

# Cultural Motives in Information Systems Acceptance and Use

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## INTRODUCTION

Understanding the moderating factors that influence user technology acceptance and adoption in different contexts continues to be a focal interest in information systems (hereafter, IS) research. Moderating factors may account for both the limited explanatory power and the inconsistencies between studies (Sun & Zhang, 2006). Accordingly, based on a careful literature review, we believe that culture, defined as mental concepts influencing the relationships with other people, the environment and the concept of time (see Hofstede, 1991; Hall, 1989; Trompenaar, 1995), is an important moderating-factor; that is, culture constitutes “the broadest influence on many dimensions of human behaviour” (Soares, Farhangmehr, & Shoham, 2007).

Particularly, culture is a factor that has been shown to be significant but underresearched in recent studies of information-accessing behaviour. Nevertheless, there is increasing interest in the IS research literature in the impact of cultural differences on the development and use of information technologies (hereafter, IT) and IS. For example, the following authors identified cultural values as one of the influential factors on adoption of information and communication technology (hereafter, ICT): Bagchi, Cerveny, Hart, and Peterson (2003), Johns, Smith, and Strand (2003), Maitland and Bauer (2001) and Sørnes, Stephens, Saetre, and Browning (2004). Straub (1994) has used the uncertainty avoidance dimension to explain why the diffusion of information technologies differed in the USA and Japan. Watson, Ho, and Raman (1994) have also used the individualism-collectivism dimension to account for differences in the way Group Support Systems (GSS) affected group decisions in the USA and Singapore. Findings from Chau et al. (2002) illustrate how users from different countries differ in their perception of the purpose of Internet and, consequently, exhibit differences in their behaviours and general attitudes toward the Internet. Marcus and Gould (2000) examine a number of cultural dimensions and their possible impact on user-interface design (see also Barber & Badre, 2001; Del Galdo & Nielsen, 1996). Other authors, for example, explore cultural influences on

technology development and innovation (Herbig, 1994), cultural influences on technology adoption (Straub, 1994), and culture as a factor in the diffusion of the Internet (Cronin, 1996; Goodman, Press, Ruth, & Rutkowski, 1994; Maitland, 1999). Finally, Veiga, Floyd, and Dechant (2001) suggest that perceptions of a technology’s ease-of-use and usefulness are connected to an individual’s broader system of belief, including culturally-sensitive beliefs.

Therefore, because of an anticipated large number of IS users from multiple cultures, research may systematically examine the acceptance and usage models and other models related to cross-cultural motives and beliefs. As Sun and Zhang (2006) suggest, these models have traditionally presented two limitations: (1) the relatively low explanatory power; and (2) inconsistent influences of the cross-study factors. Research may (1) focus on identifying the major cultural dimensions and their corresponding relationships with IS acceptance; and (2) examine the potential moderating effects that may overcome these limitations.

To sum up, culture’s role within acceptance and usage model has been only recently investigated. Little research has systematically examined IS preferences of users related to cross-cultural design characteristics. Some researchers have done work in the area of culture and design, but results have been either inconclusive or unrelated to developing loyal users. In this sense, we deem it necessary to highlight several main starting questions. This would add to the few studies that take into account the individual and contextual factors in technology acceptance; specifically, a better understanding of how cultural differences could affect users’ evaluations of IS can uncover ways of localising a global interface. While user-interfaces targeted to different cultures may not need to be completely different from each other, there might be some features that allow the targeted audience to feel *at home*.

## BACKGROUND

In view of academic and theoretical perspective, the effects of culture on IS acceptance have been studied by researchers mostly based on Hofstede's (1980) cultural construct. It has also been shown to be stable and useful for numerous studies across many disciplines. First, Hofstede's dimensions assume culture falls along national boundaries and that the cultures are viewed as static over time. Second, Hofstede (1980) asserts that central tendencies in a nation are replicated in their institutions through the behaviour or practices of individuals. And, third, Hofstede's framework explicitly links national cultural values to communication practices; i.e., communication practices using ICT are central to our study (see Merchant, 2002; Samovar, Porter, & Jain, 1981; Stohl, 2001). Furthermore, Hofstede's model was important because it (a) organised cultural differences into overarching patterns, and (b) conducted the most comprehensive study of how values in the workplace are influenced by culture, which (c) facilitated comparative research and launched a rapidly-expanding body of cultural and cross-cultural research in the ensuing 20 years. Hofstede's (1980) cultural dimensions serve as the most influential culture theory among social science research, and has received strong empirical support. Hofstede, therefore, contributed the influential work in cross-cultural research.

Hofstede (1984, p. 51) defines culture as "the collective programming of the mind which distinguishes the members of one group from another"; and (b) proposes a series of four dimensions (a fifth was added later; that is, Confucian dynamism) that distinguishes between work-related values. The cultural dimensions are individualism-collectivism, power distance, uncertainty avoidance, and masculinity-femininity. Hofstede and Bond (1988) found an additional dimension, which is particularly relevant to Asian culture, Confucian dynamism (i.e., often referred to as long/short term orientation). These value dimensions, which distinguish national value systems, also affect individuals and organizations.

The present study, however, does not intend to examine the whole range of cultural dimensions influencing IS adoption. This article aims to restrict its focus on individualism and uncertainty avoidance. First, according to Hofstede's model, of the four dimensions, individualism vs. collectivism is the most common dimension used by researchers to understand the differences between two or more given cultures (see also Cohen & Avrahami, 2006). Furthermore, Hofstede's proposition confirms that an individualistic culture is also likely to be a low power-distance culture. Individualism is inversely related to the power distance dimension, which is -0.64 in Hofstede's original study, and -0.70 in the sample of teachers and -0.75 in that of students used in Schwartz's cross-cultural study (Schwartz, 1994; see also Gouveia & Ros, 2000). Power distance shows a pattern of correlations

almost opposite to Hofstede's individualism (Hofstede, 1984). At least at a cultural level, individualism is the opposite of the acceptance of hierarchy and of ascribed social inequality. Therefore, we propose power distance index is dropped from explicit consideration here.

Second, with regard to the topic of this study, cultures have a different attitude toward uncertain or unknown matters (specifically, IS acceptance and usage by users from diverse cultures). The tolerance for ambiguity and uncertainty is expressed through the extent to which a culture resorts to written or unwritten rules to maintain predictability; for instance, the absence of physical contact with online partners emphasizes the role of perceived risk. Users in countries with a high score on uncertainty avoidance will thus be more risk-averse and will not like making changes. For instance, Yenyurt and Townsend (2003) found the uncertainty avoidance dimension, among other dimensions, to be negatively correlated with the adoption of ICT-based services such as Internet and PCs. In fact, uncertainty avoidance has the most direct bearing on preference for and use of communications media

Third, Bagchi et al. (2003) argued that «IT promote more cooperation at work, better quality of life and these values are espoused in nations with low MF (i.e., masculinity/femininity) index». However, as comment, «it could be argued equally well that in a country with high masculinity there would also be a positive attitude toward implementing ICT if these technologies improve performance, increase the chance of success and support competition, which are all key factors of a masculine culture». In this sense, Johns et al. (2003) included the individualism/collectivism and uncertainty avoidance dimensions only; these authors felt that achievement orientation (masculinity/femininity dimension) has a mixed impact on the use of technology. The masculinity/femininity dimension could thus have at least at the conceptual level a mixed impact on the ICT (see Kovacic, 2005). In this research, we also propose that masculinity/femininity dimensions are also dropped from explicit consideration.

## INDIVIDUALISM AND UNCERTAINTY AVOIDANCE DIMENSIONS

### Individualism/Collectivism

Individualism/collectivism focuses on the degree the society reinforces individual or collective achievement and interpersonal relationships. Hofstede (1980) argued that cultures high on individualism tend to promote individual decision-making over group consensus. Research has shown that individualistic users support individual identity, and they think that they should be self-sufficient; that is, they resist influence

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