. Two factors that are of particular importance are technical skills and type of connection.

Although Internet navigation skills and being able to produce and manipulate content for the web are important, this project focuses on the issues surrounding type of Internet connection. Given the increasing focus in the United States and around the world on e-business, e-health, e-learning, and e-government activities, individuals are increasingly going online in their homes to perform a variety of activities that they formerly conducted offline. In addition, individuals are increasingly accessing the Internet by a variety of devices other than traditional computers. Thus, understanding the impacts of different types, speeds, and functions of access becomes more prominent. In this chapter, we examine how Internet connection speed shapes one's Internet experiences, and whether type of connection is more important for certain types of online activities than are traditional digital divide factors.

Regardless of computer skills, a faster Internet connection provides more opportunities to accomplish more tasks online than is feasible with a slower connection. We examine four broad categories of Internet activities that users are likely to perform at home: information seeking, business transactions, learning, and general activities. As some of these activities are more easily accomplished with high-speed access, we expect that individuals with broadband connections will report doing these online activities more often than those with non-broadband connections.

Most of the research on broadband technologies focuses on the diffusion or availability of the technology and a general description of broadband users (e.g., Horrigan, 2008, 2006; Reynolds & Wunsch-Vincent 2008; U.S. Dept. of Commerce, 2004). Our study focuses on the

importance of having high-speed access at home to create more equitable Internet experiences. By better understanding how Internet experiences vary between high-speed and low-speed users, we hope to provide justification for more proactive government policies to ensure that all users worldwide have high-speed access.

## **BROADBAND ISSUES**

### **Defining Broadband Access**

Connecting to the Internet at a high-speed can be obtained through a number of different technologies, including DSL, ISDN, fiber T1/T3, satellite, WebTV, wireless and cable connections (Savage & Waldman, 2005). There is disagreement about what connectivity speeds actually constitute high-speed and values have changed over time (Han, 2003). The FCC defines broadband as the ability to receive and send data at 200 Kbps (Grubestic & Murray, 2002; Han, 2003) which is 75% faster than the traditional dial-up connections at the rate of 28.8 to 56 Kbps (Grubestic & Murray, 2002).

Worldwide, broadband connections surpassed dial-up connections in OECD (Organization for Economic Co-operation and Development) countries in 2004. In June 2007, approximately 221 million individuals had broadband connections in OECD countries (OECD 2008). Currently, DSL broadband connections are the most common followed by cable connections for U.S. citizens (Savage & Waldman, 2005). The ubiquitousness of the DSL connection in American homes is not only due to the lower cost of the Internet service, but this form of connection allows individuals to utilize their existing phone lines without having to pay for or obtain new technologies (Grubestic & Murray, 2002).

Ostensibly, the advantage of a broadband connection is quicker loading of web-pages and faster access to online programs that are data intensive (Han, 2003; Savage & Waldman, 2005). Broadband connections can be left on without inter-

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