Chapter 1

Beyond Models of National Culture in Information Systems Research

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Many IS scholars argue that global organizations need to understand cultural differences if they are to successfully deploy information technology. We agree that an understanding of cultural differences is important, but suggest that the concept of "national culture" that has tended to dominate the IS research literature is too simplistic. In this article, we challenge information systems researchers to go beyond models of national culture. We propose that IS researchers should adopt a more dynamic view of culture – one that sees culture as contested, temporal and emergent.

INTRODUCTION

Over the past decade there has been increasing interest in the IS research literature in the impact of cultural differences on the development and use of information and communications technologies. Since many companies are now doing business beyond their national boundaries – and these global activities are facilitated and supported to a large extent by current communications and information technologies – it is important to understand the impact of cultural differences on these activities (Ives & Jarvenpaa, 1991; Shore & Venkatachalam, 1995; Tractinsky & Jarvenpaa, 1995). Many have argued that transnational organizations need to understand cultural differences if they are to successfully deploy IT throughout the world (Applegate, McFarlan, & McKenney, 1999; Harris & Davison, 1999; Tan, Watson, & Wei, 1995).

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While we agree that an understanding of cultural differences is important, we believe that attempting to understand these cultural differences in terms of "national culture" is overly simplistic. By far the majority of studies concerned with various cultural aspects of the development, implementation, use and management of IT have relied on Hofstede's (1980; 1991) model of national culture (e.g., Keil et al., 2000; Straub, 1994; Tan et al., 1995; Watson, Ho, & Raman, 1994). But Hofstede's concept of national culture – which assumes that cultural differences are in some way aligned with the territorial boundaries of the nation state – is problematic. It glosses over the fact that ethnic and cultural groups can exist across many nations, just as it glosses over the existence of cultural and ethnic differences *within* nations (Harris & Davison, 1999; Huo & Randall, 1991; Peppas, 2001). Our argument is that the concept of national culture is theoretically weak and ignores some of the facts of history.

We suggest that IS researchers should move beyond the concept of "national culture" to one that recognizes the emergent and dynamic nature of culture. If there is such a thing as "national culture," then it is something that is invented and re-invented and always in a state of flux.

This article is organized as follows. We begin with a review of the IS literature on national culture. Here we show that many IS researchers have taken the concept of national culture as given. We then provide an overview of the concept of national culture and consider its various definitions and dimensions. In the ensuing section, we critique the concept of national culture and argue that it ignores the facts of history and has little explanatory power. In the next section, we propose that IS researchers interested in conducting research on culture and globalisation should adopt a more dynamic view of culture – one that sees culture as contested, temporal and emergent. The final section is the conclusion.

INFORMATION SYSTEMS RESEARCH AND NATIONAL CULTURE

In this first section we provide a brief review of the IS literature on national culture. Here we show that many IS researchers have taken the concept of national culture for granted.

In a recent survey of global IT research, Gallupe and Tan (1999) found that a wide variety of IS issues have been studied from a national culture perspective. Much of the IS research using the concept of national culture is summarised in Table 1.

From Table 1 it can be seen that most of the IS research into the effects of national culture has relied on Hofstede's (1980, 1991) dimensions to test and validate propositions relating to a variety of IS issues. Of the 36 studies listed, 24 used some or all of Hofstede's dimensions. It would appear that most IS

Table 1: IS Research on National Culture

Authors	Cultural Dimensions Explored	Topic Studied
(Burn, Saxena, Ma, & Cheung, 1993)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	IS and Culture - top management issues in HK
(Cummings & Guynes, 1994)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	HQ versus subsidiaries
(Ein-Dor, Segev, & Orgad, 1993)	Economic, Demographic, & Socio-psychological	Effect of National Culture on IS
(Garfield & Watson, 1998)	Uncertainty Avoidance, & Power Distance	Impact of National Culture on National Information Infrastructure
(Harvey, 1997)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity Ethnographic Approach	Comparing GIS Designs and Implementation between USA and Germany
(Hasan & Ditsa, 1999)	Individualism, Uncertainty Avoidance, Power Distance, Masculinity, Time Orientation, Context, Mono/Polymorphic & Mono/Polychrony	National Culture and the Adoption of IT
(Hill, Loch, Straub, & El-Sheshai, 1998)	Critical Approach - No Predefined Cultural Dimensions Tested	IT transfer in Arab Culture
(Hofstede, 2000)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Effects of differences in National Culture within MNCs
(Hunter & Beck, 2000)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Cultural differences in the perception of the qualities of 'excellent' systems analyst
(Keil et al., 2000)	Uncertainty Avoidance	Effect of National Culture on project risk propensity/perception
(Keil, Mixon, Saarinen, & Tuunainen, 1994/1995)	Uncertainty Avoidance	Effect of National Culture on escalating commitment to IT projects
(Lally, 1994)	Individualism	Emerging technologies
(Martinsons & Westwood, 1997)	Culture in General	MIS in Chinese Business Culture
(Mcleod et al., 1997)	Individualism, Uncertainty Avoidance, & Power Distance	Views of CIO roles and IRM process
(Mejias, Shepherd, Vogel, & Lazaneo, 1997)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Perceived satisfaction and consensus levels inGSS/non-GSS
(Menou, 1983)	Objective/Subjective	Impact of culture on information generation, presentation, and use

Table 1: IS Research on National Culture (continued)

(Milberg, Burke, Smith, & Kallman, 1995)	Individualism, Uncertainty Avoidance, & Power Distance	Information Privacy and Culture
(Moores & Gregory, 2000)	Avoidance of Group Debates & Use of Multiple Languages	Cultural problems in applying Soft Systems Methodology
(Niederman, 1997)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Comparing US and Mexican GSS facilitators' views
(Palvia & Hunter, 1996)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	IS development methods
(Png, Tan, & Wee, Forthcoming)	Uncertainty Avoidance & Power Distance	Culture and corporate adoption of IT infrastructure
(Robey & Rodriguez-Diaz, 1989)	Culture in General	MNC implementation in Latin America
(Shore & Venkatachalam, 1994)	Power Distance & Uncertainty Avoidance	Cross culture transfer of IS applications
(Shore & Venkatachalam, 1995)	Uncertainty Avoidance & Power Distance	Culture in Systems Analysis and Design
(Straub, 1994)	Uncertainty Avoidance & Language Style	Diffusion of IT across cultures
(Tan et al., 1995)	Power Distance	GSS to dampen power distance effects
(Tan, Wei, Watson, Clapper, & McLean, 1998)	Individualism	National Culture, majority influence & Computer-mediated Communication
(Tan, Wei, Watson, & Walczuch, 1998)	Power Distance	National Culture, status influence & Computer-mediated Communication
(Thanasankit & Corbitt, 2000)	Ethnographic Approach - No Predefined Cultural Dimensions Tested	Cultural Context and its Impact on Requirements Elicitation in Thailand
(Trauth, 2001)	Ethnographic Approach – No Predefined Cultural Dimensions Tested	Influences and Impacts of Cultural, Economic and Political Factors in the Republic of Ireland
(Trauth & Thomas, 1993)	Bottom up / top down	Global EDI
(Tricker, 1988)	Family Orientation	Cross-Cultural Information Resource Management
(Walczuch, Singh, & Palmer, 1995)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Cultural motivations for transborder data flow legislation
(Watson & Bracheau, 1991)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Key issues in IS management
(Watson et al., 1994)	Individualism & Power Distance	Culture as a 4th Dimension of GSS
(Watson, Kelly, Galliers, & Brancheau, 1997)	Individualism, Uncertainty Avoidance, Power Distance, & Masculinity	Concerns of IS executives across nations

researchers have taken the concept of national culture as given (although a small number also recognise the limitations of Hofstede's model).

Generally, these studies agree that culture is important and an understanding of culture and its impact can lead to successful IT deployment in a global setting. For instance, the results of a study on the impact of computer-mediated communication (CMC) on majority influence were contingent on national culture (Tan, Wei, Watson, Clapper et al., 1998). The authors found significant differences between individualistic (US) and collectivistic (Singa-pore) cultures in the way CMC dampens or strengthens majority influence in a group setting. Utilizing Hofstede's (1980, 1991) uncertainty avoidance dimension of culture, Keil et al. (1994/1995) found discern-able differences between Finnish and US experiments relating to escalation of commitment to IT projects. The authors argue that although it was tempting to conclude that the observed outcome was due to differences in uncertainty avoidance, there may be other cultural and non-cultural factors involved due to the design of the experiment.

While the above examples have taken the quantitative approach, there are some (although very few) that have gone into the study with no predefined cultural archetypes. For instance, Hill et al. (1998) used a critical approach in a study of IT transfer in Arab nations. They found that specific components of Arab culture and society have an influence on how IT is viewed and the extent to which it is utilized. In an ethnographic study, Thanasankit and Corbitt (2000) argue that understanding the nature of the impact of Thai culture on requirements engineering processes can ensure that project failure due to poor understanding of requirements for systems would be lessened.

THE CONCEPT OF NATIONAL CULTURE

In this section we provide a brief overview of the concept of national culture and consider its various definitions and dimensions.

Groeschl and Doherty (2000) point out that culture is complex and very difficult to define: "Culture consists of several elements of which some are implicit and others are explicit. Most often these elements are explained by terms such as behaviour, values, norms, and basic assumptions" (p. 14).

The theories of national culture that have gained prominence over the last few decades have concentrated mostly on the study of cultural values (Jackson, 1995). These include those of Hall (1959; 1960), Hofstede (1980; 1991), and more recently, Trompenaars (1993). Morden (1999) identifies three categories of national culture models:

- single dimension models
- multiple dimension models
- historical-social models

Using Morden's categorization, we have listed some models of national culture and their dimensions in Table 2.

As can be seen from Table 2, national culture has been defined in a myriad of ways. Erez and Earley (1993) provide a comprehensive discussion of the differences among some of these definitions.

Although there are many different definitions of national culture, most IS research has tended to rely almost solely on Hofstede's definition. This is perhaps not surprising, given that Hofstede's typology of culture has been one of the most popular in many different fields of management. Sondergaard (1994), using data from the Social Science Citation Index (SSCI), found 1036 quotations from Hofstede's work in journals during the period 1980 to September 1993. Clearly, Hofstede's work has had a significant influence on management studies in general and IS research in particular. The rest of this paper will therefore focus on Hofstede's model of national culture, although many of our criticisms of Hofstede's model apply equally well to most of the other models.

Table 2: Models of National Culture

Models	**Source**	**Cultural Dimensions**
Single Dimension	Hall, 1960, 1976; Hall & Hall, 1990	High Context - Low Context
	Lewis, 1992	Monochronic - Polychronic
	Fukuyama, 1995	High Trust - Low Trust
	Triandis, 1995	Idiocentric - Allocentric
	Bottger, Hallein, & Yetton, 1985	Monomorphic and Polymorphic
Multiple Dimensions	Hofstede, 1980, 1983, 1991; Hofstede, Neuijen, & Ohavy, 1990	Power Distance, Uncertainty Avoidance, Individualism - Collectivism, Masculinity - Femininity
	Hampden-Turner & Trompenaars, 1994	Universalism - Particularism Analyzing - Integrating Individualism - Communitarianism Inner-directed - Outer-directed Time as sequence - Time as synchronization Achieved Status - Ascribed Status Equality - Hierarchy
	Lessem & Neubauer, 1994	Pragmatism - Idealism/Wholism Rationalism - Humanism
	Kluckhohn & Strodbeck, 1961	Free Will - Determinism Accumulation of Wealth - "Just Enough"
	Newman, Summer, & Warren, 1977	Improvement - Maintaining Status Quo Social Action - Maintaining Relationship Merit-based - Relationship-based Wide Sharing - Non-Sharing Objective - Emotional
Historical - Social	Bloom, Calori, & de Woot, 1994	Euromanagement Model
	Chen, 1995; Cragg, 1995; Seagrave, 1995	South East Asian Management Model

Hofstede defines national culture as "the collective programming of the mind which distinguishes the members of one group or category of people from another" (Hofstede, 1991, p. 5). He suggests that people share a collective national character that represents their cultural mental programming. This mental programming shapes values, beliefs, assumptions, expectations, perceptions and behaviour.

We believe it is important to understand how Hofstede developed his particular model of national culture. Hofstede arrived at his conclusions about the importance of national culture without conducting any empirical research himself. Rather, the data he used had already been collected by IBM as part of two worldwide rounds of employee attitude surveys. As Hofstede himself describes:

> The data consisted of answers to questionnaires about employee values and perceptions of the work situation that were collected in the context of two worldwide rounds of employee attitude surveys. Their use for studying differences in national cultures was an unintended, serendipitous by-product, for which the corporation opened its files of 116000 survey questionnaires collected between 1967 and 1973 (Hofstede et al., 1990, p. 287).

We can see, therefore, that Hofstede did not study national culture directly, nor was the data collected with this in mind. Rather, as Tayeb (1994) points out, "culture was used as an explanation after the findings revealed interesting patterns. In other words, the study was not planned in advance as an investigation into effects of culture on organizations and their members."

The data used by Hofstede was limited in other ways. Hofstede says that the survey data was collected from 40 organisations across 40 different countries. However, 39 of the organisations were subsidiaries of the same US-based multinational (IBM). The 40th organisation was not a subsidiary but imported and serviced IBM's products in Yugoslavia. As Huo and Randall (1991, p. 159) describe, the 116,000 respondents within IBM thus "shared the same corporate superstructure and policies, belonged to the same occupational categories, did the same kind of work, were of the same educational level and varied only marginally in age and gender." Additionally, almost all respondents were male (Nicholson & Stepina, 1998), and had been trained by IBM and shared the same IBM corporate culture. Thus, the sample data was not representative of people in the respective countries. Not surprisingly, his methodology has received considerable criticism (Korman, 1985; Robinson, 1983).

Subsequently, Hofstede developed a survey instrument called the "Value Survey Module" (VSM). Hofstede (1983) also increased his database to 50 nations. The value of the VSM is claimed to be as follows:

> The VSM permits the culture of a country to be summarised across a limited number of common dimensions. As comparisons across countries

are controlled by matching respondents on age, gender, education, and percentage of the respondents who hold positions in higher management, it is assumed that systematic and stable differences between respondents from different countries can only be explained by the culture of the country (Huo & Randall, 1991).

A CRITIQUE OF THE CONCEPT OF "NATIONAL CULTURE"

A fundamental assumption of Hofstede's work is that there is such a thing as "national culture." The unit of analysis is deemed to be the nation-state, and each nation is assumed to have its own culture. It is argued that the VSM permits the culture of each country to be summarised across a limited number of dimensions. We suggest, however, that the fundamental assumption upon which Hofstede's work is based in questionable. Some of the problems with using "national culture" are as follows.

First, the nation-state is a relatively recent phenomenon - it did not exist for the greater part of human history. "Before the close of the 19th century, the effective mobilization of governmental powers on a national basis had occurred only in Europe, the United States, and Japan. It was not until the 20th century and the collapse of the Ottoman, Habsburg, French, and British empires that the world could be fully organized on a national basis" (*Encyclopaedia Britannica DVD*, 2000). In fact, it is only in the last 100 years that most nation-states have been formed. Thus, there appears to be a mismatch between the nation-state (which is a recent phenomenon) and culture (which in some cases has existed for thousands of years, e.g., Confucianism).

Second, the nation-state has continued to change in its form and makeup. For example, a host of new nation-states have been formed in recent years, such as those that were formed as a result of the break up of the Soviet Union after the Cold War, or those that we formed as a result of the Balkan wars. Also, many older nation-states have experienced dramatic changes in their population and ethnic composition. For example, many European nations now have significant numbers of immigrants from Asia. Thus, not only have the physical boundaries of many nation-states changed in recent years, but so has the ethnic and racial mix within them.

Groeschl & Doherty (2000) point out that with globalization, individuals today have much more opportunity to live and work within cultures different to their own. This can lead them to embrace, to different extents, some of the cultural values and basic assumptions shared by the host culture.

Third, the idea that each nation-state has its own distinct culture is not correct. We do not believe that there is any necessary alignment between a nation-state

(which is a political entity) and culture. For example, the nation-states of India, Switzerland and Yugoslavia all came into existence without any common basis in race, language, or culture (*Encyclopaedia Britannica DVD*, 2000). In Africa and Asia, many of the nation-states were created by the colonial powers without any regard for cultural or tribal differences. Many nations are composed of more than one culture and/or many sub-cultures (Huo & Randall, 1991; Peppas, 2001), and the same cultural group may span multiple countries. As an example of the former, the nation of Vanuatu in the South-West Pacific is comprised of people who speak over 110 different languages (Tonkinson, 1982). As an example of the latter, there a millions of Chinese who do not live in China.

Tayeb says that

> The nation state is essentially a western-and northern-European invention; elsewhere the nation state is a novelty, and corresponds even less to any sense of cultural homogeneity or identity. Throughout history, national political boundaries have been arbitrarily drawn, cutting across cultural/linguistic groupings. They are internally riven by divisions of class, region, and ethnicity. They also change over time (Tayeb, 1994, p. 431).

Fourth, Hofstede's view of culture – that culture is something which identifies and differentiates one group or category of people from another – is not a view that finds much support in the contemporary anthropological research literature. As Billing says, the view of culture expressed by the new cultural determinists such as Hofstede "tends to be the static, synchronic version beyond which anthropology has largely progressed" (Billig, 1994, p.659).

Avison & Myers (1997) point out that the particular view of culture represented by Hofstede – which happens to be the predominant view of the culture in the IS research literature– is not significantly different from Ruth Benedict's formulation of the culture concept in her book "Patterns of Culture" published in 1934. Carrithers, in summarizing Benedict's view, says that Benedict thought of the human world as composed of separate, distinguishable entities. Each culture was thought to be a 'natural kind, just as entities of the physical world - kinds of plants, kinds of animals, kind of minerals - are natural kinds. Benedict's imagery was "something like that of exhibits in a museum, where one finds an array of distinct, separate, integral objects, each unique and yet each sharing some essential attribute with the others" (Carrithers, 1992, p. 17).

However, in the intervening sixty years anthropologists have largely rejected the idea of culture as having hard and fast boundaries. Although there is much disagreement and there is a range of perspectives that operate concurrently, anthropology as a discipline has long since moved on from Benedict's museum-like view of culture (Avison & Myers, 1997). Contemporary anthropologists have moved away from a static view of culture to one where "culture is contested,

temporal and emergent" (Kahn, 1989, p.13). Culture is seen as something that is interpreted and re-interpreted, and constantly produced and reproduced in social relations.

Fifth, an increasing number of researchers have found that the relationship between "national" cultural values and culturally-influenced work-related values and attitudes is extremely complex and not well explained by Hofstede's model.

Tayeb (1994) conducted an in-depth study of the societal culture and work organization in three "collectivist" nations, Japan, India and Iran. He found that people in India and Iran do not behave as Hofstede's model would lead one to expect.

> These societies are characterized by, among others, a strong sense of the group and the community. A typical Japanese, Indian or Iranian person is very loyal to his or her own group or team, and places the interest of the group before his or her own interests. On the face of it, one would expect to see this characteristic—collectivism—to have been carried over into their work organizations, in the form of, for instance, hard work and a high degree of commitment, dedication and emotional attachment to the company. However, a closer examination of societal cultures, employees' attitudes and values, and the management structure of work organizations in these countries (Tayeb 1979, 1988, 1990) reveals that it is only in Japan where the collectivism of Japanese culture has been carried over into its companies. The Iranians and Indians as employees are as detached from their work organizations and have as individualistic a relationship with their work places as any individualistic nation. There are, of course, several cultural and non-cultural reasons for this, but the reasons will reveal themselves only through a careful and detailed study of these nations and their organizations (Tayeb, 1994).

Winch et al. (1997), using a cultural values instrument taken from Hofstede together with a behavioral instrument derived from Van de Ven, compared the cultural values of British and French managers working on the Channel Tunnel project. The results largely replicated the findings of Hofstede regarding cultural values, but did not support the predicted implications for behavior. In essence, the British were found to be more bureaucratic and more team-oriented than their French counterparts, who tended to be more competitive. The authors suggest their results indicate that the relationship between culture and behavior might be more complicated than research to date suggests (Winch et al., 1997).

Harvey, who compared the designs of geographic information systems (GIS) in a German and a US county in order to evaluate Hofstede's cultural dimensions, found that "Hofstede's dimensions of national culture are a good basis for understanding the influence of national culture on organizations' self-representation,

but miss the actual practice of social activities." He recommended an ethnographic-based reconsideration of Hofstede's framework with "an emphasis on negotiations and the web of relationships between cultures, institutions, and disciplines in practice (Harvey, 1997, p. 145).

Lastly, Yeh and Lawrence (1995) found that the simple model presented by Hofstede and associates did not allow for an understanding of the complex interrelationships that link culture and economic growth. In their review of studies looking at the relationship between economic growth and Confucianism, they concluded that "the findings from these studies do not greatly enhance our understanding of the relationship between culture and economic growth and may actually mislead us."

A RESEARCH AGENDA FOR GLOBAL INFORMATION SYSTEMS AND CULTURE

We have argued that there is no necessary alignment between culture and the nation-state, for a variety of reasons. In this section, therefore, we propose that IS researchers interested in conducting research on culture and global information systems should adopt a more dynamic view of culture – one that sees culture as contested, temporal and emergent.

We propose a research agenda for global information systems that takes seriously the idea that culture is complex and multidimensional and can be studied at many different levels. It can be studied at the international (e.g. West vs. East), national, regional, business, and organisational levels of analysis (Fan, 2000), and these levels are often inter-connected and intertwined.

Redding (1994) says that the comparative management literature as a whole suffers from an excess of simple empirical reportage, and is theoretically weak at the middle and higher levels. We suggest that Redding's criticisms of much of the research on national culture in the management literature apply equally well to much of the IS research literature on national culture. This paper can be seen as a call for much stronger theoretical development in the area of culture and global information systems.

As well as calling for stronger theoretical approaches, we also make a call for an improvement in the research methodologies used to study culture and global information systems. Tayeb says that the enthusiasm for, and interest in, cross-cultural research has not generally been matched by careful attention to the design and methodologies required to conduct such research (Tayeb, 1994). We agree, and call for IS researchers to conduct more in-depth case studies and ethnographies of the relationship between IT and culture in many different parts of the world. D'Iribarne, who compared the work of Hofstede using questionnaire surveys with his own ethnographic research in three countries, found that an ethnographic

approach to international comparisons between organizations, even if it involves much smaller samples, "leads to a more certain and precise understanding of the societies under investigation" (d'Iribarne, 1996/1997, p. 30).

An exemplar in IS research of the use of ethnography is Trauth's study of the influences and impacts of culture, economic and political factors on the information economy in the Republic of Ireland (Trauth, 1997, 1999, 2000; Trauth & O'Connor, 1991). In her ethnographic research, Trauth combined a number of data gathering methods - participant observation, open-ended interviews and documentary analysis. A reflexive approach also permitted Trauth to refocus and make changes as the research progressed – as answers to questions influenced the direction of later questions. Trauth argued that her study could be viewed as an in-depth case study, but at the level of an entire society. A discussion of the decisions leading to the choice of the ethnographic methods and details of the challenges and lessons learned in employing ethnography are presented in Trauth and O'Connor (1991) and Trauth (1997). A broader treatment of qualitative research in IS, including case study and ethnography, can be found in Trauth (2001).

Other researchers have also used multiple data gathering methods to study culture. For instance, Hasan and Ditsa (1999), in an interpretive study of the impact of culture on the adoption of IT in Australia, Middle East and West Africa, used interviews, document analysis and observation. Similarly, Hill et al. (1998) used focus groups and open-ended interviews in an attempt to identify the salient cultural factors that enhance or obstruct the transfer of IT in Arab countries.

As can be seen, we are not suggesting that culture can only be studied via qualitative approaches such as ethnography. Nor are we suggesting that the concept of national culture should be abandoned altogether. But if there is such a thing as national culture, then we suggest it is something that is continually invented and re-invented (often by politicians). It is, in effect, a moving target.

A good example of national culture being a "moving target" is the nation of Vanuatu in the South-West Pacific. As mentioned previously, this country is comprised of people who speak over 110 different languages. When this country achieved independence from Britain and France in 1980, the new government saw the task of creating a national identity as one of its biggest priorities. As part of this it emphasized one language as a unifying force (Bislama, or pidgin English), and it also re-invented "traditional culture" as something that united rather than divided the new nation (Tonkinson, 1982). The key point here is that there was no such thing as a national identity or national culture among the indigenous people before the 1970s. This only emerged within the past 30 years.

Another good example of how national culture is a moving target is the case of Singapore. In recent years senior government ministers have set out to mandate cultural change in Singapore, as can be seen in the following statement:

> **Handsome rewards await those who dare to take risks, says PM**. SINGAPOREANS have to be more entrepreneurial and less averse to taking risks if they want to succeed in the global economy, said Prime Minister Goh Chok Tong (*Straits Times*, Feb. 4, 2000).

The government of Singapore feels that Singaporeans have to become more entrepreneurial. This approach has led to the development of a government program to encourage "technopreneurship." It has also led to plans to change the educational curriculum so as to better develop creativity and problem solving ability.

The two examples above show that national culture is not as straightforward a concept as one might think. Culture is much more dynamic than has been assumed in much of the comparative management and IS research literature. We suggest a research agenda that adopts a more dynamic view of the relationship between culture and global information systems – one that does not simply take culture as given and one which uses appropriate research methodologies to develop thick descriptions of the culture and its impact on IT development, implementation, management and use.

CONCLUSION

We have suggested that the concept of national culture is problematic. In our view there is no necessary alignment between culture and the nation-state. The nation-state is a relatively recent invention and has changed in its form and makeup. Also, many nation-states do not have a common basis in race, culture or language. Our view is that many of the studies purporting to study national culture are simplistic and tend to suffer from theoretical and methodological flaws.

We agree entirely that culture is an important topic of research for global information systems. As Smith says, given the global nature of competition, managers need to be able to interact with those who possess different values and work orientations. However, we also agree with Smith when he says that "we need a better understanding of such cross-cultural diversity for the management of multi-cultural organisations" than what is currently offered by the somewhat simplistic models of national culture (Smith, 1998). Despite the popularity of the Hofstede framework, the representation of culture as a limited set of aggregate dimensions ignores a variety of other important factors (Smith, 1998) and in many ways is misleading (Yeh & Lawrence, 1995).

Given the theoretical and methodological weaknesses of much of the work in this area, we challenge information systems researchers to go beyond simplistic models of national culture. We propose that IS researchers should adopt a more dynamic view of culture – one that sees culture as contested, temporal and emergent.

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