

Espoused National Cultural Values in IS Research

The Role of Espoused National Cultural Values in Cross-National Cultural IS Studies

Full Paper

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Abstract

Hofstede's work on national culture has been extensively used in cross-national studies in the information systems discipline. In particular, many cross-national cultural researchers have used Hofstede's cultural index. This study argues that espoused national cultural values should be measured when the unit of analysis of the cross-national cultural study is the individual. This study reviews cross-national studies published in eight IS journals and examines both cross-national studies and cross-national cultural studies. After that, this work provides rationales of why espoused national cultural values should be measured. Finally, we conclude that espoused national culture is more appropriate for individual behavior research.

Keywords

Cross-National Research, Cross-Cultural Research, Espoused National Cultural Values

Introduction

Hofstede's national cultural dimensions have been extensively used, across the social sciences, in theorizing cultural differences among countries (Taras et al., 2009). Among various levels of cultural research (e.g., group, organization, professional, and national), national culture has been of increasing interest in information systems (IS) research (Gallivan & Srite, 2005). In particular, IS researchers have conducted cross-national research to examine the generalizability of a research model (e.g., Venkatesh & Ramesh, 2006) or national differences (e.g., Bensaou, 1997). Many of these studies have incorporated Hofstede's national culture in various domains, such as technology adoption (Dinev et al., 2009), online shopping (Stafford et al., 2004), website trust (Cyr et al., 2009), security awareness (Schmidt et al., 2008), and so on.

Myers and Tan (2002) reviewed related national culture IS research and found that more than 60% of reviewed studies used Hofstede's dimensions as a theoretical foundation. However, many cross-national cultural studies in IS do not measure national culture at the individual level. To be specific, researchers directly applied the original national level cultural work (country scores) to individual level studies (e.g., Bochner & Hesketh, 1994; Cox et al., 1991; Earley, 1989, 1993; Gomez et al., 2001). However, this arrangement might lead to a critical issue: national level culture is not suitable to explain individual behavior because of ecological fallacy (Robinson, 1950). The present study argues that cross-national cultural studies should measure espoused national cultural values when the unit of analysis is specified at the individual level.

Given the significance of measuring espoused national cultural values in cross-national cultural research, this study addresses three main objectives. First, we reviewed the literature on cross-national research to better understand culture, national culture, and espoused national cultural values. We reviewed eight

journals and offered descriptive results of the cross-national studies found from the journals. Second, the current study provides the rationale of why espoused national cultural values should be measured in cross-national cultural studies, including resolving the issue of ecological fallacy. Finally, this study concludes with implications and suggestions for cross-national cultural research

Literature Review

Culture and National Culture

Before discussing national culture and espoused national cultural values, we provide a general definition of culture that covers all the relevant levels. A recent review of definitions of culture is provided by Taras et al. (2009, p. 358). They suggest that there are four common attributes across the literature, such that culture is (1) a complex multi-level construct, (2) shared among individuals belonging to a group or society, (3) formed over a relatively long-period, and (4) relatively stable.

Hofstede also suggested that there are multiple layers of cultural programming; those layers embrace the range of cultures operative on an individual’s behavior, consisting of national, regional/ethnic/religious/linguistic, generation, social class, and organizational culture (Hofstede, 1991). Karahanna et al. (2005) elaborated the layers to generate a hierarchy of cultural layers as shown in Table 1. To accomplish the objectives of this paper, we focus on national culture. Therefore, we will provide more detailed information about cross-national IS next.

Table 1. Models of National Culture

Model	Cultural Dimension	Reference
Single Dimension	High Context – Low Context	Hall, 1960, 1976, Hall & Hall, 1990
	Monochronic – Polychronic	Lewis, 1992
	High Trust – Low Trust	Fukuyama, 1995
	Idiocentric – Allocentric	Triandis, 1995
	Monomorphic and Polymorphic	Botger et al. 1985
Multiple Dimensions	Power Distance, Uncertainty Avoidance, Individualism – Collectivism, Masculinity – Femininity, Long-Term Orientation	Hofstede, 1980, 1983, 1991 Hofstede and Bond, 1988
	Universalism – Particularism Analyzing – Integrating Individualism – Communitarianism Inner-directed – Outer-directed Time as sequence – Time as synchronization Achieved Status – Ascribed Status Equality – Hierarchy	Hampden-Turner & Ohavy, 1990
	Pragmatism – Idealism/Wholism Rationalism-Humanism	Lessem & Neubauer, 1994
	Free Will – Determinism Accumulation of Wealth – “Just Enough”	Kluckhohn & Strodtbeck, 1961
	Improvement – Maintaining Status Quo Social Action – Maintaining Relationship Merit-based – Relationship-based Wide Sharing – Non-Sharing Objective - Emotional	Newman et al. 1977
	Historical-Social	Euromanagement Model South East Asian Management Model

Source: Myers & Tan (2002, p.26)

Review of Cross-National IS Research

Our review includes articles selected from six widely cited IS journals: the European Journal of Information Systems (EJIS), Information Systems Journal (ISJ), Information Systems Research (ISR), Journal of the Association for Information Systems (JAIS), Journal of Management Information Systems (JMIS), and MIS Quarterly (MISQ), which are called AIS 6 (Dean et al. 2011). This list of journals has subsequently been recognized as highly rated by the AIS (AIS 2008 cited in Dean et al. 2011). In addition, we also include two Social Science Citation Indexed global journals (Journal of Global Information Management (JGIM) and Journal of Global Information Technology Management (JGTIM)) because these journals focus primarily on global issues.

In these eight journals, we searched for articles that studied multiple countries, using primary data (e.g., survey and lab experiment), where the unit of analysis was the individual. These articles were our targets for the review of cross-national studies. Figure A1¹ describes exclusion and incursion criteria for this study.

Among various national cultural models, this study is particularly interested in Hofstede’s model. Hofstede (1980) proposed four widely referred dimensions of national culture: individualism/collectivism (IDV), masculinity/femininity (MAS), power distance (PD), and uncertainty avoidance (UA). Hofstede and Bond (1988) subsequently added long-term orientation (LTO) as a fifth dimension. The impact of the Hofstede’s national culture on the social sciences has been tremendous. His framework has been preferred by cross-cultural researchers for “limited availability of alternatives, convenience, popularity, and simply habit” (Taras et al., 2009 p. 360). Likewise, IS researchers have favored incorporating Hofstede’s dimensions of national culture. This study provides a list of cross-national cultural studies published in IS journals.

Table 2. Cross-National IS Research (Chronological / Alphabetical Order)

Authors (Year)	Source	Examined Countries	Type	Cultural Dimensions Explored §	Context
Keil et al. (2000)	MISQ	Finland, Netherlands, Singapore	Espoused National Cultural	UA	Risk perception and commitment in software project
McCoy et al. (2005)	JGITM	Uruguay, U.S.	Espoused National Cultural	4 of Hofstede dimensions: PD, IDV, MAS, UA	Role of national culture in technology acceptance model
Furner et al. (2009)	JGTIM	China, France, U.S.	Espoused National Cultural	4 of Hofstede dimensions: IDV, UA, PD, MAS	Role of culture in learning effectiveness of knowledge management systems
Lowry et al. (2011)	JMIS	China, U.S.	Espoused National Cultural	4 of Hofstede dimensions: PD, IDV, UA, MAS	Role of national culture in self-disclosure technology use

As a result, although a few studies used some of the other national cultural models, fifty-two cross-national cultural studies used some or all of Hofstede’s national cultural dimensions, suggesting that cross-national cultural IS researchers are extremely dependent on Hofstede’s national culture²; however only four of them used espoused cultural values to analyze research at the individual level (specified in Table 2). In the later part, we will discuss how the espoused cultural values are different from national culture value as well as applications.

¹ See online appendix at: <https://goo.gl/IsxbUz>

² A complete list of the studies are shown in Table A1 in the online appendix at: <https://goo.gl/IsxbUz>

IS Research on Espoused Cultural Values

Srite and Karahanna (2006) stated that national culture often lacks accuracy in explaining an individual level of behavior. The related implication is that individuals may identify with national culture to varying degrees; as such, it is inappropriate to use country-level scores on a cultural dimension to predict individual level behavior (Ford et al. 2003; McCoy et al. 2005; Straub et al. 2002; Srite & Karahanna, 2006). Doing so is to commit an ecological fallacy, which assumes that one can validly use a set of collective-level constructs/measurements to substitute for individual constructs/measurements. Hofstede (1994) himself cautions against using country scores on his dimensions to predict individual behavior, stating that his country-level analysis could not explain individual behavior, which he considered as a theoretically distinct problem. (p.681)

In greater detail, Srite and Karahanna (2006) argued that culture can be treated as an individual difference variable to investigate the cultural effects on individual behaviors while avoiding the ecological fallacy. Given the rationale, the scholars proposed a moderating role of four espoused national cultural dimensions in an extended technology acceptance model. The definitions of espoused national cultural values are provided in Table 3.

Table 3. Definitions of Espoused National Cultural Value

Espoused Cultural Value	Definition
Individualism/Collectivism	The degree to which the individual emphasizes his/her needs as opposed to the group needs and prefers to act as an individual rather than as a member of a group.
Power Distance	The degree to which large differentials of power and inequality are accepted as normal by the individual. Power distance will condition the extent to which the employee accepts that his/her superiors have more power.
Uncertainty Avoidance	Uncertainty avoidance is the level of risk accepted by the individual, which can be gleaned by his/her emphasis on rule obedience, ritual behavior, and labor mobility. This dimension examines the extent to which one feels threatened by ambiguous situations.
Masculinity/Femininity	The degree to which gender inequalities are espoused by an individual. Individuals who espouse masculine values emphasize work goals such as earnings, advancement, competitiveness, performance, and assertiveness. On the other hand, individuals who espouse feminine values tend to emphasize personal goals such as a friendly atmosphere, comfortable work environment, quality of life, and warm personal relationship.
Long-Term Orientation	The degree to which an individual places great significance on thrift, persistence and long-term alliance.

Source: Srite and Karahanna (2006, p. 682)

As mentioned in previous content, four of the fifty-two reviewed studies have incorporated espoused national cultural values (these four studies are specified as the type of espoused national cultural in Table 2). In summary, rather than using national culture values at a general level, these studies measured espoused national culture values to analyze data at an individual level.

We argue that using different levels of culture values matters. Rai et al. (2009) found a relationship between cultural differences at the organizational and team levels, and offshore IS project success. Cao and Everard (2009) examined the relationship between individuals' espoused national cultural values and their attitude toward using Instant Messenger. In an online shopping context, Yoon (2009) found a moderating role for five dimensions of espoused cultural values between trust and intention to shop online. However, the aforementioned research has examined the role of espoused national cultural values in single country settings, not multiple country settings, focusing on the role of espoused national cultural values not the differences among different countries. In the following section, this study provides the rationales for measuring espoused national cultural values when comparing different countries using Hofstede's cultural model.

Rationale for Measuring Espoused National Cultural Values

Ecological Fallacy

As previously mentioned, the main reason to measure espoused national cultural values in cross-national cultural research is to avoid the ecological fallacy. The ecological fallacy refers to a situation that occurs when a researcher infers individuals based solely on aggregate statistics collected for a group to which those level scores to individuals. An example of ecological fallacy is that educational level is positively associated with income at the individual level, but negatively associated with income at the national level (Kreft & De Leeuw, 1998). This is an example to show that the predictive value of national level variables is often limited at best when they are applied to the individual level work (Van de Vijver & Poortinga, 2002).

In the IS discipline, as Straub et al. (2002) suggested that it is very common in cross-cultural studies to assume that Japanese demonstrate collectivism as a universal cultural characteristic (Hofstede 1980); however, we know that there will be variations in the strength of this characteristic and, in the case of highly entrepreneurial Japanese, it may weaken and even disappear entirely. Robinson (1950) calls the “ecological fallacy,” where stereotypes are substituted for individualistic and idiosyncratic traits. It can be used to describe the current issue that researchers generalize cultural characteristics across an entire nation of people. Therefore, an in situ measurement of culture is appropriate.

Conflict between National Culture Dimensions

Many researchers have chosen one or two dimensions which are explicitly distinct among countries to develop culture research. Individualism – collectivism is one of the most widely used dimensions. Prior work has incorporated this dimension and developed hypotheses based on the differences between two countries. For example, Schmidt et al. (2008) suggested that the individualistic culture of the US and the collectivistic culture of China play an important role in explaining the difference in security awareness. However, in another study, Kwak et al. (2011) chose college students in Korea and the US as proxies of collectivism and individualism, respectively. They concluded that security awareness level is higher in the U.S. than in Korea because people in an individualistic culture are more sensitive to privacy issues.

Although using the country of origin or ethnic label of the respondents as a proxy for culture has been a general practice in many cross-national cultural studies (Earley & Mosakowak, 1996), this method could lead to incorrect estimation of the moderating effects of the country. Moreover, it is possible that two national cultural values could conflict with each other. Individualism and uncertainty avoidance might positively moderate a causal relationship between security awareness and intention to adopt a protective technology. People in an individualistic culture are sensitive to personal issues and privacy, while people in high uncertainty avoidance cultures have a tendency to avoid risky situations. Based on the logic of individualism, the casual relationship between security awareness and protective technology adoption would be higher in the US than Korea. Given the logic of uncertainty avoidance, however, the relationship would be higher in Korea, than the US. A spurious effect by two cultural variables is possible. Measuring espoused cultural values could avoid this problem.

Therefore, it is hard to conclude that the culture (i.e., individualism and collectivism) plays an important role while there are other possible variables to explain the differences in security awareness (e.g., security education). Thus, without measuring espoused national cultural values, it is too arbitrary to confirm that the selected cultural value is critical to explain the differences.

Dynamic Nature of National Culture

The further rationale is associated with the possibility of a change of national culture. Culture is not static. It has been more than thirty years since Hofstede measured his cultural dimensions. However, many cross-national cultural researchers depend on this index. In 1980, Korea was becoming an industrialized society. Before and during the 1980s, group and cooperative norms were the most desirable value in Korea, suggesting a highly collectivistic culture. In the last 10 years, Korea has developed information technology infrastructure and adopted Western culture. Especially US culture has become widespread. Currently, an individualistic value is emphasized in Korea from the evidence that people study or work to achieve their own goals.

Several sub-cultures in one nation are also possible. In particular, different generations could have different national cultural values. In Korea, the younger generation (e.g., college students) has a tendency to be more individualistic than the older generation. In a practical research setting, it is difficult to have a random sampling from all generations. Thus, many IS researchers use college student samples in different countries. It is possible that both Korean and US college students are more individualistic. Measuring espoused cultural values can identify the culture of the selected samples and help to identify the role of national culture.

Conclusion and Implications

Given the rationale previously discussed, we can argue and conclude that it is important for researchers to select a suitable culture level. Espoused national cultural values are more suitable for individual level analysis. In summary, the current study reviewed cross-national IS research and found that within the reviewed cross-national cultural IS work, many incorporated Hofstede's national culture scores, although individual level national culture values exist. We believe it is due to the significant impact of Hofstede's model. Research to date has criticized Hofstede's model (McSweeney, 2002; Myers & Tan 2002), but hasn't proposed a complementary way to support Hofstede's model at the individual level. This study presents rationales for measuring espoused cultural values based on the common practice of IS research, focusing on reducing ecological fallacy, as well as addressing the conflicting and dynamic issues of national culture. We suggest that cross-national cultural IS researchers move beyond Hofstede's national culture and diversify the concept of national culture.

Future Research Directions

Finally, this review paper provides several valuable future directions. First, future research is encouraged to explore and measure espoused cultural values in multiple country settings using empirical data. Second, given the evidence that much of the previous work hasn't measured espoused cultural values, the results might be not plausible. Future researchers could collect new data with espoused cultural values. By comparing these results, we may obtain some interesting findings. At last, we suggest culture researchers update national culture value scores in the current age. It will provide more consistent results to explain the up-to-date phenomenon.

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