



## Quality management effectiveness in Asia: The influence of culture

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### ABSTRACT

Globalization forces managers to utilize manufacturing capabilities from countries with different cultures than their own, particularly from Asia. Yet quality problems in China have raised concerns among managers and researchers as to how to assure product quality from Asian facilities. Implementing quality management practices may accomplish this, but such practices assume specific cultural values exist in certain Asian cultures. Using global manufacturing and cultural data, this study examines if cultural values in Asian and non-Asian countries moderate how effective quality management practices are at improving quality performance. Through the use of multilevel modeling, differences in quality management effectiveness are found among the East Asian cultures of China, South Korea, and Taiwan. Moreover, this study finds that specific cultural dimensions are statistically related to quality management effectiveness. The results of this study will assist managers in devising plans to assure higher quality from East Asian facilities and in predicting where problems may occur in other countries around the world.

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### 1. Introduction

Quality problems in China – such as tainted milk products and excessive lead levels in toys – have raised interest in quality assurance from China and other East Asian countries (Chao and Leow, 2008; Teagarden and Hinrichs, 2009). Such problems raise the concern of supply chain managers about their suppliers' use of quality management (QM) practices (Kaynak and Hartley, 2008). Yet, how QM practices are implemented and if suppliers are committed to QM affects product quality (Ahire and Ravichandran, 2001; Flynn et al., 1995). Moreover, the commitment and use of QM are highly influenced by cultural values and context-specific effects (Chiang and Birtch, 2007; Lozeau et al., 2002; Zhao et al., 2004). Because many QM practices were developed in Japan (Deming, 1986), a culture distinct from other East Asian countries (Lowe, 1998; Onishi and Bliss, 2006), QM may not be as effective in these other countries because of different cultural values (Juan Jose et al., 2007). Therefore, implementing QM in China and other East Asian countries may not correct quality problems as expected. But do East Asian countries have different cultural influences on QM effectiveness, which is defined as QM's effect on quality performance?

Moreover, does QM effectiveness differ between East Asian and Western cultures? In general, are there specific aspects of country culture affecting the ability of QM practices to improve product quality? This study seeks answers to these questions by studying differences among East Asian and other cultures.

A culture is defined as “shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations” (House and Javidan, 2004, p. 15). A country's culture is multidimensional, and since the late 1970s a large body of literature has expanded the set of cultural value dimensions. Although there are other cultural dimensions studies (Schwartz, 1999), the most used dimensions in QM studies are based on Hofstede (1980), who studied 50 countries along four cultural dimensions: power distance, uncertainty avoidance, individualism, and masculinity.<sup>2</sup> Extending Hofstede, the GLOBE project (House et al., 2004) studied 62 countries along nine cultural dimensions: power distance, uncertainty avoidance, humane orientation, institutional collectivism, in-group collectivism, assertiveness, future orientation, performance orientation, and gender egalitarianism. Although, the GLOBE dimensions (shown in Table 1) provide a business-relevant set of dimensions, they may not be exhaustive or relevant to studying QM.

Following a call from literature (Zhao et al., 2007), this study uses the GLOBE project. The GLOBE cultural value scores from three

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<sup>2</sup> A fifth dimension was later added labeled “long-term orientation”.

**Table 1**  
GLOBE dimensions included in the study<sup>a</sup>.

Cultural Dimension	Description
Future Orientation (FO)	The extent to which individuals engage in future-oriented behaviors such as delaying gratification, planning, and investing in the future
Institutional Collectivism (IC)	The degree to which a collective's institutional practices encourage and reward collective distribution of resources and collective action.
Humane Orientation (HO)	The degree to which a collective encourages and rewards individuals for being fair, altruistic, generous, caring, and kind to others.
Uncertainty Avoidance (UA)	The extent to which a collective relies on social norms, rules, and procedures to alleviate unpredictability of future events.
Assertiveness (AS)	The degree to which individuals are assertive, confrontational, and aggressive in their relationships with others
Power Distance (PD)	The degree to which members of a collective expect power to be stratified and concentrated at higher levels.
In-Group Collectivism (GC)	The degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families
Performance Orientation (PO)	The degree to which a collective encourages and rewards group members for performance improvement and excellence

<sup>a</sup> The one dimension not included in this study is Gender Egalitarianism (i.e. the degree to which a collective minimizes gender inequality) because QM does not specify gender roles and is not affected by gender (Aksu, 2003).

closely related East Asian countries – China, Korea and Taiwan – as well as non-Asian countries are used to examine which cultural dimensions impact QM effectiveness. Thus, this study tests whether the GLOBE dimensions predict QM effectiveness. Most likely, not all cultural dimensions affect QM. Finding a narrower set of relevant cultural dimensions will enable managers to (1) predict what countries are culturally amenable to QM; (2) focus on fewer dimensions when selecting suppliers; and (3) concentrate efforts on a specific dimension to improve how QM is implemented and used. By knowing which GLOBE dimensions influence QM effectiveness, managers can improve the product quality received from their East Asian facilities and suppliers.

This study uses a culture-as-moderator perspective (Gelfand et al., 2007) that has not been statistically investigated for QM practices, but has explained the effectiveness of other management practices in Asia and elsewhere (Elenkov and Manev, 2005; McDermott and Stock, 1999; Newman and Nollen, 1996; Yang et al., 2007). At first, it may seem that cultural values cause quality practices to be adopted. However, there are some shortcomings to this viewpoint. Company management may invest in quality programs as part of a strategic plan (Sousa and Voss, 2001). Quality practices, like six-sigma, may be adopted because of a management fad (Shah et al., 2008). And, contractual requirements may stipulate that specific quality practices, such as ISO 9000, be implemented (Sroufe and Curkovic, 2008). For these reasons, QM practices will be adopted to satisfy institutional requirements (Boiral, 2003; Dimaggio and Powell, 1983) but may be ineffective at delivering quality performance (Choi and Eboch, 1998). A moderation perspective recognizes there are non-cultural reasons for QM adoption, while also recognizing that certain cultural traits help organizations coordinate quality efforts more effectively (Flynn and Saladin, 2006). Therefore, this paper differs from past research by viewing country culture as influencing how QM is implemented and used, and thereby moderating the relationship between QM and quality performance.

Some culture literature suggests there are two manifestations of culture: values and behaviors<sup>3</sup> (Hitlin and Piliavin, 2004; Segall et al., 1998). Cultural values differ from cultural behaviors because cultural values are what a society feels is important and what should be (Rokeach, 1973), while cultural behaviors are a society's observable practices and activities (House and Javidan, 2004). The QM literature suggests that cultural values are more important to consider than behaviors because values drive attitudes and behaviors (Detert et al., 2000). In fact, Detert et al. (2003) found specific cultural values to underlie QM, referring to these as QM values. These authors state that when an organization's cultural values are incongruent with QM values, then quality initiatives will

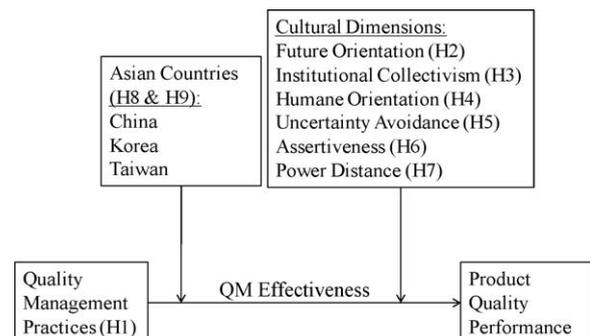
<sup>3</sup> The GLOBE study refers to behaviors as "practices." Because this study makes frequent reference to "QM practices" the term cultural "behaviors" are used.

not be as successful. Although Detert et al. (2000) focuses on organizational culture, country culture strongly affects organizational culture (House et al., 2004). Because of the importance of cultural values, this study uses the congruence between GLOBE's country cultural value dimensions and Detert et al.'s QM values to predict QM effectiveness in the East Asian countries of China, Korea, and Taiwan. These East Asian cultures are affected by their historical roots from the teaching and works of Confucius. Because the GLOBE study refers to these countries as "Confucian Asian" countries (Gupta and Hanges, 2004), such terminology is used in this paper.

Put succinctly, this study views country cultural as primarily influencing *how* QM practices are implemented and used, not *if* they are used. Although a Confucian Asian firm may have significantly invested in QM, these practices may not be effective because of the moderating cultural values. The remainder of the paper is organized as follows: (1) It hypothesizes the general benefit of QM and then compares GLOBE dimensions to QM values to hypothesize cultural moderating effects. (2) It uses the GLOBE scores of China, Korea, and Taiwan to hypothesize differences among Confucian Asian cultures and Western culture. (3) It presents a description of the sample and statistical model. (4) It discusses the results along with managerial implications.

## 2. Literature and hypothesis development

This section presents each hypothesis while reviewing the relevant literature, beginning with the expected overall impact of QM. It then focuses on the specific cultural interactions with QM. Fig. 1 presents the overall model, with the extent of investment in QM practices directly influencing competitive product quality performance. In between are the Confucian Asian countries and the cultural dimensions. The cultural dimensions moderate how quality practices affect quality performance—that is, they moderate QM effectiveness. The graphical representation in Fig. 1 follows



**Fig. 1.** Research framework.

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