Chapter 4
Using Prospect Theory to Explore the Digital Divide

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ABSTRACT
The growing popularity of Internet-based technology in both the public and private sector has led to a disparity known as the digital divide. The digital divide is described as the gap between those who have access to the Internet and other Internet-based technologies and those who do not (Wattal, Hong, Mandviwalla, & Jain, 2011). J. van Dijk (1999) outlines the digital divide as four types of access barriers: material, psychological, skills, and usage. This chapter reviews the four types of access divides and uses prospect theory as a means to highlight the impact of computer anxiety and computer self-efficacy on psychological access. Suggestions for future research are provided.

INTRODUCTION
In the 1990s, the term “digital divide” began to appear in reports and academic journals (van Dijk, 2006). Before the use of this term many scholars referred to the concept of access disparity as an information inequality or an information gap (van Dijk, 2006). The U.S. Department of Commerce’s National Telecommunications and Information Administration is the first to use digital divide in an official publication (NTIA, 2000). Larry Irving, former Assistant Secretary for Communication and Information for the U.S. Department of Commerce, states that the emerging digital economy is a major driver in the nation’s economic well-being and “one of America’s leading economic and civil rights issues” (NTIA, 2000, p. 2).

As of May 2010, six in ten American adults go online wirelessly using a laptop or cell phone, slightly up from five in ten American adults in 2009 (Smith, 2010). The statistics have improved; however, the data still shows great disparities between socioeconomic groups. Approximately 94% of households with an income of more than
$100,000 had access to broadband in 2009 while only 36% of households with an income of less than $25,000 had broadband connection (U.S. Census Bureau, 2010). Reports show that education plays a role in creating the digital divide as well. Approximately 84% of households with at least one college degree have broadband and just over 28% of households without even a high school diploma are connected (U.S. Census Bureau, 2010). The gaps are beginning to close but researchers question if it is closing fast enough (van Dijk & Hacker, 2000; Fontenay & Beltran, 2008). Recent discussions show that although the increase in Internet access is steadily growing, the United States’ wealthy urban and suburban areas have access to high-speed Internet within their households (Crawford, 2011). This is a problem that directly affects lower-income and minority Americans. According to the Department of Commerce (NTIA, 2011b), 4 out of every 10 households with an annual household income of 25,000 or less have Internet access at home. In comparison to the 93% of households with higher incomes, low-income households’ growth in access lags tremendously.

Existing literature frequently analyzes this gap in terms of individual demographic factors while ignoring the impact of social class (Wattal, Hong, Mandviwalla, & Jain, 2011). Despite government intervention through a variety of programs, the digital divide remains problematic (Leigh & Atkinson, 2001; NTIA, 2011a). Other factors that cause the disparity are geographic regions (Crang, Crosbie, & Graham, 2006). More recently, funding for increasing broadband connections in rural areas is beginning to pay off, leaving 51% of rural households with broadband connection just slightly lower than the 66% of urban households with broadband connection (U.S. Census Bureau, 2010).

The purpose of this chapter is to review existing literature and present recommendations for future research on the digital divide. Some enthusiasts proclaim that a shrink in the digital divide will be the key to reducing socioeconomic inequality because of the Internet’s potential to lower barriers to information, which may cause people of all backgrounds to improve their human capital and in turn increase their opportunities (Hargittai, 2003). This chapter reviews the four types of access divides: material access, psychological access, skills access and usage access. In particular, the chapter presents prospect theory as a means to highlight the impact of computer anxiety and computer self-efficacy on psychological access.

BACKGROUND LITERATURE

The definition of the digital divide varies. According to Gunkel (2003) the term digital divide is “deeply ambiguous.” The most common definition of the digital divide is “the gap between people with effective access to digital Information and Communications Technology (ICT), and those with very limited to no access to ICT” (Wattal, et al., 2011, p. 3). Hargittai (2003) labels those with effective access to ICT as the “haves” and those with limited to no access to ICT as the “have-nots.”

One challenge in exploring the digital divide and information inequality is developing a multifaceted concept that thoroughly measures this disparity (Barzilai-Nahon, Gomez, & Ambikar, 2008). Measurements of the digital divide often use simple or single factor metrics that do not illustrate the whole picture (Barzilai-Nahon, et al., 2008; Korupp & Szydlik, 2005; van Dijk, 2006; van Dijk & Hacker, 2000). For this reason, the simplistic approach continues to be criticized (Barzilai-Nahon, 2006; Gurstein, 2003; Yu, 2001).

UNDERSTANDING THE DIGITAL DIVIDE

According to J. van Dijk (1999) the digital divide refers to four barriers to technological access:
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