Relevance of Baldrige constructs in an international context: A study of national culture

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Abstract

Because of the wide acclaim received by the Malcolm Baldrige Award, it has served as a model for national quality awards by many countries throughout the world. Some countries have adopted both the MBNQA criteria and weights, while others have adapted the criteria categories or weights somewhat. The relevance of this conceptual framework across national cultures has yet to be established, despite its use as the foundation for numerous national quality awards. This study uses Hofstede's dimensions of national culture to examine whether the theoretical constructs underlying the Baldrige criteria are relevant across national cultures. Correlation analysis, stepwise regression and analysis of variance are used to analyze hypotheses in manufacturing plants in the U.S., Japan, Germany, Italy and England. There were many interactions between dimensions of national culture and the Baldrige constructs advanced in this study. The findings indicate that national culture plays a strong role in the effectiveness of the Baldrige constructs, with the exception of customer and market focus. The findings are interpreted in light of the need for countries to develop awards and quality initiatives tailored to their national cultures.
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What is the role of national culture in the implementation of quality management? There has been limited prior research examining whether quality should be managed differently in different national cultures, despite the fact that national traits are viewed as an important field of study in most business disciplines (Lagrosen, 2002). Although many authors have claimed that quality management requires an organizational culture transformation, the role of national culture has not been systematically investigated.

The Baldrige award provides a well-accepted framework for operationalizing the constructs of quality management. It has been described as "the most important catalyst for transforming . . . business" (Garvin, 1991, p. 80) and "the most comprehensive list of those actions . . . to get world class quality" (Juran, 1994, p. 32). Because of such accolades, the Baldrige award has served as the model for national quality awards, with varying degrees of local modification, in many countries around the world (Etorre, 1996; DeBaylo, 1999). This practice raises the question of whether extending the Baldrige criteria and underlying framework to other countries is appropriate and the larger question of whether quality management initiatives can be applied across national boundaries without modification.

Researchers have highlighted the issue of national cultural differences, questioning how well Japanese

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management practices would perform within the U.S. (Deming, 1986; Lawler, 1994; Powell, 1995), which has a national culture that fundamentally contrasts with some of the emphases of Japanese management; the U.S. culture is highly individualistic, taking an instrumental view of work and compensation, and is strongly committed to competition (Deming, 1986). This thinking can be extended from the general domain of quality management to the theoretical constructs underlying the Baldrige criteria. Are the Baldrige constructs robust across national cultures? Is it appropriate to apply it as a model for excellence in national cultures that are very different than the U.S. national culture, or are local adaptations necessary? These questions are investigated by examining the theoretical constructs underlying the Baldrige criteria in light of Hofstede's (1980) dimensions of national culture.

1. Literature review

1.1. Baldrige award

Over the past 70 years, the Baldrige award has arguably become one of the most influential vehicles for creating quality awareness and a widely accepted model of performance excellence. It was built upon a set of interrelated core values and concepts that exemplify beliefs and behaviors found in high performing organizations (Criteria for Performance Excellence, 2004; Schonberger, 2001). We examine the relationship between the Baldrige framework and national culture at the level of the theoretical constructs that underlie the Baldrige criteria, using them to operationalize the key elements of quality management. The criteria represent what Schein (1992) describes as ''artifacts,'' or tangible, observable manifestations of values. At a deeper level are espoused values, which are core beliefs about what ought to be. It is the espoused values, which we refer to as theoretical constructs underlying the Baldrige criteria, that we strive to measure in this paper. We are not attempting to operationalize the Baldrige criteria directly, but rather to examine its underlying values in the context of their fit with national culture.

Table 1 provides a cross section of a sample of national quality awards from other countries. Although their similarity to the Baldrige award varies, it is clear that each has its roots in the Baldrige criteria. The Hong Kong Award (Hong Kong Management Association, 2002) and New Zealand Business Excellence Award (New Zealand Business Excellence Foundation, 2005) are identical to the Baldrige award, in both categories and weights. The Egyptian Award (Means, 1997) has

Table 1
Quality award criteria and their weights[a] in selected national quality awards

Malcolm Baldrige Award	HKMA Quality Award (Hong Kong)	European Quality Award	New Zealand Business Excellence Award	Japan Quality Award	Egyptian Quality Award
Date of initiation: 1988	1991	1992	1993	1996	1998
Leadership (120)	Leadership (120)	Leadership (100)	Leadership (120)	Management vision and leadership (120)	Leadership (100)
Strategic planning (85)	Strategic planning (85)	Policy and strategy (80)	Strategic planning (85)	Strategic planning and development (110)	Planning (50)
Customer and market focus (85)	Customer and market focus (85)	Partnership and resources (90)	Customer and market focus (80)	Understanding customer and market and action taken (50)	Customer and market focus (50)
Information and analysis (90)	Information and analysis (90)		Measurement, analysis and knowledge management (90)	Information sharing and utilization (100)	Information and analysis (50)
Human resource focus (85)	Human resource focus (85)	People management (90)	Human resource focus (85)	Human resource development and learning environment (60)	Human resources (100)
Process management (85)	Process management (85)	Process (140)	Process management (85)	Process management (100)	Process management (150)
Business results (450)	Business results (450)	People results / Customer results / Society results / Key performance results / Total (500)	Business results (450)	Results of enterprise activities / Customer satisfaction / Total (460)	Business results (500)

[a] Weights were all standardized to use a scale of 1–1000.

identical categories, however, they are weighted somewhat differently. The Japan Quality Award criteria are similar to the Baldrige criteria (Japan Quality Award, 2002), however, the category weights are quite different. The European Quality Award groups its criteria into "Enablers" and "Results," with the five enablers closely resembling the Baldrige criteria. There are numerous other national quality awards. Like the five profiled above, most are based on the Baldrige award, and some are exact duplicates.

1.2. Relevance of quality practices across national cultures

The universality of theories and management practices across countries has been long questioned by researchers. The existence of systematic behavioral and attitudinal differences between nations has been well established (Lytle et al., 1995), and there are a number of studies that show national culture influences managerial behavior (Shane, 1994). Management theory developed by Americans who collected their life experience and research data in the same society (Hofstede, 1983a,b; Goontilake, 1988) reflects the cultural context of the U.S. (Hofstede, 1976, 1981). Indeed, research has shown that management theories are often not effectively implemented in non-Western nations without modification (Boyacigiller and Adler, 1991; Adler and Jelinek, 1986; Ishida, 1986; Luthans et al., 1985; Rosenzweig, 1994; Schneider, 1988; Shenkar and von Glinow, 1994). Thus, the validity of a theoretical framework is constrained by its national boundaries, and management practices must be tailored to fit local conditions (Hofstede, 1994a,b). Hofstede (1984a,b) refers to this as the "cultural relativity" of management, wherein the culture of the human environment in which an organization operates affects the management process. There have been numerous empirical studies demonstrating cultural relativity, for example Kedia and Bhagat (1988) and Franke et al. (1991).

Although management theorists claim ethnocentricity by those who seek to apply Western organization theories to other countries (Adler and Jelinek, 1986), the situation with the Baldrige criteria is different. As indicated earlier, the Baldrige criteria and its underlying theoretical framework were explicitly developed for use with U.S. companies; in fact, one of its original goals was to stimulate U.S. competitiveness (PL 100-107, 1987). It was never intended to be a universal or cross-cultural framework. Rather than being pushed on other countries, the Baldrige criteria and framework have been pulled by other countries, due to the wide acclaim

received by the award and the desire to model its effectiveness in stimulating quality management practice. Nonetheless, the effect was the same; a U.S.-based theoretical framework was applied, often with little or no local adaptation, in a diverse set of countries, many with cultures very different from the U.S.

1.3. National culture

Hofstede (1984a,b, 1994a,b) describes culture as the "collective programming" of the mind that distinguishes members of one group from another, developed as a result of the shared experiences of inhabitants of a nation, including educational, governmental and legal systems, family structure, religious patterns, literature, architecture and scientific theories (Hofstede, 1994a,b). Trompenaars and Hampden-Turner (1998) describe culture as the way in which a group of people solves problems and reconciles dilemmas. It is the shared way groups understand and interpret the world, rather than their visible behavior. Culture is comprised of a set of values, or broad preferences for certain states of affairs, such as what is considered good/evil, beautiful/ugly, rational/silly and normal/abnormal (Hofstede, 1997). For example, Americans believe they can have a strong impact on their immediate circumstances, while members of other national cultures believe that their circumstances are more strongly determined by fate, a deity, luck, government, social class or history (Boyacigiller and Adler, 1991). National culture changes very slowly, because what is in the minds of the people of a nation becomes crystallized in its institutions; although practices may be changed relatively easily, underlying values are enduring, visible only in their effects on people's behavior (Hofstede, 1999; Murphy, 1999). Because of this, national culture can be critical in determining the success or failure of management practices.

1.4. Hofstede's dimensions of national culture

The seminal work on national culture was performed by Hofstede (1980), who identified four major dimensions: power distance, uncertainty avoidance, individualism/collectivism and masculinity/femininity. Hofstede's dimensions of national culture are based on his study of 116,000 employees of IBM in 50 countries during the 1967–73 time period (Hofstede, 1983a,b). The members of the sample were matched in terms of having the same company superstructure and policies, occupational categories, and educational levels, differing systematically only by nationality (Hofstede,

1983a,b). Hofstede's work on national culture is widely used as a theoretical framework for guiding cross-cultural comparisons (Randall, 1993; Shane, 1994). "These four dimensions form the most widely adopted starting point in research studying management in different nations" (Peterson et al., 1995, p. 430), finding widespread use as a paradigm for classifying and explaining the influence of national culture on various research topics (Murphy, 1999; Randall, 1993). Although developed over 30 years ago, Hofstede's dimensions have been found to be highly robust (Murphy, 1999). Hofstede (1998) argues that the dimensions have centuries-old roots that are resistant to change, citing theoretical support from Fayol (1916), Williamson (1975) and Ouchi (1980), among others. They have been validated against many external measurements, and recent replications show no loss of validity (Hofstede, 2001; Sondergaard, 1994; Hoppe, 1990).

Other studies of national culture have extracted similar dimensions. For example, Trompenaars and Hampden-Turner (1998) identified seven fundamental dimensions of culture, based on categories of dilemmas faced by every culture: universalism versus particularism (rules versus relationships), individualism versus communitarianism (individualism versus groups), neutral versus emotional (range of feelings that are expressed), specific versus diffused (range of personal contact involvement), achievement versus ascription (how status is accorded), attitudes of time (importance of the past vs. the present) and attitudes of environment (power coming from a person vs. the external world culture. For example, individualism versus communitarianism is equivalent to individualism/collectivism, neutral versus emotional and achievement versus ascription map onto masculinity/femininity, attitudes of environment is related to power distance and universalism versus particularism is equivalent to uncertainty avoidance.

Power distance is the extent to which less powerful members of organizations in a nation expect that power is distributed equally (Hofstede, 1980, 2001). In nations that are low in power distance, such as the U.S. and England, there is limited dependence of subordinates on their bosses (Hofstede, 1980, 2001). The organizational hierarchy is perceived as inequality of roles, established for convenience among existentially equal employees, and a consultative decision style is typical, with interdependence between superiors and subordinates (Hofstede, 1983a,b). In contrast, in nations that are high in power distance, such as Japan, bosses and subordinates are considered existentially unequal. The hierarchy of inequality is the fundamental principle on

which all relationships are based, and there are well-developed systems in which everyone knows where he or she stands. Power is centralized, with a large number of supervisory personnel and tall hierarchies (Hofstede, 1980, 2001). Subordinates are dependent, deferring to superiors, who they expect to be autocratic, and they do not expect to be consulted on decisions (Hofstede, 1984a,b). Power distance is conceptually related to the Aston studies' "concentration of authority" (Pugh, 1976; Pugh and Hickson, 1976; Pugh and Hinings, 1976). Schramm-Nielsen (1989) discussed the role of power distance in French and Danish companies. In the French companies, delegation of *power* was discussed, with the organization envisioned as a steep pyramid with highly respected bosses. In the Danish companies, in contrast, delegation of *responsibility* was discussed, as were relationships that were independent of rank. Organizations were flatter, with flexible boundaries and bosses could do the work of subordinates without loss of prestige. Negandhi and Prasad (1971) found the belief, in high power distance countries, that the way to change the system was to change the person in charge.

Uncertainty avoidance is the degree to which people within a culture are made uncomfortable by situations they perceive to be unstructured, unclear or unpredictable (Hofstede, 1980, 2001), causing them to adopt strict codes of behavior and a belief in absolute truths (Hofstede, 1984a,b). National cultures that are higher in uncertainty avoidance, such as Germany, have an "emotional need" for rules (Hofstede, 1980, 2001), creating institutions to promote security and minimize risk (Hofstede, 1983a,b). For example, psychologists describe the "authoritatian personality syndrome" (Adorno et al., 1950) and "prejudiced personality" (Allport, 1979) associated with high uncertainty avoidance cultures. Both are associated with dogmatism, rigidity and intolerance of ambiguity. In fact, Fromm (1965) described Nazism and totalitarianism as a response to the anxiety that freedom created in societies with a low tolerance for uncertainty. National cultures which are lower in uncertainty avoidance, such as the U.S., have a dislike of formal rules, establishing them only when necessary (Hofstede, 1980, 2001), taking risks easily and tolerating behaviors and opinions that are different from their own.

Individualism/collectivism describes the degree to which people are oriented towards acting as individuals versus acting as part of a group (Hofstede, 1980, 2001). In nations with individualistic national cultures, such as the U.S., people tend to act according to their own interests (Hofstede, 1983a,b). Their relationship to their employer is viewed as a business transaction, so poor

performance or better pay are viewed as legitimate reasons for terminating a relationship (Hofstede, 1991). Members of individualistic societies value individual success and achievement, take satisfaction in a job well done and view their job and private lives as separate. They view tasks as taking a higher priority than relationships (Hofstede, 1984a,b). In contrast, in nations with collectivist national cultures, such as many South American countries, people are born into in-groups, such as the extended family, tribe or village (Hofstede, 1983a,b). The organization is viewed like a family; while performance may determine the particular tasks to which an employee is assigned, it is never the reason for termination, any more than a child would be dismissed from a family for poor performance (Hofstede, 1980, 2001). People in collective societies take satisfaction in a job well recognized, striving to preserve face and avoid shame, so as to not show disrespect to their in-group. They view relationships as taking precedence over tasks (Hofstede, 1984a,b). For example, for Mao Zedong in China, individualism was perceived as evil, manifest in the selfishness and aversion to discipline characteristic of the petty bourgeoisie. This is deeply rooted in the Chinese tradition that maintaining the group's well being is the best guarantee for the individual (Ng, 1980). (Earley, 1989) found that Chinese employees performed best when told their performance would be measured for groups of 10, with names not marked on the documents they handled. Their worst performance was when they operated individually, with their names on the products of their work. In contrast, American employees performed best when told their performance would be measured individually, with their names marked on their work. Their performance was abnormally low when operating for a group target and anonymously.

Masculinity/femininity describes the extent to which aggressiveness and success are valued, versus concern for relationships (Hofstede, 1980, 2001). Masculine cultures have a maximized social gender role division, expecting men to hold assertive, ambitious and dominant roles, striving for material success (Hofstede, 1984a,b), and women to hold service-oriented and caring roles (Hofstede, 1983a,b). Stereotypes in masculine countries assume that decisiveness, liveliness and ambitiousness were characteristic of men, while women were perceived as caring and gentle (Wacoal Corp., 1993; Best and Williams, 1998). A national culture which is high in masculinity, such as Japan or Germany, values high earnings, advancement and challenging work. Conflicts are believed to be best resolved by a "good fight," and the ideal job provides opportunities

for recognition, advancement and challenge (Hofstede, 1980, 2001). The typical manager is an assertive, decisive and aggressive decision maker who looks to facts when solving problems (Hofstede, 1983a,b). In contrast, a national culture that is high in femininity, such as Sweden or Thailand, places a high value on good working relationships with direct superiors and working with people who cooperate well with one another (Hofstede, 1980, 2001). Individual brilliance is suspect, and people are expected to mind the quality of life and preservation of the environment and to help others (Hofstede, 1983a,b). Feminine national cultures define overlapping roles for the sexes, with neither men nor women necessarily needing to be ambitious or competitive (Hofstede and Vunderink, 1994). The preferred mode for resolving conflicts is compromise and negotiation, and the ideal job provides opportunities for mutual help and social contacts (Hofstede, 1980, 2001). In Latin American countries, the female analog to machismo is marianismo, "a combination of near saintliness, submissiveness and frigidity" (Stevens, 1973).

In the following sections, the literature on the relationship between the dimensions of national culture and the constructs underlying the Baldrge criteria is described in detail. Hypotheses are developed, based on the extant literature on national culture. In cases where the existing literature gave no indication of a relationship between a Baldrige construct and a cultural dimension, an hypothesis was not developed.

1.4.1. Leadership

Although the presence of a strong leader may seem counterintuitive to the emphasis of the Baldrige criteria on empowerment and group decision making, closer examination of the *Criteria* (2004) reveals that an important role of senior leadership is creation of an environment for empowerment, innovation and agility. The leader must have clearly articulated values and high performance expectations, and communication and reinforcement of these values is critical. One of the primary cultural features associated with leadership is power distance (Swierczek, 1991). Strong, decisive leaders are expected in high power distance cultures, with less decisive leaders perceived as weak and ineffectual (Blunt, 1988). Lagrosen (2002) found that high power distance national cultures stressed leadership and the role of the leader more strongly than low power distance cultures. High power distance country subordinates prefer strong leaders, expecting to be told what to do (Smith et al., 1994). Gupta et al. (2002) found that high power distance countries valued humane leadership, and Chow et al. (2001) described

high power distance cultures as more readily accepting of stretch performance standards imposed by superiors.

The literature on uncertainty avoidance suggests that it is related to leadership. Employees in high uncertainty avoidance cultures are more accepting of leader rules and policies (Wheeler, 2001) because of the certainty and structure they provide. Rauch et al. (2000) found that planning had a positive influence on success in high uncertainty avoidance cultures. In contrast, managers in low uncertainty avoidance cultures are more comfortable with instability, less adverse to novelty and more open to experimentation with new or untested initiatives.

Personality characteristics typical of collectivist national cultures that are consistent with leadership include respectfulness, deference, empathy, harmony, self-control, nurturance and security (Grimm et al., 1999). Members of collective cultures readily defer to the wishes, needs and direction of others, rather than asserting their own impulses and predilections (Tafarodi et al., 1999). Chow et al. (2001) found that team members in collectivist cultures were significantly more satisfied with imposed stretch performance standards, due to concern for collective interests.

Leadership is consistent with the assertive, ambitious, dominant role of managers in masculine cultures. Leaders are expected to be in charge and drive for success (Blunt, 1988), and their individual brilliance is expected and admired (Hofstede, 1983a,b). Although effective leaders may engage in some behaviors associated with a feminine national culture, such as seeking consensus and compromising, they do so because of their explicit goal of driving for competitive success.

H₁. Scores on the leadership construct will be:

A. Higher in countries with high power distance cultures.
B. Higher in countries with higher levels of uncertainty avoidance.
C. Lower in countries with higher levels of individualism.
D. Higher in countries with more masculine cultures.

1.4.2. Information and analysis

The relationship between information and analysis and power distance is based on access to information and its use. High power distance cultures restrict learning opportunities to high status members, discouraging open access to information (Snell and Hui, 2000). However, because decision making is focused at higher organizational levels in high power distance

cultures, this may be the appropriate locus of information concentration. Managers in high power distance cultures communicate less well with levels below them, so they must obtain information about operations from sources other than the workers, leading to an emphasis on formal methods for gathering and analyzing external information. Wacker and Sprague (1998) found that high power distance was associated with increased computer and statistical method usage.

Cultures that are high in uncertainty avoidance have a preference for a clear organizational structure and clearly laid out rules (Blunt, 1988). This is consistent with analysis of data and decisions based upon factual information. In order to reduce the uncertainty associated with decision making, managers in high uncertainty avoidance cultures rely on information and data from a variety of sources, rather than making decisions based solely on their own judgment or intuition.

There is evidence that information and analysis is consistent with collective national cultures. Members of individualistic national cultures are autonomous and confident, tending to rely primarily on their own ideas (Snell and Hui, 2000). Wacker and Sprague (1998) found heavier reliance on subjective information in individualistic cultures, particularly leaders' own judgment. In contrast, members of collectivist national cultures are more likely to rely on information provided by others in formulating their opinions (Snell and Hui, 2000). Thus, there is greater use of and trust in sources of information beyond the self, including information systems, peers and customers.

The use of information to support decision making is more typical of a feminine national culture. Wacker and Sprague (1998) found that the type of information used to support decision making in masculine national cultures was dependent on its expected effectiveness in gaining an advantage over competitors. Because objective information is more readily available to competitors, there was an increased reliance on subjective information in masculine national cultures, since all firms may not have equal access to subjective information. In contrast, in feminine national cultures, there is a greater willingness to gather any type of information, objective or subjective (Wacker and Sprague, 1998). It is more likely to be used as the basis for decision making, with less reliance on the manager's judgments.

H₂. Scores on the information and analysis construct will be:

A. Higher in countries with high power distance cultures.

B. Higher in countries with higher levels of uncertainty avoidance.
C. Lower in countries with higher levels of individualism.
D. Lower in countries with more masculine cultures.

1.4.3. Strategic planning

Strategic planning is consistent with collectivism. In collectivist societies, strategy planners and decision makers prefer environments to be analyzable and under the control of the organization (Mukherji and Hurtado, 2001), facilitating analysis of the environment and structured strategic planning. Managers in collectivist cultures avoid quick labeling of a situation, so as to not preempt future choices. In contrast, managers in individualistic societies tend to engage in quick labeling of dynamically emerging environmental events, which may lead to hasty decision making before completely considering relevant information. In individualistic cultures, there is stronger attribution of organizational performance to executive leadership, rather than to an effective strategic plan (Mukherji and Hurtado, 2001). Managers' individualistic values may induce overconfidence in an executive's ability to lead the firm. Leaders may be unwilling to amend policies to avoid admitting the inappropriateness of their earlier decisions.

H3. Scores on the strategic planning construct will be lower in countries with higher levels of individualism.

1.4.4. Human resource focus

Many of the elements of human resource focus are consistent with low power distance. Because empowerment implies sharing of authority, it mirrors the values of lower power distance cultures, which more naturally embrace the idea that people at the bottom of the organizational hierarchy know best about some decisions (Robert et al., 2000). Tata (2000) found that autonomous teams were more likely to be effective in low power distance, low uncertainty avoidance national cultures. Lagrosen (2002) found that low power distance cultures emphasized training to a greater extent, consistent with the value that roles are changeable, rather than pre-determined. In contrast, in a high power distance culture, those at the top are expected to take charge, giving orders and knowing what is right; empowerment and participative decision making are viewed as weak and ineffectual leadership. High power distance cultures require senior approval of initiatives (Snell and Hui, 2000), thus, where there is group decision making, it is not always accompanied by empowerment. Employees are almost totally dependent

on the top of the hierarchy, never openly voicing dissent for fear of disturbing authority, order, harmony and "face." Creation of diverse teams to facilitate creative problem solving may be problematic in high power distance cultures (Earley, 1999), because members with the highest status will heavily influence the decisions made by the team. Kerbride et al. (1990) found that implementation of integrative team training was limited in high power distance national cultures, due to the level of respect for authority and hierarchy. Pavett and Morris (1995) found that the larger the power distance, the less participative the management system.

Many of the activities described by human resource focus are based on the work of groups, and members of collective cultures experience relatedness with others as a fundamental part of themselves (Eaton and Louw, 2000). Collectivist values parallel the attributes of high performance work groups, including social community, collective goals and self-concept rooted in the collective (Sosik and Jung, 2002). Team members in a collective culture readily subordinate their own personal goals to those of the group (Briley and Wyer, 2001). Cooperation and equality are strong values in collectivist cultures, forming the foundation for effective teamwork (Grimm et al., 1999). In contrast, members of individualistic cultures stress the inner, stable and self-determining nature of the self.

Feminine national cultures have many traits that are consistent with human resource focus. These include an emphasis on communication (Lagrosen, 2002), self sacrifice (Stevens, 1973), the development of strong working relationships and cooperation (Hofstede, 1980, 2001). Negotiation is important in conflict resolution, and leaders from feminine cultures tend to have strong facilitative skills.

H4. Scores on the human resource focus construct will be:

A. Lower in countries with high power distance cultures.
B. Lower in countries with higher levels of individualism.
C. Lower in countries with more masculine cultures.

1.4.5. Process management

Employees in high power distance cultures do not have the tools for effective process management because elaborate power structures are required to define communication and decision rules, making communication of goals for continuous improvement challenging and complex (Lillrank et al., 2001). Due to heavy reliance

on managers at the top of the organizational hierarchy, organizations in high power distance cultures do not develop the systematic approaches that would allow employees to do their jobs without intervention (Snell and Hui, 2000).

Process management focuses on the improvement of processes, often through structured continuous improvement approaches implemented by teams. In cultures with high uncertainty avoidance, there is a greater emphasis on procedures and routines (Lagrosen, 2002), including scientific improvement methods and statistical process control. Measurement and analysis of data is used to support process improvement. In contrast, low uncertainty avoidance cultures are more likely to focus on innovation and experimentation, rather than structured process improvement. Yaveroglu and Donthu (2002) found that the coefficient of innovation was high in countries with low uncertainty avoidance, and Muller and Thomas (2001) found that low uncertainty avoidance cultures had a greater incidence of individuals exhibiting internal locus of control and innovativeness.

At the heart of process management is continuous improvement, where ''management by fact'' relies on data and information accumulated from multiple sources, and members of collectivist national cultures are more likely to rely on information provided by others (Snell and Hui, 2000). Furthermore, continuous improvement projects are typically team-based, group endeavors such as quality circles, Kaizen blitzes and Six Sigma projects, consistent with collectivism. Members of collective cultures have higher outcome expectations (Sosik and Jung, 2002), which is consistent with process improvement.

Cultures with a masculine ''doing'' orientation support organizational learning related to programs of action (Geletkanycz, 1997; Kedia and Bhagat, 1988) and change (Snell and Hui, 2000) associated with process management. They are more receptive to policies that call for alteration of existing arrangements, especially where making changes increases the chances of success. In contrast, feminine cultures focus on stable continuity. Kedia and Bhagat (1988) discuss product and process technology transfer across national borders, finding that masculine cultures were more effective in absorbing and diffusing important technologies. Thus, masculine cultures are oriented towards adoption of new process technologies, while feminine cultures rely more on solving problems to keep existing processes operating.

H5. Scores on the process management construct will be:

A. Lower in countries with high power distance cultures.
B. Higher in countries with higher levels of uncertainty avoidance.
C. Lower in countries with higher levels of individualism.
D. Higher in countries with more masculine cultures.

1.4.6. Business results

Campion and Medsker (1993) found that the strongest predictor of group performance was group efficacy, or the aggregated belief regarding the group's capability to perform a task (Earley, 1999). In lower power distance cultures, members are more likely to contribute equally to collective judgments of group efficacy, while, in higher power distance cultures, collective judgments of group efficacy were strongly tied to the personal judgment of group efficacy of the higher status group members. High power distance was found to be associated with a greater degree of performance orientation in Eastern European countries (Bakacsi et al., 2002), Latin European countries (Jesuino, 2002) and Southern Asian cultures (Gupta et al., 2002).

Employees in a high uncertainty avoidance environment have an ''emotional need'' to keep busy and work hard (Wheeler, 2001), consistent with business results. Wheeler found that the more explicitly expected levels of high performance were specified, the more likely employees in high uncertainty avoidance cultures would have better performance. Brodbeck et al. (2002) describe performance orientation as the most pronounced German cultural value. They described its relationship to the high uncertainty avoidance as the ''hallmark'' of German cultural practices.

Business results may be more readily achieved in collective cultures, where personal goals are subordinated to collective concerns (Tafarodi et al., 1999). Group members strive to achieve goals because their self-esteem is raised by accolades given to the group; reflected appraisals conveying approval promote the private sense of self worth of individuals. Workers in collective cultures experience a sense of guilt when their group does not achieve its expectations, feeling that they have let the group down (Grimm et al., 1999). Members are willing to sacrifice personal achievement to work towards the goals of the group. Members of collective cultures have higher outcome expectations, particularly for group tasks (Sosik and Jung, 2002), and their expectations are more closely aligned with the actual performance of their groups.

Masculine cultures are typified by a strong focus on results (Geletkanycz, 1997). The task at hand is key, taking precedence over social relationships. Material success is highly valued (Wheeler, 2001), as are aggressiveness and competition (Hofstede, 1984a,b). Members of masculine national cultures are driven to compete, dynamic and action oriented (Kedia and Bhagat, 1988).

H$_6$. Scores on the business results construct will be:

A. Higher in countries with high power distance cultures.
B. Higher in countries with higher levels of uncertainty avoidance.
C. Lower in countries with higher levels of individualism.
D. Higher in countries with more masculine cultures.

1.4.7. Customer and market focus

Customer and market focus is based on minimizing the power distance between an organization and its customers, establishing a close relationship. A key element is the ability to listen to customers, in order to learn about key customer requirements. In addition, customer relationship building and management are important in learning how to satisfy and exceed customer needs. Low power distance employees are not intimidated by organizational hierarchies, finding it easy to have discussions with customer representatives at various levels. Both customer satisfaction enhancement and customer and market knowledge are based on getting to know customers and doing whatever is necessary to meet their needs.

The personality characteristic that underlies cultural collectivism is allocentrism (Triandis, 2001), and collective cultures are populated with many more allocentrics than ideocentrics (the personality characteristic that underlies cultural individualism). Allocentrics are characterized by their receptivity to others and adjustment to the needs of others. They focus on context more than content in a conversation, often picking up subtleties that ideocentrics might miss. Thus, allocentrics are well equipped for working closely with customers to determine their needs and issues, which might not always be expressed explicitly. The strong collectivist value of cooperation (Grimm et al., 1999) is consistent with establishing a good working relationship with customers. Personality traits that are strong in collective cultures include respectfulness, attentiveness, humility, empathy, deference, self-control and nurturance, traits that support customer follow-up, and

processing and learning from customer complaints (Sosik and Jung, 2002).

Employees in a feminine culture are more likely to relate to a willingness to give more than they receive in outcomes (Wheeler, 2001). They value good, cooperative working relationships (Hofstede, 1980, 2001). This focus on others may translate into increased sensitivity towards the needs of customers.

H$_7$. Scores on the customer and market focus construct will be:

A. Lower in countries with high power distance cultures.
B. Lower in countries with higher levels of individualism.
C. Lower in countries with more masculine cultures.

1.5. Interactions

Previous research has documented the presence of interactions among the dimensions of national culture. Hypotheses are made for those interactions that are well supported by the literature in related contexts. Hofstede (1994a,b, 1997) stated that power distance and uncertainty avoidance were the most important dimensions for corporate matters, since they concern power, wealth and rules. Cultures low in both power distance and uncertainty avoidance, such as England, have a relatively strong tendency to organize by an adhocracy structure, which implies flexible organizations where employees are empowered (Lagrosen, 2002). Demands of the situation determine what will happen, rather than the hierarchy or rules. These notions Hofstede (1994a,b) describes as ''village markets.'' Countries that are high in power distance and strong in uncertainty avoidance, such as France, are described as a ''pyramid of people,'' with the CEO at the top and each successive level at a proper space below (Hofstede, 1994a,b). Here, conflicts are taken to the boss for resolution. On the other hand, countries low in power distance and high in uncertainty avoidance, such as Germany, are described as ''well-oiled machines'' (Hofstede, 1994a,b). Procedures are established for most decisions, with management intervention limited only to exceptional cases, and rules are expected to solve all daily problems. Finally, cultures high in power distance but low in uncertainty avoidance, such as Hong Kong, are described as a ''family,'' where the benevolent father makes all the decisions.

H$_8$. Interactions between power distance and uncertainty avoidance are related to the constructs underlying the Baldrige criteria.

Hofstede (1983b) describes interactions between uncertainty avoidance and masculinity/femininity. He groups almost all English-speaking countries into the low uncertainty avoidance/masculine culture group, with the term ''achievement'' barely translating into any other language. Low uncertainty avoidance/feminine cultures, such as Sweden, feature the predominance of belongingness over self actualization, such as Volvo's group centered ''team build'' approach. High uncertainty avoidance/feminine cultures, such as Yugoslavia, feature a predominance of security over risk taking combined with belongingness, exemplified by self-management. High uncertainty avoidance/masculine cultures, such as Japan, feature a predominance of security over risk taking combined with assertiveness, exemplified by performance motivation combined with lifetime employment.

H₉. Interactions between masculinity/femininity and uncertainty avoidance are related to constructs underlying the Baldrige criteria.

Collectivism, which sometimes dampens innovation in organizations, is held in check by masculinity (Kedia and Bhagat, 1988). In collective cultures that are also high in masculinity, such as Japan, economic growth is viewed as more important than social welfare.

H₁₀. Interactions between masculinity/femininity and individualism/collectivism are related to the constructs underlying the Baldrige criteria.

Power distance and individualism/collectivism are inversely related, due to the effect of national wealth; wealthier nations are lower in power distance and higher in individualism (Franke et al., 1991; Hofstede, 1983a,b). Singelis et al. (1995) found that the interaction between individualism/collectivism and power distance resulted in four theoretically meaningful groups. *Horizontal individualism* (low power distance, high individualism/collectivism) is characterized by an autonomous self-concept, with the individual seen as equal in status to others and people who want to be unique and ''do their own thing'' (Triandis, 2001). *Vertical individualism* (high power distance, high individualism/collectivism) is characterized by individuals who view themselves autonomously and expect inequality (Singelis et al., 1995). An important aspect of vertical individualism is doing well in competition, with people wanting to be unique and to be the best (Triandis, 2001). In *horizontal collectivism* (low power distance, low individualism/collectivism), the individual's self concept is closely tied to and

interdependent with others in the in-group, who are seen as equal to as similar to the self (Singelis et al., 1995). In *vertical collectivism* (high power distance, low individualism/collectivism), individuals view themselves as an aspect of the group, however, members of the group are expected to differ from one another, especially with regard to social status (Singelis et al., 1995). People willingly submit to the authority of the in-group and are willing to sacrifice themselves for it (Triandis, 2001).

H₁₁. Interactions between individualism/collectivism and power distance are related to the constructs underlying the Baldrige criteria.

1.6. Value congruence

Hofstede (1993) cautions against trying to overrule national culture with practices and the potential mismatches that can result, stating that any framework will be more effectively implemented if it is aligned with the national culture in which it is implemented. Robert et al. (2000) describe the consensus among researchers and practitioners that universal management solutions do not exist, and that variations in national culture may moderate the relationship between managerial practices and organizational effectiveness. They describe the success of managerial practices and implementation as dependent on the extent of fit between the assumptions, values and beliefs inherent in any given managerial practice and the culturally-based assumptions, values and beliefs held by those who are being managed.

Value congruence is illustrated by research in technology transfer. Kedia and Bhagat (1988) describe the most difficult technology transfers as those that introduce significant changes in the distribution of power, status and rewards in cultures that emphasize power distance. In fact, knowledge disavowal is common in such organizations, despite evidence of the long-term implications of such transfers. In India, for example, the ownership structure of the firm was the strongest influence on the adoption of new technology, despite sophisticated systems of technical information and educated personnel.

There is evidence that failures of quality management may be due to poor cultural fit. Westphal et al. (1997) found that early adopters, who tended to customize TQM to their own unique needs, were more successful than late adopters, who tended to adopt TQM in a standard, systematized form. The failures were attributed to the use of a number of unnecessary and

ill-fitting principles and practices. McDermott (1994) studied Japanese-owned and U.S.-owned maquiladoras in Mexico. The Japanese-owned maquiladoras were found to be more effective in managing common challenges, which was attributed to similarity of the Japanese and Mexican national cultures, which are high in power distance, uncertainty avoidance and masculinity, with a moderate level of collectivism. We expect that value congruence will be true for quality management; practices will be more effectively implemented in countries whose national cultures are better aligned with the values underlying the Baldrige criteria.

H$_{12}$. The Baldrige constructs will be more effective in those countries whose cultures are better aligned with the values underlying the Baldrige criteria.

2. Method

2.1. Sample

This study used data collected as part of the World Class Manufacturing (WCM) Project. A sample of manufacturing plants, stratified by industry and nation, was used. Industries included machinery, transportation components and electronics, and the countries included the U.S., Japan, Germany, England and Italy. This set of countries represents four of the eight clusters identified by Hofstede's dimensions of national culture (Ronen and Shenkar, 1985): Anglo (U.S. and England), Germanic (Germany), Latin European (Italy) and Independent (Japan). The remaining four clusters are dominated by developing countries, not known for manufacturing excellence.

All plants represented different parent corporations, and each had at least 100 employees. The sample was randomly selected from a master list for each country, developed using *Dun's Industrial Guide: The Metalworking Directory*, a Japanese-language source published by JETRO, Schonberger's (1986) "honor roll" of world class manufacturers and communication with industry leaders and local experts in each country. One hundred sixty four plants participated, representing a 60% response rate. Table 2 shows the characteristics of the sample, by industry and country. Each plant received a batch of questionnaires. The scales and objective items were assigned to multiple questionnaires and distributed to different respondents, in order

Table 2
Details of data collection

	Number of plants participating, by country and industry					
	Country					Total
	Germany	Italy	Japan	England	U.S.A.	
Electronics	9	11	17	7	10	54
Machinery	11	13	14	7	10	55
Transportation components	13	10	15	7	10	55
Total	33	34	46	21	30	164

Questionnaire title	No. of repondents per plant
Distribution of questionnaires	
Plant accountant	1
Human resource manager	1
Inventory/purchasing manager	1
Information systems manager	1
Production control manager	1
Process engineer	1
Plant manager	1
Plant research coordinator	1
Plant superintendent	1
Quality manager	1
Supervisors	4
Direct labor	12
Total respondents/plant	26
Total number of plants	164
Total number of respondents	4264

Table 3
Variable summary

Scale	Mean	Standard deviation	Cronbach's alpha	Eigenvalue	Average interscale correlation	Average item to total correlations	
						Nonscale items	Scale items
Leadership	3.76	.52	.85	3.55	.58	.30	.51
Information and analysis	3.43	.53	.85	4.32, 1.23, 1.01	.59	.27	.39
Strategic planning	3.69	.53	.80	3.05	.50	.25	.41
Human resource focus	3.44	.37	.92	7.44, 1.11, 5.07	.56	.27	.45
Process management	3.56	.40	.87	5.07	.62	.29	.40
Business results	3.43	.42	.80	3.80, 1.12	.52	.23	.29
Customer and market focus	3.79	.34	.84	3.67	.41	.22	.44

to target the best informed respondent for each, and a total of 4264 questionnaires were returned.

2.2. Instrument

In developing the dependent variables for this study, the set of items most relevant to the constructs being measured were selected from the WCM data set. The items were not intended to be direct measures of the Baldrige subcategories, rather they represented the theoretical constructs underlying the categories. An attempt was made to select items that represented each of the subcategories, in order that content reflective of all subcategories was included in a scale (see Appendix A). However, there was no attempt to align the number of items in a subcategory with the weight assigned by the Baldrige critera to it, since the goal was to measure the essence of the underlying theoretical construct, rather than to replicate or develop surrogates for the criteria. There were a few subcategories for which there were no items in the database that accurately reflected the items, for example, the "Company Responsibility and Citizenship" subcategory of leadership. For further information, please see Flynn and Saladin (2001). The items were factor analyzed, in an iterative fashion. In each iteration, the item with the largest factor loading on the last significant factor was eliminated, unless it reduced the number of items reflecting a subcategory to less than two. This process was continued until there was a single factor with an eigenvalue greater than one, or until further improvements would lead to reducing the number of items reflecting a subcategory to less than two.

To assess reliability, Cronbach's alpha was calculated for each scale by country. If all country alphas were greater than .60, the scale was retained. Table 3 shows that the overall alpha values all indicated that the scales were internally consistent. It also indicates that there were no extreme values among the means and standard deviations. In order to assess construct validity, each scale was factor analyzed, using Kaiser normalization and a varimax rotation. There were some scales that had more than one eigenvalue that slightly exceeded 1.0, indicating the presence of multiple factors within some of the scales, due to the multidimensionality of the Baldrige constructs the scales attempted to measure. All items loaded on the first factor with loadings of at least .40 (see Appendix A). Table 3 also provides evidence of the discriminant validity of the scales. This is particularly important, given the manner in which the scales were developed, with relevant items selected from a common pool. Two approaches were used (Ghiselli et al., 1981). First, analysis of the item-to-total correlations shows that the average correlation between the scale and nonscale items was substantially lower than between the scale and scale items. Second, a comparison of scale reliabilities with average interscale correlations indicated that the reliability for each scale was higher than its correlation with the other scales.

Measures of the four dimensions of national culture were taken from Hofstede (2001), who assigned numerical ratings to nations for each of the dimensions (see Table 4). Bivariate correlation coefficients between the dimensions of national culture indicate a high potential for multicollinearity among them, which is not surprising given the previous research indicating strong relationships among the dimensions of national culture, particularly among wealthier nations (Hofstede, 2001).

2.3. Analysis

Biviariate correlation analysis was used to test H_1–H_7. The coefficient of correlation between the Baldrige constructs and dimensions of national culture was used to assess the strength and direction of each relationship, in isolation.

Stepwise multiple regression was used to test H_8–H_{11}, which assessed whether there were significant

Table 4
Numerical ratings of national culture dimensions, by country

	Power distance	Uncertainty avoidance	Individualism/ collectivism	Masculinity/ femininity
Germany	35	65	67	66
Italy	50	75	76	70
Japan	54	92	46	95
England	35	35	89	66
U.S.	40	46	91	62

From Hofstede (2001). Higher scores indicate greater power distance, greater uncertainty avoidance, individualism and masculinity.

two-way interactions between selected dimension of national culture related to the scores on Baldrige constructs, in order to help compensate for the multicollinearity between independent variables. Only the independent variables with the greatest effect entered the equation, reducing the number of independent variables. This approach is appropriate because previous research has indicated relationships among the dimensions of national culture (Hofstede, 2001) and the observed collinearity of the variables. The assumptions of constant variance, no influential outliers and normality were verified using plots (Neter et al., 1990), and the Shapiro-Wilk statistic was used to test for normality. Neither the plots nor the Shapiro-Wilk statistic indicated any potentially significant departures from the assumptions. A baseline set of seven regression models was constructed, using the seven Baldrige constructs as dependent variables, with .05 as the criterion for independent variable entry and .10 as the criterion for independent variable removal. For each model that was significant at the .05 level or less, a subsequent set of stepwise regression models was constructed. Each model included any independent variables that were significant at the .05 level or less in the baseline model, plus one two-way interaction term, plus a term for any effect included in the interaction term but not significant in the hypothesis test.

In testing the 12th hypothesis, analysis of variance was used to test for differences in the Baldrige constructs by country. A Duncan test was used for *post hoc* testing, in order to determine homogenous subsets at the .05 level, to determine groups of countries with similar performance.

3. Results

Table 5 provides the bivariate correlation coefficients between the Baldrige constructs and the dimensions of national culture, with the statistical significance indicated in parentheses. It indicates that national culture dimensions were related to performance on every Baldrige construct, except for customer and market focus.

Table 5 indicates that H_{1A} through H_{1D} were all supported. All four dimensions of national culture were related to the leadership construct and were in the expected direction. Leadership construct scores were higher in countries with greater power distance, uncertainty avoidance and masculinity and lower in countries with higher individualism. As predicted by H_{2B} and H_{2C}, scores on the information and analysis construct were higher in countries with greater uncertainty avoidance and lower in those that were more individualist. They were higher in countries that were more masculine, opposite the expectations of H_{2D}. H_{2A} was not significant, indicating that scores on the information and analysis construct were not related to power distance. Scores on the strategic planning construct were lower in more individualist countries, consistent with H_3. In addition, they were higher in countries with more masculine national cultures, a relationship that had not been hypothesized.

As predicted by H_{4B}, scores on the human resource focus construct were lower in countries that were more individualist. They were higher in more masculine countries, opposite the prediction of H_{4C}. H_{4A} was rejected, indicating the lack of relationship between scores on the human resource focus construct and power distance. Hypotheses 5_B through 5_D were all supported. Higher scores on the process management construct

Table 5
Correlation between scores on Baldrige constructs and dimensions of national culture

	Power distance	Uncertainty avoidance	Individualism/collectivism	Masculinity/femininity
Leadership	.194 (.013)	.230 (.003)	−.329 (.000)	.363 (.000)
Information and analysis	.115 (.144)	.165 (.034)	−.255 (.001)	.265 (.001)
Strategic planning	.008 (.922)	.114 (.147)	−.250 (.001)	.226 (.004)
Human resource focus	.090 (.252)	.089 (.255)	−.163 (.037)	.203 (.009)
Process management	.309 (.000)	.379 (.000)	−.398 (.000)	.384 (.000)
Business results	.184 (.018)	.196 (.012)	−.212 (.006)	.229 (.003)
Customer and market focus	−.808 (.286)	−.068 (.384)	.086 (.271)	−.116 (.140)

were associated with greater uncertainty avoidance, power distance and masculine cultures, while lower Process Management construct scores were associated with individualism. All the hypotheses related to the business results construct were supported. Higher scores on the business results construct were associated with greater power distance and uncertainty, as well as masculinity. Lower scores on the business results construct were associated with individualism. None of the hypotheses related to the customer and market focus construct were supported.

Table 6 summarizes the results of the stepwise regression analysis. It indicates that there were significant baseline models for every Baldrige construct except for customer and market focus. Thus, there were six baseline models examined for interactions. Table 7 contains the results of the interaction analysis. It provides support for H_8–H_{11}, indicating that interactions between dimensions of national culture were related to some of the Baldrige constructs. The interaction of high uncertainty avoidance and low power distance was related to leadership and human resource focus. The interaction between masculinity and high uncertainty avoidance was related to process management. Masculinity interacted with collectivism for strategic planning and business results. The combination of high power distance and collectivism was related to information and analysis, strategic planning and business results.

The twelfth hypothesis predicted that the Baldrige constructs would more effective in those countries whose cultures were better aligned with the values underlying the Baldrige criteria. Table 8 indicates that the analysis of variance by country was significant for every Baldrige construct except for customer and market focus. It shows the homogenous subsets that resulted from the Duncan post hoc analysis, listed in order from those with the least effective to those with the most effective Baldrige constructs, as well as the mean and standard error for the Baldrige construct scores. It also lists the dimensions of national culture that were significantly correlated with each of the Baldrige constructs. Two distinct patterns of national culture appear. Information and analysis, strategic planning and human resource focus were stronger in cultures that are somewhat more collective and masculine. Leadership, process management and business results were stronger in cultures that are somewhat more collective and masculine, with greater uncertainty avoidance and power distance.

4. Discussion

Prior research has indicated several compelling reasons for the failure of some TQM efforts. By examining national culture, this research provides an additional explanation. This analysis found that there were clear differences in Baldrige constructs by national culture, providing support for the idea that the Baldrige award is a better fit with some national cultures than it is with others. Although the Baldrige award may be viewed as a vehicle for change, research

Table 6
Analysis of baseline models

Dependent variable	R^2	F	Probability	Independent variable	t	Probability
Leadership	.16	15.44	.000	Constant	12.69	.000
				Masculinity/femininity	4.87	.000
				Power distance	−2.38	.019
Information and analysis	.10	8.95	.000	Constant	13.03	.000
				Masculinity/femininity	3.84	.000
				Power distance	−2.30	.023
Human resource focus	.04	6.93	.009	Constant	19.26	.000
				Masculinity/femininity	2.63	.009
Process management	.16	30.51	.000	Constant	35.66	.000
				Individualism/collectivism	−5.52	.000
Strategic planning	.14	13.25	.000	Constant	9.88	.000
				Individualism/collectivism	−4.91	.000
				Uncertainty avoidance	−3.85	.000
Business results	.15	8.96	.003	Constant	16.95	.000
				Masculinity/femininity	2.99	.003
Customer and market focus			n.s.			

Table 7
Models with significant interaction terms

Dependent variable	R^2	F	Probability	Independent variable	t	Probability
H$_5$: power distance × uncertainty avoidance						
Leadership	.17	15.98	.000	Constant	6.56	.000
				Masculinity/femininity	4.55	.000
				PD × UA interaction	−2.57	.011
Human resource focus	.07	6.06	.003	Constant	11.49	.000
				Masculinity/femininity	3.19	.000
				PD × UA interaction	−2.24	.026
H$_6$: masculinity/femininity × uncertainty avoidance						
Process management	.16	30.79	.000	Constant	47.99	.000
				MF × UA interaction	5.55	.000
H$_7$: masculinity/femininity × indvidualism/collectivism						
Strategic planning	.16	10.22	.000	Constant	7.88	.000
				Uncertainty avoidance	−3.99	.000
				Masculinity/femininity	3.37	.001
Business results	.07	12.93	.000	IC × MF interaction	−4.14	.000
				MF × IC interaction	−3.60	.000
H$_8$: individualism/collectivism × power distance						
Information and analysis	.07	12.49	.001	Constant	21.70	.000
				IC × PD interaction	−3.53	.001
Strategic planning	.13	23.36	.000	Constant	23.67	.000
				IC × PD interaction	−4.83	.000
Business results	.13	23.36	.000	Constant	23.67	.000
				IC × PD interaction	−4.83	.000

indicates that national culture is highly resistant to change (Hofstede, 1993; Robert et al., 2000; Kedia and Bhagat, 1988). Thus, although practices may be easily changed, the fundamental values that underlie those practices are very difficult to change. This may explain why, when times get tough, some organizations are quick to abandon quality management efforts and return to a mode of operation that seems more natural to its leaders. Research in quality management indicates that there is no ''right way'' to implement quality management and that there are many effective adaptations. Combined with our findings, this would suggest a strong need for countries to adapt their quality award programs to local conditions. This does not mean that they should compromise the integrity of their award programs; rather, they should develop programs that can be most effectively implemented in their cultures and more resistant to backsliding.

We found that the ideal national culture for the Baldrige constructs would have higher levels of power distance, uncertainty avoidance, masculinity and collectivism. This describes the national culture of Japan quite well. It may seem surprising that the Baldrige does not fit most closely with U.S. culture, since it was developed by Americans. However, the Baldrige frame-work and criteria were heavily based on Japanese quality management practices, in an attempt to stimulate radical change to the practice of quality management in the U.S. In fact, according to PL 100-107, The Malcolm Baldrige National Quality Improvement Act of 1987, ''the purposes of the award are to promote quality awareness, to recognize quality achievements of U.S. companies, and to publicize successful quality strategies.'' Clearly a goal was transformation to a different mindset about quality management. One model for the transformation is Japanese quality management, since Japanese manufacturing was the global leader in quality management at the time, and the purpose of PL 100-107 was to provide a strong incentive for U.S. firms to catch up. It was not developed by focusing solely on U.S. plants and U.S. culture, but rather by benchmarking the best manufacturing plants in the world. The award criteria have changed over the years, but not with an eye to national culture and value congruence, since the underlying assumption was that quality values in the U.S. needed to be changed. This is a noble purpose, and quality levels of U.S. manufacturing have improved dramatically since 1987. However, our results lead to speculation about whether quality levels could have improved more dramatically and whether improvement levels could have been more

Table 8
Analysis of variance by country

Baldrige construct	F	Significance	Homogeneous subsets (mean, S.E.)	Significant correlations with national culture
Leadership	10.11	.000	• Italy (3.45, .10), England (3.65, .12) • England (3.65, .12), Germany (3.70, .08), U.S. (3.75, .08) • Japan (4.10, .06)	+PD, +UA, −IC, +MF
Information and analysis	7.41	.000	• Italy (3.16), .10), England (3.34, .10) • England (3.34, .10), Germany (3.44, .08), U.S. (3.50, .07) • U.S. (3.50, .07), Japan (3.69, .06)	−IC, +MF
Strategic planning	8.63	.000	• Italy (3.31, .07) • England (3.63, .14), U.S. (3.70, .04), Germany (3.81, .08) • U.S. (3.70, .04), Germany (3.81, .08), Japan (3.93, .08)	−IC, +MF
Human resource focus	6.09	.000	• Italy (3.24, .06), England (3.36, .07), Germany (3.39, .06) • England (3.36, .07), Germany (3.39, .06), U.S. (3.54, .05) • U.S. (3.54, .05), Japan (3.59, .05)	−IC, +MF
Process management	8.19	.000	• England (3.33, .08), U.S. (3.44, .06), Italy (3.50, .07) • U.S. (3.44, .06), Italy (3.50, .07), Germany (3.54, .06) • Japan (3.80, .05)	+PD, +UA, −IC, +MF
Business results	3.31	.012	• England (3.62, .10), Italy (3.65, .07), Germany (3.61, .07), U.S. (3.65, .09) • U.S. (3.65, .09), Japan (3.89, .07)	+PD, +UA, −IC, −MF
Customer and market focus	.96	.430	n.s.	

broadly disseminated if there had been greater value congruence between the Baldrige and U.S. national culture. Indeed, quality management in the U.S. is now often dismissed as a fad whose time has past, indicating a lack of value congruence.

Thus, the Baldrige award is a good fit with the national culture of Japan. The Japanese Quality Award, which is heavily based on the Baldrige award, should be effective in evaluating quality management practices in Japan. However, the Baldrige constructs are less of a good fit in the other countries in our sample. Our findings would suggest making adaptations to the criteria, to better align them with the national culture in which they are implemented. For example, Europe contains several distinct cultures, with very different characteristics, including Hofstede's (1980) Anglo, Germanic, Latin European and Nordic cultures. Our findings on the scores of European plants on the Baldrige constructs were very different between England (Anglo cluster), Germany (Germanic cluster) and Italy (Latin European cluster). Assuming that the same set of practices and approaches is appropriate across such a diverse set of cultures may lead to problems. Our findings would suggest adapting the European Quality Award criteria to each of these four clusters.

The findings on three of the four dimensions of national culture may have a restricted range of generalizability. Only uncertainty avoidance had a broad range of index values (from 35 to 92). The other three dimensions were limited to one side of the range: the low side of power distance, the high side of individualism/collectivism and the high side of masculinity/femininity. Japan was classified as collective, however it was barely so, with an index of 46. Thus, although the findings suggested that collectivism was important, the sample did not contain extreme levels of collectivism and power distance, such as tribal cultures or extremes in power distance, such as a country with an autocratic dictator. When we speak of collectivism or high power distance in our results, we are speaking of the more collective side of individualism and higher power distance among a set of low power distance cultures. The sample is quite representative of industrialized countries known for their strength in manufacturing; although the range of generalizability is limited, we are confident in generalizing to other industrialized countries.

The analysis indicated that there were no differences between the countries in their level of performance on the customer and market focus construct. This is surprising, given the differences in scores found on every other one of the constructs. It may indicate a problem in the operationalization of the construct. It may also indicate a broad awareness of the importance of customer relationships across countries, supporting the convergence hypothesis and indicating

that customer and market focus is not sensitive to differences in national culture.

There may be other factors that have had an effect on the results of this study. For example, Japan was an early pioneer in developing quality management. Its longevity with quality programs, compared to the other countries included in this study, may be related to its greater effectiveness, at least to some extent. It is difficult to unravel the interaction effects and determine whether Japan's greater effectiveness was more related to its collectivism or to its longevity with quality management (or whether its collectivism led it towards early involvement with quality management). The nature of the markets served by the various countries may also influence their emphasis on quality and performance excellence. Again, these chicken-and-egg effects are difficult to untangle: does a preponderance of highly competitive companies in a market lead to a greater emphasis on quality management, or are they highly competitive because their national culture is strongly aligned with quality management values?

Future research in this area should strive to include a broader sample of national cultures. Although most of the missing clusters contain predominately developing countries, a notable exception is the Nordic cluster, which should be included in future research. Including multiple countries from within a national culture cluster would also enhance the generalizability of the findings.

5. Conclusions

This study provides strong evidence of a national culture effect in the implementation of performance excellence. This has important implications for both performance excellence and the Baldrige criteria. It indicates that there is not a universal model for performance excellence and that practices and approaches should be adapted to the local culture, in order to have the highest probability of success. The same logic applies to the Baldrige criteria, which should not be adopted without modification by countries with national cultures that differ significantly from the national culture profile associated with the Baldrige constructs.

There was strong evidence of interactions between dimensions of national culture, refining the profile of the best alignment further. Rather than trying to change national culture through imposing practices, it is important to be cognizant of significant differences between national cultures and adapt practices and approaches accordingly.

National culture provides a fruitful area for future research in performance excellence and quality management. There is a substantial body of literature available about national culture and its effect on management practices. Extending this line of thinking to quality management and other operations management issues holds great potential for future research.

Appendix A. Measurement scales and factor loadings

Leadership	
Leadership system	
Plant management creates and communicates a vision focused on quality improvement	.86
Plant management provides personal leadership for quality products and quality improvement	.82
The top priority in evaluating plant management is quality performance	.74
Our top management strongly encourages employee involvement in the production process	.73
All major department heads within our plant work towards encouraging just-in-time production	.67
All major department heads within our plant accept their responsibility for quality	.79
Company responsibility and citizenship	
No items	
Information and analysis	
Selection of information and data	
Charts showing defect rates are posted on the shop floor	.83
Charts showing schedule compliance are posted on the shop floor	.76
Charts plotting the frequency of machine breakdowns are posted on the shop floor	.69
Information on quality performance is readily available to employees	.84
Information on productivity is readily available to employees	.73
Analysis of company performance	
A large percent of the equipment or processes on the shop floor are currently under statistical quality control	.71
We make extensive use of statistical techniques to reduce variance in processes	.82
We use charts to determine whether our manufacturing processes are in control	.71

Appendix A. (*Continued*)

Process data gathered from manufacturing inspections is stored for subsequent analysis	.60
We use statistical methods to recognize the source of problems	.61

Selection of comparative data
   No items

Strategic planning
  Strategy development process

Our plant has a formal strategic planning process, which results in a written mission, long-range goals and strategies for implementation	.79
Plant management is not included in the formal strategic process. It is conducted at higher levels in the corporation (R)	.63
We have a regular system of monitoring plant performance against formal criteria	.65

  Company strategy

Our plant is well-focused	.74
Manufacturing provides competitive strength for our business	.73
We have a well-developed manufacturing strategy in our plant	.74

Human resource utilization
  Work systems

Management takes all product and process improvement suggestions seriously	.64
We select employees who are able to work well in small groups	.72
Employees at this plant have skills which are above average in this industry	.48
We are encouraged to make suggestions for improving performance at this plant	.70
Many useful suggestions are implemented at this plant	.82
During problem solving sessions, we make an effort to get all team members' opinions and ideas before making a decision	.75
Our plant forms teams to solve problems	.75
Problem solving teams have helped improve manufacturing processes at this plant	.78
Employee teams are encouraged to try to solve their problems as much as possible	.79
Quality of team participation is a significant part of performance evaluation at this plant	.72
Workers here are paid for the number of different tasks which they are able to perform	.42

  Employee education and development

Direct labor undergoes training to perform multiple tasks in the production process	.76
Plant employees receive training and development in workplace skills, on a regular basis	.83

  Employee well-being and satisfaction

I find that my values and the organization's values are very similar	.70
I am proud to tell others that I am part of this organization	.57

Management of process quality
  Production and service processes

We design for producibility	.68
Manufacturing engineers are involved to a great extent before the introduction of new products	.70
We work in teams, with members from a variety of areas (marketing, manufacturing, etc.) to introduce new products	.69
Our engineers make an effort to simplify our product designs	.67
Our equipment is in a high state of readiness for production at all times	.65
We emphasize good maintenance as a strategy for achieving quality and schedule compliance	.78
Our planning system promotes revision of the long term production schedule, in order to reach a frozen and feasible short term schedule	.46
Quality is our number one criterion in selecting suppliers	.70
We use mostly suppliers which we have certified	.58
We require evidence of statistical process control from suppliers of critical parts	.62
A large percent of the equipment or process on the shop floor are currently under statistical quality control	.75
We make extensive use of statistical techniques to reduce variance in processes	.77

  Management of support processes
  No items

Business results
  Company-specific results
  How your plant compares to its competition in your industry, on a global basis:

Innovative manufacturing	.79
Just-in-time manufacturing	.65

Appendix A. (*Continued*)

Degree of vertical integration	.63
Fast delivery	.53
Financial and market results	
How your plant compares to its competition in your industry, on a global basis:	
Comparison with our competition	.80
Unit cost of manufacturing	.49
Customer satisfaction results	
There is a very small chance that our customers will turn to our competitors	.43
In general, our plant's level of quality performance over the past three years has been low, relative to industry norms (R)	.46
Human resource results	
How your plant compares to its competition in your industry, on a global basis:	
Employee relations	.67
Supplier and partner results	
How your plant compares to its competition in your industry, on a global basis:	
Supplier relations	.49
Customer relations	.65
Customer and market focus	
Customer satisfaction enhancement	
We strive to be highly responsive to our customers' needs.	.73
Our customers involve us in their quality improvement efforts.	.71
Our customers can rely on us for quality products and processes.	.73
Customer and market knowledge	
Our customers give us feedback on quality and delivery performance	.82
Our customers are actively involved in the product design process	.71
We regularly survey our customers' requirements	.69
Customer requirements are thoroughly analyzed in the new product design process	.67

References

Adler, N.J., Jelinek, M., 1986. Is 'organization culture' culture bound? Human Resource Management 25 (1), 73–90.

Adorno, T.W., Frenkel-Brunswik, E., Levinson, D.J., Sanford, R.N., 1950. The Authoritarian Personality. Harper-Row, New York.

Allport, G.W., 1979. The Narue of Prejudice. Addison-Wesley, Reading, MA (original work published 1954).

Bakacsi, G., Sandor, T., Andras, K., Viktor, I., 2002. Eastern European cluster: tradition and transition. Journal of World Business 37 (1), 69–80.

Best, D.L., Williams, J.E., 1998. Masculinity and femininity in the self and ideal self descriptions of university students in 14 countries. In: G. Hofstede & Assoc., Masculinity and Femininity: The Taboo Dimension of National Cultures, Sage, Thousand Oaks, CA.

Blunt, P., 1988. Cultural Consequences for Organizational Change in a Southeast Asian State: Brunei.

Boyacigiller, N.A., Adler, N.J., 1991. The parochial dinosaur: organizational science in a global context. Academy of Management Review 16 (2), 262–290.

Briley, D.A., Wyer Jr., R.S., 2001. Transitory determinants of values and decisions: the utility (or nonutility) of individualism and collectivism in understanding cultural differences. Social Cognition 19 (3), 197–227.

Brodbeck, F.C., Frese, M., Javidan, M., 2002. Leadership made in Germany: low on compassion, high on performance. Academy of Management Executive 16 (1), 16–30.

Campion, M.A., Medsker, G.J., 1993. Relations between work group characteristics and effectiveness: implications for designing effective work groups. Personnal Psychology 46 (4), 823–850.

Chow, C.W., Lindquist, R.M., Wu, A., 2001. National culture and the implementation of high-stretch performance standards: an exploratory study. Behavioral Research in Accounting 13, 85–109.

Criteria for Performance Excellence, 2004. Malcolm Baldrige National Quality Award. United States Department of Commerce, Technology Administration, National Institute of Standards and Technology, Gaithersburg, MD.

DeBaylo, P.W., 1999. Ten reasons why the Baldrige model works. Journal for Quality and Participation 24–28.

Deming, W.E., 1986. Out of the Crisis. MIT Center for Advanced Engineering Study, Cambridge.

Earley, P.C., 1989. Social loafing and collectivism: a comparison of the United States and the People's Republic of China. Administrative Science Quarterly 34, 565–581.

Earley, P.C., 1999. Playing follow the leader: status-determining traits in relation to collective efficacy across cultures. Organizational Behavior and Human Decision Processes 80 (3), 192–212.

Eaton, L., Louw, J., 2000. Culture and self in South Africa: individualism-collectivism predictions. Journal of Social Psychology 140 (2), 210–217.

Etorre, B., 1996. Is the Baldrige still meaningful? Management Review 28–31.

Fayol, H., 1916. Administration Industriale et Generale. Dunod, Paris.

Flynn, B.B., Saladin, B., 2001. Further evidence on the validity of the theoretical models underlying the Baldrige criteria. Journal of Operations Management 19 (6), 617–652.

Franke, R.H., Hofstede, G., Bond, M.H., 1991. Cultural roots of economic performance: a research note. Strategic Management Journal 12, 165–173.

Fromm, E., 1965. Escape From Freedom. Avon, New York.

Garvin, D.A., 1991. How the Baldrige award really works. Harvard Business Review 80–93.

Geletkanycz, M.A., 1997. The salience of 'culture's consequences': the effects of cultural values on top executive commitment to the *status quo*. Strategic Management Journal 18 (8), 615–634.

Ghiselli, E.E., Campbell, J.P., Zedeck, S., 1981. Measurement Theory for the Behavioral Sciences. Freeman, San Francisco.

Goontilake, L., 1988. Evaluation of quality management constraints in developing economies. Industrial Management and Data Systems (July–August), 6–10.

Grimm, S.D., Church, A.T., Katigbak, M.S., Reyes, J.A.S., 1999. Self-described traits, values and moods associated with individualism and collectivism. Journal of Cross-Cultural Psychology 30 (4), 466–500.

Gupta, V., Surie, G., Javidan, M., Chhokar, J., 2002. Southern Asia cluster: where the old meets the new? Journal of World Business 37 (1), 16–27.

Hofstede, G., 1976. Nationality and espoused values of managers. Journal of Applied Psychology 61 (2), 148–155.

Hofstede, G., 1980. Motivation, leadership and organizations: do American theories apply abroad? Organizational Dynamics 9 (1), 92.

Hofstede, G., 1981. Culture and organizations. International Studies of Management and Organization 10 (4), 15–41.

Hofstede, G., 1983a. The cultural relativity of organizational practices and theories. Journal of International Business Studies 75–89 (Fall).

Hofstede, G., 1983b. National cultures in four dimensions. International Studies of Management and Organizations 8 (1 & 2), 46–74.

Hofstede, G., 1984a. The cultural relativity of the quality of life concept. Academy of Management Review 9 (3), 389–398.

Hofstede, G., 1984b. Culture's Consequences: International Differences in Work-Related Values. Sage Publications, London.

Hofstede, G., 1991. Cultures and Organizations: Software of the Mind. McGraw-Hill, London.

Hofstede, G., 1993. Images of Europe (Valedictory Address). Maastricht University, Faculty of Economics and Business Administration, Maastricht, Netherlands.

Hofstede, G., 1994a. Management scientists are human. Management Science 40 (1), 4–13.

Hofstede, G., 1994b. Cultural constraints in management theories. International Review of Strategic Management 5, 27–48.

Hofstede, G., 1997. Cultures and Organizations: Software of the Mind: Intercultural Cooperation and its Importance for Survival. McGraw-Hill, New York.

Hofstede, G., 1998. Attitudes, values and organizational culture: disentangling the concepts. Organizational Studies 19 (3), 477–492.

Hofstede, G., 1999. Problems remain, but theories will change: the universal and the specific in 21st century global management. Organizational Dynamics 28 (1), 34–44.

Hofstede, G., 2001. Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Countries. Sage Publications, Thousand Oaks, CA.

Hofstede, G., Vunderink, M., 1994. A case study in masculinity/femininity differences: American students in the Netherlands vs. local students. In: Bouvy, A.M., Van de Vijver, F.J.R., Boski, P., Schmitz, P. (Eds.), Journeys into Cross-Cultural Psychology. Swets & Zeitlinger, Lisse, Netherlands.

Hong Kong Management Association, 2002. Website: www.hkma. org.hk/qa/aq_criteria_chart.

Hoppe, M.H., 1990. A Comparative Study of Country Elites: International Differences in Work-Related Values and Learning and Their Implications for Management Training and Development. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill.

Ishida, H., 1986. Transferability of Japanese human resource management. Human Resource Management 25 (1), 103–120.

Japan Quality Award, 2002. Website: www.jqac.com/website.nsf.

Jesuino, J.A., 2002. Latin European cluster: from South to North. Journal of World Business 37 (1), 81–89.

Juran, J.M., 1994. Japanese and Western quality—a contrast. Quality Progress 11 (12), 10–18.

Kedia, B.L., Bhagat, R.S., 1988. Cultural constraints on transfer of technoloy across nations: implications for research in international and comparative management. Academy of Management Review 13 (4), 559–571.

Kerbride, P.S., Durcan, J., Tang, S.F.Y., 1990. The possibilities and limits of team training in Southeast Asia. The Journal of Management Development 9 (5), 41–51.

Lagrosen, S., 2002. Quality management in Europe: a cultural perspective. The TQM Magazine 14 (5), 275–283.

Lawler III, E., 1994. Total quality management and employee involvement: are they compatible? Academy of Management Executive 1, 68–76.

Lillrank, P., Shavi, A.B., Lindberg, P., 2001. Continuous improvement: exploring alternative organizational designs. Total Quality Management 12 (1), 41–55.

Luthans, F., McCaul, H.S., Dodd, N.G., 1985. Organizational commitment: a comparison of American, Japanese and Korean employees. Academy of Management Journal 28 (1), 213–219.

Lytle, A.L., Brett, J.M., Barsness, Z.I., Tinsley, C.H., Janssens, M., 1995. A paradigm for confirmatory cross-cultural research in organizational behavior. In: Cummings, L.L., Staw, B.M. (Eds.), Research in Organizational Behavior, vol. 17. pp. 167–194.

McDermott, T., 1994. TQM: the total quality maquiladora. Business Mexico (November), 42–45.

Means, P., 1997. Creating an Egyptian National Quality Award. Journal for Quality and Participation (January/February), 64–74.

Mukherji, A., Hurtado, P., 2001. Interpreting, categorizing and responding to the environment: the role of culture in strategic problem definition. Management Decision 39 (2), 105–112.

Muller, S.L., Thomas, A.S., 2001. Culture and entrepreneurial potential: a nine-country study of locus of control and innovativeness. Journal of Business Venturing 16 (1), 51–75.

Murphy, W.H., 1999. Hofstede's national culture as a guide for sales practices across countries: the case of a MNC's sales practices in Australia and New Zealand. Australian Journal of Management 24 (2), 37–58.

Negandhi, A.R., Prasad, S.B., 1971. Comparative Management. Appleton-Century-Crofts, New York.

Neter, J., Wasserman, W., Kutner, M.H., 1990. Applied Linear Statistical Methods: Regression, Analysis of Variance and Experimental Designs. Irwin, Homewood, IL.

New Zealand Business Excellence Foundation, 2005. Website: http://www.nzbef.org.nz/.

Ng, S.H., 1980. The Social Psychology of Power. Academic Press, London.

Ouchi, W.G., 1980. Markets, bureaucracies and clans. Administrative Science Quarterly 25, 129–141.

Pavett, C., Morris, T., 1995. Management styles within a multinational corporation: a five-country comparative study. Human Relations 48, 1171–1191.

Peterson, M.F., Smith, P.B., Akande, A., Ayestaran, S., Bochner, S., Callan, U., Sho, N.G., Jesuino, J.C., D'Amorim, M., Francois, P.H., Hofmann, K., Koopman, P.L., Leung, K., Lim, F.K., Mortazani, S., Munene, J., Radford, M., Ropo, A., Savage, G., Setiadi, B., Sinha, T.N., Sorenson, R., Viedge, C., 1995. Role conflict, ambiguity and overload: a 21-nation study. Academy of Management Journal 38 (2), 429–452.

PL 100-107, 1987. The Malcolm Baldrige National Quality Award Act of 1987.

Powell, T., 1995. Total quality management as competitive advantage: a review and empirical study. Strategic Management Journal 16, 17–28.

Pugh, D.S., 1976. The 'Aston' approach to the study of organizations. In: Hofstede, G., Kassem, M.S. (Eds.), European Contributions to Organization Theory. Van Gorcum, Assen, Netherlands.

Pugh, D.S., Hickson, D.J., 1976. Organizational Structure in its Context: The Aston Programme I. Saxon House, London.

Pugh, D.S., Hinings, C.R., 1976. Organizational Structure: Extensions and Replications. The Aston Programme II. Saxon House, London.

Randall, D.M., 1993. Cross-cultural research on organizational commitment: a review and application of Hofstede's value survey model. Journal of Business Research 26, 91–110.

Rauch, A., Frese, M., Sonnentag, S., 2000. Cultural differences in planning/success relationships: a comparison of small enterprises in Ireland, West Germany and East Germany. Journal of Small Business Management 38 (4), 28–41.

Robert, C., Probst, T.M., Martocchio, J.J., Drasgow, F., Lawler, J.J., 2000. Empowerment and continuous improvement in the United States, Mexico, Poland and India: predicting fit on the basis of the dimensions of power distance and individualism. Journal of Applied Psychology 85 (5), 643–658.

Ronen, S., Shenkar, O., 1985. Clustering countries on attitudinal dimensions: a review and synthesis. Academy of Management Review 10 (3), 435–454.

Rosenzweig, P.M., 1994. When can management science be generalized internationally? Management Science 40 (1), 28–39.

Schein, E.H., 1992. Organizational Culture and Leadership. Jossey-Bass, San Francisco, CA.

Schneider, S.C., 1988. National vs. corporate culture: implications for human resource management. Human Resource Management 27 (2), 231–246.

Schonberger, R.J., 1986. World Class Manufacturing: The Lessons of Simplicity Applied. Free Press, New York.

Schonberger, R.J., 2001. Is the Baldrige award still about quality?. Quality Digest.

Schramm-Nielsen, I., 1989. Relations de travail entre Danois et Francais dans les Enterprises Privees. Integrated Modern Languages and Economics Centre, Copenhagen.

Shane, S., 1994. Cultural values and the championing process. Entrepreneurship Theory and Practice 25–41 (Summer).

Shenkar, O., von Glinow, M.A., 1994. Paradoxes of organizational theory and research: using the case of China to illustrate national contingency. Management Science 40 (1), 56–71.

Singelis, T.M., Triandis, H.C., Bhawuk, D.P.S., Gelfand, M.F., 1995. Horizontal and vertical dimensions of individualism and collectivism: a theoretical and measurement refinement. Cross-Cultural Research 29, 240–275.

Smith, P.B., Peterson, M.F., Akande, D., Callan, V., Cho, N.G., Jesuino, J., d'Amorim, M.A., Koopman, P., Leung, K., Mortazawi, S., Munene, J., Radford, M., Ropo, A., Savage, G., Viedge, C., 1994. Organizational event management in fourteen countries: a comparison with Hofstede's dimensions. In: Bouvy, A.M., Van de Vijver, R.J.R., Boski, P., Schmitz, P. (Eds.), Journeys into Cross-Cultural Psychology. Swets & Zeitlinger, Lisse, Netherlands.

Snell, R.S., Hui, S.S.K., 2000. Towards the Hong Kong learning organization: an exploratory case study. Journal of Applied Management Studies 9 (2), 150–175.

Sondergaard, M., 1994. Research note: Hofstede's consequences: a study of reviews, citations and replications. Organizational Studies 15 (3), 447–456.

Sosik, J.J., Jung, D.R., 2002. Work-group characteristics and performance in collectivistic and individualistic cultures. The Journal of Social Psychology 142 (1), 5–23.

Stevens, E.P., 1973. Marianismo: the other face of machismo in Latin America. In: Pescatello, A. (Ed.), Female and Male in Latin America. University of Pittsburgh Press, Pittsburge, PA.

Swierczek, F.W., 1991. Leadership and culture: comparing Asian managers. Leadership and Organizational Development Journal 12 (7), 3–11.

Tafarodi, R.W., Lang, J.W., Smith, A.J., 1999. Self-esteem and the cultural tradeoff: evidence for the role of individualism-collectivism. Journal of Cross-Cultural Psychology 30 (5), 620–640.

Tata, J., 2000. The influence of national culture on work team autonomy. International Journal of Management 17 (2), 266–271.

Triandis, H.C., 2001. Individualism-collectivism and personality. Journal of Personality 69 (6), 907–924.

Trompenaars, F., Hampden-Turner, C., 1998. Riding the waves of culture. McGraw Hill, New York.

Wacker, J.F., Sprague, L.G., 1998. Forecasting accuracy: comparing the relative effectiveness of practices between seven developing countries. Journal of Operations Management 16, 271–290.

Walcoal Corporation, Corporate Communication Office, 1993. Asian Women Now. Walcoal Corporation, Tokyo.

Westphal, J.D., Bulati, R., Shortell, S.M., 1997. Customization or conformity, an institutional and network perspective on the content and consequences of TQM adoption. Administration Science Quarterly 42 (2), 366–394.

Wheeler, K.G., 2001. Cultural values in relation to equity sensitivity within and across cultures. Journal of Managerial Psychology 17 (7), 612–627.

Williamson, O.E., 1975. Markets and hierarchies: analysis and antitrust implications. Free Press, New York.

Yaveroglu, I.S., Donthu, N., 2002. Cultural influences on the diffusion of new products. International Journal of Consumer Marketing 14 (4), 49–63.