

A CONCEPTUAL MODEL OF CULTURAL DISTANCE, MNC SUBSIDIARY ROLES, AND KNOWLEDGE TRANSFER IN CHINA-BASED SUBSIDIARIES

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Abstract. *This conceptual paper seeks to review the literature on international strategic management, examine the trilateral interactive relations among national culture, subsidiary strategic context and knowledge transfer between China-based subsidiaries and their headquarters. Based on the Resource-Based View (RBV), cross-cultural management theories and other studies of international strategic management, we propose a conceptual model for understanding the interaction between cultural distance and subsidiary strategic context in the knowledge transfer process within MNCs, and ultimately the impact on the performance of subsidiaries. Drawing foundational support from this new model, we explore implications for future research.*

Key words: *MNCs, knowledge transfer, subsidiary role, cultural distance, China*

Introduction

MNCs have been conceptualized as worldwide networks of knowledge acquisition, transfer and integration across countries (Gupta & Govindarajan, 2000). Their abilities to access and transfer knowledge across borders have been increasingly recognized as the source of competitive advantages. However, transferring knowledge within the MNC network is difficult and the literature has identified a range of external and internal factors that hamper the knowledge transfer process within MNCs (Birkinshaw, 2001; Holden, 2001; Jensen & Szulanski, 2004).

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Externally, national culture is one of the most important factors that influence cross-border knowledge transfer (Barkema, Shenkar, Vermeulen & Bell, 1997; Duan, Nie & Coakes, 2010; Li & Scullion, 2006; Qin, Ramburuth & Wang, 2008). It has been argued that the execution of cross-border knowledge transmission between companies or units located in dissimilar cultural contexts is more intricate and difficult than that between companies or units located in similar cultures (Bhagat, Kedia, Harveston & Triandis, 2002; Bresman, Birkinshaw & Nobel, 1999). The importance of understanding the impact of national culture distance on knowledge transfer within MNCs is being given increasing recognition.

Internationally, international management (IM) scholars have pointed out that several factors, such as headquarters control mechanisms (Bjorkman, Barner-Rasmussen & Li, 2004; Simon, 1999, 2004) and subsidiary management compensation (Bjorkman et al., 2004), have significant impact on the effectiveness of knowledge transfer as well. Specifically, increasing attention has been paid to the role of MNC subsidiaries in contributing to the MNC firm-specific advantages (Birkinshaw, Hood & Honsson, 1998) and more emphasis has been placed on subsidiaries as a unit of analysis in the research on MNC knowledge management (Gupta & Govindarajan, 1991, 1994; Michailova & Mustafa, 2012).

However, very few studies have examined knowledge transfer within MNCs from both internal and external perspectives. Studies that examine the effects of either external or internal factors in isolation may suffer from omitted variable biases (Cui, Griffith, Cavusgil & Dabic, 2006). It can be expected that the specific cultural environment of the host country and its cultural distance from the home country will impact on MNC subsidiary roles in terms of knowledge transfer to and from the subsidiaries. However, very little research has been undertaken to understand the relationships.

China provides an ideal context for conducting research into the phenomenon of MNCs' knowledge transfer, given its important role in global markets as well as its distinctive cultural environment. China's entering into the WTO indicates that China's economic development has been recognized and its economic influence on the world cannot be ignored. Foreign direct investment (FDI) inflows into China have been particularly impressive and have climbed massively during the last three decades. In 2002, FDI inflows into China reached 53 billion USD, making China the world's largest recipient of FDI for the first time (OECD, 2003). In 2010, the number doubled reaching 105.7 billion USD (National Bureau of Statistics of China, 2011). Furthermore, China's unique cultural environment poses a challenge for MNCs which originated in Western countries (Gannon, 2001; Hung, 2004). The significant cultural distance between China and MNC home countries provides an excellent study context to explore how national culture impacts on knowledge transfer and the subsidiary strategic context.

This paper aims to examine the process of knowledge transfer between multinational corporations (MNCs) headquarters and their China-based subsidiaries, and the interactions between national culture, subsidiary strategic context and the effectiveness of knowledge transfer in the process. Specifically, we: 1) propose a conceptual model

that depicts a environment-strategy-performance framework which reveals the effects of cultural distance on the knowledge strategy pursued by MNCs; 2) advance propositions that explain the linkage between cultural distance and knowledge transfer, the connection between cultural distance and subsidiary roles, and the relationship between knowledge transfer and strategic context of the subsidiary; and 3) examine the relevance of these propositions for future research on international strategic management, particularly MNC management in China.

Knowledge Transfer in MNCs

Knowledge is defined as a dynamic human process of justifying personal beliefs as part of an aspiration for the truth (Nonaka, 1994; Von Krogh & Grand, 2000). Distinguished from data (raw and unabridged descriptions or observations about things) and information (patterns that individuals find or imbue in data), knowledge is mix of framed experience, important values, contextual information, and expert insights (Nonaka, 1994). Whereas some researchers, such as Zander and Kogut (1995), see knowledge transfer as dissemination of capabilities, this paper follows another approach which considers the movement of knowledge as a distinct experience (Szulanski, 1996), i.e., knowledge transfer is a process of dyadic exchanges of knowledge between the source and recipient units.

Organisational knowledge is created through the synthesis of thinking and actions of individuals who interact with each other within and beyond the organisational boundaries (Nonaka, 1994; Nonaka & Takeuchi, 1995). It resides not only in the codes and routines that guide organisational action (i.e., explicit knowledge) (Argyris & Schon, 1996), but also in and between individuals within the firm (i.e., tacit knowledge) (Lindsay, Chadee, Mattsson, Johnston & Millett, 2003).

Within the field of strategic management, the role of knowledge, especially tacit knowledge, is appreciated as the most unique and inimitable resource that leads to a firm's sustained competitive advantage (Birkinshaw, 2001; Conner, 1991; Grant, 1996; Mahoney & Pandian, 1992; Penrose, 1959; Prahalad & Hamal, 1990; Spender, 1996). Like any other resources and capabilities that generate sustained competitive advantage, knowledge satisfies four criteria: *valuable* (enables firms to implement strategies that improve their efficiency and effectiveness), *rare* (the value-creating strategy cannot be implemented by many firms), *imperfectly imitable* (cannot be copied well by other firms), and *non-substitutable* (no strategic equivalent substitute can be employed to conceive of the same strategy) (Barney, 1991).

The imperfectly imitable nature of knowledge ensures that the knowledge holder can achieve sustained competitive advantage by preventing external competitors from copying the knowledge easily. However, it also results in the difficulty of knowledge transfer between two units *within* a firm (Jensen & Szulanski, 2004; Kogut & Zander, 1992; Szulanski, 1996; Tiemessen, Lane, Crossan & Inkpen, 1997). Accordingly, scholars argue that it is not the knowledge itself, but the ability to acquire, store, share

and apply the knowledge that is one of the most critical capabilities for building and sustaining competitive advantage (Barney, 1991; Barney, Wright & Ketchen Jr., 2001; Peteraf, 1993; Rumelt, 1984, 1987).

MNCs are conceptualized as networks of transactions that are engaged in the knowledge transfer processes (Gupta & Govindarajan, 1991). It has been argued that MNCs exist because of their capabilities to transfer and exploit knowledge more effectively in intra-firm contexts than through markets (Buckley & Casson, 1976; Hennart, 1982; Rugman, 1981). There is a growing recognition that the key competitive advantage of MNCs lies in their ability to exploit locally created knowledge worldwide, and in their capabilities to transfer knowledge within organisational networks characterized by separation through time, space, culture and language (Birkinshaw et al., 1998; Kogut & Zander, 1993; Schlegelmilch & Chini, 2003).

Studies have shown that knowledge transfer within MNCs is difficult (Jensen & Szulanski, 2004; Kogut & Zander, 1992; Szulanski, 1996; Tiemessen et al., 1997) due to a number of hindrances. Factors that have been explored in the literature mainly fit into three categories: characteristics of knowledge, characteristics of actors, and relationship between actors (Michailova & Mustafa, 2012). In examining the external environment, national culture is regarded as one of the most important contextual variables that impact on the knowledge transfer process in MNCs (Bhagat et al., 2002; Li & Schullion, 2006; Simon 2004). Focusing on the internal environment within organizations, the literature also shows that organizational factors, such as organizational structure (Ghoshal & Nohris, 1989), subsidiary management compensation (Bjorkman et al., 2004) and subsidiary roles, are correlated to knowledge transfer. These two sets of factors (national culture and strategic context of subsidiaries) will be examined below, based on the review of the existing literature. The interaction between them in the knowledge transfer within MNCs in China will be further explored in the proposed model.

National Culture and Knowledge Transfer

In addressing the impact of culture on the knowledge transfer process, one needs to identify what culture means. Literature shows a great diversity of approaches in defining culture. Cole and Scribner (1974) linked culture to human cognition, whereas Hoebel and Forest (1976) saw culture in nearly all human activities. Hofstede (1980) views culture from a psychological perspective, and defines it as a collective programming of the mind that distinguishes members of one group from other. Triandis (1994) also took an expansive view, suggesting that culture could be distinguished as having both objective (e.g., roads, tools) and subjective (e.g., experience, beliefs, attitudes, norms, laws, values) aspects. Samovar and Porter (1991) point out that definitions of culture reflect the specific emphasis of the person offering the definition. Definitions such as these suggest implications for the collection, collation, interpretation, management and transfer of knowledge by people involved in knowledge flows in organizations.

Culture is regarded as one of the most important contextual variables that impact on the knowledge transfer process in MNCs (Bhagat et al., 2002; Chow, Deng & Ho, 2000; Li & Schullion, 2006; Simon, 2004). In his paper, Holden (2001) even argues that knowledge management in the global economy is essentially a form of cross-cultural management, involving acts of cross-cultural exchange. The literature shows that the cross-border knowledge transfer between companies or units located in dissimilar cultural contexts is more difficult than that between companies or units located in similar cultures (Bhagat et al., 2002).

Cultural distance is defined as the extent to which the shared norms and values in one country differ from those in another (Drogendijk & Slangen, 2006; Hofstede, 2001; Kogut & Singh, 1988). It has been argued that cultural distance increases the causal ambiguity and stickiness of knowledge (Simonin, 1999), because knowledge is created by individuals and embedded in a certain cognitive and behavioural context (Grant, 1996), and then transferred by the commitment and belief patterns of its holders and its recipients, who transmit their culture-specific sets of values and frames of reference (Nonaka, 1994; Polanyi, 1996).

The proposed frameworks have served to provide some understanding of variations in culture, cognition, values and behaviours in the area of knowledge management. For example, Hofstede's (1980) original value dimensions of individualism versus collectivism, power distance, and uncertainty avoidance, have contributed to several studies and frameworks seeking to understand the impact of culture on the knowledge transfer process. Despite some criticisms about the nature and early period of Hofstede's seminal studies (Tayeb, 2003), researchers have used these culture dimensions in different ways. Hofstede's (1980) model is the most widely used framework in the research of cross-cultural knowledge transfer (e.g., Barkema & Vermeulen, 1997; Ford & Chan, 2003; Lucas, 2006; Wong, Everett & Nicholson, 2008). Based on this approach, a few studies (Cui et al., 2006; Lucas, 2006) have been conducted to explore how cultural distance influences knowledge transfer within MNCs. However, there has been little research on exploring the role of cultural distance in knowledge transfer in China-based subsidiaries, applying Hofstede's (1980) model.

Given the unique cultural environment in China (Child & Lu, 1996; Tung, 1986), a few researchers have determined that specific cultural values in China, such as Guanxi (Ramasamy, Goh & Yeung, 2006) and Mianzi (Chow et al., 2000), have effects on the behaviour of individuals in the knowledge transfer process in China (Buckley, Clegg & Tan, 2006). Nevertheless, these specific values seem to have failed to provide the benchmark for assessing cultural distance between China subsidiaries and countries where their headquarters are located. Moreover, focusing on the knowledge transfer behaviour of China-based subsidiaries provides little explanation of how cultural distance influences the effectiveness of knowledge transfer between China-based subsidiaries and their headquarters.

MNC Subsidiary Roles and Knowledge Transfer

The literature on international strategy management has employed a resource and capability approach to understanding MNC strategy and subsidiary roles (e.g., Bartlett & Ghoshal, 1986; Birkinshaw, 1996; 1997). From this perspective, the study of subsidiary roles, to a large extent, is concerned about how subsidiaries are able to contribute the firm-specific advantages of the MNC. This leads to the argument in this paper that subsidiary roles are related to the knowledge transfer within MNCs.

Gupta and Govindarajan's (1991, 1994) study explicitly illustrates the linkage between organizational knowledge and the strategic roles of subsidiaries. The pattern of knowledge flows can be captured by focusing on the directionality (i.e., inflow or outflow) and the magnitude (i.e., low or high) of these flows that a subsidiary engages in. Based on the knowledge flow pattern, subsidiary roles then can be classified into four categories: global innovator (high outflow, low inflow), integrated player (high outflow, high inflow), implementer (low outflow, high inflow), and local innovator (low outflow, low inflow) (see Figure 1).

Outflow of knowledge from the local subsidiary to the rest of the corporation	High	Global Innovator	Integrated Player
	Low	Local Innovator	Implementer
		Low	High
		Inflow of knowledge from the rest of the corporation to subsidiary	

(Source: Gupta and Govindarajan, 1991, p.774)

FIGURE 1: Subsidiary strategic contexts: a knowledge flow-based framework

The global innovator and the integrated player serve as the foundation head of knowledge for the other units. At the same time, the integrated player also relies heavily on knowledge inflows from either the parent or peer subsidiaries. The local innovator role implies that the subsidiary has almost complete local responsibility for the creation of relevant know-how in all key functional areas while this knowledge is seen as too idiosyncratic to be of much competitive use outside the country in which the local innovator is located. Gupta and Govindarajan's (1991 & 1994) approach has been widely accepted in global strategic management literature and, more recently, been adopted by some empirical studies (e.g., Harzing & Noorderhaven, 2006), even though other approaches exist in the literature (e.g., Birkinshaw & Morrison 1995; Hedlund & Rolander, 1990).

In reviewing the literature, most of the conceptual and empirical work on subsidiary types has implicitly or explicitly used a resource-based perspective to generate subsidiary

types (e.g., Birkinshaw & Hood, 1998; Birkinshaw, 2001; Paterson & Brock, 2002). Studying subsidiary roles from an internal perspective leads to the streams that view subsidiary roles as the result of either corporate headquarters assignment (Prahalad, 1976) or an autonomous process within the subsidiary (Burgelman, 1983). If subsidiary roles are the result of headquarters assignment, it can be expected that allocation of subsidiary roles made by the headquarters may have effects on the knowledge transfer. Otherwise, if subsidiary roles are the result of an autonomous process within the subsidiary, subsidiary initiatives on knowledge transfer are expected to have impacts on the subsidiary roles.

However, as argued by Birkinshaw and Morrison (1995) and Hedlund and Rolander (1990), the reality of what determines subsidiary roles is probably a reciprocal and non-linear relationship, i.e., the combination of headquarters assignment and subsidiary initiative. Furthermore, and importantly, Birkinshaw and Morrison (1995) indicate that the impact of environment on the structure-strategy configuration is equally complex. Their assertion is consistent with previous studies. For example, Bartlett and Ghoshal (1986) and Ghoshal and Nohria (1993) indicate that subsidiary contexts are distinguished based on the joint conditions of 1) the local environment and 2) the subsidiary's unique capabilities. An environmental-strategy-performance model was presented in Bartlett and Ghoshal's (1986) paper to explore the strategic context of subsidiary. In the model, the structural context is defined not only in relation to this environment, but also takes into account a host of other factors including the corporate strategy and the subsidiary's strengths and weaknesses (Barlett & Ghoshal, 1986). The implication that can be drawn here is that both cultural environment and subsidiary's resources and capabilities (knowledge in this study) have effects on the strategic context of subsidiary.

National Culture, Subsidiary Roles and Knowledge Transfer within MNCs in China: a Conceptual Model

Based upon the above literature review, we are now in a position to specify the integrated model that will be proposed in this paper. The development of this conceptual model (see Figure 2) is based on the review of the existing literature.

This model suggests a culture-strategy-performance framework in which national cultural environment shapes the context of business and MNCs, reacting to the context, set forth upon strategies (knowledge flows and subsidiary roles) in order to advance the performance of subsidiaries. By means of this model, this study aims to extend the understanding of the interaction between cultural distance and subsidiary strategic context in the knowledge transfer process in MNCs in China. Given that knowledge flows within MNCs are complicated, this study concentrates on the knowledge transfer process between China-based subsidiaries and their headquarters. Cultural distance is therefore defined as the extent to which the shared norms and values in China differ from those in the country where MNC headquarters are located. Five relationships are

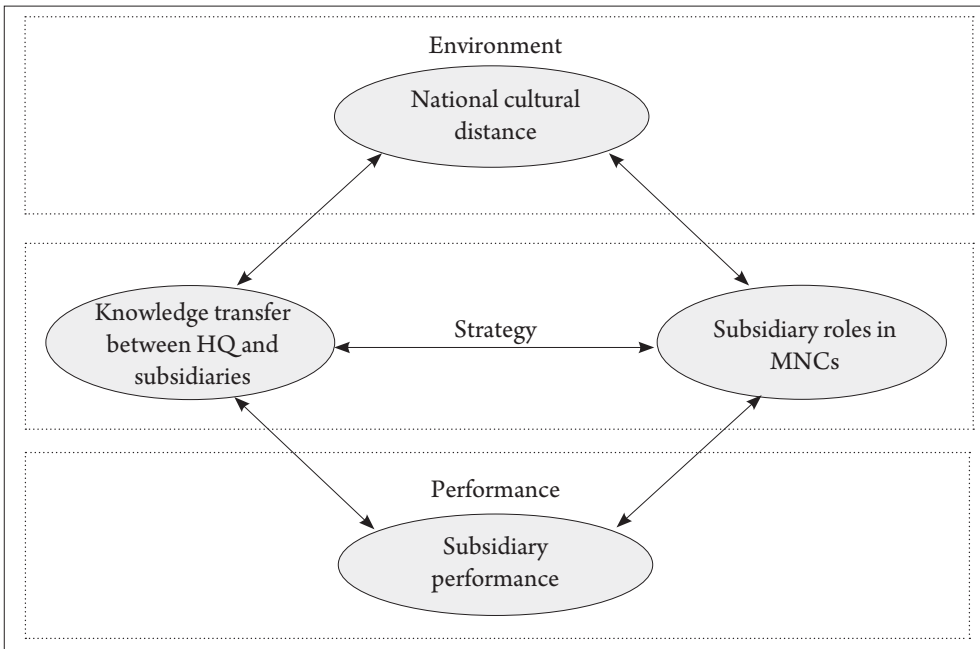


FIGURE 2: Conceptual framework of national culture, subsidiary roles, and knowledge transfer in MNCs

examined in this model. They include: 1) the relationship between cultural distance and the knowledge transfer process; 2) the relationship between knowledge transfer and subsidiary roles; 3) the relationship between cultural distance and subsidiary roles; 4) the relationship between knowledge transfer and subsidiary performance; and 5) the relationship between subsidiary roles and subsidiary performance.

Knowledge Transfer between China-based Subsidiaries and Their Headquarters

Following Gupta and Govindarajan’s (2000) approach, this study explores knowledge transfer between China-based subsidiaries and their headquarters by examining two knowledge flows: inflows and outflows. Previous research (e.g., Wang, Tong & Koh, 2004) has been focused on the knowledge inflows in China-based subsidiaries because China is one of the emerging economies in which parents become important sources of knowledge that can help subsidiaries earn above-normal returns (Steensma & Lyles, 2000; Wang et al., 2004). However, given the specific environment in China, some knowledge, such as marketing expertise, may be developed locally and in turn may provide valuable knowledge for MNCs to compete more successfully in the whole global market. Therefore, knowledge outflow occurs when locally developed knowledge transfers back to the headquarters or to other peer subsidiaries (Li & Scullion, 2006). The directionality and magnitude of knowledge flows in which a subsidiary engages are

expected to be related to the subsidiary roles and be influenced by cultural distance, which will be discussed later in this paper.

National Cultural Distance and Knowledge Transfer

Cultural dimensions from Hofstede's (1980, 2001) model are adopted to develop a set of propositions concerning the impact of cultural distance and cultural dimensions on the knowledge transfer process within MNCs. Hofstede's cultural framework is employed 1) due to its conceptual comprehensiveness, attested convergent validity, and significant impact on the social science and management literature; and 2) because it remains the most widely accepted cultural framework within research on knowledge transfer (e.g., Barkema & Vermeulen, 1997; Ford & Chan, 2003; Lucas, 2006; Wong, Everett & Nicholson, 2008).

Several researchers (Ambos & Ambos, 2009; Bhagat et al., 2002; Buckley et al., 2006; Chow et al., 2000; Cui et al., 2006; De Long & Fahey, 2000; Gupta & Govindarajan, 2000; Li & Scullion, 2006; Qin, Ramburuth & Wang, 2008; Simonin, 1999) view cultural distance as an obstacle in the knowledge transfer process, even though specific culture values are argued to have positive impact on knowledge transfer (Almeida, Song & Grant, 2002). It has been argued that cultural distance has a negative impact on knowledge transfer. Simonin (1999) claims that cultural distance may increase the casual ambiguity in skills and resources deployment and thus increase the stickiness (i.e. the difficulty of the transfer) of knowledge. Triandis and Albert (1987) argue that the more distant a person's cultural background is from another's, the more difficult clear communication and understanding is between the two. Both language and trust between two parties can be examples of the obstacles in cross-border knowledge transfer. Qin, Ramburuth & Wang's research (2008) indicates that cultural distance could negatively impact on knowledge flows if the constructs that comprise culture are not managed well. Therefore we propose that there is a negative relationship between knowledge transfer and cultural distance.

Proposition 1: *The effectiveness of knowledge transfer between China-based subsidiaries and the headquarters is negatively related to the cultural distance between China and the countries in which the headquarters are located.*

We also propose that the effectiveness of knowledge transfer between China-based subsidiaries and their headquarters is related to cultural distance associated with the individual dimension in Hofstede's (1980) model, as explained below.

The individualist versus collectivist dimension focuses on the degree to which a society reinforces individual or collective achievements and interpersonal relationships. This well-researched dimension is the most frequently used in studies of cultural variations in knowledge transfer, due to the fact that it represents a major distinguishing characteristic of societies and the way in which they process information (Bhagat et al., 2002). People in individualist cultures (e.g., the US and Australia) prefer direct and explicit communication and thus tend to be more sensitive to relatively explicit

knowledge (Bhagat et al., 2002), whereas people in collectivist cultures (for example, in many Asian countries) prefer more contextual communication strategies and hence are more sensitive to relatively tacit knowledge (Bhagat et al., 2002). Empirical evidence also shows that this dimension influences the willingness of individuals to share their knowledge (Chow et al., 2000). When the private knowledge has potential to damage the sharer's self-interests, people from collectivist cultures indicate a significantly higher propensity to share, thereby putting the interests of the collective ahead of their own. However, this collective refers to the 'we' group (or in-group) only. People from collectivist cultures are less inclined to share knowledge with out-group members, given in-group is the major source of one's identity in these cultures and the only secure protection one has against the hardships of life (Hofstede, 1980).

Proposition 2: *The effectiveness of knowledge transfer between China-based subsidiaries and the headquarters is negatively related to the national cultural distance along the individualism/collectivism dimension.*

Hofstede's (1980) dimension of power distance focuses on the degree of equality, or inequality, between people in the country's society. People in high power distance (also called vertical) cultures see themselves as being different from others in social status, whereas people in low power distance (also called horizontal) cultures see themselves the same as others (Triandis, 1994). In vertical cultures, people prefer hierarchical communication and the process of information and knowledge transfer takes place according to hierarchical arrangements within the organization. At the same time, superiors in vertical cultures may have the power to decide when and how knowledge is diffused (Bhagat et al., 2002). Bhagat et al. (2002) indicate that vertical and horizontal dimensions may have effects on the direction of knowledge flows (i.e., from top to bottom or from bottom to top).

Proposition 3: *The effectiveness of knowledge transfer between China-based subsidiaries and the headquarters is negatively related to the national cultural distance along the power distance dimension.*

The dimension of uncertainty avoidance focuses on the level of tolerance for uncertainty and ambiguity within a society. It is argued that individuals with a high tolerance for ambiguity are better able to transfer and receive knowledge that is tacit, complex, and systematic (Bhagat et al., 2002).

Proposition 4: *The effectiveness of knowledge transfer between China-based subsidiaries and the headquarters is negatively related to the national cultural distance along the uncertainty avoidance dimension.*

The dimension of masculinity versus femininity focuses on the degree to which the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power. It is the degree to which strong values like assertiveness, performance, success and competition, which nearly all societies associate with the role of men, prevail over tender values like quality of life, maintaining

warm personal relationships, service, care for the weak, and solidarity, which in nearly all societies are more associated with women's roles. Ford and Chan (2003) indicate that high masculinity cultures may have less knowledge sharing between organizational members if the competitiveness is individually based. There may be no difference if competitiveness is organizationally based.

Proposition 5: *The effectiveness of knowledge transfer between China-based subsidiaries and the headquarters is negatively related to the national cultural distance along the masculinity dimension.*

The dimension of long-term versus short-term orientation, also known as Confucian dynamism, is based on the Chinese value survey (Hofstede & Bond, 1988). It focuses on the degree to which the society embraces, or does not embrace, long-term devotion to traditional, forward thinking values. High long-term orientation ranking indicates the country prescribes to the values of long-term commitments and respect for tradition. Hofstede (1993) claims that too much respect for tradition may impede innovation. This implies that the nations with high long-term orientation ranking may resist generating new knowledge, even though there is no literature to support this proposition. Chow et al. (2000) indicate that having a sense of shame and personal steadiness can induce members of this culture to increase knowledge sharing but concern for face can dampen their tendency to share.

Proposition 6: *The effectiveness of knowledge transfer between China-based subsidiaries and the headquarters is negatively related to the national cultural distance along the long-term orientation dimension.*

Knowledge Transfer and Subsidiary Roles

Gupta and Govindarajan (1991) have proposed that MNC subsidiaries could be located somewhere along the two dimensions: 1) the extent to which a subsidiary engages in knowledge inflows from the rest of the corporation, and 2) the extent to which a subsidiary engages in knowledge outflows to the rest of the corporation. Hence, four generic subsidiary roles can be identified in terms of knowledge flow patterns: Global Innovator (high outflow – low inflow), Integrated Player (high outflow – high inflow); Implementer (low outflow – high inflow); Local Innovator (low outflow – low inflow). Based on the literature, this study proposes that:

Proposition 7: *There is a relationship between the subsidiary strategic contexts and knowledge transfer between China-based subsidiaries and the headquarters.*

Birkinshaw & Morrison (1995), taking a different perspective from Gupta and Govindarajan's (1991), explain that subsidiary roles can be mapped by focusing on the conflicting demands for national sensitivity, local responsiveness and global integration. This is one of the examples to show the new trends in investigations in knowledge transfer within MNCs: focusing on the notion of organizational design characterized

by the strategic context of the subsidiary, such as *subsidiary autonomy* and *subsidiary integration* (Foss & Pedersen, 2002). In the case of knowledge transfer between the headquarters and the subsidiary, the organizational design turns out to be headquarter-subsubsidiary relationship.

Ghoshal and Nohria (1989) argue that the headquarters – subsidiary relationship in each contextual category is a correspondingly differentiated combination of the following elements: 1) centralization, the lack of subsidiary *autonomy* in decision making; 2) *formalization*, the use of systematic rules and procedures in decision making; and 3) normative *integration*, consensus and shared values as a basis for decision-making. Therefore, this study proposes that knowledge transfer is manifested through specific configurations of organizational design characterized by different degrees of autonomy, formalization, and integration.

Ghoshal and Nohria (1989) proposed that centralization is negatively correlated with local resource levels. Centralization shifts the locus of power asymmetrically in favour of the headquarters, and formal authority and hierarchical mechanisms used in decision making processes hinder the subsidiaries' knowledge development. Autonomy, as the opposite to centralization, is expected to be positively related to local resources levels. It gives subsidiaries more freedom and authorization to create and develop knowledge by themselves, rather than through absorbing knowledge from other subsidiaries or the headquarters. When a subsidiary has more advanced resources in terms of knowledge than other units in an MNC, more knowledge is likely to transfer from this subsidiary to other parts of the MNC (e.g., Bjorkman et al., 2004; Wang et al., 2004). Therefore, it could be expected that knowledge outflow of subsidiaries is negatively related to centralization, i.e., positively related to autonomy.

Proposition 8: *There is a positive relationship between the autonomy of China-based subsidiaries and knowledge outflows in these subsidiaries.*

Formalization is defined as the routinization of decision-making and resource allocation (Ghoshal & Nohria, 1989; Nelson & Winter, 1982). It represents decision making through bureaucratic mechanisms such as formal systems, established rules, and prescribed procedures. MNC's firm specific advantage originates in the parent company (Birkinshaw et al., 1998) and is transferred internationally and applied globally. When decisions have to be made through existing rules and prescribed procedures made by the headquarters, subsidiaries tend to have less opportunity to generate new knowledge locally and share it with the headquarters or other parts of MNCs. Therefore, a proposition is developed as below:

Proposition 9: *There is a negative relationship between formalization and knowledge outflows in China-based subsidiaries.*

Different mechanisms of normative integration have received great attention lately as ways to facilitate the resources disperse activities in the MNCs (Bartlett & Ghoshal, 1986; Gupta & Govindarajan, 2000; Nohria & Ghoshal, 1997). This is because the

existence of source – recipient linkages generally based on trust and relationship helps to encourage knowledge sharing and transfer (Bjorkman et al., 2004; Dhanaraj, Lyles, Steensma & Tihanyi, 2004; Szulanski, 1996; Wang et al., 2004), such as sending employees overseas, international committees, teams, task forces and training involving participants from multiple units, facilitates the development of interpersonal ties in MNCs, which in turn favors knowledge transfer. Thus, a proposition is developed as below:

Proposition 10: *There is a positive relationship between normative integration and knowledge transfer between China-based subsidiaries and their headquarters.*

National Culture and Subsidiary Roles

Based on previous hypotheses on the relationship between cultural distance and knowledge transfer, as well as the relationship between knowledge transfer and subsidiary strategy context, it can be expected that national cultural distance may be related to the subsidiary strategic context. Although little evidence can be found in the literature about the relationship between national culture and the strategic roles of subsidiaries, Lucas's (2006) conceptual paper shows an implication about this relationship. Lucas (2006) notes that a large power distance perpetuates the traditional model of knowledge transfer in MNCs, where most subsidiaries are seen as knowledge acquirers, rather than generators. However, according to Gupta and Govindarajan (1991), subsidiary roles in knowledge transfer strategies are not simply categorized into acquirer and generator. The relationship between national culture and subsidiary roles are expected to be more complicated than what Lucas (2006) has explored.

The subsidiary roles represent the configurations of strategy and structure of MNCs. It has been argued that the internal structure of an MNC is systematically differentiated so as to fit the different environmental and resource contingencies faced by the different national subsidiaries (Bartlett & Ghoshal, 1986; Birkinshaw & Morrison, 1995; Ghoshal & Nohria, 1989). This implies that not only knowledge-based capabilities, but also national cultures, as one of the environmental factors, can influence the configurations of strategy and structure of MNCs.

Proposition 11: *There is a relationship between national cultural distance (between China and the countries in which the headquarters are located) and strategic context of China-based subsidiaries.*

It is also expected that national cultural distance between the headquarters and subsidiaries may influence the organizational design. Based on the propositions relating to the relationship between knowledge transfer and organizational design characterized by autonomy, formalization and integration, as well as the relationship between culture and knowledge transfer, it is proposed that national culture is correlated to autonomy, formalization and integration.

Ghoshal and Nohria (1989) argue that centralization is negatively correlated with en-

environmental complexity. Centralization shifts the locus of power asymmetrically in favour of the headquarters, and hence, brings the headquarters some advantages in management subsidiaries in a complex environment. High cultural distance is expected to increase the environmental complexity, and hence may result in increased centralization, or decreased autonomy. This proposition is consistent with some findings in the literature. For example, Lucas (2006) argues that when knowledge is transferred between countries with in-alignment cultures along the first four dimensions in Hofstede's (1980) model, the headquarters' interventions, which could represent the degree of centralization or autonomy, are often required. A proposition is therefore developed as below:

Proposition 12: *There is a negative relationship between national cultural distance (between China and the countries in which the headquarters are located) and the autonomy of China-based subsidiary.*

In the same vein, the distinctive cultural environment in China, i.e., its cultural distance from other countries, increases the environmental complexity and, hence, may result in increased formalization. From the headquarters' perspective, using existing systematic rules and procedures in decision making may be an effective approach to handle the complex environment in China, where culture is different from the country in which the headquarters is located. The higher the cultural distance, the more chance bureaucratic mechanisms will be employed in decision making. As a consequence, it is proposed that:

Proposition 13: *There is a positive relationship between national cultural distance (between China and the countries in which the headquarters are located) and formalization.*

Normative integration relies neither on direct headquarters involvement nor on impersonal rules, but on socialization of managers into a set of shared goals, values, and beliefs. Compared to **people from different cultures, managers with similar cultural background** tend to share same values, and to reach consensus in decision making. Thus, normative integration may primarily be expected to be negatively correlated with cultural distance. It is therefore proposed that:

Proposition 14: *There is a negative relationship between national cultural distance (between China and the countries in which the headquarters are located) and normative integration.*

Knowledge Transfer and Performance

Knowledge is considered one of the most critical resources through which a firm can create a source of abnormal rents and outperform competitors (Barney, 1991; Grant, 1991; Kogut & Zander, 1992; Nonaka & Takeuchi, 1995). For example, technology helps to reduce production cost and increase manufacturing productivity (Cui et al., 2006; Gisselquist & Grether, 2000). Cost saving and high efficient productivity then contribute indirectly to the ultimate purpose of strategy management: to advance firm performance.

The literature presents some implications of the linkage between knowledge transfer and performance. For example, Cui et al. (2006) argued that technology transfer between MNC and local subsidiaries is positively related to the performance of MNC subsidiaries. Therefore we propose that:

Proposition 15: *Knowledge transfer between China-based subsidiaries and the headquarters is positively related to the performance of China-based subsidiaries.*

Subsidiary Roles and Subsidiary Performance

Subsidiary performance is a complex construct, which depends on what the parent company is trying to achieve. Using the same set of performance measurement, subsidiary performance may vary and be influenced by subsidiary roles. For example, the R&D centers, as innovator and specialized contributors with considerable expertise in innovation, tend to be very well integrated with the rest of the MNC network and hence may function more as cost centres than profit centers. They therefore may have worse performance in terms of profit or ROI than other subsidiary roles. On the contrary, the local implementers (Birkinshaw & Morrison, 1995) or the local innovators (Gupta & Govindarajan, 1991), which are focusing on adopting global products to the needs of the local market, tend to have better performance in terms of ROI and profit. Birkinshaw and Morrison's (1995) study provides empirical evidence on the variation of subsidiary performance across subsidiary roles. In order to evaluate the subsidiary performance effectively, it may be necessary to use different measurements for the different subsidiary roles. It is therefore proposed that:

Proposition 16: *When using ROI and profit as the measurement, performance of China-based subsidiaries varies according to their strategic roles.*

Conclusion and Implications

We began with the perspective that abilities to access and transfer knowledge across borders are crucial to MNCs' competitiveness. The transfer of superior knowledge across borders is an effective means through which MNCs replicate and exploit their ownership advantages for economic rents (Kogut & Zander, 1993). The knowledge transfer process is clearly important, but the operationalisation of such a process is difficult.

In this paper we have chosen to focus on the subsidiary level and clarify the complexities that are bound to arise in knowledge transfer between the headquarters and subsidiaries. Knowledge transfer, as one of the strategic activities in MNCs, is influenced by both external context and internal mechanisms. National culture has been argued to have impact on the effectiveness of knowledge transfer (Bhagat et al., 2002; Cui et al., 2006; Simonin, 1999 & 2004), even though little empirical evidence is shown in the literature. Clues also can be found in the literature on the relationship

between knowledge transfer and subsidiary strategic context (Gupta & Govindarajan, 1991). However, no one has systematically examined how external environment and internal strategic context interact with other factors in the knowledge transfer process and thus impact on subsidiaries' performance. Therefore, we proposed a conceptual model which explains the trilateral interactive relationship among cultural distance, subsidiary strategy context and knowledge transfer. Propositions are developed under this conceptual model to illustrate the complex nature of cross-border knowledge transfer and its linkage to national culture distance and strategic context in MNCs.

This paper is one of the first attempts to understand knowledge transfer in MNCs in China through an environment-strategy-performance model. It combines the internal resource perspective, which is based on the RBV, with an external environmental perspective, which is based on cross-cultural management theories, to understand the complex knowledge transfer process within MNCs. However, both the model and propositions developed are essentially based on the review of the literature. More studies are expected to be conducted to seek empirical evidence to test them. By examining the validity of the propositions, we expected to gain increased insights into the knowledge flows in MNCs and the impact of national culture. We also hope that our approach will stimulate further theory building and research in this important yet rather unexplored area of organizational knowledge management in MNCs.

Our study is not exempt from limitations. First, this study is based on Hofstede's culture dimensions, which is one of the most widely cited frameworks in cross cultural management, yet it is not beyond criticism. Other cultural frameworks may need to be employed in future studies to either attain triangulation or seek further insights. Second, this study considers Chinese culture as a national level variable, and hence could be criticized for ignoring the fact that cultural values also differ *within* China. How cultural diversity within China impacts on knowledge transfer could be an important issue to consider in future research design. Finally, this study is the first step towards understanding the role of national culture distance in MNC subsidiary management of knowledge transfer, combining both international and external perspectives. A study of culture's interaction with other variables in knowledge transfer will generate more insights. For example, whether cultural distance has same impacts on knowledge transfer and subsidiary strategic context in different industries would be an interesting research topic for a future study.

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