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Internet use and human values: Analyses of developing and developed countries

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ABSTRACT

In this study, we use Schwartz's value framework to explore the impact of values on internet use at an individual level. This approach differs from many of the previous studies that report on national level analyses. The gap in the literature arising from the absence of Schwartz's value types in information and communication technologies (ICT) studies calls for investigation of the impact of individual values on ICT use at the individual level. For study 1, we use the set of developing and developed nations, based on World Values Survey data. For study 2, we use eight nations grouped into two economic/cultural clusters (developed and developing) based on the data from the European Social Survey. Study 1 findings indicate that 4 out of 8, 6 out of 8 and 7 out of 8 Schwartz-like human value types are significant for Internet use for developed, developing and all nations respectively, with robust effect sizes. The study 2 findings indicate that for developed nations, Schwartz value types such as conformity, tradition, security, and power are relevant in at least two or more out of the four nations. In the case of the developing nations, achievement, stimulation, self-direction, tradition and security are relevant in at least two or more out of four nations. Tradition and security are the two value types that are most relevant in both groups of nations. These results indicate that value types have different as well as similar impacts in developed and developing nations. Similarities and differences also exist within developed and developing nations. The results show that value types in general and Schwartz's value types in particular, are useful in explaining Internet use. The implications of these findings are discussed and future studies suggested.

1. Introduction

The growth of Internet use across all nations of the world has been remarkably strong and the end of its steady growth is far from sight. Since the launching of the first web browser in 1993 a penetration rate of over 75% was observed in OECD countries in 2014 (World Bank, 2014). The Internet, one of the key Information and Communication Technologies (ICT), has transformed individual, social, cultural, and organizations (Alcántara-Pilar, del Barrio-García, & Porcu, 2013; Bargh & McKenna, 2004). It can be used as a weapon against totalitarianism and tyranny, yet it is also an uncontrolled medium for criminals and rumormongers (Bargh & McKenna, 2004). The Internet has given birth to a type of society known as the networked society which is a combination of social, technological, economic, and cultural transformations (Castells, 2000; Zhang, Pablos, & Xu, 2014). The Internet has been identified as the sole agent that will bring about poverty eradication, economic development, rear resource multiplier, intra-government communication media and improved business process reengineering (Leiner et al., 1999). For these and more benefits of the Internet to be realized, the technology has to be effectively used. There is, however, a depressing disparity in Internet use among nations of the world. For example, according to the data from World Bank, the Internet use per 100 residents in the Netherlands was 93.96 in 2013 compared to 36.9 in Paraguay and 3.5 in Central African Republic in the same year (World Bank, 2014). Economic reasons are not enough to explain such a huge difference in Internet use (Rogers, 1995). Other factors including human values must have a part to play in creating such a big difference among nations (Al Omoush, Yaseen, & Alma'aitah, 2012; Cyr & Head, 2013).

Past studies have mostly investigated the impact of cultural dimensions on the planning, design, and implementation of ICT at the national level (Ein-Dor, Segev, & Orgad, 1993; Shore &

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Venkatachalam, 1995). According to Smith (2002) in national level studies, cultural dimensions are typically derived as the average response value of individuals from that nation. It has been well established that individuals take actions based on the concepts of values. Values concepts are also the basis individuals use to evaluate people, events and explain their actions and evaluations (Schwartz, 1999). According to Schwartz (2008), individual values are goals derived from what it means to be human, a biological organism who participates in social interaction, and adapts to the demand of group life whereas cultural values are goals derived from the nature of societies with which societies must cope in order to survive. Values reflect what is considered good, right, appropriate and desirable in a society by the individual actors (Schwartz, 1999). Cultural values or dimensions are variables on which groups/societies differ whereas individual values, which are the focus of this study, are variables on which individuals differ (Schwartz, 2008). Individuals within and across societies have different value priorities that reflect their genetic heritage, personal experiences, social locations, and enculturation (Schwartz & Bardi, 2001). Individual level studies are becoming increasingly necessary because of the need for a deeper understanding of individual ICT use in the presence of different national cultures. Although the Internet is global, users work as individual and are impacted by differing cultural values.

The aim of the present study is to (i) examine the relationships between human values such as Schwartz's values and Internet use in various nations at an individual level; and (ii) find out whether economic clustering of nations make any difference in these relationships. The contributions of such a study include providing practitioners with guidelines employees' value profile and their likelihood to use the Internet effectively in meeting organizational goals and objectives. Schwartz's value inventory is used in the present study (Schwartz, 2008). It has been used in many studies to choose medical specialty, select university major, make consumer purchases, predict delinquent behavior, manage intergroup social contact, etc. However, only few studies have investigated the impact of individual level values on ICT use such as the Internet. ICT adoption and use studies at an individual level generally involve one nation, although some studies have considered adoption and use in multiple nations (Straub, 1994). For example, Bagchi and Kirs (2009) explored the global influence of values on ICT use at an individual level, using data from many nations. Although such studies are useful, they may not be able to isolate the impact of values on ICT use for individuals of a specific nation. We conducted two studies. Study 1 considered a wide number of nations in combination. Study 2 explores the impact of values on Internet use at the individual level for eight specific nations (both developed and developing) and also considers differences in the impact of values on Internet use in economic clusters of these nations.

According to Smith (2002), cultural dimensions at a national level are derived from aggregate values of individuals. Individuals have values and not a culture of his/her own. Smith (2002) states "Cultures are made up of individuals, and there are reciprocal influence processes between individuals and cultures. Individuals grow up within a particular culture and are socialized in ways that internalize key aspects of that culture. An accumulation of innumerable individual actions may well cause cultures to change over time." Values guide individuals in their actions and reactions toward the world around them and also in their views and assessments of the society and its people (Schwartz, 1999). Thus according to Schwartz (2008), we need two theories of values, "In addressing the question of the relationship between individual and culture levels, I hold that we need separate theories of values." These value theories are at an individual-level and cultural-level (Choden, Bagchi, Udo, & Kirs, 2010). In this paper we focus on individual-level theory of values and its impact on ICT adoption.

The Internet has to be considered as a network of individuals as well as a network of computers (Hargittai, 1999). Therefore, we believe that individual Internet use can be explained with the differences in individual values. This study explores the impact of individuals' perceptions pertaining to Internet use based by analyzing data from two sets of economically clustered nations. Although Internet use can be defined in many ways such as penetration rates, type of Internet, percent or actual amount of national expenditures on Internet, total Internet traffic, etc., these are all national-level measures. Since the present study is at an individual level involving multiple nations, the Internet use has to be at an individual level and is defined as "personal use of Internet/email/WWW" ranging from values such as "no access" to "no use" to "everyday use." as defined in European Social Survey (ESS). The World Values Survey (WVS) Internet use is narrow in scope: "used last week" and "did not use last week."

The present focus is on developing and developed countries. According to previous research, the two groups of nations differ in the manner in which government uses Internet to improve efficiency and effectiveness and is considered a crucial element in achieving goals to improve governance (Bhatia, Bhatnagar, & Tominaga, 2009). For Study 1, a number of nations, both developing and developed were used in combination, with a number of controls. For Study 2, we selected eight European countries and clustered them into the two categories, developing and developed countries. Since demographic variables such as age and highest level of education have been shown to affect value priorities (Schwartz, 1999), we further controlled for similarities and differences in users within these clusters. For value comparisons, we considered Schwartz's ten individual value types or variants of these. The contributions of the present study is in identifying relevant individual value types in a supranational technology usage model using Schwartz's value inventory as the key constructs and testing the model with sufficiently large number of recent data points.

The balance of the paper is organized as follows. In the following Section 2 we discuss the impact of culture/values on ICT/Internet use, based on individual level studies. Schwartz's value types are presented in Section 3. In Section 4, we present the model and hypotheses based on Schwartz's value types followed by data and methodology in Section 5. The Results and discussions are presented in Section 6.

2. Individual level studies of the impact of value/culture on ICT use

At an individual level, researchers have used multiple nation studies and have concluded that differences in ICT adoption/use result from cultural differences. Calhoun, Teng, and Myun (2002) have pointed out that while ICT is culture free, the technology which affects human behavior is influenced by culture. They studied the impact of cultural differences in information technology use between Korea and USA and found that decision makers in both countries were influenced by their perceptions of information technology. Park and Jong-Kun (2003) also considered differences between Korean and American users in terms of internet use, internet innovativeness, internet buying behavior and perceived risks and found that Korea had significantly higher use, which they attributed to its collectivistic culture. Graff, Davies, and McNorton (2004) compared internet use between 103 Chinese and 67 UK undergraduate students and found that Chinese students had a more favorable behavioral attitude toward the internet and consequently greater use than the UK students. A similar study based on 220 Chinese and 245 British students revealed that UK students used the computer for study purposes but Chinese students were more confident with their computer skills (Li & Kirkup, 2007). Straub (1994) studied the effect of culture on email and fax diffusion in