

## **Multinational managers' perceptions of how culture and MCS affects firm performance**

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### **ABSTRACT**

This study investigates multinational manager's perceptions of the relative effects of national culture, organizational culture, management control systems (MCS) on firm performance. Building on locus of control research, managers are expected to exhibit a bias in which they believe that those areas of the company over which they have the most personal control will be the most influential on firm performance, regardless of the likelihood that this is objectively true. To test this expectation, a survey is administered to 552 middle and senior level functional and business unit managers in eight countries: Australia, France, Hong Kong, India, Singapore, South Africa, Taiwan, and the US. Principal component / factor analysis of the participants' responses resulted in two national culture constructs, five organizational culture constructs, and one MCS construct. Firm performance was measured as financial performance, employee satisfaction, and public image. As expected, results suggest that managers perceive MCS as having the strongest affect on firm performance, followed by organizational culture, and finally, if at all, national culture. These results hold despite the fact that the MCS constructs dealt exclusively with the extent to which managers controlled or influenced their own organizational units and not directly with operational processes or business transactions. Results also hold for all measures of firm performance. Testing is done as to whether these results vary between East and West groupings of national culture and find little significant difference between these two groupings. This paper discusses the theoretical and practical implications of this paper's findings.

**Key Words:** Perception; National Culture; Organizational Culture; Cross-Cultural; Management Control Systems

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## INTRODUCTION

Research has shown that national culture, organizational culture, and management control systems (MCS) have differing effects on various aspects of firm performance (Chow et al., 1999; Lau et al., 1995; see review by Harrison & McKinnon, 1999). Improper fits among national culture, organizational culture, and MCS can adversely affect firm performance (Chow et al., 1994; O'Connor, 1995; Tsui, 2001). Further, research indicates that managers are aware of these effects and may accordingly act upon them (Birnberg & Snodgrass, 1988; Chow et al., 1994). For example, managers may adjust a global company's organizational culture to be more in line with the indigenous national culture, or may adjust a MCS if it does not have a good fit with the local national culture. Consequently, since managers — based on their perceptions of the comparative effects of national culture, organizational culture and MCS on firm performance — may act to realign company structures (using valuable company resources to do so), it is important to systematically investigate the role that managers perceive national culture, organizational culture, and MCS to have on firm performance (Merchant & Otley, 2006; Widener, 2007). For example, if managers perceive national culture as having little impact on firm performance (whether or not it actually does), then it is unlikely that they will expend many company resources to align organizational culture or MCS to national culture. Conversely, if they perceive MCS as having an overwhelming impact on firm performance, compared to national culture or organizational culture, they will likely channel more company resources to MCS than to adjustments based on national culture or organizational culture. The key research question addressed in this study, therefore, is how managers perceive the comparative effects of national culture, organizational culture and MCS on firm performance.

Building on results established by locus of control research (Howell & Avolio, 1993; Littunen & Storhammar, 2000), managers are expected to exhibit a bias in which they will believe that those functions of the company over which they have the most control will be the most influential on company performance, regardless of the objective truth of this belief. Accordingly, it is predicted that managers will consistently perceive MCS as having a significantly greater effect on firm performance than will either national culture or organizational culture. This bias is expected to hold even when the aspects of MCS under consideration are of secondary importance to overall firm performance (e.g., the extent to which a manager's unit performance relative to the budget affects the manager's job security) and regardless of which aspect of firm performance is being measured (e.g., public image of the firm or financial performance).

These expectations are tested by administering a survey to 552 middle and senior level functional and business unit managers in eight countries: Australia, France, Hong Kong, India, Singapore, South Africa, Taiwan, and the US. Principal component / factor analysis of the participants' responses resulted in two national culture constructs, five organizational culture constructs, and one MCS construct. Firm performance was measured as financial performance, employee satisfaction, and public image. Hypotheses are tested using regression analysis, and found, as predicted, that managers perceive MCS as having the strongest affect on firm performance, followed by organizational culture, and finally, if any effect at all, national culture. These results hold for all three measures of firm performance. Testing is also done as to whether these results vary between East and West groupings of the national cultures and find little significant difference between these two groupings.

Chini et al. (2005, p. 145) observe that "virtually all" multinational and cross-cultural managerial studies rely on some measure of management perception. They further note that, despite this heavy reliance on management's perceptions, very little research has been done on 'perception gaps' (i.e., a gap between perception or belief and reality) in managers within

and among these organizations. What little business research that has been done on 'perception gaps' suggests that such gaps can lead to undesirable decision making and behavior (Birkinshaw et al., 2000; Chini et al., 2005). However, this research has examined the consequences of perception gaps between upper and lower management (Birkinshaw et al., 2000; Chini et al., 2005). Accordingly, this paper first contributes by adding to the overall lack of research in management perception gaps and it, second, contributes by extending the existing research in this area by investigating potential perception gaps between managers and company stakeholders (e.g., firm employees and public investors). A third contribution this paper makes is that of introducing perception gap research into cross-cultural studies looking at national culture constructs.

This paper's findings also contribute to national culture research by showing that managers perceive national culture as having little, if any, impact on firm performance. This does not necessarily mean that national culture does not affect firm performance, only that managers do not perceive it as doing so. These findings also contribute to national culture research by indicating that Western or Eastern managers have basically the same perceptions as to the effects of national culture, organizational culture, and MCS on firm performance, although there are differences of emphasis between the two groups. Finally, this paper contributes to the MCS literature by focusing on MCS as a factor influencing managerial decision making as opposed to examining factors that affect preferences for MCS. Most prior research investigating national culture, organizational culture, and MCS have looked at how national culture and, to a lesser extent, organizational culture affect the design of and preference for MCS. That is, these studies used national culture and organizational culture as independent variables and MCS as a dependent variable. This study instead uses MCS, as an independent variable, along with national culture and organizational culture, and examine its perceived affect on firm performance.

The existence of a perception gap exist in managers (as opposed to other types of individuals) indicated by the paper's findings has importance consequences since managers are the primary decision makers of an organization by definition. Managers decide where to allocate resources, and their perceptions of a situation are a major factor in such resource allocation decisions (Merchant & Otley, 2006; Widener, 2007).

## **LITERATURE, THEORY AND HYPOTHESES**

### **Perception, Behavior, Culture, and Locus of Control**

Perceptions and beliefs affect behaviors and actions (Chini et al., 2005; Kowalczyk, 1996). In the theory of reasoned action (TRA), for example, individuals use perceptions to build beliefs which determine behavior (Ajzen 1991). Specifically, when individuals perceive objects they gather information, which consist of bundles of attributes. An individual's attitude toward an object is determined by an evaluative response toward the object's attributes. Thus, perceptions, as the information source for decision-making, strongly influence attitudes. TRA completes its model by asserting that attitudes affect intentions, which in turn affect behavior. Intentions, according to TRA, are the best predictors of behavior. Armitage and Connor (2001) and Yousafzai (2010) provide empirical support for TRA's predictions.

Extant research suggests that culture impacts perception, behavior, attitude and motivation (Baligh, 1994; Chatman, 1991; O'Reilly et al., 1991; see review by Gelfand et al., 2007). Desphande & Webster (1989, p.14) describe organizational culture as "...the pattern of shared values and beliefs that helps individuals understand the functioning of the firm and thus provides the norms for behavior in the firm." Hofstede (1998) describes it as "the

collective programming of the mind which distinguishes the members of one organization from the other.” However, although managers of established multinational firms live in a ubiquitous organizational culture, they are inevitably making decisions based—at least, in part—on their own national cultural backgrounds. Thus, while multinationals have traditionally managed their international operations by infusing a dominant set of values and beliefs into local units (often by means of MCS), such an approach, however, does not guarantee firm and/or local success especially when national culture conflicts with the organizational culture and localized MCS.

The literature also tells us that national culture, organizational culture, and MCS should have relatively differing effects on how the culture at large perceives an organization, how employees perceive their own fit within the organization, and how the organization performs by such objective measures as profitability (Harrison & McKinnon, 1999; Lachman et al., 1994). Further, psychology informs us that there is frequently a gap between perception and reality, between what is perceived to be the situation and what is actually the situation (Birkinshaw et al., 2000; Chini et al., 2005). This difference is referred as a ‘perception gap.’ In the case of national culture, organizational culture and MC, it is expected that a perception gap is likely because of the varying degree of information ambiguity. Research suggests that individuals tend to underweight ambiguous information, thereby introducing a gap between perception and reality by means of a bias (King & Zeithaml, 2001; Powell et al. 2006).

The above lines of research suggest that managers’ perceptions are critically important to firm performance, and that managers’ perceptions and behaviors will be significantly influenced by national culture, organizational culture and MCS. However, research does not indicate a clearly predictable pattern of such influences. For that, locus of control research is used. It is expected that managers will exhibit a bias based on their perceived locus of control. Locus of control research indicates individuals are affected by perceived patterns of internal and external control, and that managers are predominantly ‘internals’ (Howell & Avolio, 1993; Littunen & Storhammar, 2000). As such, they attribute effects to agents, not environments. Accordingly, it is expected that they will apply this view to their own impact on firm performance. Thus, managers will believe that those areas of the company over which they have the most control will be the most influential on firm performance. Such a belief or bias can be both functional and dysfunctional: functional in that it gives managers confidence in their own efficacy, thereby motivating them; dysfunctional to the extent it is inconsistent with reality, thereby leading to distorted decision making.

### **National Culture, Organizational Culture, and Management Control Systems**

National culture, organizational culture and MCS can be thought of as existing in a hierarchical relationship. That is, MCS exist within organizational cultures, and organizational cultures exist within national cultures.

National Culture: While several models have been prominent in the field of national culture research (e.g., Triandis, 1995; Trompenaars, 1993; Hofstede, 1998, 2001), extant MCS research in national culture has focused on Hofstede’s taxonomy of work-related values that examines components of national culture along the following five dimensions: power distance index (PDI), individualism index (II), uncertainty avoidance index (UAI), masculinity index (MI), and long-term orientation index (LOI) . As described in Chow et al. (1999), individualism depicts the relative emphasis placed on in- versus out-group interests. Power distance refers to the degree to which inequality (social or economic) is formalized (and accepted) in a society. Masculinity represents preferences for achievement, competition, assertiveness, and toughness. Uncertainty avoidance measures the relative tolerance in a

society for ambiguity and risk-taking. Long-term versus short-term orientation differentiates a longer-term frame of mind versus a focus on more immediate issues. However, recently Hofstede's taxonomy has been criticized in several areas (Baskerville, 2003; Hofstede, 2003; Baskerville-Morley 2005; Ng et al., 2007). Nevertheless, there is widespread consensus that at least two of Hofstede's constructs (PDI, II) capture valid aspects of culture (Robert & Wasti, 2002; Triandis & Gefland, 1998; see review by Kirkman et al., 2006). Accordingly, PCA/FA is used to collapse Hofstede's measures into a smaller number of constructs with greater external validity. The primary concern with these constructs is to capture aspects of the individual's culture which are broader than organizational culture or MCS constructs.

**Organizational Culture:** This type of culture is often passed on through formal and informal channels to new entrants as a means of facilitating homogeneity in organizational goal-setting and achievement (Burns & Scapens, 2000; Parker, 2000). Playing a dominant role in organizational decision-making and problem solving, strong organizational culture is found to promote social integration and communications, reduce conflict and turnover, and lead to greater work effectiveness (O'Reilly & Chatman, 1996; Parker, 2000).

This study uses organizational culture measures by Gordon and Cummins (1979) and Gordon and Christensen (1993). Specifically, organizational culture is defined as a system of shared beliefs and views within organizations that are imparted upon new members. As organizational culture manifests itself through observable practices, it can be delineated along the following dimensions:

1. Planning – extent to which events and activities within the organization are planned in advance in order to avoid surprises.
2. Innovation – extent to which managers within the organization are encouraged to take initiatives and to innovate, even when certain risks are associated with such initiatives.
3. Aggressiveness – relative importance placed on being a leader rather than a follower. Managers are encouraged in such an organization to accomplish their objectives with a sense of urgency and rapid pace.
4. People orientation – degree of concern on how members of an organization develop themselves through professional growth and clear career advancement.
5. Teamwork – extent to which members and subunits of an organization are encouraged to coordinate their efforts and to understand each other in accomplishing organizational tasks.
6. Communication – involves open and quality communications between members of an organization and promotes transparency to facilitate great degree of participation.
7. Performance – extent to which holding members accountable for their decisions and behavior is emphasized. Expectations of outcomes tend to be clearly specified and performance measurement benchmarks are high and clearly visible.
8. Confrontation – encourages open debate and airing out of opinions and views when intra-organizational conflicts/disagreements arise.

**Management Control Systems (MCS):** MCS have traditionally been developed by organizations to control, direct and facilitate subordinate decision-making and behavior in a manner that is consistent with organizational goals and interests. Extensive research has been conducted with mixed results, mostly in a single-country context, on the extent to which the following MCS may impact management behavior and decision processes: vertical versus horizontal differentiation, decentralization, formalization of work procedures, participative

budgeting, feedback frequency, performance reward systems, budgetary control and slack, etc.

Specific aspects of MCS examined in this study include: (1) decentralization, (2) participative budgeting, (3) performance reward systems, and (4) budgetary control. It should be noted that these four controls address the manager's degree of control over and influence on his or her department or division, and are not directly concerned with controlling operations or transactions. The following sections present these four dimensions of MCS. The specific operationalization of these four dimensions in the survey instrument is discussed in the methodology section of the paper.

**Decentralization:** Diversified organizations, particularly those operating internationally, often rely on delegation of authority to cope with rapidly changing technologies/environments and to optimize decision-making at local levels. Empirical evidence concerning the impact of decentralization on firm-wide efficiency and performance is mixed due to a number of contextual factors, one of which is national culture. For example, findings generally support a positive association between managerial preference for decentralization and countries that are classified, according to Hofstede's taxonomy, as individualist (e.g., Harrison et al., 1994; Taras et al., 2010).

**Participative Budgeting:** MCS researchers have posited that the use of budgets as a planning and control device and the extent to which vertical involvement is encouraged can be associated with improved employee satisfaction and performance (Davila & Wouters, 2005). Researchers have also incorporated national culture in the study of participative budgeting as a MCS tool. Evidence suggests that while there generally appears to be a positive relationship between individualism and the extent of participation in the budgetary process (e.g., Bailes & Assada, 1991; Ueno & Wu, 1993), certain anomalies related to the effects of culture on the outcomes of participative budgeting remain (Harrison, 1992). For instance, Chow et al. (2001), in examining the potential interaction between national culture and participation on employee satisfaction between U.S. and Chinese managers, found that when high-stretch standards were set, U.S. subjects were significantly less satisfied than Chinese subjects regardless of whether such standards were imposed or reached through consultation.

**Performance Reward Systems:** These systems can serve as a catalyst to improved employee attitude and performance. While extant research indicates that performance reward systems are a determinant of employee behavior and job satisfaction (Weitzman & Kruse, 1990; Young & Selto, 1993), the direction and magnitude of such an influence is less definite. From a cultural perspective, when individuals are financially rewarded based on direct comparisons between budgeted and actual performance, employees from collectivist countries may have difficulties with publicized interpersonal comparisons, thus rendering the performance reward system less effective (Bond et al., 1982).

**Budgetary Control:** Traditional MCS research has examined how budgetary control may influence job-related tension, job satisfaction, and various measures of job performance. For example, Harrison (1992) detected a negative relationship between budgetary emphasis and job-related tension, while Harrison (1993) found significant interaction effects between certain national culture dimensions (power distance and individualism) and budget emphasis on job-related tension and satisfaction. Specifically, subjects from a high power distance / low individualism country (i.e., Singapore) had less job-related tension and were more satisfied with their jobs when budget emphasis was high, while subjects from a low power distance / high individualism country (i.e., Australia) did not show greater job satisfaction in spite of a negative link between budget emphasis and job-related tension. Another cultural comparison study, which also examined the power distance and individualism dimensions,

found significant associations among budgetary emphasis, budgetary participation, job-related tension, performance, and national culture (Lau et al., 1995).

### **Hypothesis Development**

This section presents specific predictions on the effects of national and organizational culture on MCS (decentralization, participative budgeting, performance reward systems, and budgetary control) and perceptions of performance (including profitability, sales/revenue growth, job satisfaction and commitment, liquidity, and public image and goodwill).

The first set of hypotheses express the expectation that managers will perceive national culture, organizational culture and MCS as independently and separately affecting firm performance. These hypotheses are presented in order to test whether or not managers view national culture, organizational culture and MCS as having significantly effects on firm performance, in isolation from each other and regardless of their effects relative to each other. Accordingly, H1 – H3 are hypothesized for separately testing the national culture, organizational culture and MC in relation to the three DVs.

H1: Managers perceive that national constructs have a significant effect on employee satisfaction, public image of the firm, and firm financial performance.

H2: Managers perceive that organizational constructs have a significant effect on employee satisfaction, public image of the firm, and firm financial performance.

H3: Managers perceive that MCS constructs have a significant effect on employee satisfaction, public image of the firm, and firm financial performance.

### **Locus of Control**

Managers are expected to exhibit a bias based on perceived locus of control. Locus of control research indicates that managers are predominantly 'internals' (Howell & Avolio, 1993; Littunen & Storhammar, 2000). As such, they attribute effects to agents, not environments. By extension, it is expected that they will apply this view to their own impact on company performance. Thus, managers will believe that those areas of the company over which they have the most control will be the most influential on company performance. Accordingly, it is hypothesized:

H4: Managers perceive that MCS has more effect on firm performance than do either organizational culture or national culture.

H5: Managers perceive that organizational culture has more effect on firm performance than does national culture.

### **Eastern and Western Managers**

Both management culture and locus of control research have found systematic variations in their areas of interest according to various groupings of national cultures (Harrison, 1992, 1993; Harrison et al., 1994; Shiraev & Levy, 2004; Tsui, 2001). One widely accepted finding is that Anglo-European (or Western) national cultures are predominantly individualist whereas Asian (or Eastern or Oriental) national cultures are predominantly collectivist (e.g., Auyeung & Sands, 1996; Hofstede, 2001, 2005; Triandis, 1995). While this approach of grouping national cultures into a small number of clusters (typically two or three) has been criticized (Floyd, 1999; Liu & McKinnon, 2002), it has nevertheless consistently produced significant results. We, therefore, expect Eastern managers, compared to Western managers, to perceive differences in the relative effects of MCS, national culture and organizational culture on firm performance.

As individualist, it is expected that Western managers, compared to Eastern managers, place more importance on those areas that they individually control in terms of their effect on firm performance. Thus, Western managers, in contrast to Eastern managers, would perceive MCS as having a greater impact on firm performance than do national culture or organizational culture. Similarly, one might speculate that, since firm structures (i.e., MCS and organizational culture) have generally been imported to the East from the West with the spread of free-market capitalism, Eastern managers are expected to see more conflict between (1) MCS and organizational culture and (2) national culture. As a result, Eastern managers would probably perceive a greater effect of national culture (in contrast to MCS or organizational culture) on firm performance, compared to Western managers. Accordingly, it is hypothesized:

H6a: Western managers, in contrast to Eastern managers, will perceive MCS as having a greater impact on firm performance compared to organizational culture and national culture.

H6b: Western managers, in contrast to Eastern managers, will perceive organizational culture as having a greater impact on firm performance compared national culture.

## METHODOLOGY

A survey instrument/questionnaire was administered in person by one or more of the authors to approximately 552 middle and senior level functional and business unit managers in eight countries: Australia (n = 94), France (n = 55), Hong Kong (n = 83), India (n = 60), Singapore (n = 55), South Africa (n = 76), Taiwan (n = 34), and the US (n = 92). Subjects were recruited through authors' contacts in the premier professional bodies of management accountants and business managers in each of these countries (analogous to the Institute of Management Accountants or IMA, the premier professional association of management accountants and business managers in the US). One or more of the authors administered the questionnaire at an exclusively reserved time during the professional body meeting or executive training program.

The survey instrument was comprised of four parts: (1) national culture (power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation), questions 1-20 in Part I, from Hofstede (1998), (2) organizational culture (planning, innovation, aggressiveness, people orientation, teamwork, communications, performance, and confrontation), questions 1-30 in Part II, from Gordon & Christensen (1993), (3) MCS (decentralization, participative budgeting, performance reward systems, and budgetary control), Sections 1-4 respectively in Part III, on 7-point scales, and (4) perceptions of firm performance (profitability, sales/revenue growth, morale, job satisfaction and commitment, liquidity, public image and goodwill) in Part IV, also on 7-point scales.

Subjects were introduced to the researcher by the director – or comparable designee – of the professional body or executive training program. The researcher then briefly explained the purpose and context of the study (i.e., better understand business and management practices in the concerned country), followed by a brief outline of points from human subjects research guidelines. Subsequently, the researcher administered the survey instrument to the subjects. Upon completion of the questionnaire, subjects were debriefed and then provided author contact information in case they had questions or desired a copy of the authors' findings.

The five national culture constructs, eight organizational culture constructs, and four MCS constructs were then subjected to principal component / factor analysis to arrive at a more manageable number of variables for further analysis and interpretation. As a result of this process, two national culture constructs, five organizational culture constructs, and one

MCS constructs were extracted. Based on the large sample size of this study, factor loadings greater than .500 were used to decide which factors were of high practical significance in the extracted components and to assign them interpretive labels (see Hair et al., 1995). The labels assigned are primarily for convenience and not critical to the investigating the paper's research questions.

### **Independent Variables**

National culture was measured using Hofstede's VSM94 instrument. It was comprised of the following indices: power distance index (PDI), individualism index (II), uncertainty avoidance index (UAI), masculinity index (MI), and long-term orientation index (LOI). Each of these indices was computed using Hofstede's formulae and could range from 0 to 100, though scores slightly above or below this range were technically possible. As noted above, the five national culture constructs were reduced to two principal component / factor analysis variables. The first component is heavily weighted toward the power distance index whereas the second component is predominantly weighted toward the individualism index. Accordingly, the first component is labelled 'power distance 2' and the second, 'individualism 2.' These are also the two most widely used of Hofstede's five indices, as noted earlier. However, it should be noted the extracted variables also capture aspects of Hofstede's other three indices besides power distance and individualism. Thus, the labels should be viewed as approximations only.

Eastern and Western cultures were determined using Hofstede's (2001, 2005) rankings of national cultures as individualist or collectivist. Accordingly, Australia, France, South African and the US are classified as Western (i.e., predominantly individualist) and Hong Kong, India, Singapore, and Taiwan as Eastern (i.e., predominantly collectivist). As noted above, this same approach to grouping national cultures is found in other studies (e.g., Auyeung & Sands, 1996).

Organizational culture was measured using Gordon & Cummin's (1979) instrument, as revised in his subsequent and more recent work (e.g., Gordon & DiTomaso, 1992, Gordon & Christensen, 1993). Scores were computed using their formulae along the following dimensions: planning, innovation, aggressiveness, people orientation, teamwork, communications, performance, and confrontation. Based on the results of the principal component / factor analysis, the five extracted factors are labeled as: (1) 'confrontation 2'; (2) 'performance 2'; (3) 'communication 2'; (4) 'people-orientation 2'; and (5) 'planning 2'. As noted above in the case of national culture, these labels are approximations only.

MCS was measured in four ways: decentralization, participative budgeting, performance reward systems, and budgetary control. For decentralization, eight questions were asked of managers to determine "the extent to which authority is delegated to you to make each of the following classes of decisions [e.g., hiring and firing of personnel and pricing of output] for your organizational unit (department/division)." For participative budgeting, four questions were asked to determine the extent to which a manager's superior sought out and used the manager's input in the budgeting process. For performance reward systems, four questions were asked to determine the extent to which a manager's compensation is tied to his or her unit's performance. For budgetary control, six questions were asked to determine "the extent to which your unit's performance relative to your unit's budget is an important factor in" such things as career advancement, relationships with superiors and peers, and job security. As noted earlier, the focus of these MCS variables is on the amount of control and influence a manager's has in his or her unit and organization, and not on directly controlling operations and transactions. Responses to questions within each of these four parts were averaged to provide a score for each of these four attributes. Based on

the results of the principal component / factor analysis, the one extracted factor is labeled 'manager's influence' since this the common factor underlying the initial four MCS constructs.

### **Dependent Variables**

Firm performance was initially assessed along the following dimensions: (1) profitability, (2) sales/revenue growth, (3) morale, job satisfaction and commitment, (4) liquidity, and (5) public image and goodwill. Dimensions (3) and (5) were used directly in testing and analysis, hereafter referred to as 'employee satisfaction' and 'public image of the firm,' respectively. Dimensions (1), (2), and (4) were combined and averaged as a single measure, hereafter referred to as 'financial performance.'

## **ANALYSIS AND RESULTS**

As indicated in Tables 1 and 2 (Appendix), descriptive statistics are provided for participants, and for the independent and dependent variables, respectively.

### **Hypothesis Testing**

Hypotheses 1, 2 and 3 predict that managers will perceive national culture, organizational culture and MCS as each separately affecting firm performance. These predictions establish a base-line from which H4 and H5, the hypotheses of primary interest, can be more fully understood. That is, this study first wishes to establish that managers see national culture, organizational culture, and MCS as significantly influencing firm performance in isolation from each other (H1, H2, and H3) before subsequently testing their comparative impacts on firm performance (H4 and H5). H1, H2, and H3 are tested with individual linear regression models with the three measures of firm performance as dependent variables and the national culture (H1), organizational culture (H2), and MCS (H3) constructs as separate independent variables. Tests results are presented in Table 3 (Appendix).

As can be seen in Table 3, Panel A (Appendix), at least one of the two national culture constructs is significantly related to two of the three firm performance measures (i.e., employee satisfaction and public image). However, the regression model is not significant for financial performance. Thus, H1 is only partially supported, indicating that national culture by itself is perceived by managers as having a significant effect on firm performance as measured by employee satisfaction, and public image, but not as measured by financial performance. Similarly, Table 3, Panel B (Appendix) shows that at least two of the five organizational culture constructs is significantly related to the three firm performance measures. Thus, H2 is supported, indicating that organizational culture by itself is perceived by managers as having a significant effect on firm performance (financial performance, employee satisfaction, and public image). Finally, Table 3, Panel C (Appendix) shows that the single MCS construct is significantly related to the three firm performance measures. Thus, H3 is supported, suggesting that managers believe that MCS by itself significantly affects firm performance.

Hypotheses 4 and 5 predict that managers will exhibit a bias in their perceptions of the relative effects of national culture, organizational culture and MCS on firm performance. Specifically, H4 predicts that MCS will be seen by managers as having a greater impact on firm performance than will national culture or organizational culture. H5 predicts that organizational culture will be perceived by managers as having a stronger effect on firm performance than will national culture. H4 and H5 are tested with stepwise regression models

with the three measures of firm performance as dependent variables and the national culture, organizational culture, and MCS constructs as independent variables. Tests results are presented in Table 4 (Appendix).

As seen in Table 4 (Appendix), the single MCS variable is the lead independent variable in all stepwise models for the three firm performance measures. Thus, H4 is supported, indicating that MCS, compared to national culture and organizational culture, is perceived by managers as having the strongest effect on firm performance (as measured by financial performance, employee satisfaction, and public image). Similarly, Table 4 (Appendix) shows that an organizational culture independent variable is always stronger than any national culture independent variable present. Thus, H5 is supported, suggesting that organizational culture, compared to national culture, is seen by managers as having the strongest effect on firm performance. Also, organizational culture independent variables are present in all of the stepwise regression models, except for the initial model in which an MCS variable is the sole independent variable, while a national culture independent variable (power distance 2) is present in only one stepwise model (i.e., employee satisfaction). These latter two results further indicate that managers believe organizational culture to have a stronger impact on firm performance than does national culture, and that national culture has little, if any, affect on firm performance.

Hypothesis 6a predicts that Western managers, compared to Eastern managers, would perceive MCS as having a greater impact on firm performance than do national culture or organizational culture. H6b predicted that Western managers, compared to Eastern managers, would perceive organizational culture as having a greater impact on firm performance than does national culture. These hypotheses are tested in two stages: linear regressions followed by stepwise regressions. First, linear regression models are run with the three measures of firm performance as dependent variables and the MCS, organizational culture, national culture and East/West variables as independent variables to determine if the East/West variable was significant without reference to direction. For financial performance and public image, the East/West variable was significant ( $p = 0.019$  and  $p = 0.005$ , respectively). For employee satisfaction, East/West was not significant.

Next, stepwise regression models are run for the two significant East/West models from step one with the sample split into Eastern and Western national cultures to determine how the East/West models differed and if significance was in the expected direction. Table 5 (Appendix) shows the results of the stepwise regressions. As can be seen from this table, for both Eastern and Western managers, the models were basically the same in that the effect of MCS on firm performance was stronger than the effect of organizational culture, while national culture had no effect on firm performance. Contrary to expectations, as can be seen from the MCS coefficients and t-values, the effects of MCS on firm performance are perceived by Eastern managers to be stronger than as perceived by Western managers. However, the results (t-values) are more ambiguous with regard to the effects of organizational culture on firm performance and in some instances Western managers attribute stronger effects of organizational culture on firm performance than do Eastern managers (e.g., comparing West model 2 to East model 2 in Table 5, Panel B (Appendix)). Thus, although results indicate differences between Eastern and Western managers in their perceptions of the effects of MCS, organizational culture, and national culture on firm performance, the specific differences are usually in the wrong direction or difficult to unambiguously interpret. Further, the overall patterns in the Eastern and Western models are very similar (i.e., the MCS effect strongest, the organizational culture effect second strongest, and no national culture effect). Thus, H6a and H6b are, at best, partially supported, as indicated in Table 5 (Appendix).

### **Additional Analysis**

To further investigate managers' bias in relation to MCS, stepwise regression analysis are performed using the four MCS measures prior to being reduce to a single principal component / factor analysis variable. For the sake of space, the results are presented in summary form only in Table 6 (Appendix). All models in Table 6 (Appendix) are significant at  $p < 0.05$ . Note that the decentralization MCS variable is the strongest variable for two of the three firm performance measures (i.e., employee satisfaction and public image), and is the second strongest for financial performance (for which performance reward systems is the strongest). This outcome is interpreted as further evidence of a locus of control bias in managers' perceptions of what affects firm performance in that decentralization is probably the most explicitly control-oriented of the four MCS measures.

### **CONCLUSIONS**

This study investigated whether or not managers exhibit a locus of control bias in regard to their perceptions of the effects of national culture, organizational culture and MCS on firm performance. Because managers perceive themselves as having more control over MCS than over national culture or organizational culture, it was expected that managers would perceive MCS as having a greater influence on firm performance than would national culture and organizational culture, despite the fact that the MCS constructs used in this study focus primarily, if not exclusively, on managers' influence on and control of their organizational units, and not on specific controls of operational processes or business transactions. Similar reasoning led to the prediction that managers would perceive organizational culture as having more impact on firm performance than would national culture.

Results strongly confirm these expectations. National culture, organizational culture and MCS were first tested individually to see whether or not these three constructs separately affect managers' perceptions of firm performance. Concerning the effect of national culture on managers' perceptions (H1), at least one of the two national culture constructs is significantly related to two of the three firm performance measures (employee satisfaction and public image) but not significantly related to perceptions of financial performance. In regard to organizational culture (H2), at least two of the five organizational culture constructs is significantly related to the three firm performance measures; and in regard to MCS (H3), the single MCS construct is significantly related to all three firm performance measures. Thus, there is support (partial support for H1) for national culture, organizational culture and MCS, as separate factors, affecting managers' perceptions of firm performance.

Next, the comparative or relative strengths of national culture, organizational culture and MCS (H4 and H5) were tested. In every test, as predicted, MCS is perceived by managers as the primary determinant of firm performance regardless of whether firm performance was measured as financial performance, employee satisfaction, or public image of the firm. This is somewhat surprising given the ambivalent natures of the MCS measures, i.e., their emphasis on the manager's degree of personal control and influence instead of control of business processes. The second strongest factor affecting managers' perceptions was organizational culture, with national culture being third. In summary, MCS had more impact on managers' perceptions than did organizational or national cultures (H4). Also, organizational culture had a stronger impact than did national culture (H5). In fact, in the stepwise regression analysis, national culture was perceived by managers as a significant predictor in only one model for only one measure of firm performance. Considering the extensive research done on the organizational importance of national culture, this is a

surprising and significant result. Either prior research has overstated national culture's importance to organizations or else managers are vastly underestimating its importance when self-reporting.

Additional analysis provided more evidence for a locus of control bias in managers' perceptions of the effects of national culture, organizational culture and MCS on firm performance. For example, the decentralization MCS variable is the strongest variable for two of the three firm performance measures (employee satisfaction and public image), and is the second strongest for financial performance (for which performance reward systems is the strongest).

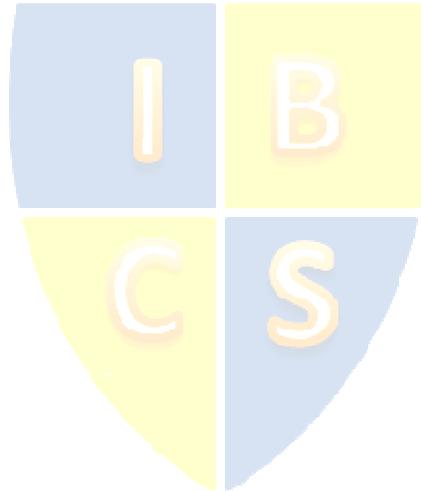
The results of the tests of Eastern managers' perceptions compared to those of Western managers (H6a and H6b) were more ambiguous in terms of supporting expectations than results of the prior hypotheses tested. Overall, there is partial support for the East/West variable affecting managers' perceptions of the impact of national culture, organizational culture and MCS on firm performance. Specifically, the East/West variable significantly affected perceptions of financial performance and public image but not of employee satisfaction. However, in regard the expected directions of the effect of the East/West variable, results were generally in the wrong direction or difficult to interpret. Opposite prediction, MCS is perceived to have a stronger impact than the other two factors on firm performance among Eastern managers than among Western managers. In regard to the effect of organization culture on managers' perceptions, there is no clear pattern in the results. Nevertheless, Eastern and Western managers as separate groups had the same pattern in which MCS was the strongest variable, organizational culture was the second strongest, and national culture was the least strong, in regard to their effect on managers' perceptions of firm performance.

In summary, results support the expectation of a locus of control bias in managers' perceptions of how national culture, organizational culture and MCS impact firm performance. Specifically, the strongest effect is from MCS, with organizational culture second and national culture third. This order is consistent with where managers believe they have the most or least control over events and processes. Also, this study finds that the above tripartite order holds when participants are divided as Eastern or Western managers. However, predictions concerning the comparison of Eastern and Western managers' perceptions received little support. These results were often in the opposite direction expected or unclear and hard to interpret.

This paper's findings have several practical implications. First, since managers are by definition those in an organization who direct the use of resources (Merchant and Otley, 2006), the existing of such a strong bias toward the impact of MCS on firm performance suggests the possibility that resources are not being distributed in an optimal manner. That is, since managers see their own control of their own units as being the primary determinants of firm performance, they are likely making decisions that allocate too many resources to their own units without consideration of a fairer allocation of resources outside their own units. They are overly concerned with the good their own units and not the overall good of the organization—maybe even at the latter's expense. It is important that the superiors of managers understand this bias in their managers as the superiors attempt to evaluate and manage the managers. Second, it might be possible to debias or at least counter this tendency in managers by giving them more control over processes and procedures outside their own units. In that case, the locus of control bias would operate in such a way that managers would not be as myopic in their decisions about the use of organizational resources.

In conclusion, the contributions of this paper are summarize as follows:

- It identifies a locus of control bias in managers' perceptions of the effects of national culture, organizational culture, and MCS on firm performance. This bias likely distorts managers' decision making and resource allocation.
- It adds to research in management perception gaps, specifically by extending the existing research in this area by investigating potential perception gaps of managers and by introducing perception gap research into cross-cultural studies looking at national culture constructs.
- It contributes to the MCS literature by focusing on MCS as a factor influencing managerial decision making as opposed to examining factors that affect preferences for MCS, i.e., MCS as an independent, not dependent, variable.
- It contributes to national culture research by suggesting that managers perceive national culture as having little, if any, impact on firm performance. This does not necessarily mean that national culture does not affect firm performance, only that managers do not perceive it as doing so.
- Finally, it contributes to national culture research by indicating that Western or Eastern managers have basically the same perceptions as to the effects of national culture, organizational culture, and MCS on firm performance, although there are differences of emphasis between the two groups.



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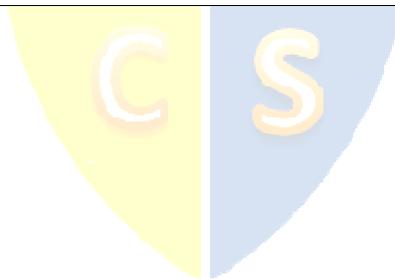
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## APPENDIX

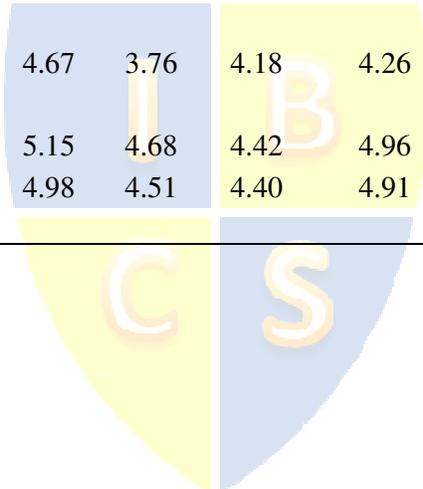
**Table 1**  
**Demographic Variables: Mean and (Standard Deviation)**

Variable	Australia	France	Hong Kong	India	Singapore	South Africa	Taiwan	US	Combined
	n=94	n=55	n=83	n=60	n=55	n=76	n=34	n=95	n=552
Age (years)	34 (1.07)	49.5 (0.96)	34.27 (1.01)	36 (1.29)	40.78 (1.17)	38.39 (1.65)	38.41 (1.17)	39.52 (1.66)	37.78 (1.44)
Education (years)	15 (2.65)	16.17 (1.98)	15.79 (1.98)	14.25 (2.28)	14.75 (2.49)	13.35 (2.31)	15.44 (1.85)	16.8 (1.13)	15.23 (2.38)
Gender (Female=F, Male=M)	F 29 M 65	F 6 M 49	F 28 M 55	F 10 M 50	F 13 M 42	F 25 M 51	F 12 M 22	F 25 M 67	F 148 M 401
Multinational	Yes 24 No 70	Yes 39 No 16	Yes 62 No 21	Yes 2 No 58	Yes 42 No 13	Yes 49 No 27	Yes 14 No 20	Yes 37 No 55	Yes 221 No 280



**Table 2**  
**Independent and Dependent Variables by Country: Standardized Mean Scores**

Variable	Australia	France	Hong Kong	India	Singapore	South Africa	Taiwan	US
	n=94	n=55	n=83	n=60	n=55	n=76	n=34	n=95
Power Distance 2	-.126	.379	.702	-.088	.096	-.114	-1.186	-.133
Individualism 2	.311	.047	-.374	-.009	-.089	.188	-.958	.220
Confrontation 2	.519	-.033	-.734	-.539	.222	.186	.173	.159
Performance 2	.331	-.089	-.413	.050	-.162	.247	-.566	.157
Communication 2	-.129	-.041	.484	-.397	-.117	.349	-.418	-.080
People-orientation 2	.037	-.470	-.126	.367	.161	.035	-.091	.025
Planning 2	-.204	.125	.047	.507	-.061	.163	-.749	-.083
Manager's Influence	.076	.497	-.248	.063	.193	.200	-.249	-.355
Employee Satisfaction	3.92	4.67	3.76	4.18	4.26	4.58	4.15	4.41
Public Image	5.14	5.15	4.68	4.42	4.96	5.53	5.21	5.37
Financial Performance	4.88	4.98	4.51	4.40	4.91	5.20	4.44	4.77



**Table 3**  
**Testing of Hypotheses 1, 2, and 3**  
**Panel A: Testing of H1 (National Culture)**

Dependent and Independent Variables	Standardized Coefficients		
	Beta	t	Sig.
Employee Power Satisfact.* Distance 2	-.175	-3.914	.000
* Individualism 2	.093	2.069	.039
Public Power Image** Distance 2	-.136	-3.005	.003
Individualism 2	.065	1.446	.149
Financial Power Perform.* Distance 2	-.095	-2.070	.039
** Individualism 2	.016	.355	.723

\*\* regression model is significant,  $p < 0.05$

\*\*\* regression model is not significant,  $p = 0.112$

**Panel B: Testing of H2 (Organizational Culture)**

Dependent and Independent Variables	Standardized Coefficients		
	Beta	t	Sig.
Employee Confrontation 2 Satisfact.*	-.013	-.302	.762
* Performance 2	-.020	-.453	.651
* Communication 2	-.137	-3.142	.002
People-orient. 2	-.126	-2.895	.004
Planning 2	-.089	-2.054	.041
Public Confrontation 2 Image**	-.003	-.076	.940
Performance 2	.000	-.022	.982
Communication 2	-.015	-.352	.725
People-orient. 2	-.165	-3.800	.000
Planning 2	-.125	-2.876	.004

Financial	Confrontation 2	-.040	-.922	.357
Perform.**	Performance 2	.059	1.356	.176
	Communication 2	.101	2.296	.022
	People-orient. 2	-.114	-2.603	.010
	Planning 2	-.107	-2.431	.015

\*\* regression model is significant,  $p < 0.05$

### Panel C: Testing of H3 (MCS)

Dependent and Independent Variables		Standardized Coefficients		
		Beta	t	Sig.
Employee Satisfact.*	Manager's Influence	.507	12.590	.000
Public Image**	Manager's Influence	.348	7.943	.000
Financial Perform.**	Manager's Influence	.424	9.987	.000

\*\* regression model is significant,  $p < 0.05$

**Table 4**  
**Testing of Hypotheses 4 and 5**  
**Panel A: Dependent Variable – Public Image**

Model		Standardized Coefficients		
		Beta	t	Sig.
1	Manager's Influence	.342	7.471	.000
2	Manager's Influence	.339	7.546	.000
	People-orientation 2	-.182	-4.056	.000
3	Manager's Influence	.334	7.494	.000
	People-orientation 2	-.180	-4.035	.000
	Planning 2	-.123	-2.748	.006

**Panel B: Dependent Variable – Employee Satisfaction**

Model		Standardized Coefficients		
		Beta	t	Sig.
1	Manager's Influence	.501	11.883	.000
2	Manager's Influence	.498	11.997	.000
	People-orientation 2	-.150	-3.621	.000
3	Manager's Influence	.513	12.341	.000
	People-orientation 2	-.151	-3.659	.000
	Confrontation 2	-.116	-2.782	.006
4	Manager's Influence	.497	11.970	.000
	People-orientation 2	-.139	-3.369	.001
	Confrontation 2	-.125	-3.022	.003
	Power Distance 2	-.115	-2.767	.006

**Panel C: Dependent Variable – Financial Performance**

Model		Standardized Coefficients		
		Beta	t	Sig.
1	Manager's Influence	.411	9.206	.000
2	Manager's Influence	.438	9.875	.000
	Communication 2	.179	4.048	.000
3	Manager's Influence	.436	9.923	.000
	Communication 2	.179	4.079	.000
	People-orientation 2	-.127	-2.924	.004
4	Manager's Influence	.430	9.830	.000
	Communication 2	.178	4.071	.000
	People-orientation 2	-.125	-2.889	.004
	Planning 2	-.101	-2.324	.021
5	Manager's Influence	.441	10.071	.000
	Communication 2	.179	4.115	.000
	People-orientation 2	-.125	-2.904	.004
	Planning 2	-.102	-2.374	.018
	Confrontation 2	-.099	-2.289	.023

**Table 5**  
**Testing of Hypotheses 6a and 6b**  
**Panel A: Dependent Variable – Public Image**

		Standardized			
Model		Beta	t	Sig.	
West	1	Manager's Influence	.293	4.864	.000
	2	Manager's Influence	.294	4.932	.000
		People-orientation 2	-.153	-2.558	.011
East	1	Manager's Influence	.416	5.848	.000
	2	Manager's Influence	.424	6.247	.000
		Planning 2	-.283	-4.161	.000
	3	Manager's Influence	.416	6.238	.000
		People-orientation 2	-.179	-2.653	.009
		Planning 2	-.259	-3.844	.000
	4	Manager's Influence	.423	6.430	.000
		People-orientation 2	-.189	-2.843	.005
Planning 2		-.284	-4.229	.000	
Confrontation 2		-.162	-2.432	.016	

**Panel B: Dependent Variable – Financial Performance**

		Standardized				
		Coefficients				
	Model	Beta	t	Sig.		
West	1	Manager's Influence	.377	6.401	.000	
	2	Manager's Influence	.402	6.886	.000	
		Communication 2	.185	3.165	.002	
	3	Manager's Influence	.420	7.172	.000	
		Communication 2	.182	3.145	.002	
		Confrontation 2	-.128	-2.202	.029	
	East	1	Manager's Influence	.467	6.716	.000
		2	Manager's Influence	.472	6.929	.000
			Planning 2	-.191	-2.811	.006
3		Manager's Influence	.465	6.916	.000	
		Planning 2	-.169	-2.489	.014	
		People-orientation 2	-.161	-2.373	.019	
4		Manager's Influence	.471	7.091	.000	
		Confrontation 2	-.150	-2.224	.028	
		Planning 2	-.190	-2.814	.006	
		People-orient. 2	-.171	-2.549	.012	

**Table 6**  
**Stepwise Regression Analysis of MCS Variables**

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*Dependent Variable: Employee Satisfaction*

Model 1: Decentralization

Model 2: Decentralization, Performance Reward Systems

Model 3: Decentralization, Performance Reward Systems, Participative Budgeting

Model 4: Decentralization, Performance Reward Systems, Participative Budgeting, People-orientation 2

Model 5: Decentralization, Performance Reward Systems, Participative Budgeting, People-orientation 2, Budgetary Control

Model 6: Decentralization, Performance Reward Systems, Participative Budgeting, People-orientation 2, Budgetary Control, Confrontation 2

Model 7: Decentralization, Performance Reward Systems, Participative Budgeting, People-orientation 2, Budgetary Control, Confrontation 2, Power Distance 2

*Dependent Variable: Public Image*

Model 1: Decentralization

Model 2: Decentralization, People-orientation 2

Model 3: Decentralization, People-orientation 2, Budgetary Control

Model 4: Decentralization, People-orientation 2, Budgetary Control, Planning 2

Model 5: Decentralization, People-orientation 2, Budgetary Control, Planning 2, Performance Reward Systems

*Dependent Variable: Firm Finance Performance*

Model 1: Performance Reward Systems

Model 2: Performance Reward Systems, Decentralization

Model 3: Performance Reward Systems, Decentralization, Communication 2

Model 4: Performance Reward Systems, Decentralization, Communication 2, Budgetary Control

Model 5: Performance Reward Systems, Decentralization, Communication 2, Budgetary Control, People-orientation 2

Model 6: Performance Reward Systems, Decentralization, Communication 2, Budgetary Control, People-orientation 2, Planning 2

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