It Governance In China: Cultural Fit And IT Governance Capabilities

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IT GOVERNANCE IN CHINA: CULTURAL FIT AND IT GOVERNANCE CAPABILITIES

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Abstract

Despite the researchers’ and practitioners’ enthusiasm for the global diffusion of information technology governance (ITG) concept and frameworks, there is a general lack of cultural awareness in ITG research. This paper examines both whether Chinese culture influences the performance ITG capabilities in organizations and how this influence is manifested. An analytical framework rooted in contingency theory is used in this paper to examine the fit (i.e., complementarity or conflicting) between ITG capabilities and Chinese cultural values. On the basis of the dynamic nature of cultural values, this paper proposes four conditions that are expected to compensate existing conflicts. These conditions are: a firm’s dependency on Confucian entrepreneurship; social reputation; and shared goals; as well as its exposure to international business environment. The authors also bridge general cultural dimensions and indigenous Chinese culture values, which enables a cross-cultural comparison to be made. By exploring the potential influences of national culture on ITG, this paper contributes to the contextualization of ITG and benefits the cross-country transfer of ITG concepts and practices.

Keywords: IT governance, capabilities, Chinese culture, contingency theory
1 INTRODUCTION

Information Technology (IT) plays an undeniably essential role in today’s business world. Increasing expenditures and investment costs associated with IT, along with the risk of failing to achieve expected goals, leads a firm to expect value-added outcomes from effective information technology governance (ITG) (ITGI, 2003; McKay, Marshall, & Smith, 2003). Successful ITG facilitates a firm’s competitive advantage in an era that is characterized by rapid IT development and globalization. Moreover, ITG aims to exploit value from IT (ITGI, 2003; Van Grembergen, 2004) by compensating inadequate managerial procedures (McKay, et al., 2003). This is also explicitly associated with the long-running IT Productivity Paradox (Wilkin & Chenhall, 2010) debate about whether IT contributes to the growth of economic productivity (Brynjolfsson, 1993).

The global transfer of the ITG concept is characterized by standardization or alleged ‘best practices’. However, evidence indicates that corporate governance systems differ across national culture clusters (Licht, Goldschmidt, & Schwartz, 2005, 2007). Therefore, the appropriateness of global standardization of ITG practices and the worldwide diffusion of the ITG concept are called into question without the necessary adaptations taking place. In addition, studies in information systems (IS) also indicate that the outcomes from IT use can vary greatly among countries as a result of the interaction between national culture and IT (Leidner & Kayworth, 2006). Yet, there is a scarcity of ITG research into the influence of different national cultures on ITG and the socio-cultural aspects of ITG are largely neglected in the global diffusion of ITG concepts.

Presently there is a lack of research into ITG in China within the international literature. China is the world’s second biggest economy and the first priority host of foreign direct investment (FDI) (UNCTAD, 2010). A number of regulations related to ITG have been released in China (e.g. (China Securities Regulatory Commission, 2008). However, Yongyou (2009) indicated that the typically low effectiveness of ITG restricts the utilization of IT in China’s enterprises. In comparison to the international ITG literature, some leading Chinese researchers have highlighted the importance of considering cultural factors when introducing the ITG concept and framework into China (Meng, Hao, Yu, & Sun, 2012). What appears to be the case is that there exists a common worry among Chinese researchers that the interaction between ITG and Chinese culture may result in unexpected consequences. Such concerns raise research questions about the potential for Chinese culture to influence ITG capabilities and how this influence may be demonstrated. We seek to develop an answer to these questions by examining the congruence between ITG and the Chinese cultural context.

Throughout this paper the authors draw upon the conceptual paradigm of ITG capabilities (Peterson, 2004b; Peterson, O’Callaghan, & Ribbers, 2000) and Chinese cultural values (Fang & Faure, 2011; Lu & Heng, 2010; Martinsons & Hempel, 1998) to examine the moderating effect of Chinese cultural values on the performance of ITG. Throughout the literature review we propose the following taxonomy of ITG themes. The etic and emic culture measures are then linked to highlight the distinctive values of Chinese society whilst ensuring that they can be compared within a global context. The analytical framework is then proposed at which point we clarify the fit between Chinese cultural values and ITG capabilities. Beyond that, we also preset a series of conditions in which the disadvantages caused by cultural conflicts can be compensated and their implication for researchers and practitioner explored.

2 LITERATURE REVIEW

ITG concepts are mainly drawn from corporate governance (ITGI, 2003) for the selection and mechanisms required by a firm to obtain the required IT capabilities (Henderson & Venkatraman, 1993). Van Grembergen (2004) defined ITG as the organisational capacity by which the formulation and implementation of IT strategies are controlled by key IT stakeholders (e.g., the
board, executive management, and IT management) to ensure the fusion of business and IT. However, concepts in the ITG domain are fragmentary and, as a result, there exists a “terminology jungle” (Peterson, 2004a). Thus, in Table 1 we present a taxonomy which clarifies the current main themes in ITG literature.

### 2.1 IT governance

<table>
<thead>
<tr>
<th>Main Themes</th>
<th>Synonyms terms used</th>
<th>Description</th>
<th>Key sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>Locus, form, arrangement, archetype</td>
<td>The allocation of decision-making authorities and accountabilities, which focuses on the locus of decision-making (centralization, decentralization, or hybrid) in a set of decision making domains.</td>
<td>Peterson, et al. (2000); Sambamurthy &amp; Zmud, (1999); Weill &amp; Ross, (2004)</td>
</tr>
<tr>
<td>Multi-facet</td>
<td>Goals, focuses</td>
<td>Five main focus areas for IT to be governed, which are all driven by stakeholder value. Value delivery and risk management represent outcomes. Strategic alignment, resource management (which overlaps them all) and performance measurement account for drivers.</td>
<td>Buckby, Best &amp; Stewart (2008); ITGI, (2003); Wilkin &amp; Chenhall, (2010)</td>
</tr>
<tr>
<td>ITG capabilities</td>
<td>Integration mechanisms, coordination, practices, capabilities</td>
<td>The (cross-functional) managerial ability through which the multifaceted activities associated with the planning, organization, and control of IT are directed and coordinated. Integrative capabilities present as a mix of formal and relational structures, processes, and mechanisms.</td>
<td>De Haes &amp; Van Grembergen (2004, 2009); Peterson (2004a, 2004b); Peterson et al. (2000)</td>
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</table>

**Table 1: A taxonomy of themes in ITG literature**

ITG structure represents the diffusion of decision-making authorities and can be categorized into different patterns of decision-making in a range of decision domains (e.g., IT infrastructure, IT architecture, IT principle, business demands, and IT investment) (Weill & Ross, 2004). Among the three themes listed in Table 1, ITG structure once dominated early ITG studies; whereas multi-facet themes (ITGI, 2003) present the diverse goals and tasks of ITG. In the evolution of the ITG concept, the paradigm of ITG capabilities includes various value goals and coordination efforts relevant to achieving these goals (De Haes & Van Grembergen, 2004; Peterson, 2004a, 2004b). An ITG capabilities paradigm is defined as “the (cross-functional) managerial ability to direct and coordinate the multifaceted activities associated with the planning, organization, and control of IT” (Peterson, 2004a, p. 14). We follow the ITG capabilities paradigm because it represents the trend in ITG evolution as well as a holistic perspective (Peterson, 2004b). This perspective can often be operationalized as the combination of three types of capabilities: structure; process; and relational mechanism, as demonstrated in Table 2 (De Haes & Van Grembergen, 2009; Peterson, 2004a).

As illustrated in Table 2, three types of ITG capabilities include a series of mechanisms that are positively associated with ITG performance (Peterson, et al., 2000; Ribbers, Peterson, & Parker, 2002). According to Peterson (Peterson, 2004a), structural capabilities are a series of methodologies and formalized mechanisms for the fusion of business and IT decision-making functions. Process capabilities represent the degree to which IT decision-making and monitoring follows specified rules and standardized procedures. Peterson (2004a) indicated that structural and process ITG capabilities are more mandatory and tangible, and are often implemented in a top-down manner. In contrast, relational capabilities transcend functional boundaries and represent flexible coordination and solutions (Peterson, 2004a). Relational capabilities are intangible and tacit, thus they are hard to formalize and standardize. For example, strategic dialogue and informal
communication, high levels of stockholder participation, and shared understanding also provide complex coordination that complement formalized structures and processes (Peterson, et al., 2000).

2.2 ITG capabilities

<table>
<thead>
<tr>
<th>Capability</th>
<th>Description</th>
<th>Key mechanism</th>
</tr>
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<tbody>
<tr>
<td>Structural IT governance capability (SC)</td>
<td>Structural capability takes the shape of formal positions and (integrator) roles, and/or formal groups and (management) team arrangements</td>
<td>Formal position and role; committees and councils</td>
</tr>
<tr>
<td>Process IT governance capabilities (PC)</td>
<td>This capability is the formalization and institutionalization of strategic IT decision-making or IT monitoring procedures</td>
<td>Strategic decision-making and monitoring</td>
</tr>
<tr>
<td>Relational IT governance capability (RC)</td>
<td>The key to relational capability is the voluntary and collaborative behaviour of different stakeholders to clarify differences and solve problems in order to find interactive solutions</td>
<td>Business-IT pattern</td>
</tr>
</tbody>
</table>

Table 2: ITG capabilities (source: adapted from Peterson, 2004a)

2.3 Culture and ITG

ITG is a subset of corporate governance (ITGI, 2003) and involves establishing control over IT use (Van Grembergen, 2004). Cultural influences have been identified in these two domains related to ITG. For example, the selection of a corporate governance system can be determined by national culture (Licht, et al., 2005, 2007). In the IS domain, Leidner and Kayworth (2006) indicated that conflicts may occur when there are cultural differences between the country where IS practices are developed and the country where the practices are applied. Although there are significant cultural implications discussed in the literature on both IT and corporate governance domains, it appears that ITG is presented as a culture-free concept. Moreover, studies have also demonstrated how national culture influences the individual dimensions of ITG capabilities. For example, vertical communication (Martinsons, Davison, & Martinsons, 2009) and the adoption of centralized approaches in IS decision-making (Martinsons & Westwood, 1997) will be more common in a hierarchy culture. Yet, there is a lack of research into cross-cultural comparisons of ITG. Cheng (1994) indicated that without cross-country validation, knowledge developed from a single country is incomplete, unless knowledge is invariant across different national context and incorporated the societal context into the analysis of the phenomenon under study. Peterson (2004b) and De Haes and Van Grembergen (2009) admitted that a limitation to the ITG capabilities paradigm is that it has not been applied or validated in enough countries. Therefore, integrating ITG capabilities enables a firm to achieve superior organizational performance from their IT.

However, it is apparent that the majority of ITG studies are based on Anglo-Saxon countries such as Australia, the UK and the US, which may be regarded as a single cultural cluster. Although empirical studies about the decision-making structures of firms in non-Western countries are very rare, some of them still imply an association between national cultural features and ITG practices. For example, Wang (2010) investigated Chinese listed companies and found the vast majority of these companies applied only the IT monarchy and business monarchy models in regard to all ITG decision domains. This centralization implies a potential countrywide pattern in ITG structures. On the other hand, Peterson et al. (2000) believed that a hybrid structure is more likely to gain superior advantage for firms. However, although ITG in Japanese companies is dominated by the feudal model, it is reported that their average ITG performances are better than their US counterparts (Itakura, 2007). Nfuka and Rusu (2010) compared organizations in Australia and Tanzania and it appears that the latter seems to care less about documentation and explicit principle setting. Actually this statement can also be extended to other non-Western countries such as Korea (Lee, Lee, Park, & Jeong, 2008) and China(Martinsons, et al., 2009). Hence, although some ITG researchers are enthusiastic about the diffusion of standardization or best practices, careful
consideration still needs to be given as to whether or not the ITG frameworks need to be adapted to different countries.

3 THEORETICAL FOUNDATION

3.1 National culture

This paper adopts Hofstede et al.’s (2010, p. 6) definition of culture as “the collective programming of the mind which distinguishes the members of one category of people from another”. A number of researchers have developed cultural dimensions to measure national culture (Hofstede, 2001; R. House, Javidan, Hanges, & Dorfman, 2002; Schwartz, 1994). It seems that Hofstede’s dimensions (listed in Table 3) enjoy a comparatively predominant position, which represents a type of metric in most cross-cultural comparisons. Moreover, other cultural researchers (e.g., House et al., (1999)) focused more on the manager’s value in relation to Global Leadership and Organizational Behavior Effectiveness (GLOBE) by drawing upon Hofstede’s dimensions. Compared to Hofstede’s dimensions, House et al. (1999) specified more directly some of the prior dimensions. An example of this is that they further divide collectivism into two subcategories: ingroup collectivism and institutional collectivism. Cultural fit is a type of complementary effect of national culture on the operation and managerial practices of a firm (Newman & Nollen, 1996). As such, in this paper we categorize the consequences of cultural fit as “complement” and “inhibit”. They refer to whether a given cultural value and social environmental factor facilitates or conflicts with the performance of ITG capabilities.

3.2 Chinese culture

The uniqueness of the Chinese culture leads to the development of new cultural dimensions; namely, long-term orientation or the Confucianism Dynamic (Hofstede & Bond, 1988). This somewhat implies the inefficiency of general cultural dimensions for dealing with the complexity and uniqueness of Chinese cultural characteristics. There are a wide range of factors that can influence Chinese business culture, such as paternalism, personalized and high-context communications (Martinsons & Westwood, 1997), guoqing (condition of the PRC), Confucianism, Chinese stratagems (Ghauri & Fang, 2001), and exposure to Western influences (Fang, Zhao, & Worm, 2008). Apart from these factors, Martinsons and Westwood (1997) contrasted Western and Chinese philosophy and then focused on the Confucian-based values and behaviors which is regarded as the distinctive characteristic of Chinese management systems. They also mapped the perceived Chinese cultural features such as “guanxi” (meaning interpersonal relationship or social network) and “mianzi” (referring to personal reputation and social capital) into their dimensions. To emphasize the cultural features of China, several researchers such as (Hwang, 1998; Luo, 1997) have demonstrated an interest in isolating the individual indigenous values of China from the general cultural dimensions such as those developed by Hofstede.

It is important to balance cross-cultural comparison and localized specification. Dimensional analysis is the typical approach adopted in IT-culture studies. However, cultural dimensions should be configurable and should not only consider an etic approach from the outside world, but also the emic perspective of indigenous cultural values (Morris, Leung, Ames, & Lickel, 1999; Tsui, Nifadkar, & Ou, 2007). To link globally used cultural dimensions with localized measures, we examine the congruence between the two dimension types and identify considerable overlaps. Thus, we adapted the cultural dimensions proposed by Martinson and Hempel (1998), which were also reorganized by Lu and Heng (2010), to serve this research. The adaptation was undertaken because the set of dimensions help us to bridge the localized cultural perspective and internationally well-adopted dimensions specialized for the use in the IT domain. As illustrated in Table3, by linking Hofstede’s five dimensions (etic perspective) with relevant Chinese culture values (emic perspective) we are able to refer to a wide range of international literature whilst focusing on particular aspects of indigenous Chinese cultural characteristics.
<table>
<thead>
<tr>
<th>Hofstede’s dimensions</th>
<th>Relevant elements of Chinese culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal dimension</td>
<td></td>
</tr>
<tr>
<td>Long power distance</td>
<td>The extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally</td>
</tr>
<tr>
<td>Uncertainty tolerance</td>
<td>The extent to which a culture programs its members to feel either uncomfortable or comfortable in unstructured situations</td>
</tr>
<tr>
<td>Collectivism</td>
<td>The degree to which individuals are integrated into groups</td>
</tr>
<tr>
<td>Long-term orientation</td>
<td>The fostering of virtues oriented toward future rewards; in particular, perseverance and thrift</td>
</tr>
</tbody>
</table>

Table 3:  
Linking etic and emic perspectives of Chinese culture

(source: adapted from Hofstede, 2001; and Lu and Heng, 2010)

Although prior Chinese cultural frameworks contribute to the generalization of Chinese cultural values, they provide few suggestions about which values influence ITG capabilities and how they affect ITG. More importantly, the contingent effect between cultural factors and other environmental factors implies that some environmental conditions may be able to compensate for the disadvantages caused by culture-ITG conflicts. These contingent effects will be of value for researchers to further consider these dynamic interplays and to make the best use of cultural influence.

Contingency theory implies that organizational capabilities depend on their environment rather than effect in a vacuum (Dale Stoel & Muhanna, 2009). Given cultural values are contingencies, their complementary effect on ITG capabilities can be viewed as recourses that contribute to the superior performance of a firm. Ignoring cultural factors and only computerizing the business process will not prove adequate enough for a firm to achieve the best IT performance (Martinsons & Davison, 2007). Similarly, although ITG capabilities shape a firm-specific competency (Peterson, 2004a), researchers need to take into considering the potential moderation of socio-cultural factors. This is primarily because ITG capabilities are not sufficient in predicting overall ITG outcomes. Therefore, to improve understanding of how ITG performs in a certain cultural context, this paper adopts contingency theory as the lens through which we conceptualize the fit between Chinese cultural dimensions and ITG capabilities as moderating factor(s) of the performance of ITG. In turn, firms that can configure their ITG capabilities to make the best of their national culture are expected to achieve superior IT performance.
We would argue that cultural factors need to be taken into account in ITG cross-country research as an overlap of national cultural groups and corporate governance systems is evident (Licht, et al., 2005, 2007), along with cross-cultural conflicts in IT transfers (Leidner & Kayworth, 2006). To better understand the ITG cross-country transfer, we further suggest that the effect of ITG capabilities can be differentiated by the cultural differences between the country where the model of ITG capabilities is developed and the country where these mechanisms are deployed. To explore these effects we conceptualize the complement of national culture to ITG as a set of contingent factors on which ITG capabilities depend. By deconstructing the elements of ITG and Chinese culture, we incorporate ITG capabilities and cultural characteristics into an analytical framework (Figure 1). A set of propositions are presented to clarify the intervention of culture by examining the congruence between ITG capabilities and culture in the framework. Figure 1 demonstrates how culture impacts the effects of ITG capabilities by regarding cultural factors as contingencies on which each layer of ITG capability depends. Moreover, cross-country transfer of ITG deployment and integration may also cause an environmental dynamic. On the basis of these two factors we present the following proposition:

Proposition 1: Chinese cultural characteristics moderate a firm’s performance of ITG capabilities.

The following dimensional analysis can be summarized in Figure 1, where “+” represents the complementary effect of culture that facilitates the firm’s performance of ITG, and “-” represents particular ITG capabilities that may be inhibited by the cultural environment. Chinese culture facilitates vertical communication to maintain the status quo (Lu & Heng, 2010). Although it is easy to initiate a campaign for IT related processes, inhibited horizontal communication and formal IS planning will be less analytical and more directive (Martinsons, et al., 2009; Martinsons & Hempel, 1998). As Wang (2010) reported, in Chinese listed companies the dominating shareholders will tend to occupy decision-making rights while delegating decisions and tasks that they perceive to be more technological to IT departments. In addition, Wang’s report indicated that strategic planning is widely proposed among these companies, but few of these strategic plans are explicit. Compared to Western cultures, China and south-eastern Asian countries care less about explicitly defined rules and directions and planned business process models (Martinsons, et al., 2009). This implies formal and documented IT plans and ITG capabilities may operate more effectively in Western countries, while being more constrained in China. Collectivism and the long-term orientation culture of China appear to be positively associated with cross-section communication between business and IT. However, the individualistic collectivist culture (Lu & Heng, 2010) in China implies that stakeholders’ participation, better communication, and shared understanding may be influenced by the complex relationships between informal or formal groups or circles.
5 DIMENTIONAL ANALYSIS

5.1 Hierarchy

The “Chinese Empire” was its own universe for two millennia as the social systems were enforced without interruption (Lewis, 2000). According to Confucian principles, the stability of society in China is based on unequal relationships between people; a view which is almost diametrically opposed to those associated with Western cultures (Lewis, 2000). Chinese people respect personal influences more than the rule and law, which to some extent results in the dependence of social order on rule of man. As a result, the dominant position and authority of top management is too dominant to be challenged by other “champions” (Lu & Heng, 2010). Thus decision-making is highly centralized and key stakeholders dominate the decision-making and steering committee, with the aim being to improve the efficiency of formalized planning and to increase the acceptance of assigned roles.

As discussed above, hierarchical cultures facilitate vertical communication and maintain the status quo. In a hierarchical culture it is easier for management to initiate a campaign for IT related processes while inhibiting horizontal communication and stakeholder participation. The demand for more hybrid decision-making (Peterson, et al., 2000) will likely causes misalignment between organizational structure and hierarchical social norm. Although top management may demonstrate enthusiasm towards IT-enabled monitoring and controlling (Lu & Heng, 2010), their decision-making tends to be less analytical and more intuitive. Moreover, this cultural type hinders relational capabilities in terms of the dialogue, communication and participation of stakeholders in relation to group decision-making. Thus, it makes the ITG related committees less functional and reduces their overall power. As information is highly valued as a major personal asset (Lu & Heng, 2010), the allocation and configuration of information resources will be hindered. Consequently, difficulties in sharing of information in decision-making can thereby reduce the likelihood of mutually understanding.

Proposition 2: The Chinese hierarchical culture will facilitate the structural capabilities while inhibit the process and relational capabilities.

5.2 High context communication

By way of comparison, it may be stated that Western cultures give greater emphasis to more accurate and timely management practices; whereas China and south-east Asian countries care less about well-defined rules and directions along with a planned process model (Martinsons, et al., 2009). Peterson et al. (2002) stated that the environmental dynamic increases uncertainty. As a result it produces a positive correlation with relational capabilities, but a negative correlation with comprehensiveness of ITG process capabilities. This implies that in the transition economics of China, the Chinese uncertainty tolerance value may lead to more uncertainty, and therefore less effective formalization and process capabilities. Likewise, the systematic collection and analysis of data is less important in decision-making in China because it is based largely on intuition and experience; and structural analysis plays a less important role (Martinsons & Westwood, 1997). This can be an illustration of the synthesis process of problem solving by Chinese people (Lu & Heng, 2010); as a consequence, monitoring and decision-making tend to be more holistic and long-term oriented (Martinsons & Westwood, 1997).

With reference to Chinese communication methods, the meaning of a message depends on its context as well as its content. People appreciate huauxu, meaning they tend to imply the meaning while constraining their judgment with an implicit stylistic expression. This may lead to a series of confusions when considered in relation to the deployment of ITG as this requires transparency, accountability and measurability. However, this communication style may promote shared understanding and negotiation, encourage compromise between stakeholders, as well as facilitate partnership success (Mohr & Spekman, 1994). Flexible decision-making and high context decision-making styles may encourage stakeholders to collaborate for long-term strategies even though they will not gain a reward for the individual investment.
Proposition 3: Chinese high context culture will inhibit structure and process capabilities, but will facilitate relational capabilities.

5.3 Individualistic collectivism

Collectivist cultures prefer effective teams (Martinsons, et al., 2009) to individual responsibility (Newman & Nollen, 1996). However, it is notable that variance exists in relation to the use of the term ‘collectivism’, such as when it is used to refer to in-group collectivism (R. J. House, et al., 1999). Chinese collectivism culture, in particular, can be more precisely described as individualistic collectivism because the shared goals and interests are typically associated with an individual’s inner social circles such as relatives, community, working unit, schoolmates (Lu & Heng, 2008, 2010). In China communication and shared understanding in one’s inner circle will be easier than outside this circle. This phenomenon reflects the concept of guanxi, which refers to either the interpersonal relationship or one’s relational circles or networks (Luo, 1997). Thus, it may be regarded as being synonymous with individualistic collectivism. With regard to relationships between individuals, guanxi can be measured by their interdependence. In this type of Chinese cultural practice, the primary basis for power is with the person rather than the position that he or she has (Martinsons & Westwood, 1997). Hence, staunch loyalty to each other or to a common leader is paramount to Chinese people within a group.

As such, Guanxi networks may influence the planned deployment and effect of formal structures and processes. This may hinder the committee functionality or general communication exchanges if the participants are not from the same group. On the other hand, guanxi can be linked to both hierarchy and collectivism because people tend to assign the priority of guanxi-building to those who are of a higher social class, or who are in the four groups already mentioned. This may also reduce the motivation to achieve horizontal coordination. Thus, even though the guanxi concept reflects the preference of social connection, the individualistic nature still leads to uncertainty and obstacles in cross-group communication. Moreover, although guanxi can be an important resource in a firm, identifying those guanxi circles and whether they complement the deployment of ITG is complex. For example, if committees and stakeholders consist of people from different circles, it is hard to estimate the extent to which these circles or their members can influence the deployment of ITG in terms of role defining, decision-making and communication. Identifying these complex guanxi networks is by no means an easy job, and it is less likely for the board to think it is worthwhile. Therefore, we would summarize that:

Proposition 4: Chinese individualistic collectivism culture will inhibit structure capabilities and process capabilities; whether it will impact relational capabilities or not will depend on the complementary effect of guanxi circles.

5.4 Harmony maintenance

The Confucian principle emphasizes maintaining social harmony in nature rather than controlling it. As a result, the Chinese tend to form their views from a holistic perspective and with a longer-term orientation in mind. This dimension primarily focuses on their attitude towards the concept of time. Thus, being diligent as the individual and having a conscience in business are both important. However, apart from long-term oriented and holistic thinking, harmony maintenance contains more Chinese social values, and this dimension also demonstrates a correlation to the other dimensions. For example, Martinsons & Hempel (1998) indicated that to maintain harmony Chinese people tend to respect the status quo and be passive to sudden change. Thus, people have a strong motivation to comply with their normative beliefs (Lu & Heng, 2010). This also makes formal IT planning and documentation less important in China (Martinsons & Hempel, 1998). Harmony maintenance is also related to the protection of both mianzi (Graham & Lam, 2003) and guanxi (Buttery & Leung, 1998). This, as discussed above, will hinder the use of standardized controlling and monitoring methodologies (Lu & Heng, 2010). However, harmony maintenance encourages holistic thinking, negotiation (Graham & Lam, 2003), and mutual understanding. Thus, 

Proposition 5: Chinese harmony maintenance as a factor of their culture will inhibit structure and process capabilities, but will facilitate relational capabilities.
6 COMPLEMENTARY CONDITIONS

It can be summarized that Chinese cultural values present negative influences on ITG capabilities in many aspects. However, adaption of management practices can also provide proper conditions to mitigate the conflicts and achieve congruence between ITG capabilities and the given cultural environment (Newman & Nollen, 1996). Although Lu and Heng (2010) believed that Chinese cultural values may inhibit IS practices such as planning, adoption, and implementation as a whole, they also suggested that when management deals with the roles of culture appropriately it can facilitate IS and benefit organizational goals. This seemingly contradictory statement is actually in line with the Chinese philosophy of yinyang (Fang & Faure, 2011) which is the basis of Taosim. Yinyang may be described as two bipolar dimensions that coexist mutually; an example of which is the above mentioned individualistic collectivism (Fang & Faure, 2011).

Lu and Heng (2010) offered a series of managerial suggestions to appropriately handle the negative effect of Chinese culture. Similarly, to compensate for the disadvantages caused by the four Chinese cultural factors discussed above, we suggest four organizational conditions accordingly: a firm’s dependency on Confucian entrepreneurship; a firm’s dependency on social reputation; social connection and shared goals; and exposure to the international environment. These conditions are contingent on indigenous Chinese cultural values and are expected to compensate for the negative impact of cultural effects. Contingency theory also supports the analysis on the interdependency nature of ITG related mechanisms and their environmental factors. Thus, we discuss the potential complementary effects of these conditions as follows:

6.1 Confucian entrepreneurship

The intertwining hierarchical norm and paternalistic tendency in Chinese culture make the roles of top management quite diverse; they can be boss, parents, coach, etc. Despite the influence of Western philosophy, the paternalistic tendency towards the role of top management and the subsequent power structures are hard to shake (Lu & Heng, 2010). Furthermore, the determinant role of top management and a firm’s dependency on the entrepreneurship of the manager seem to be increasing. This is probably due to economic developments that enhance top management’s resources and powers. Thus, as top managers play an increasingly pervasive role in the firm, key decisions become highly centralized (Martinsons & Westwood, 1997). Thus, changing the attitude of top management toward ITG related processes and coordination is vital.

On the other hand, market competition and trends towards modernization increase the adoption of advanced management methodology and technologies, which leads to a dependency on knowledgeable senior managers. Rushang, or Confucian businessman (Tsui, Zhang, Wang, Xin, & Wu, 2006) – which refers to a well-educated and knowledgeable business leader – has long been an admirable title. Typically, a rushang needs to present with Confucianism characteristics such as humility, gentleness, and being socially responsible. Because mianzi is one’s social capital in Chinese society, the top manager’s overwhelming influence on his or her company makes his or her mianzi an influential factor on the operations of the firm. Thus, another significant requirement of a rushang is that their powers be derived from Confucian morality, because “according to Confucian cultural ideal, high positions in the social structure should be occupied by those who stick to the moral standards or moral principles” (Hwang, 1998, p. 22). However, the entrepreneur may lose mianzi because of the bureaucracy or for being unfamiliar with modern corporate regulations and standards. In such cases they will be inspired to adopt standardized processes and democratic decision-making. As Confucian principles attach greater responsibility to the senior figures and expect them to be more knowledgeable, open, and to have humility (Lewis, 2000), these characteristics facilitate not only formalized capabilities, but also improvements to structural decision-making and the participation of professionals. Thus, it enables entrepreneurship to complement ITG practices. To sum up, given China is a hierarchical society; admiring rushang is an important influential factor for Chinese companies in order to complement formalized process capabilities, horizontal communication and stakeholder participation.
Proposition 6: The appreciation of Confucian entrepreneurship will complement process capabilities and relational capabilities.

6.2 Dependency on social reputation

If dependency on rushang is about the mianzi of an individual, adoption of new technology and operational processes is more about the mianzi of a firm (Lu & Heng, 2010). Driven by the pressures of market competition from both domestic and international competitors, firms with contemporary technology, process standardization and management formalization are typically regarded as having a good reputation by customers and potential investors. Mianzi is measurable (Cardon & Scott, 2003), thus it can be a key resource for Chinese companies that depend on social capital and public impression. When the Chinese care less about accurate data and reporting, the mianzi of a firm and its leaders may play a more important role in establishing a firm’s social reputation. It is common that a lot of Chinese companies print the mark of international standards that they have passed on their employee’s business cards. As discussed above, the adoption of contemporary technology and management standardization enhances formalization of process. For example, although the adoption of IT may be driven by the need to establish a firm’s mianzi, the implementation of IT is nonetheless usually co-exist with information sharing (Lu & Heng, 2010) and business process change (Martinsons & Davison, 2007; Martinsons, et al., 2009). Hence:

Proposition 7: The dependency of a firm on their social reputation will complement structural capabilities and process capabilities.

6.3 Social connection and shared goals

Guanxi can be used externally. Strong connections with partners outside the firm may minimize the conflicts among small, disparate circles. Because ITG is the responsibility of the board and top management to create value for stakeholders (ITGI, 2003), thus guanxi of the directors and top management team can expect to be merged as a type of resources for the shared responsibilities and strategic goals. Another way to minimize conflict between guanxi circles is to unify their expectations through the creation of shared goals. This requires the board to consider incentives and business process-reengineering to unify the interests and goals of informal groups and stakeholders. As a firm’s dependency on external connections and shared goals among the stakeholders leads to higher shared understanding and communication (Chow & Chan, 2008), it may therefore be proposed that:

Proposition 8: Encouraging connection and shared goals among stakeholders will complement relational capabilities.

6.4 Exposure to international environment

The Chinese do not like dramatic change, however, they accept stepwise change (Martinsons & Hempel, 1998). Thus, although guanxi is strongly embedded within Chinese values, its significance is weakened by Chinese organizations’ exposure to Western technology and business practices (Kshetri, 2007). As the Chinese are basically compliant (Lu & Heng, 2010) they will accept change as it is demanded (Shang & Seddon, 2000). Due to a more open economic policy direction as well as economic reformation, the Chinese people have started to live in world with changing regulation systems, management methods and environment (Qu & Zahedi, 2003). Despite the fear of losing face (Martinsons & Hempel, 1998), the desire for survival in a highly competitive global market and the benefits that are derived from global cooperation will encourage Chinese companies to adopt Western management philosophies and business culture (Leung, 2008). Thus

Proposition 9: Integrating into the international business environment will complement structure and process capabilities.

7 CONCLUSION

To date, we would suggest that Chinese culture influences ITG performance. In most aspects, these influences can be negative. However, to improve the ITG performance we also suggest a series of
conditions in which conflicts between cultural influences and ITG capabilities can be mitigated. All propositions presented are comparative as the cultural dimensions are also developed as a result of comparisons between cultural clusters. We suggest that ITG researchers and practitioners pay attention to cultural issues and find measures to compensate for the subsequent undesirable effects.

By exploring the potential influences of national culture, this paper contributes to the contextualization of ITG and benefits the cross-country transfer of ITG concepts and practices. To the best of our knowledge this paper may be the first study to consider and explore the national cultural influence on ITG, especially in the Chinese cultural context. In the context of IT pervasiveness and globalization, we suggest that contributions to the body of knowledge on strategic IS, IT value creation and corporate governance domains can be achieved by more research into ITG-culture interactions. In addition, studying the theory-practice gaps in China may also improve the understanding of ITG diffusion for IT vendors and reduce the uncertainty of ITG context for the FDI stakeholders.

8 LIMITATION AND FUTURE RESEARCH

Due to the conceptual nature of this paper, a series of limitations still exist. The propositions in this paper need to be empirical validated. This is at the top of the list of priorities in our research agenda. Moreover, clarifying the relationship between ITG capabilities and other relevant factors such as ITG decision-making structure or IT capabilities should also be of great interest to future researchers.

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