

Chapter 2

The Impact of National Culture on Information Systems Planning Autonomy

Dinesh A. Mirchandani

University of Missouri - St. Louis, USA

Albert L. Lederer

University of Kentucky, USA

ABSTRACT

Hofstede's national culture model has been applied in prior research to better understand the management of multinational firms. That research suggests that national culture may influence the information systems planning autonomy of the subsidiaries of multinational firms, but such an impact has not yet been tested empirically. A postal survey of 131 chief information officers and 103 senior non-IS managers of U.S. subsidiaries of such firms collected data to test hypotheses based on the model. Structural equation modeling using PLS-Graph 3.0 revealed that Individualism-Collectivism, Masculinity-Femininity, and Uncertainty Avoidance predicted autonomy for particular IS planning phases (as rated by the CIOs). On the basis of the supported hypotheses, the study provides evidence of the relevance of the national culture model to IS planning effectiveness and IS contribution. The study also suggests to subsidiary managers that an understanding of the national culture of their parent firm can help them gain an insight into the parent's management perspective.

INTRODUCTION

Fifty-three of the 100 largest “economies” in the world today are not nations, but instead are multinational corporations. Of the more than 60,000 such corporations, one thousand account for 80% of the world’s industrial production. These firms employ 90 million people, pay more than \$1.5 trillion in wages, and contribute 25% of the gross world product (Gabel & Bruner, 2003).

However, each country in which a multinational firm operates has a distinct economic, political, legal, industrial, competitive market, and cultural context. Businesses must be responsive to this diversity, especially when integrating their different operations (Akmanligil & Palvia, 2004; Makino, Isobe, & Chan, 2004; Martinsons & Davison, 2007). Today’s growing globalization, with the corporate parent in one culture and the subsidiaries in another, is increasing the need to

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manage the impact of culture on organizational choices (Kankanhalli et al., 2004). Likewise, today's growing dependence on information systems is increasing the need to make the choices that provide the systems that contribute the most to the organization (Grover & Segars, 2005). The consequences of choosing information systems that fail to meet needs are too great. Not surprisingly therefore, both culture and information systems planning have been a subject of interest to researchers (Mohdzain & Ward, 2007).

One of the most widely used models of culture was developed by Hofstede (1980, 1984). According to him, all people carry "patterns of thinking, feeling and potential acting which were learned throughout their lifetime" (Hofstede, 1991, p. 4). Hofstede analyzed data on the individual personal values of 116,000 IBM employees in 72 countries spanning more than 20 languages, and he identified four major dimensions of culture. He called the dimensions Power Distance, Individualism-Collectivism, Uncertainty Avoidance, and Masculinity-Femininity.¹

Several researchers have studied the impact of national culture in information systems. They have done so in terms of the impact on users, information systems developers, and information systems management. *User research* has included user attitudes (Igbaria & Zviran, 1991; Igbaria, 1992; Harris & Davison, 1999); group support systems usage (Watson et al., 1994); electronic communication media selection (Straub, 1994); adaptation and usage characteristics (Igbaria & Zviran, 1996); self-efficacy (Igbaria & Iivari, 1995); human behavior in information systems usage (Walczuch et al., 1995; Burn et al., 1993; Burn et al., 1997; Gefen & Straub, 1997; Robichaux & Cooper, 1998; Davison & Jordan, 1998; Hanke & Teo, 2003; Myers & Tan, 2002; Straub et al., 2002; Tan et al., 1998; Smith, 2001); e-commerce buying behavior (Chai & Pavlou, 2004; Pavlou & Chai, 2002; Pereira, 1998); online auction (Ho et al., 2007); performance (Lippert & Volkmar, 2007); information overload (Kock et al., 2008); and

satisfaction (Reinig et al., 2009). *Information systems developer* research has included perceptions of system usability (Del Galdo & Nielson, 1996); icon and interface effectiveness (Ito & Nakakoji, 1996; Nakakoji, 1996; Sturrock & Kirwan, 1996; McDougall et al., 1998); technical, political, and social values of IS developers (Kankanhalli et al., 2004); cross-border ecommerce (Sinkovics et al., 2007); and knowledge communication (Siau et al., 2007). *Information systems management* research has included information privacy (Milberg et al., 2000); software project management (Tan et al., 2003); and outsourcing (Ramingwong & Sajeev, 2007). Thus, the IS literature has seen an abundance of cross-cultural research (Ford et al., 2003).

The current study sought to extend this prior research to information systems planning in multinational firms. An understanding of the impact of national culture on such planning has emerged as a pressing need of IS management in such firms (Ford, Connelly, & Meister, 2003; Palvia, 1998; Palvia, Palvia, & Whitworth, 2002). An important dimension of IS planning is the autonomy that parent firms grant their subsidiaries.

Such autonomy remains critical to general management, that is, to planning and control, with a wide range of it afforded to the subsidiary in practice and sophistication (Hoffman, 1988; Young & Tavares, 2004). The decision to centralize or decentralize (i.e., withhold or grant autonomy to) the management and processing of information is a key strategic issue in multinational firms (Deans et al., 1991; Anthes, 2001), but the study of autonomy in IS planning has been neglected (Peppard, 1999).

Autonomy in IS planning at the subsidiary level enables the subsidiary to choose the information systems that help it meet its business objectives and thereby contribute to overall corporate needs whereas the lack of autonomy for the subsidiary may force it to implement systems that fail to meet those needs, waste resources, and miss opportunities (Mohdzain & Ward, 2007). National culture might influence the willingness of the

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