The Relationship Between English Language Adoption and Global Digital Inequality: A Cross-Country Analysis of ICT Readiness and Use

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ABSTRACT

The aim of this study was to investigate whether differences in information and communication technology (ICT) readiness and access across countries were fundamentally related to the variable of English language adoption. A one-way multivariate analysis of variance (MANOVA) was utilized to comparatively examine the developments of ICT readiness and use among 149 countries categorized into four groups based on levels of English language adoption and economic development. The results of the comparative analysis showed that English language adoption is not a dominant factor in determining the global digital divide. The results suggest that much of the differences in ICT development across countries are attributable to levels of economic development. Limitations and implications for additional studies on specifying key factors widening the global technology gap are discussed.

Keywords: Dependent Samples, Global Digital Inequality, Homoscedasticity, ICT Readiness, ICT Use, Independent Samples, Matched Samples

INTRODUCTION

As the total number of people worldwide purchasing computers and connecting to the Internet is growing with exceptional speed, studies on the extent, causes and cures of global digital inequality have gained popularity in the previous decade. Barriers to technological development have been studied from the perspectives of economic development, government policy, cultural differences, telecommunication infrastructure, and language (Barzilai-Nahon, 2006; Guillén & Suárez, 2006). Numerous methods have been used to calculate gaps of the digital divide around the globe. Studies by International Telecommunication Union (ITU)
have established a collection of 100 Internet access and e-readiness indicators used to map the framework of the global digital divide. The 100 statistics have been categorized into basic indicators, fixed telephone lines, mobile subscribers and Internet indicators (Barzilai-Nahon, 2006). Among 100 indicators created by ITU, 11 were selected as measurable and comparable indicators to capture regional and global competitiveness in information society developments (ITU, 2009). Sufficient funding, necessary digital literacy, and English language proficiency are identified as the most relevant solutions to bridging the divide (Brook, Donovan, & Rumble, 2005).

Robert M. Wolk (2004), in “The Effects of English Language Dominance of the Internet and the Digital Divide”, indicated that 85% of all WebPages are in English. In spite of similar population totals and standard of living, the English-speaking population enjoyed twice the number of internet users than the French. Wolk’s (2004) research findings showed that the level of English language adoption in a country is related to the degree of internet usage; therefore, it was hypothesized that English fluency monopoly may be the strongest factor in widening the global digital divide. Wolk’s (2004) research led to well-meaning but incomplete attempt to measure the global technology gap by conducting paired-samples T tests and taking the four sample groups as the dependent samples or matched-samples in his tests of statistical significances. The potential problem was that the four sample groups in Wolk’s (2004) study consisted of almost all countries around the globe and were not randomly selected from the populations; therefore, they are independent in nature. The computations of paired-samples T tests to examine world population in Wolk’s (2004) study may have violated the dependence assumption and could result in a narrow view of the influence of English language on the global digital divide (Green & Salkind, 2005).

The present study aimed at extending and replicating Wolk’s (2004) research methodology by performing one-way multivariate analysis of variance (MANOVA) to test statistical significance of secondary data on economic developments and English language determinants of internet uses from multiple resources on 149 countries. To reconsider the issue of English language dominance of the global digital divide, Wolk’s (2004) research needed to be refined and reexamined in order to assess whether English language adoption is a significant factor which affects the capacity to carry Internet traffic and the degree of internet usage in a country.

FRAMING OF THE STUDY AND HYPOTHESIS DEVELOPMENT

Previous research studies on digital divide argued that sizable disparities in information technology access and use were mainly stem from preexisting patterns of inequality or sociodemographic factors, such as socioeconomic development, gender, age, education, geographic dispersion, ethnic diversity, religiosity, and language (Barzilai-Nahon, 2006; Guillén & Suárez, 2005). All of the above factors may directly or indirectly help widening the gap at national and international level; nevertheless, there is no agreement in the literature as to the extent to which English language has impact on cross-national digital disparities. Barzilai-Nahon (2006) questioned the use of language as an important index to assess the digital divide at the international level and argued that language factors would be vitally important in measuring information and communication technology (ICT) access in an immigrant community. Guillén and Suárez (2005) found that the global digital divide, as measured by cross-national differences in Internet use, is the result of the economic, regulatory and sociopolitical characteristics of countries and their evolution over time; the dominance of English language was absent in their macro levels of measures of the global digital divide. Meanwhile, Wolk (2004) proposed that English fluency monopoly may be the strongest factor in widening the global digital divide.

It remains to define how standardized measurements were formulated to compare and