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# Do Schwartz's Value Types Matter in Internet Use of Individual Developing and Developed Nations?

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## ABSTRACT

Previous studies have explored the impact of culture on ICT at a national level but few focus on the impact of human values on ICT (such as the Internet) use at individual levels. This study explores the impact of individual values on Internet use at an individual level for various nations based on an economic clustering of nations, using data from the European Social Survey. For developed nations, conformity, tradition, security, and power are relevant in at least two out of the four nations. For developing nations, achievement, stimulation, self-direction, tradition and security are relevant in at least two out of four nations. These results indicate that value types have different impacts in developed and developing nations. Differences also exist within developed and developing nations.

## Keywords

Schwartz's value types, Internet use, Individual-level analysis, Multi-nation study, Economic clustering.

## 1. INTRODUCTION

Global Internet usage has been steadily growing since the introduction of the first web browser in 1993. By 1995, there were an estimated 40 million users and by 2009 there were over 1.5 billion users with penetration rate of over 60% rate in developed countries (Castells, 2000; Bargh and McKenna, 2004). The Internet, as well as other Information and Communication Technologies (ICT), are capable of transforming individual, social, cultural, and economic behaviors (Bargh and 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 and McKenna, 2004). A number of social, technological, economic, and cultural transformations have come together to form a new society, a networked society, which we are all part of (Castells, 2000). The Internet thus represents a successful example of the benefits of sustained investment and commitment to research and development of information infrastructure and is utilized by individuals of all age groups and by businesses around the world (Leiner et al, 1999).

Although past studies have considered the impact of cultural dimensions on the implementation, planning, and design of ICT (Ein-Dor et al, 1993; Shore and Venkachalam, 1995), these were generally conducted at a national level. Smith (1995) notes that at a national level cultural dimensions are typically derived as the average response value of individuals from that nation. Values are concepts that guide individuals to take actions, evaluate people, events and explain their actions and evaluations (Schwartz, 1999). Schwartz (2008) further suggests that 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/dimensions therefore are variables on which societies differ whereas individual values (the focus of the present paper) 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 and Bardi, 2001).

The aim of the present study is to examine the relations between Schwartz's values and Internet usage in various nations and find out whether economic clustering of nations make any difference in this relationship. The results can

be then used by managers in a given nation who then can be aware of what kind of value profile of an employee would be important in Internet use. Schwartz's value inventory is used in the present study. It has been used in many situations: choice of medical specialty, choice of university major, consumer purchases, cooperation and competition, delinquent behavior, environmental behavior, intergroup social contact, occupational choice, religiosity and religious observance, and voting. However, 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). Bagchi and Kirs (2009) explored, globally (using data from many nations) the influence of values on ICT use at an individual level. 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. The present study explores the impact of values on Internet use at individual levels for eight specific European nations (both developed and developing) and additionally considers differences in the impact of values on Internet usage in economic clusters of these nations.

Smith (2002) mentions that cultural dimensions at a national level are derived from aggregate values of individuals. Individuals have values and not a culture of his/her own. He continues "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. However, for any one individual, influence from culture to individual will be much more potent than the reverse." Values are concepts that guide individuals to take actions, evaluate people, events and explain their actions and evaluations (Schwartz, 1999).

As Hargittai (1999) points out, while the Internet is a world-wide network of computers, it is also important to consider the Internet as a network of individuals using computers who make this information available online. Thus, in order to understand individual Internet use, we believe it is important to understand the impact of different individual values that bring about these differences.

This study explores the impact of an individual's perception of several nations on Internet use at individual levels between 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".

Our focus is on developing and developed countries, based on previous research indicating that the two groups 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 et al, 2009). Since demographic variables such as age and highest level of education are said to affect value priorities (Schwartz, 1999), we further controlled for similarities/differences in users in these clusters.

The paper is organized as follows. In the following section we discuss Individual Level Studies of the impact of culture/values on ICT/Internet use. 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 CULTURE/VALUES ON ICT/INTERNET 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 et al (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 Jun (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 cultural. Graff et al (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 and Kirkup, 2007). Straub (1994) studied the effect of culture on email and fax diffusion in Japan and the U.S. using Hofstede's (2001) cultural and social presence/information richness theory and found that culture did play an important role in the selection of electronic communications media. Srite and Karahanna(2006) extended the TAM model (Davis, 1989) by adding willingness to innovate, quality of life, social influence, trust in technology and incorporated Hofstede's four cultural dimensions to the model (as have many other studies) to study the influence of national culture on the acceptance and use of ICT.

### 3. SCHWARTZ VALUE TYPES

Schwartz (1999) identified ten values (Table 1) and five groupings (Figure 1). The groupings are: Power and achievement (self-enhancement values which encourage and legitimize the pursuit of one's own interests), Universalism and benevolence (self-transcendence values that emphasize concern for the welfare of others), Self direction and stimulation (openness values that welcome change and encourage pursuit of new ideas and experience), Security, tradition and conformity (conservation values which emphasize maintaining the status quo and avoiding threat), and Hedonism values, which share elements of openness and self-enhancement. These values are interrelated: each value is positively correlated with adjacent values in the circle and negatively correlated with opposite values in the circle.

<b>POWER:</b> Social status and prestige, control or dominance over people and resources (Likes to be in charge and tell others what to do; wants people to do what they are told)
<b>ACHIEVEMENT:</b> Personal success through demonstrating competence according to social standards (Being very successful is important; likes to stand out and to impress other people)
<b>HEDONISM:</b> Pleasure and sensuous gratification for oneself (Wants to enjoy life; having a good time is very important)
<b>STIMULATION:</b> Excitement, novelty, and challenge in life (Looks for adventures and likes to take risk; wants to have an exciting life.)
<b>SELF-DIRECTION:</b> Independent thought and action-choosing, creating, exploring. (Thinks it's important to be interested in things; is curious and tries to understand everything.)
<b>UNIVERSALISM:</b> Understanding, appreciation, tolerance and protection for the welfare of all people and for nature (It is important that every person in the world should be treated equally; wants justice for everybody, even those not know.)
<b>BENEVOLENCE:</b> Preservation and enhancement of the welfare of people with whom one is in frequent personal contact (Always wants to help the people who are close; very important to care for the people they know and like)
<b>TRADITION:</b> Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self (Thinks it is important to do things the way as learned from his family; wants to follow customs and traditions.)
<b>CONFORMITY:</b> Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms (Believes that people should do what they're told; thinks people should follow rules at all times, even when no one is watching.)
<b>SECURITY:</b> Safety, harmony and stability of society, of relationships, and of self (The safety of his country is very important; wants country to be safe from its enemies.)

Table 1. Definitions of 10 Schwartz's Value Constructs (adopted from Schwartz, 2001)

Since the internet is not limited to the technical fields but is also a social environment due to the increasing use of the internet in e-commerce, information acquisition and community operations, managers need to recognize that national cultural differences impact necessary skills and must further deal with them in a sensitive manner (House et al., 2004). A relationship between values and ICT (such as the Internet) use clearly exists as it has been reported that culture determines whether the user is willing or able to use a certain technology (Straub, 1994). Hofstede (2001) also pointed out that the national cultures vary greatly and the rational choices a person makes depends on that person's value system.

We consider all Schwartz values in the present study: Self direction and stimulation are grouped as Openness; Security, tradition and conformity are grouped as Conservation; Hedonism shares elements of openness and self-

enhancement. Achievement and power are elements of self-enhancement whereas universalism and benevolence comprise self-transcendence.

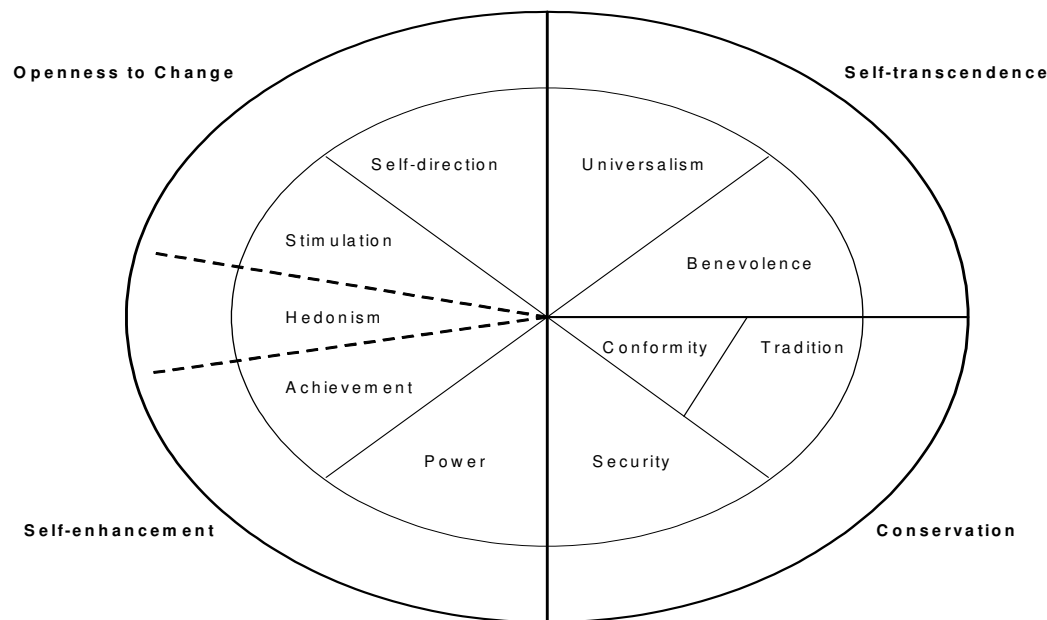


Figure 1. Schwartz's Value Structures (Schwartz, 2001)

#### 4. THE RESEARCH MODEL AND HYPOTHESES

The research model is presented in Figure 2. As mentioned earlier, power and achievement fall under Self-enhancement values which are values that encourage and legitimize the pursuit of one's own interests and may contribute positively to Internet use. The Power value is about social status and prestige as well as control and dominance over people and resources. The Achievement value is about personal success and admiration. These values can influence Internet use as power can be used to exert control; on the other hand, power sometimes can also have a negative impact as far as Internet use is concerned. Self direction and stimulation are grouped under Openness, which are values that welcome change and encourage pursuit of new ideas and experience. As Internet is a harbinger of changes, these openness values will contribute positively to Internet usage. Security, tradition and conformity are grouped under conservation values, which emphasize maintaining the status quo and avoiding threat, maintaining safety, harmony and welfare for all and thus negatively affect Internet use. Internet is also used to fashion attacks on individual and group computer systems. Security consciousness may prevent heavy use of Internet. Similarly new fashions emerge much more rapidly through the Internet which can challenge status quo. Traditional values therefore, can act in preventing Internet use. Hedonism values share elements of openness and self-enhancement and so may positively impact Internet usage. As per the definition of benevolence and universalism, these are self-transcendence values. Universalism has a preference for social justice and tolerance and benevolence values are about promoting the welfare of others. Internet can be used both in support of these values as well as in opposing these values. We felt that these two values may not have a high impact on Internet usage.

The hypotheses, corresponding to the previous discussion, are as follows:

*H1. Self-enhancement values such as power, achievement should contribute positively to Internet usage*

*H2. Openness values such as self-direction and stimulation should contribute positively to Internet usage*

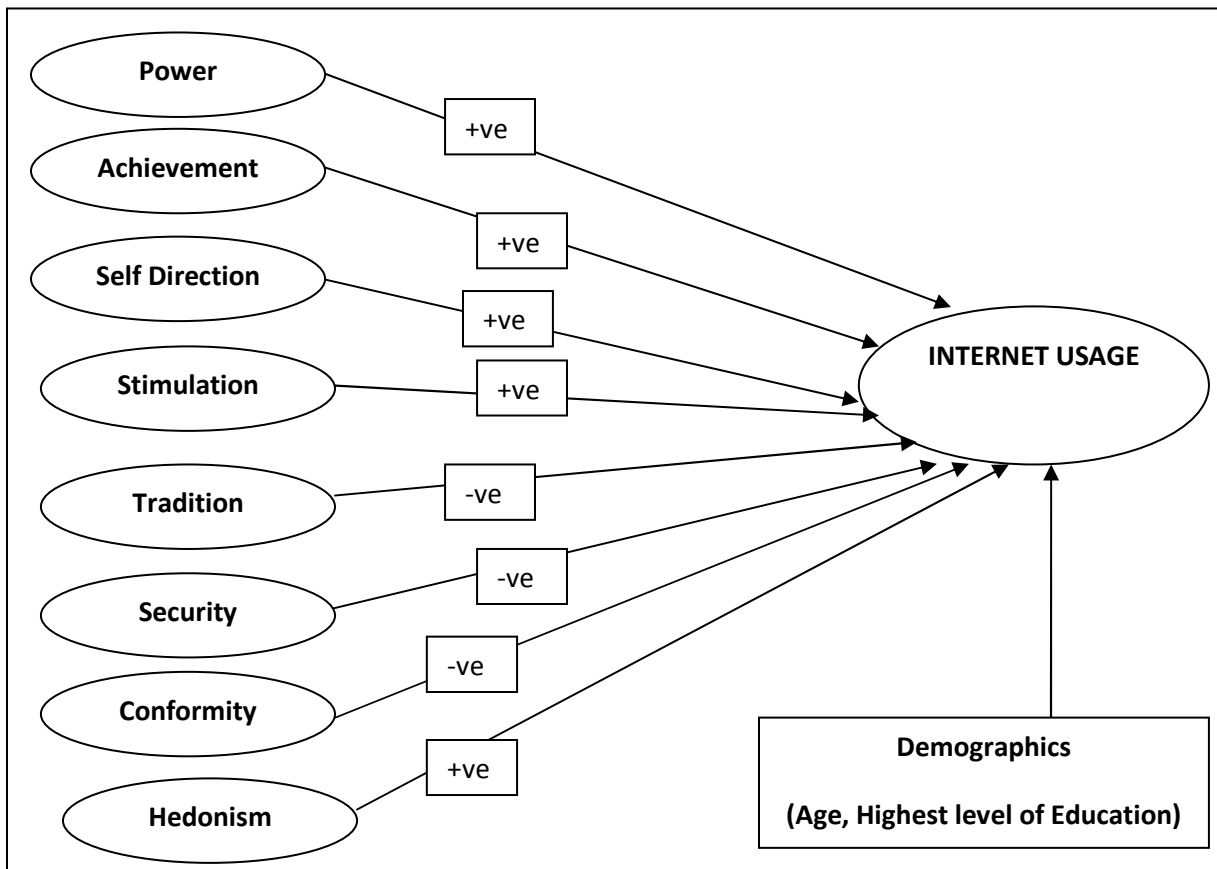
*H3. Conservation values such as tradition, security and conformity should contribute negatively to Internet usage*

*H4. Hedonism should contribute positively to Internet usage.*

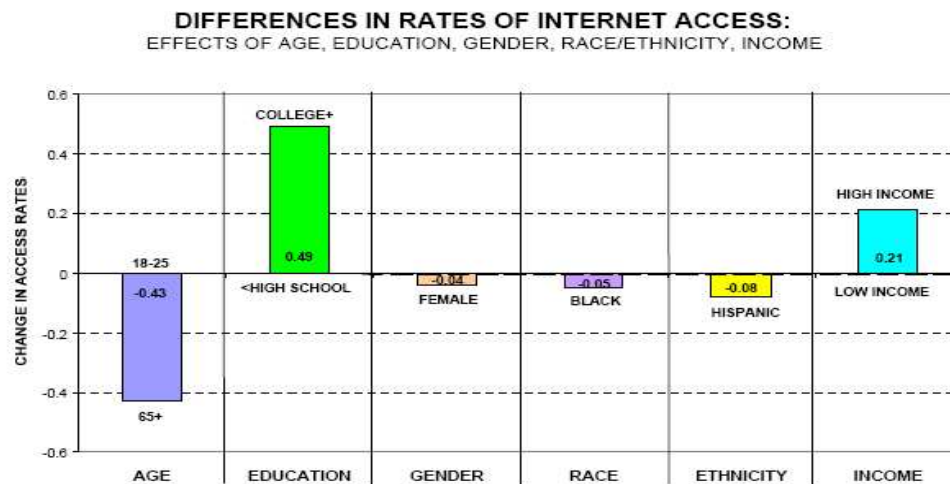
*H5. Self-transcendence values such as benevolence and universalism may not have a high impact on Internet usage.*

After the industrial revolution, initial economic advances made in several western nations and recent strides in economic progress made by some Asian nations have divided the world into two broad clusters: the set of developed and the set of developing or underdeveloped nations. According to economic theories, a global convergence of economic condition based on population growth and savings rates is taking place which may reduce cultural differences (Mankiw et al., 1992). Convergence in values and behaviors can take place based on common pattern of consumption (Barnet and Cavanaugh, 1994). However, Durlaf and Johnson (1992) argue that nations converge locally in the sense that economies with similar initial conditions tend to converge to one another. They found little evidence of convergence across economies with substantially different initial conditions as measured by per capita output or literacy rates. Additional research is needed to determine the similarities and differences in human values between developing and developed nations and how these values influence Internet use at an individual level. Our last hypothesis follows as:

*H6. Developing and developed nations will be impacted by different Schwartz's value types.*



**Figure 2. The Internet Use Model Based on Schwartz's Value Types**



**Figure 3. Age and Education in Internet Use**

Image from Stanford Institute for the Quantitative study of Society: Internet and Society (Nie and Erbring, 2000)

### Control Variables (Age and Education Levels)

The influences of demographic variables on Internet usage have been reported in many studies (Park and Jun, 2003; Zeffane and Cheeks, 1993). Age and education are reported to be “the most important factors facilitating or inhibiting internet access”, where as other factors such as gender, income and ethnicity are said to account only for less than 5% towards Internet access (Nie and Erbring, 2000). Also, education level is strongly correlated with income. Consequently, in our study, we control for two demographic variables: age and education (see Figure 3).

A generational divide has been observed between those born before the Internet age (1969) and those who grew up during the digital age (Castells, 2000). Among adults 64 years of age and older, it has been reported that the Internet is used mostly for email exchanges (Jones and Fox, 2009). Internet usage varies across ages and is popular among users who also use it for banking, job searching, shopping, and health information.

Education is assumed to be related to greater Internet use (Fusilier and Durlabhji, 2005; DiMaggio and Hargittai, 2001). Hofstede (2001) reported correlations between education and individualism and also with masculinity thus proving connection between education and work goals (Ronen & Shenkar, 1985). In the study conducted by Brodie et al (2000), children whose parents have a high school diploma or less are less likely to use the Internet or email. College education has been reported to increase Internet access rates by over 40 percentage points (Nie and Erbring, 2000).

## 5. DATA AND METHODOLOGY

In this study, data from the second wave of research conducted by the European Social Survey (ESS) is used. The ESS was conducted among a representative random sample of the adult population within each nation state by a large international network of social scientists (ESS, 2009). Each nation, 24 in total, had at least 1,000 data points. A total of more than 100,000 responses from major European nations were available, but due to missing data and inadequate invariant of data among nations, only eight nations were considered. Although the ESS value question-set was proposed and preliminary validated by Schwartz himself in his proposal (Schwartz et al, 2001), the final ESS value instrument needed to be shown invariant with respect to time and between all countries considered. According to Schwartz (2008), the ESS second round data, the set of ten value measurements is mostly cross-country invariant and can be used to explore relationships among various values and socio-economic and demographic values.

Each Schwartz value type consisted of multiple question items (at least two questions per value type, yielding a total of 21 questions). The value questionnaire (21 items) that was selected in the ESS survey was based on 40-item Portrait value questionnaire (PVQ) of Schwartz (Schwartz et al., 2001). While Schwartz's original PVQ items were based on a larger scale, the ESS used a scale of 1-6. The demographic values age and highest level of education were our control variables. Mean centered scores for each of the Schwartz value items (ESS), as per his recommendation to eliminate any bias that occurred during the process of answering the questions, were used. Missing items were discarded.

Of the eight countries chosen, the developing nations were: Czech Republic (CZ), Estonia (EE), Hungary (HU) and Poland (PL). The developed nations were Denmark (NL), Finland (FI), the Netherlands (NL) and Sweden (SE).

Table 2 shows the descriptive statistics for developed and developing nations, as units (4 nations each) after mean-centering. Note that Table 2 shows that the value hierarchy remains same for developed and developing nations, thus validating Schwartz's early assertion on value hierarchy.

	Developed		Developing	
	N	Mean	N	Mean
<b>Personal use</b>	4,969	4.1	4,956	2.43
<b>Benevolence</b>	4,973	0.76	4,958	0.67
<b>Universalism</b>	4,973	0.65	4,956	0.59
<b>Self-Direction</b>	4,973	0.52	4,958	0.58
<b>Security</b>	4,970	0.21	4,955	0.26
<b>Conformity</b>	4,973	0.03	4,959	0.09
<b>Hedonism</b>	4,972	-0.05	4,956	0.01
<b>Tradition</b>	4,972	-0.19	4,955	-0.42
<b>Stimulation</b>	4,972	-0.56	4,953	-0.47
<b>Achievement</b>	4,972	-0.62	4,957	-0.77
<b>Power</b>	4,972	-1.08	4,957	-0.86

Table 2: Descriptive Statistics for both clusters (mean-centered values)

## 6. RESULTS AND DISCUSSION

We first conducted an independent t-test among developed and developing nations on Internet use. The results showed that there is significant statistical difference in Internet use among individuals from developed and developing nations ( $t = -39.41$ ,  $p < 0.000$ ). We next tried to find out how much of this difference can be explained with the value-based model developed earlier. All of the correlations are in predicted directions. Benevolence and Universalism, as expected show low correlation with Internet usage (0.02 and 0.08 respectively), thus justifying hypothesis 5. For parsimonies sake, we eliminated these two values from the regressions.

Tables 3(a)-(b) show the regression results for developing and developed nations. Since this is an exploratory study, we also include significance of coefficients at  $p < 0.10$  as weakly significant, besides the normal significance level of  $p < 0.05$ . In order to be considered significant for the study, a value's significance should result for at least 50% of the nations considered. For developed nations, conformity, tradition, security, and power are relevant in at least two out of four nations. For developing nations, on the other hand, achievement, tradition, stimulation, self-direction and security are relevant in at least two out of four nations. Hedonism was insignificant in all regressions and in addition, conformity and power come out as insignificant for all developing nations. Both control variables: education level and age were highly significant for all cases. Overall  $R^2$  values varied from 0.372 to 0.440 for developed nations and 0.268-0.406 for developing nations. The contribution of values to  $R^2$  after controls was significant for all nations. Overall, hypothesis 1 (influence of power and achievement) is weakly supported (3 of 8 and 2 of 8 respectively). Hypothesis 2 (influence of self-direction and stimulation) is weakly supported for developed nations (2 of 8) and strongly supported for developing nations (5 of 8). Hypothesis 3 (influence of tradition, security and conformity) is



strongly supported for developed nations (9 of 12) and strongly supported for developing nations (6 of 12), with the exception of the role of conformity which is not supported at all in developing nations. Hypothesis 4 (influence of Hedonism) is not supported for either cluster. Likewise hypothesis 5 (small influences of Benevolence and Universalism) was supported for all nations (as mentioned earlier). The influences of Benevolence and Universalism on Internet use are small, given that Internet can be used both in support of these values as well as in opposing these values. The results also show that values contribute differently for developing and developed nations, supporting hypothesis 6.

For developed nations, Security in all four nations was significant, followed by Tradition in three nations (NL, FI, PL), in hindering Internet use. For four developing nations, a similar pattern could be seen--Tradition in three nations (CZ, PL, HU), followed by Security in three nations (CZ, EE, HU) were significant in hindering Internet use. Hedonism, conformity and power are totally insignificant in Internet use for developing nations, confirming suggestions that these nations are more focused on serious business use. In particular, power and conformity do not impact Internet use in developing countries as Internet is not as widely available to the masses.

Nation	CZ				EE			
Variables	B	Std. Error	Beta	Sig.	B	Std. Error	Beta	Sig.
(Constant)	2.43	0.22		0.00	5.36	0.21		0.00
Age	-0.05	0.00	-0.34	0.00	-0.08	0.00	-0.51	0.00
Education	0.66	0.06	0.21	0.00	0.49	0.04	0.22	0.00
Achievement	0.11	0.06	0.04	0.07	0.18	0.08	0.06	0.02
Hedonism	0.00	0.06	0.00	0.95	-0.04	0.07	-0.01	0.56
Stimulation	0.13	0.06	0.05	0.03	0.10	0.08	0.03	0.21
Self-Direction	0.26	0.07	0.08	0.00	0.21	0.08	0.05	0.01
Tradition	-0.13	0.07	-0.05	0.06	-0.08	0.09	-0.03	0.34
Conformity	0.00	0.07	0.00	0.97	-0.05	0.08	-0.02	0.56
Security	-0.13	0.06	-0.05	0.04	-0.21	0.09	-0.05	0.02
Power	0.06	0.06	0.02	0.31	-0.01	0.07	0.00	0.83
Nation	PL				HU			
Variables	B	Std. Error	Beta	Sig.	B	Std. Error	Beta	Sig.
(Constant)	2.72	0.20		0.00	3.03	0.22		0.00
Age	-0.05	0.00	-0.32	0.00	-0.05	0.00	-0.33	0.00
Education	0.56	0.04	0.30	0.00	0.62	0.04	0.34	0.00
Achievement	-0.01	0.08	0.00	0.93	0.04	0.08	0.02	0.59
Hedonism	-0.02	0.07	-0.01	0.79	-0.12	0.09	-0.04	0.16
Stimulation	0.14	0.08	0.05	0.09	-0.09	0.08	-0.04	0.28
Self-Direction	0.19	0.09	0.05	0.04	0.08	0.10	0.02	0.38
Tradition	-0.18	0.10	-0.06	0.06	-0.22	0.10	-0.08	0.02
Conformity	-0.14	0.10	-0.04	0.15	-0.11	0.09	-0.04	0.22
Security	-0.14	0.10	-0.04	0.15	-0.35	0.11	-0.09	0.00
Power	-0.06	0.07	-0.02	0.40	0.09	0.07	0.03	0.19

(Legend: CZ- Czech Republic, EE-Estonia, PL-Poland, HU-Hungary)

Table 3(a): Developing Nations Regression Results

For Internet use, security is an issue of great concern in both groups, perhaps because of the increased cyber attacks which have recently been reported in the popular press and the viruses and identity thefts which many individuals have personally experienced. People with traditional values are usually averse to the use of new technologies, regardless of cluster. The roles of achievement, stimulation and self-direction are mixed in Internet use; achievement in the form of competency does play a role given the increased complexity of some applications. The role of stimulation can be important, as the increased popularity of Internet based games, for example, increases excitement and adventure. However, additional detailed studies are necessary, possibly with more nations to reveal which values are important and which are not, especially within specific economic clusters. Finally, in the case of the

Netherlands, contrary to hypothesized relation, conformity had a positive influence on Internet use. This needs further investigations.

Nation	DK				NL			
Variables	B	Std. Error	Beta	Sig.	B	Std. Error	Beta	Sig.
(Constant)	5.22	0.26		0.00	5.32	0.25		0.00
Age	-0.07	0.00	-0.43	0.00	-0.06	0.00	-0.38	0.00
Education	0.74	0.05	0.31	0.00	0.58	0.04	0.28	0.00
Achievement	0.13	0.08	0.05	0.08	0.02	0.08	0.01	0.80
Hedonism	-0.07	0.08	-0.02	0.39	0.02	0.08	0.00	0.82
Stimulation	-0.02	0.07	-0.01	0.78	0.05	0.08	0.02	0.50
Self-Direction	0.15	0.09	0.04	0.09	0.13	0.10	0.03	0.18
Tradition	-0.18	0.08	-0.06	0.03	-0.43	0.08	-0.14	0.00
Conformity	-0.06	0.08	-0.02	0.42	0.15	0.09	0.04	0.08
Security	-0.36	0.08	-0.12	0.00	-0.15	0.09	-0.04	0.08
Power	0.03	0.08	0.01	0.71	0.11	0.08	0.03	0.15
Nation	SE				FI			
Variables	B	Std. Error	Beta	Sig.	B	Std. Error	Beta	Sig.
(Constant)	6.87	0.20		0.00	5.54	0.22		0.00
Age	-0.07	0.00	-0.46	0.00	-0.07	0.00	-0.46	0.00
Education	0.36	0.03	0.24	0.00	0.60	0.04	0.32	0.00
Achievement	0.11	0.07	0.04	0.14	0.01	0.07	0.00	0.86
Hedonism	0.06	0.07	0.02	0.46	-0.11	0.07	-0.04	0.11
Stimulation	0.14	0.07	0.05	0.07	-0.06	0.08	-0.02	0.47
Self-Direction	-0.05	0.09	-0.01	0.57	0.02	0.09	0.01	0.82
Tradition	-0.08	0.08	-0.03	0.30	-0.21	0.08	-0.07	0.01
Conformity	-0.04	0.08	-0.01	0.61	-0.15	0.08	-0.05	0.06
Security	-0.13	0.07	-0.04	0.09	-0.18	0.08	-0.05	0.02
Power	0.31	0.07	0.09	0.00	0.12	0.07	0.04	0.09

(Legend: DK- Denmark, NL- The Netherlands, SE-Sweden, FI- Finland)

Table 3(b): Developed Nations Regression Results

## 6. LIMITATIONS AND CONCLUSIONS

In this paper, we examined the impact of Schwartz's value types on Internet usage among four developing and four developed European nations. Our study is the first in IS research to use Schwartz's values to examine their impact on Internet at an individual level for several individual nations. Using the second round ESS data and controlling for age and education, the study found that security and traditional values impede Internet usage whereas values such as self-direction exert somewhat positive influence on Internet use. We also found that countries in the same economic grouping do not necessarily share the same values and that there are significant differences in Internet usage between nation groupings. Cultural studies at a national level have been done. What is missing in IS research is an individual level cross-cultural study on the association between values and Internet use across a number of nations and this study filled that gap. Schwartz's value types matter in explaining Internet usage.

We also believe that our findings have significant managerial implications. Organizations should recognize that relationship between Schwartz's values and Internet use vary across nations, and develop operational and expansion strategies accordingly. Organizations may consider offering managers value/cultural difference awareness sessions. It was found that in a multi-cultural environment, managers with cross-cultural training reported a 30% increase in productivity (Accenture, 2006). We recognize the limitations of our study. Comparing different country clusters, based on national culture, would reveal more important information about individual values and their attitudes

towards Internet use. Additional control variables, such as income and gender, might reveal additional differences between developing and developed nations. Future research could also explore whether values between nations that are geographical distant (e.g., different continents or other European nations) impacts Internet use.

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