

July 2011

Digital Human Capital: Developing a Framework for Understanding the Economic Impact of the Digital Divide and Broadband Adoption in Low-Income Communities¹

Gwen Shaffer

Postdoctoral Fellow
Department of Computer Science
Bren School of Information and Computer Sciences
University of California-Irvine

Amy Bach

Geraldine R. Dodge Postdoctoral Fellow
Institute on Ethnicity, Culture, and the Modern Experience
Rutgers University - Newark

Todd Wolfson

Assistant Professor of Journalism and Media Studies
School of Communication and Information
Rutgers University - New Brunswick

Executive Summary

Scholarship across a range of disciplines explores the social, cultural, economic, geographic factors and systemic structures that impact different groups' access to Information and Communication Technologies (ICTs), as well as their interest in, and skills with, applying this technology in their daily lives. The scholarship discussed in this larger review of the literature can, and hopefully will, be used by State and local officials and community organizations and leaders alike to carefully plan for the development of successful broadband adoption programs. The question, "What makes a successful broadband adoption program?" can be answered, in part, by looking not only to scholarship, but also to past and current examples of adoption programs. The following themes have been discussed at length and in different ways throughout this literature review are highlighted in bulleted format here.

- Policy makers and community organizers need to raise awareness about the digital divide and to promote a larger public understanding that the digital divide goes far beyond the issue of access². Digital exclusion is directly associated with social and economic exclusion in society³. Promoting an understanding of the breadth and depth of the digital divide, as well as promoting an understanding of the very real ways that individuals, communities, and larger society can benefit from increased connectivity and intentional and focused use of the Internet for specific purposes can generate buy-in

¹ This research was supported in part by the National Telecommunications and Information Administration's Broadband Technology Opportunity Program (BTOP) under the Mapping and Planning grant to NJ OIT.

² Organisation for Economic Cooperation and Development, 2011; Hawkins & Oblinger, 2006; Gurstein, 2003; Smith, 2011; Educational Testing Service, 2007; van Dijk, 2005; Pew Internet & American Life Project, 2006; Jackson, et al., 2008; Holt & Jamison, 2009; Stevenson, 2009; Shayd, 2011.

³ National Telecommunications and Information Administration, 2010; Jansen, 2010; Warschauer & Matuchniak, 2010; Powell, et al., 2010.

from a larger public which may currently understand the digital divide primarily in terms of access. By advocating for broadband expansion and education using our established digital human capital framework, one begins to see the larger issues at stake – issues that go far beyond connectivity.

- Developing educational programs that train individuals to be comfortable with ICTs should form an important part of any broadband adoption program. Among individuals and communities that do not have broadband connections in their homes, a lack of digital literacy skills was cited, after cost, by individuals as the secondary reason for their non-adoption of high-speed Internet in their homes⁴. Educating individuals on the many practical and life-enhancing ways that high-speed Internet use can be of benefit should form a central component of any broadband adoption program⁵. As is the case with most new technological developments, they are often excitedly hailed as *the* tool to solve problems that have deep and complicated roots in our society. Broadband is no exception. While we agree that an accessible, reliable, and affordable high-speed Internet connection is a necessity in our increasingly information-based society, education in how and why to use the Internet is perhaps just as important. Educating parents in how to guide their young people in appropriate use of the Internet to excel in school and to access information online is certainly important⁶. Acknowledging the discrepancies that exist in high-speed Internet use among marginalized communities and their more privileged counterparts may help policymakers and grassroots organizations that work with specific communities to better tailor their educational programs to the needs, interests, and concerns of the specific groups they are trying to reach⁷.
- Many successful broadband adoption programs are unique public/private partnerships that provide training, education, and that expand access based on community input of what is needed⁸. Community involvement in the development of broadband adoption programs should be encouraged and supported⁹. Community media projects that are funded through a combination of private dollars and local government revenue, and that are spearheaded by, and developed from, intensive community input and involvement is a key component of successful broadband adoption programs¹⁰. Additionally, projects that leverage existing infrastructures as well as projects that have clearly stated goals, and that have devised tools to measure progress towards these goals are equally important when considering the keys to successful broadband adoption¹¹.

⁴ Horrigan, 2010; Digital Impact Group, 2009.

⁵ Warschauer & Matuchniak, 2010.

⁶ Underwood, 2007; Jackson, et al., 2006; Vigdor & Ladd, 2010.

⁷ National Telecommunications and Information Administration, 2010; Jansen, 2010; Digital Impact Group, 2009; Livingston, 2010; Horrigan, 2010; Washington, 2011; van Dijk, 2005; Pew Internet & American Life Project, 2006; Jackson, et al., 2008; Jackson, et al., 2010; Bell, 2010.

⁸ Net Literacy, 2011; ConnectKentucky, 2011; Walsh, et al., 2006; Fan, et al., 2006; Comcast Corp., 2010.

⁹ Shayd, 2011; Shaffer, 2011; Hauge & Prieger, 2010.

¹⁰ Forlano, et al., 2011.

¹¹ Gillertt, et al., 2006; Tapia & Ortiz, 2010; City of Lompac, 2011; Austin Wireless City, 2010; Warren, 2007.