The Pros and Cons of Digital Divide and E-Readiness Assessments

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ABSTRACT

Evolving information and communication technologies (ICTs) have yielded new terms like “information society,” “digital divide,” and “e-readiness” which have attracted many scholars, practitioners, and policymakers. Therefore, in recent years numerous attempts have been done to develop e-readiness and digital divide models oriented toward certain objectives. In this research, these models are investigated with view to their definitions and methodologies, and their strengths and weaknesses are identified. These findings can help researchers and policymakers select the models that fit in with their objectives as well as identify the defects of previous models and rectify them in their own models. Moreover, the extensive literature review led to an integrated model which is proposed to assess the e-readiness of small and medium-sized enterprises (SMEs). Such a model can serve as a basis and standard for developing comprehensive models in SMEs.

Keywords: Composite Index, Digital Divide, E-Readiness, Information and Communication Technology, Small to Medium Sized Enterprises SMEs, Structural Modelling

INTRODUCTION

Thus far, information and communication technology (ICT) has developed considerably among countries and organizations and brought them many benefits. Even though ICTs have provided tremendous opportunities, it is generally acknowledged that they have also potential pitfalls, such as the digital divide. The digital divide concept initially emerged in media and government reports (e.g., “Falling through the Net” and “A Nation Online”; NTIA, 1995; 1997, 1999, 2000, 2002, 2004) (Vehovar, Sicherl, Husing, & Dolnicar, 2006). The first scholarly papers on such a topic appeared around 1997 (Vehovar et al., 2006). As the information revolution has turned out to be a significant driver of the global economy, the digital divide has increasingly attracted researchers and policymakers (Dewan, Ganley, & Kraemer, 2004). But the first step in any approach to the digital divide problem is
to consider a country’s ability or “readiness” to integrate information technology (IT) and e-commerce to provide a baseline that can be used for global and regional comparisons and planning. It is essential to understand what it means for a country or economy to be “e-ready” and conduct an evaluation based on objective criteria to establish basic benchmarks. Therefore, if a country is to narrow the digital divide, an understanding of where that country currently stands vis-à-vis the information society must be achieved, which is called “e-readiness.” Until now, various academic institutions, private organizations, and commercial publishers have put forward models for assessing and measuring e-readiness and the digital divide. These earlier measurements should be implemented for providing solid foundations for next stages of digital divide analysis and narrowing the gap. This paper addresses current widely diffused measurement instruments with the purpose of measuring e-readiness and the digital divide and their strengths and weaknesses.

DEFINING THE DIGITAL DIVIDE

There has been widespread debate about the definition of the digital divide and of the empirical analyses of its components (Barzilai-Nahon, 2006). The Organization for Economic Co-operation and Development (OECD) (2001) defined the digital divide as differences between individuals, households, companies, or regions related to the access to and use of ICT (Vehovar et al., 2006). The various factors may cause such a divide such as historical, socio-economic, geographic, educational, behavioral, generation factors, or the physical incapability of individuals. There are a myriad of studies that address the factors influencing the digital divide and the plentiful models that measure it in terms of different factors widening inequalities including income, occupation, gender and age, education, geographic centrality, ethnicity and race, religion, language, family structure, physical capacity, frequency, time online, purpose, skills and experience, autonomy, affordability, competitive market structure, ownership and density of computers and Web sites, communication infrastructure, equipment, social support, policy structure. In this paper, a brief focus is centered on some of the efforts that are more popular (for more information, see also Barzilai-Nahon, 2006).

In one study, DiMaggio and Hargittai (2001) pointed out that there are at least five factors of digital inequality: equipment, autonomy of use, skill, social support, and the purpose of using the Internet. Another framework, the MOSAIC model, was built as part of the “Global Diffusion of the Internet (GDI) Project” by Wolcott, Press, McHenry, Goodman, and Foster (2001). They examined the digital divide in terms of the diffusion of the Internet in a country based on six discrete valued factors: pervasiveness, geographic dispersion, sectoral absorption, connectivity infrastructure, organizational infrastructure, and sophistication of use. In addition, Corrocher and Ordanini (2002) quantified the digital divide as a multidimensional construct by combining multiple socio-economic factors into one. Their composite digitization index is based on six factors: markets, diffusion, infrastructures, human resources, competitiveness, and competition. Similarly, Mossberger, Tolbert, and Stansbury (2003) distinguished between an access divide, a skills divide, an economic opportunity divide, and a democratic divide. Orbicom (2005), the Network of United Nations Educational, Scientific and Cultural Organization (UNESCO) Chairs in Communications, advocated a framework for measuring the digital divide that develops concepts such as information density (info-density) and information use (info-use) (Sciadas, 2005). Finally, based on the TAI (UNDP) and the Industrial Development Scoreboard, Archiburgh and Coco (2004) developed the ArCo Index, which consists of eight indicators that depend on three main factors: the creation of technology, infrastructure, and human development skills.
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