

A Comparison of the Digital Divide Across Three Countries with Different Development Indices

Younghoon Chang, Sunway University, Bandar Sunway, Malaysia

Hyerin Kim, University of Texas at Austin, Austin, TX, USA

Siew Fan Wong, Sunway University, Bandar Sunway, Malaysia

Myeong-Cheol Park, Korea Advanced Institute of Science and Technology, Daejeon, Korea

ABSTRACT

The digital divide between countries is a critical phenomenon that places developing countries in a disadvantaged position economically, politically, and socially. While the phenomenon has drawn the attention of many, a theoretical account using empirical test of primary data is lacking. Building on a three-level digital divide framework, this study tested the effect of country development index on three levels of the digital divide. Survey data from university students in Cambodia, Iran, and South Korea show that country development index has a significant effect on all three levels of the digital divide. While the countries differ on the hedonic values of IT use, there is no significant difference in the utilitarian values of IT use. Korea, being a developed country also differs significantly from Cambodia and Iran in the digital access divide, digital capability divide, and digital usage divide. The results have important implications for companies as well as government policy-making and intervention programs.

Keywords: *Cross-National, Country Development Index, Digital Access, Digital Divide, Digital Motivation, Digital Usage, Online Participation*

INTRODUCTION

The global networked society is evolving rapidly with the advent of information technology (IT). Billions of people browse the Internet to search for information and to share, interact, and collaborate with others. However, the digital divide remains an alarming concern. At the country level, the digital divide among countries refers to the gap between the countries that have and the countries that do not have access to IT (van Dijk, 2006). Developing countries, having lower level of development and socio-economic status, often lie on the side of “have-nots”. Such

DOI: 10.4018/JGIM.2015100103

situation places developing countries in a disadvantaged position economically, politically, and socially (Kaba & Said, 2014; Pick & Azari, 2008, Zhu & Chen 2013). It threatens their economic development, government efficiency, social structure, and ultimately their ability to compete in the global market (Kaba & Said, 2014; Pick & Azari, 2008, Zhu & Chen 2013). Consequently, the life and the social well-being of their citizens are also affected (Ayanso, Cho, & Lertwachara, 2010; Chinn & Fairlie, 2007; Chang, Wong, & Park, 2014). On the contrary, developing countries, being the advantaged counterparts, continue to enjoy the fruits from technology advancement to increase their lead over developing countries (Parker, 2001; van Dijk & Hacker, 2003). Spending on IT is highly correlated with the level of development (Dewan & Kraemer, 2000). In developed countries, IT investments are associated with higher output; in developing countries, such investments are not productive yet (Dewan & Kraemer, 2000).

Recognizing the negative effects of the digital divide, many world organizations have launched projects and campaigns to raise awareness and to supply IT infrastructure to those who are in need. For example, the World Bank Group launched the ICT for Development initiative in 1995 to promote IT innovation and entrepreneurship in developing countries (InfoDev.org). Many countries have also adopted policies to reduce the digital divide. For example, the United States has increased public access to computers through schools, libraries, and other public places. Some developing countries have started collaborative efforts with developed countries to replicate their successful IT innovation programs. For example, when government officials from Rwanda visited Korea, President Lee pledged her country's support to nurture skilled human resources in Rwanda through Seoul-funded projects, especially in IT (BiztechAfrica, 2011).

However, despite these programs and policies, the digital divide among countries with different development levels persists. This indicates an insufficient understanding of the digital divide and the dissimilarity of users from different nations that prolong and widen the gap between them. This study seeks to examine how country development index affects different levels of the digital divide. Since the digital divide is particularly dominant in certain parts of Asia and the Middle East, where gender inequalities and discrepancies in education and social status are prominent (Klasen, 2002), we will focus on comparing countries that reside in these two regions.

To achieve the objective, we build on the three-level digital divide framework developed by Dewan and Riggins (2005) and extended by Wei et al. (2011). We modify the framework to include two critical dimensions in the digital divide research. First, the existing framework is limited in its capability to explain the circumstance where despite having IT access and IT skill sets, some people still do not use IT. Since the digital divide is not only a "have-nots" but also a "want-nots" problem (van Dijk, 2006), it is important to include motivational differences between users and non-users. Motivational factor has also been found to be a salient element in the IT adoption research (e.g., Davis, Bagozzi, & Warshaw, 1992; Liaw, 2007; Wu & Lu, 2003) which further justifies its inclusion in the digital divide framework. Second, Wei et al. (2011) measured the digital outcome divide as the ultimate dependent variable. However, usage has to take place before any outcome can be measured especially in the case of the digital divide (van Dijk, 2006; Liaw, 2007). Therefore, we measure the digital usage divide to understand how citizens of the three nations differ in their usage level.

Past research on the digital divide employs mostly secondary data which limits current understanding of the issue (Chinn & Fairlie, 2007; Husing & Selhofer, 2004; van Dijk, 2006). In recent years, research has started calling for more theoretical-based studies that use primary data to understand user issues in the digital divide (Hsieh, Rail, & Keil, 2008; van Dijk, 2006). By building on existing frameworks and collecting first-hand data from users, we attempt to address the limitations in secondary data research.

20 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/article/a-comparison-of-the-digital-divide-across-three-countries-with-different-development-indices/141564

Related Content

Analysis of Human Interactive Accounting Management Information Systems Based on Artificial Intelligence

Jin Qiu (2022). *Journal of Global Information Management* (pp. 1-13).

www.irma-international.org/article/analysis-of-human-interactive-accounting-management-information-systems-based-on-artificial-intelligence/294905

Digital Twin: A Unified Definition, Issues, Challenges, and Opportunities

Kanchan Awasthi, Krunal Padwekar and Subhas Chandra Misra (2025). *Encyclopedia of Information Science and Technology, Sixth Edition* (pp. 1-18).

www.irma-international.org/chapter/digital-twin/336914

The Impact of National Culture on Information Systems Planning Autonomy

Dinesh A. Mirchandani and Albert L. Lederer (2010). *Journal of Global Information Management* (pp. 1-34).

www.irma-international.org/article/impact-national-culture-information-systems/43737

Adaptation to Pandemic Through Universal Access to Innovative Technologies: ICT Access for Future Pandemics

Abiodun Alao and Roelien Brink (2022). *Using Information Technology Advancements to Adapt to Global Pandemics* (pp. 47-65).

www.irma-international.org/chapter/adaptation-to-pandemic-through-universal-access-to-innovative-technologies/308856

THE EXPERT'S OPINION

Amitava Dutta (1997). *Journal of Global Information Management* (pp. 31-33).

www.irma-international.org/article/expert-opinion/51297