



ELSEVIER

Contents lists available at ScienceDirect

International Business Review

journal homepage: www.elsevier.com/locate/ibusrev

Antecedents and consequences of global responsiveness: An empirical examination of MNCs in the global sourcing context

Ming-Tien Tsai^{a,1}, Yen-Chih Huang^{a,2,*}, Rong Ma^{b,3}

^a Department of Business Administration, National Cheng Kung University, No. 1, University Road, Tainan City 701, Taiwan, ROC

^b Department of Management, Fogelman College of Business and Economics, University of Memphis, Memphis, TN 38152, United States

ARTICLE INFO

Article history:

Received 29 May 2007

Received in revised form 17 March 2009

Accepted 9 July 2009

Keywords:

Global responsiveness

Global sourcing

Social capital

Global sourcing barriers

MNC performance

ABSTRACT

As global responsiveness (GR) has been recognised as critical for global market advantage, we draw upon social capital theory and develop a theoretical model which clarifies the determinants and consequences of GR. Based upon a cross-national sample of 118 MNCs from the U.S., Europe, and Asia, we found that intra-firm structural and inter-firm relational social capital, as reflected in integrative mechanisms and joint problem solving respectively, are positively associated with GR. In addition, whilst negatively related to global sourcing barriers, GR has a positive effect on MNC performance. Our findings also indicate that GR plays an essential role by fully mediating the associations of information-based mechanisms, people-based mechanisms, and joint problem solving with global sourcing barriers and MNC performance.

© 2009 Elsevier Ltd. All rights reserved.

1. Introduction

To meet the diverse environmental pressures posed by globalisation, multinational companies (MNCs) are urged to efficiently coordinate various units and functions dispersed around the world and achieve global competitiveness. Notably, scholars have observed that global sourcing is a vital means for improving MNC competitiveness by taking advantage of the “best-in-the-world” suppliers (Hartmann, Trautmann, & Jahns, 2008). Nevertheless, the nature of global sourcing has hitherto become complex. As Trent and Monczka (2005, p. 24) put it: “global sourcing entails integrating and coordinating common items, materials, processes, technologies, designs and suppliers across worldwide buying, design and operating locations”. Such a complicated nature spawns numerous barriers to the effective execution of global sourcing (Kotabe & Murray, 2004; Trent & Monczka, 2003). Indeed, these barriers are primarily ascribed to spatial distance and environmental differences (Leonidou, 1999).

Therefore, MNCs need to be able to effectively allocate resources, transfer knowledge, and quickly reconfigure business activities in order to mitigate the risk factors (Kotabe & Murray, 2004; Luo, 2000; Rexha & Miyamoto, 2000). This kind of adaptive capacity can be reflected in a firm’s overall responsiveness to the business environment (Lengnick-Hall & Beck, 2005; Liao, Welsch, & Stoica, 2003; Volberda, 1996). Yenyurt, Cavusgil, and Hult (2005) hold that in a global context, global responsiveness (GR), defined as the ability to react on a global basis to emerging environmental changes, threats and opportunities, is crucial to MNCs’ success in global sourcing.

* Corresponding author. Tel.: +886 953664648.

E-mail addresses: mingtien@mail.ncku.edu.tw (M.-T. Tsai), jessme@mail2000.com.tw, yenchih@aa.nctu.edu.tw (Y.-C. Huang), rongma@memphis.edu (R. Ma).

¹ Tel.: +886 6 2757575x53321.

² Present address: 8F., No. 18, Dazhong St., West District, Taichung City 403, Taiwan, ROC.

³ Tel.: +1 9012166349.

Previous literature suggests that social capital facilitates adaptive behaviour and the continuous reconfiguration of resources (Griffith & Harvey, 2004; Nahapiet & Ghoshal, 1998; Tasi & Ghoshal, 1998). Hence, it is theoretically plausible to extrapolate that social capital may exert significant influence upon GR. In particular, scholars propose two major forms of social capital, i.e. intra-firm and inter-firm social capital, respectively (Adler & Kwon, 2002). On the one hand, well-established intra-firm social capital facilitates the utilization of knowledge and resources across the whole organisation (Yli-Renko, Autio, & Tontti, 2002), which renders MNCs more responsive towards global challenges (Griffith & Harvey, 2004). External ties with foreign suppliers, on the other hand, are conducive to the acquisition and assimilation of idiosyncratic knowledge (Dyer & Hatch, 2006; McEvily & Marcus, 2005). By internalising external knowledge, MNCs are more likely to develop new capabilities to keep abreast with changing market needs and conditions.

Given the significance of GR upon global sourcing, this study aims to augment the understanding of GR by exploring its nomological network within the context of global sourcing. The contribution of this study is multifold. Theoretically, based upon social capital theory, we not only identify intra-firm and inter-firm social capital as major antecedents of GR, but also corroborate that GR is a key intervening variable that links social capital to sourcing barriers and MNC performance. We find that sourcing barriers can be significantly reduced based upon high levels of GR. A noteworthy discovery herein is a full mediation effect of GR. That is, lacking GR, neither intra-firm nor inter-firm social capital can influence global sourcing barriers. This is interesting since social capital is generally deemed effective in mitigating threats involved in international business (Griffith & Harvey, 2004; Yli-Renko et al., 2002). Likewise, GR is also found to fully mediate the relationship between social capital and MNC performance, which establishes the critical role played by GR for MNCs. Overall, the findings show that the leveraging of social capital does not necessarily lead to the reduction of global sourcing barriers or superior performance without the key variable, GR. We illustrate these relationships in detail in Fig. 1.

Methodologically, drawing from previous studies examining GR, we developed a measure of GR and offered validation for this measure. We believe that this operationalisation of GR can better serve future research interests in GR and pertinent variables. In addition, since there are inconsistent conceptualisations of global sourcing barriers in the literature, we clarified the conceptualisation of this construct by synthesising previous concepts on this construct and streamlining the underlying dimensions of global sourcing barriers. This integrated dimensionality of global sourcing barriers is also validated in our study.

Whilst previous literature has suggested various MNC strategies to address different MNC environmental needs, namely multinational, global, international, and transnational (Bartlett & Ghoshal, 1987, 1989), we focus on the global industries, which complies with the seminal work on GR (Makhija, Kim, & Williamson, 1997; Yenyurt et al., 2005) and the assertions made by Kim, Park, and Prescott (2003) that integrative mechanisms are more relevant for the global industries. In addition, the demand for effective global sourcing activities is more urgent in a global market where the integration of various value-added activities is the key to competitive advantage (Kogut, 1985).

Below we review literature on social capital theory and GR. Subsequently, we propose a theoretical model and delineate accompanying hypotheses. This is followed by research methodology in which issues related to sampling, measures and model tests are elaborated. Afterwards, we present the findings and discuss the implications of the major findings. The article closes with limitations and future research directions.

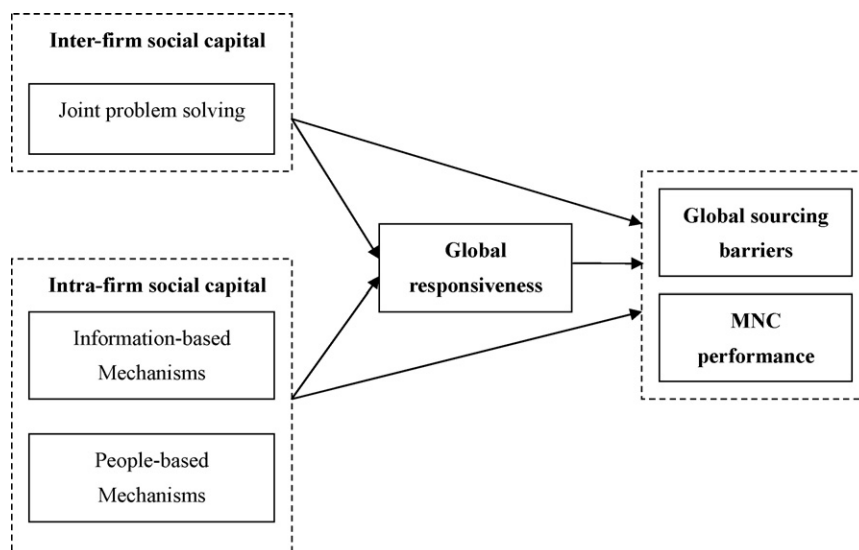


Fig. 1. The hypothesised model.

2. Theoretical background and hypotheses

2.1. Global responsiveness and social capital

Considering the context of global sourcing, GR is redefined as the ability to reconfigure resources and sourcing activities to respond to emerging changes, threats and opportunities in the global marketplace. We argue that social capital theory can cast new light onto GR. In general, the structure of an MNC is conceptualised as a network arrangement consisting of a set of ties linking together dispersed organisational units (Ghoshal and Bartlett, 1990; Nohria & Ghoshal, 1997; Tsai, 2000). Intra-organisational linkages enable an organisation to attain economies of scope and give it a crucial bearing on its competitive advantage (e.g., Gupta & Govindarajan, 2000; Tsai, 2000). Previous literature has suggested that developing linkages between geographically dispersed units of business functions, namely coordination (Kim et al., 2003), plays a pivotal role in MNCs being globally responsive (Yeniyurt et al., 2005). In addition to the effective coordination of internal linkages, successful management of external ties with business partners is also crucial to the MNCs' responsiveness (Kotabe & Murray, 2004; McEvily and Zaheer, 2005; Yeniyurt et al., 2005). In both aspects, social capital theory has contributed substantially.

Social capital is defined as the sum of resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit (Nahapiet & Ghoshal, 1998). Nahapiet and Ghoshal (1998) distinguish between structural and relational social capital. Based upon this classification, theorists further examine the two types of social capital at multiple levels. In the field of international business (IB), the focus is upon both the inter-firm relational and intra-firm structural social capital (Li, 2004; Yli-Renko et al., 2002). Intra-firm structural social capital describes the pattern of social interactions or connections among the actors (Granovetter, 1992; Nahapiet & Ghoshal, 1998; Tasi & Ghoshal, 1998). It maps well onto the formation of intra-firm ties through global coordination, driven by integrative mechanisms (Kim et al., 2003; Luo, 2000). As such, it is expected that intra-firm structural social capital, manifested as integrative mechanisms, is essential to MNCs in terms of achieving global coordination.

On the other hand, the ability of MNCs to react to global market changes largely depends upon how they harness customer, competitor, and supplier intelligence (Yeniyurt et al., 2005). To respond effectively to market opportunities and competitive threats, scholars have suggested that MNCs need to create differentiated capabilities by proficiently combining both their own and their foreign suppliers' distinctive resources (Dyer & Hatch, 2006; Kotabe & Murray, 2004; McEvily and Zaheer, 2005). It is imperative for MNCs to garner valuable knowledge assets (e.g., proprietary technology) from their suppliers based upon strategic relationships (Kotabe & Murray, 2004). The assets generated and leveraged through relationships with business partners are referred to, herein, as inter-firm relational social capital (Nahapiet & Ghoshal, 1998; Yli-Renko et al., 2002).

The relational aspect of social capital portrays the personal relationships that people have developed with each other through a history of interactions (Granovetter, 1992). By applying this theory to the inter-firm level, scholars indicate that this type of social capital in a dyadic relationship, namely inter-firm relational social capital, enables a firm to tap into the knowledge resources of its exchange partners (Yli-Renko, Autio, & Sapienza, 2001; Yli-Renko et al., 2002). Yet, the valuable knowledge assets of suppliers are partially tacit (McEvily & Marcus, 2005). Only by the use of collaborative arrangements that allow for mutual access to internal processes will MNCs foster the transfer of tacit knowledge (Dyer & Hatch, 2006). Prior studies argue that the best pattern by which firms derive idiosyncratic tacit knowledge from their suppliers is joint problem solving (McEvily & Marcus, 2005; Uzzi, 1997). Hence, we believe that inter-firm relational social capital can be reflected in joint problem solving. Based upon social capital theory, it is proposed that intra-firm structural and inter-firm relational social capital are both critical determinants of GR.

2.1.1. Intra-firm structural social capital and GR

Intra-firm structural social capital refers to the overall pattern of connections between the actors, viz., individuals and units within a given firm (Nahapiet & Ghoshal, 1998; Li, 2004). This structural dimension of social capital concerns the properties of the network of relations as a whole (Granovetter, 1992). Appropriate internal structures of MNCs not only facilitate the coordination and sharing of resources (Persson, 2006; Tasi & Ghoshal, 1998), but also augment managerial learning related to new international environments (Yli-Renko et al., 2002) through "durable and repetitive interactions abroad" (Eriksson, Johanson, & Majkgard, 1997, p. 354). The appropriateness of an organisation's structure is reflected by the extent to which its various activities and processes are integrated (Miller, 1987). Hence, integrative mechanisms, defined as the mechanisms to facilitate the coordination of dispersed resources and activities in the MNC (Gupta & Govindarajan, 2000; Persson, 2006), can be viewed as the manifestations of intra-firm structural social capital (Li, 2004).

Previous literature provides a classification of integration modes which includes three integrative mechanisms: formalisation-based, information-based and people-based mechanisms (Gupta & Govindarajan, 2000; Hartmann et al., 2008; Kim et al., 2003). In particular, Kim et al. (2003) remind us that whilst MNCs in global industries rarely utilise only one integrative mechanism, the information-based and people-based mechanisms are effective integration modes with respects to the three most critical functions that can create competitive advantage for firms, that is, R&D, manufacturing, and marketing. Given the context of global sourcing, Hartmann et al. (2008) echo this argument and conclude that global companies engaged in global sourcing highly rely on information-based and people-based mechanisms rather than

formalisation mechanisms. Along those lines, we investigate the effects of information-based and people-based mechanisms upon GR.

For MNCs to be globally responsive, managers must adapt sourcing operations to unique local environments according to the acquired local market knowledge. This results in the need for an efficient processing of a vast amount of routines and structured information, which can be met by information-based mechanisms (Hartmann et al., 2008). Information-based mechanisms involve the international flow of information via such information systems as database, Internet, intranet, and electronic data interchanges (Kim et al., 2003). Such mechanisms facilitate information transmissions and sharing by providing timely information and online manuals as well as promoting impersonal communication among business units (Kim et al., 2003; Trent & Monczka, 2003). Consequently, when MNCs are continuously updating shared information and knowledge, the global supply chain alignment can be optimised to serve customers in a more responsive manner.

Second, transforming the newly obtained knowledge into practices depends largely upon people. People-based mechanisms function as socialization and interpersonal communication conduits among organisational members, which encompass the transfer of managers, meetings, teams, training, and liaison positions (Gupta & Govindarajan, 2000; Persson, 2006; Roth, Schweiger, & Morrison, 1991). In this way, a group of managers with international exposure can maintain meaningful communication with each other and synergistically integrate their own knowledge about particular markets and translate it into an integral component of the routines (Li, 2004; Tsang, 1999; Yli-Renko et al., 2002). As such, people-based mechanisms enable MNCs to internalise and routinise the skills and experiences gained from international activities. Indeed, the internalised knowledge and resultant purchasing routines are strongly linked to the ability of MNCs to respond to a global environment (Hartman et al., 2008).

Overall, by mobilizing intra-firm ties, integrative mechanisms enable MNCs to adjust their global sourcing practices to diverse foreign markets, and coordinate global purchasing requirements across sites (Mol, Tulder, & Beije, 2005). Hence, integrative mechanisms will reinforce GR as they activate intra-firm ties.

Hypothesis 1a. Intra-firm structural social capital, as reflected in information-based mechanisms, is positively related to GR.

Hypothesis 1b. Intra-firm structural social capital, as reflected in people-based mechanisms, is positively related to GR.

2.1.2. *Inter-firm relational social capital and GR*

Inter-firm relational social capital refers to the resources derived from inter-organisational relationships (Yli-Renko et al., 2001, 2002). Herein, it is embedded in the ties between the focal firm and its suppliers. As aforementioned, inter-firm relational social capital is manifested in the form of joint problem solving (McEvily & Marcus, 2005; Uzzi, 1997), which denotes the degree to which the parties “share the responsibility for maintaining the relationship itself and for problems that arise as time goes on” (Heide & Miner, 1992, p. 275). Such arrangement means that the buyers and suppliers participate collectively in routines for troubleshooting problems as they occur, and then negotiate mutual adaptations required to resolve the difficulty (Uzzi, 1997). It presents two major advantages in increasing responsiveness: the customisation of the capability to context, and tight buyer–supplier coordination.

Liao et al. (2003) conclude that external knowledge acquisition is a major contributor of organisational responsiveness. Similarly, Yenyurt et al. (2005) stress that obtaining valuable knowledge from foreign suppliers is conducive to attaining high GR. Notably, most MNCs engaged in global sourcing are in those global industries which are characterised by extremely short product life cycles and volatile demand (Kotabe & Murray, 2004). As the environment becomes increasingly volatile, the competition moves towards rivalry among networks rather than individual firms (Moore, 1993). Companies must not only continuously develop capabilities in-house, but also access new technical knowledge developed beyond the firm’s boundaries (Takeishi, 2001). To synergistically combine capabilities, firms are required to be able to customise the acquired capabilities to their own organisational context, such as a specific culture and internal systems (Dyer & Hatch, 2006). Indeed, joint problem solving increases this potential because it provides an interactive platform where companies are better positioned to assimilate their partners’ idiosyncratic knowledge underlying their capabilities (McEvily & Marcus, 2005). Through frequent two-way interactions within this arrangement, managers improve their comprehension of the tacit knowledge so that they can tailor a capability (e.g., production systems) to the unique circumstances of their own firms. In this way, firms will excel at internalising the suppliers’ novel technological capabilities, and by applying them to new products or processes, they can thus swiftly address any shifts in customer needs and market conditions, such as product changes and transitions (Lee, 2002).

In the meantime, a major reason why a firm fails to respond quickly is that the tasks, performed by the firm and its suppliers, cannot fit or work well together (Takeishi, 2001). Joint problem solving integrates related tasks via mutual adjustments involving timely communication between buyers and suppliers on resource requirements and constraints (McEvily & Marcus, 2005; Uzzi, 1997). This allows MNCs to closely link product and process engineering with the design and cost considerations (McEvily & Marcus, 2005; Takeishi, 2001). Therefore, joint problem solving ensures high market responsiveness by enabling firms to attain shorter engineering lead times, lower costs, better designs for manufacturability, and higher conformance quality (Uzzi, 1997; Takeishi, 2001).

Hypothesis 2. Inter-firm relational social capital, as reflected in joint problem solving with overseas suppliers, is positively related to GR.

2.2. GR, barriers to global sourcing, and MNC performance

A precondition for capitalizing on offshore resources is to overcome the multifarious barriers to global sourcing (Kotabe & Murray, 2004; Leonidou, 1999). Global sourcing barriers are defined as all the constraints that prohibit firms from initiating, developing, or sustaining global sourcing operations (Alguire, Frear, & Metcalf, 1994; Leonidou, 1999). Many of those barriers result from spatial distance, or institutional and cultural differences (Cho & Kang, 2001; Mol et al., 2005). Therefore, MNCs should endeavour to understand the potential impact of those factors to minimise their inhibiting effects.

As strategic management theorists advocate organisational interaction with the environment, firms must actively modify their organisational strategies to match those external changes by the way of acquiring, transferring, and assimilating new knowledge and then putting it into concrete action (Chandler, 1962; Lengnick-Hall & Beck, 2005; Miller, 1987). This perspective echoes IB scholars' assertion that a firm's success relies chiefly upon integrating cultural and economic differences into its international strategy (Griffith & Harvey, 2004; Murtha, Lenway, & Bagozzi, 1998; Lu and Beamish, 2001). As illustrated earlier, social capital equips MNCs to act in response to any noticeable environmental changes or events, which exhibits organisational responsiveness (Liao et al., 2003).

Organisational responsiveness is the capability which reflects the speed and coordination with which actions are implemented (Liao et al., 2003). In the IB area, organisational responsiveness is of critical importance. In particular, Yeniyurt et al. (2005) point out that firms need to be globally responsive. GR plays a decisive role in determining the outcome of geographically dispersed, yet globally integrated, operations. Reinforcing such a capability is especially crucial for MNCs. In particular, one prominent way in which MNCs respond to local environmental diversity is by "routinising" overseas knowledge (Lengnick-Hall & Beck, 2005; Luo, 2000; Schmid & Schurig, 2003). More specifically, improved responsiveness would sensitise the MNC's managers to latent problems and nuances, and prompt them to evaluate and interpret signals from the overseas environments (Leonidou, 1999; Liao et al., 2003; Yeoh, 2004). Afterwards, managers can update their beliefs regarding cause-effect relationships and in turn transform and reconfigure their knowledge bases into new processes and routines (Lengnick-Hall & Beck, 2005; Luo, 2000). Hence, MNCs with greater GR will perceive lower global sourcing barriers because they are able to adapt to the local differences better. Further, as organisational responsiveness has positive effect upon firm performance (Hult, Ketchen, & Slater, 2005), and GR enhances global market advantage (Yeniyurt et al., 2005), we postulate that GR will also be positively associated with MNC performance.

Hypothesis 3a. GR is negatively related to global sourcing barriers.

Hypothesis 3b. GR is positively related to MNC performance.

2.3. Intra-firm structural social capital, sourcing barriers, and MNC performance

Social capital is expected to influence global sourcing barriers by creating conditions that enhance GR. IB research has indicated that certain kinds of social capital can directly affect the level of perceived global sourcing barriers. Specifically, social capital is deemed important when overcoming the obstacles because it permits firms to gain access to the requisite resources and perform global operations (Griffith & Harvey, 2004). In reality, most barriers inherent in global sourcing result from inadequate knowledge, information, or other resources (Cho & Kang, 2001; Leonidou, 1999). These deficiencies can be overcome by building up the two forms of intra-firm structural social capital, viz., information-based and people-based mechanisms. Information-based mechanisms that bestow informational benefits provide accurate and timely information with which MNCs formulate viable global sourcing programmes (Trent & Monczka, 2003). Lacking this intelligence, the levels of unfamiliarity and uncertainty surrounding international business will rise.

Furthermore, determining how the firms enable their managers to leverage their understanding of local nuances and prior experience is crucial. The capacity to combine insights and skills learned from diverse geographic markets will enhance managerial problem-solving abilities (Kim et al., 2003; Persson, 2006; Yli-Renko et al., 2002). Therefore, MNCs need to expedite the international learning process through cultivating, utilizing, and integrating international management skills and experiences based on people-based mechanisms (Eriksson et al., 1997; Lu and Beamish, 2001; Zahra, Ireland, & Hitt, 2000). Some specific people-based mechanisms, such as international transfers of employees and liaison positions, have been widely recognised as effective ways to train managers to accommodate cultural and business differences (Black & Mendenhall, 1990; Harzing, 2001; Peltokorpi, 2007; Stroh & Caligiuri, 1998; Tsang, 1999). As the managers' expertise regarding international markets increases, they tend to be more aware of the problems inherent in global sourcing whilst possessing the necessary knowledge to deal with them (Yeoh, 2004). In addition, as Kim et al. (2003) have suggested, effective integrative mechanisms have positive influence upon the performance of MNCs.

Hypothesis 4a. Information-based mechanisms are negatively related to global sourcing barriers.

Hypothesis 4b. Information-based mechanisms are positively related to MNC performance.

Hypothesis 5a. People-based mechanisms are negatively related to global sourcing barriers.

Hypothesis 5b. People-based mechanisms are positively related to MNC performance.

2.4. Inter-firm relational social capital, sourcing barriers, and MNC performance

Recent studies have explicated how inter-firm relational social capital is beneficial for international operations (Griffith & Harvey, 2004; Li, 2004; Yli-Renko et al., 2002). Highly perceived sourcing barriers can be attributed to both high uncertainty and higher levels of risks and costs associated with global sourcing activities due to the greater geographic and psychological distances (Leonidou, 1999; Mol et al., 2005). Inter-firm relational social capital, manifested as joint problem solving, can reduce such perceptual global sourcing barriers in two ways. First, it helps mitigate and even eliminate the unexpected costs and risks derived from geographical distances by optimizing global supply chain alignments and coordination, especially in industries where serious concerns are base-stock levels and production lead times. For example, in the PC and automobile industries, leading companies tend to engage in joint problem solving because such extensive collaborative efforts with foreign suppliers help reduce suppliers' risk of overproducing at the end of the product life cycle (Lee, 2002; Takeishi, 2001). Furthermore, as aforementioned, joint problem solving enables early collaboration on design, thus assuring improved product manufacturability and reducing supply uncertainties (Takeishi, 2001; Uzzi, 1997).

Secondly, joint problem solving can lower the psychological distance. To alleviate the barriers regarding psychological distance, IB researchers suggest that companies consolidate relationships with their key suppliers in culturally distant countries (Griffith & Harvey, 2004; Lu and Beamish, 2001; Yeoh, 2004). In this regard, Madhok (1995) proposes that communication hastens the process in which collaborative parties examine the credibility and trustworthiness of each other. Indeed, joint problem solving necessitates frequent face-to-face contact. Through the repeated two-way interactions and direct feedbacks, managers from both buyer and supplier firms alike are more likely to cultivate a personal rapport with each other over time and develop and further deepen the mutual trust (Zaheer, McEvily, & Perrone, 1998). Once the trust relationships are formed, the initial uncertainty stemming from psychological distance diminishes. In addition, based on prior findings of the positive relationship between joint problem solving and firm performance (Helper & Sako, 1995; Robert, Petersen, Handfield, & Ragatz, 1998), we propose that joint problem solving is also positively associated with MNC performance.

Hypothesis 6a. Joint problem solving with overseas suppliers is negatively related to global sourcing barriers.

Hypothesis 6b. Joint problem solving with overseas suppliers is positively related to MNC performance.

3. Methodology

3.1. Sample and research setting

The sampling frame of this study was MNCs engaged in global sourcing in China. We used the 2005 Directory of Taiwan Investments in Mainland China as a base to produce sampling frame. Two selection criteria were used to define an MNC: (1) at least 10% of total sales are from foreign operations; and (2) it must have operations in at least six countries (Sambharya, 1996). We chose our sample firms from the industries that are identified as global based upon Makhija et al. (1997). In particular, our sample included manufacturing firms in the following industries: computer, telecommunication, electric and electronic products, and transportation equipment. From these industries, a systematic random sample of 400 exporting manufacturers in Mainland China was drawn. We contacted them and conducted face-to-face or telephone interviews with their executives. The participants were asked to provide information on their major foreign clients. Altogether 769 manufacturing buyers were identified. Each of the 769 firms was contacted by telephone or email to solicit cooperation in participating in this survey and to identify eligible respondents. That is, the participants are key informants, who were indeed responsible for global procurement operations, and their firms must meet the above MNC criteria. Pre-survey telephone contacts yielded 336 potential respondents.

A pre-test was given to a small sample of 15 purchasing managers randomly selected from the 336 potential respondents. We made adjustments based upon the feedback. The final questionnaire was sent by e-mail to the key informants. To increase the response rate, we conducted follow-up e-mails or phone calls 3 weeks after the initial mailing. Furthermore, another questionnaire was sent to those who had not responded to the initial mailing. These efforts yielded 140 questionnaires returned—a response rate of 42%. We considered this rate satisfactory, given average top management survey-response rate in the range of 15–20% (Menon, Bharadwaj, Adidam, & Edison, 1999). Apart from 22 incomplete responses, a total of 118 usable responses were used in this study. In all, 30% of the samples were from U.S. firms, 39% from Europe, and 31% from Asia. Regarding the industries, 24% of the samples were in computer business, 18% in telecommunication business, 20% in electric and electronic products business, and 38% in transportation equipment business. Approximately 3% of the firms had more than 100,000 employees, 31% had between 10,001 and 100,000, 57% had between 1001 and 10,000, and 9% had 1000 or fewer employees.

To assess non-response bias, we compared respondents with randomly selected non-respondents on the employee number and annual sales based on the data offered by Taiwan External Trade Development Council (Directory of U.S. Imports, Europe Kompass, and Asia-Pacific Kompass). T test revealed no significant differences on the mean size ($t = 0.32$, $p = 0.75$) and the mean sales ($t = 0.25$, $p = 0.81$) between respondents and non-respondents. Therefore, the tests provided some assurance that the sample of responding firms was closely representative of the broader population surveyed (Armstrong & Overton, 1977; Siegel, 1956).

Table 1
Measurement models.

Factors (composite reliability, average variance extracted)	SFL	Z-statistics
Global responsiveness (0.87, 0.69)		
Our company is able to cope with rapid and unexpected changes in overseas markets	0.84	
Our company can quickly reallocate its worldwide resources and undertake new activities in order to exploit emerging sourcing opportunities	0.83	10.41
It takes our company a long time to alter its global sourcing process and routines to adapt to perceived changing needs and conditions (reverse coded)	0.83	10.42
Joint problem solving (0.82, 0.61)		
We work with our main foreign supplier to help solve each other's problems	0.87	
Our main foreign supplier works with us to overcome difficulties	0.75	8.50
We are jointly responsible with our main foreign supplier for getting things done	0.71	7.49
Information-based mechanisms (0.92, 0.74)		
Internationally integrated software applications	0.82	
Worldwide integrated information systems	0.90	12.13
Worldwide electronic communications systems	0.89	11.82
Internationally interconnected computer systems	0.82	10.45
Databases to share information internationally ^a		
People-based mechanisms (0.89, 0.67)		
A committee that meets regularly to plan and integrate activities internationally	0.76	
Meetings of managers from different international locations	0.88	9.88
Liaison personnel to integrate activities internationally	0.74	8.19
Personal contacts among managers from different international locations	0.88	9.85
International transfers of people ^a		
Formalization-based mechanisms (0.90, 0.74)		
Fairly well-specified worldwide common rules and policies	0.82	
Fairly well-specified worldwide standard operating procedures and common manuals	0.94	11.82
Monitoring to ensure that internationally common rules, policies, and procedures are not violated	0.83	10.56
Cultural differences (0.86, 0.68)		
Diverse cultural traits/language abroad	0.89	
Unfamiliarity with foreign business practice	0.87	12.05
High political risk/instability abroad	0.70	8.71
Overseas supply market information (0.88, 0.78)		
Limit information to identify/analyze foreign sources	0.89	
Difficulty in locating/obtaining overseas suppliers	0.88	11.25
Global logistics (0.83, 0.71)		
Longer and more insecure lead times	0.72	
High business risks/costs in buying from abroad	0.95	6.91
Regulations (0.85, 0.66)		
High tariff and non-tariff barriers	0.82	
Restrictions imposed by rules/regulations on imports	0.85	9.62
Difficulty in handling import document/procedures	0.76	8.60
Foreign exchange fluctuations ^a		
Difficulty in inventory management ^a		
Inability to secure satisfactory prices ^a		
Keen competition in overseas source countries ^a		
Inadequate or untrained import staff ^a		

^a Item dropped as a result of scale purification.

3.2. Measures

The individual items for the constructs are listed in Table 1. Statement-style items were measured on seven-point scales. The construction of the measures is explained in the following.

Global responsiveness (GR): Since no GR scale is found in the academic literature, we followed the procedure recommended by Churchill (1979) in developing a new scale. Given the foregoing definition and discussion, consensus about the essence of GR is emerging, taking into consideration (1) whether MNCs are able to cope with overseas environmental changes, threats, and opportunities, and (2) whether MNCs can quickly reconfigure worldwide resources and sourcing operational routines to adapt to changing needs and conditions. To capture the two aspects, we tailored three items extracted from relevant studies (Bennett, 1998; Fey & Denison, 2003; Jaworski & Kohli, 1993; Murtha et al., 1998; Templeton, Lewis, & Snyder, 2002). Respondents assessed (1 = “do not agree” to 7 = “completely agree”) the extent to which their firms demonstrated the two aspects of GR.

Joint problem solving: Joint problem solving was measured using a three-item seven-point scale (1 = “do not agree” to 7 = “completely agree”) developed and validated by Heide and Miner (1992) and McEvily and Marcus (2005). This

measure gauged the extent to which firms and their overseas suppliers share responsibility for resolving problems as they occur.

Integrative mechanisms: Information-based and people-based mechanisms were measured by using instruments developed by Kim et al. (2003) and Roth et al. (1991), respectively. Respondents rated (1 = “not used at all” to 7 = “used extensively”) the extent to which each mechanism was currently being used to facilitate integration in global sourcing.

Global sourcing barriers: Fifteen items were extracted from previous research studying the barriers (Alguire et al., 1994; Cho & Kang, 2001; Leonidou, 1999). Respondents indicated (1 = “completely agree” to 7 = “do not agree”) the extent to which various barriers had serious inhibiting impacts on ongoing global sourcing operations.

Exploratory factor analysis was performed using principal component factor analysis in identifying the underlying dimensions of these constructs. Altogether, seven items were excluded because factors they loaded on eigenvalues were less than 1 or their loadings were below recommended threshold of 0.6 (Hair, Anderson, Tatham, & Black, 1998) (see Table 1). Confirmatory factor analysis (CFA) was further conducted to test the dimension structures suggested by the exploratory factor analysis, which is described in Section 4.

MNC performance: MNC performance was operationalised herein as a firm’s sales growth rate, measured as the average of annual sales growth rate over a 3-year period (from 2004 to 2007 with 2004 as the base year). This data was obtained from the database (Directory of U.S. Imports, Europe Kompass, and Asia-Pacific Kompass) provided by Taiwan External Trade Development Council. Whilst recognizing that firm performance is a multidimensional concept, we focused only on sales growth rate in this study for two reasons. First, sales growth estimates are more easily available and reliable than profitability estimates. Unlike profitability measures such as ROA, ROI, etc., sales growth does not suffer from accounting measurement problems (He & Wong, 2004). Second, sustained sales growth has been found to be a reliable proxy of important dimensions of superior firm performance, such as long-term profitability and survival (Henderson, 1999; Timmons, 1999).

Control variables: This study included two control variables, firm size and business experience, which have been reported to be associated with the perception of global sourcing barriers (Cho & Kang, 2001; Leonidou, 1999). Also they may affect GR since international business experience and human capital represent knowledge stocks that can be translated into global capabilities (Eriksson & Chetty, 2003; Luo, 2000). Large firms tend to have greater slack resources to implement their global sourcing activities (Cho & Kang, 2001; Leonidou, 1999). Business experience would predict performance according to Stinchcombe’s (1965) argument of “liability of newness”. Firm size was measured as the natural logarithm of the number of employees. Business experience was measured by the number of years that a firm has engaged in global sourcing.

3.3. Assessment of common method variance

We conducted Harman’s single-factor test to address the common method variance issue. Our factor analysis on all the items yielded four factors with eigenvalues greater than 1.0 that explained 68.6% of the total variance with Factor 1 accounting for only 25.3% of the total variance. Neither a single factor nor a general factor accounted for the majority of the covariance in the measures, suggesting that common method variance was not a serious concern (Podsakoff & Organ, 1986).

4. Results

Table 2 summarises the descriptive statistics and correlation matrix. The hypotheses were tested using structural equation modeling (SEM). Bentler and Chou (1987) suggest that the measurement model is better to be limited to, at most, 20 observed variables. Hence, following Venkatraman’s (1989) approach, we developed separate measurement models to conduct CFA before testing the hypotheses.

4.1. Measurement models

To test whether the constructs exhibit sufficient reliability and validity, we performed CFA on two separate models. The first model examines the four dimensions of global sourcing barriers, namely cultural differences, overseas supply market

Table 2
Descriptive statistics and correlation matrix.

Variable	Mean	S.D.	1	2	3	4	5	6	7
1. Information-based mechanisms	4.81	1.08							
2. People-based mechanisms	4.76	1.06	0.45**						
3. Joint problem solving	4.37	1.29	0.49**	0.44**					
4. Global responsiveness	4.65	1.05	0.72**	0.53**	0.69**				
5. Global sourcing barriers	4.96	1.14	−0.58**	−0.29**	−0.58**	−0.61**			
6. Sales growth rate (%)	0.19	13.74	0.26*	0.23*	0.25*	0.66**	−0.49**		
7. Firm size	8.89	1.48	0.01	−0.02	−0.06	0.02	0.01	−0.18*	
8. Business experience	10.15	7.37	−0.06	−0.07	−0.22*	0.04	−0.14	−0.08	0.04

N = 118; two-tailed test.

* $p < 0.05$.

** $p < 0.01$.

information, global logistics, and regulations ($\chi^2_{(29)} = 52.80$, GFI = 0.91, RMESA = 0.08, NNFI = 0.95, IFI = 0.97, CFI = 0.97). Another model estimates all the constructs, except global sourcing barriers ($\chi^2_{(109)} = 154.80$, GFI = 0.87, RMESA = 0.06, NNFI = 0.96, IFI = 0.97, CFI = 0.97). The goodness-of-fit indices (GFI), non-normed fit indices (NNFI), Bollen's incremental fit indices (IFI), and Bentler's comparative fit indices (CFI) are close to or above the benchmark of 0.9, suggesting that both models fit the data well.

Convergent validity is defined as the existence of one latent trait or construct underlying a set of measures (Anderson, 1987). Convergent validity of a construct is demonstrated by showing that each indicator is strongly related to its theoretical construct. As indicated in Table 1, the standardised factor loadings of items on their given constructs are statistically significant ($p < 0.01$) and above 0.5, which demonstrates convergent validity. Furthermore, the degree to which measures of distinct constructs differ indicates discriminant validity (Bagozzi & Philips, 1982). Our constructs demonstrate discriminant validity as the average variances extracted for each pair of constructs are found to be greater than their squared correlations (Fornell & Larcker, 1981).

In addition, the composite reliabilities (CR), analogous to Cronbach's alpha values, are all above the widely accepted threshold of 0.7 (Hair et al., 1998). The average variances extracted (AVE) also exceed the level of 0.5 (Fornell & Larcker, 1981). Therefore, all of the constructs demonstrate reliability.

4.2. Evaluation of the structural model

Both sample size and model size influence the estimation and interpretation of SEM results (Hair et al., 1998). A minimum ratio of at least five respondents to each estimated parameter is necessary (Bagozzi & Yi, 1988); otherwise, non-convergence and improper solutions are likely to occur in the estimation of a model (Anderson & Gerbing, 1988). To minimise those threats for the given sample, we control for the model size. Accordingly, global sourcing barriers, the second-order construct, is treated as a first-order factor, and composite scores of the four first-order factors (i.e., cultural differences, overseas supply market information, global logistics, and regulations) are computed and used as observed indicators. Our structural model includes 18 observed indicators describing six latent constructs, one observed construct, and two control variables thereafter.

Results indicate that the hypothesised model provides a reasonable fit to the data. The chi-square for this model is 257.57 (d.f. = 172, $p = 0.001$). The GFI is 0.83, meeting the marginal threshold of 0.80; this is probably due to the high degrees of freedom in the model (this index is not adjusted for degrees of freedom). The NNFI, IFI and CFI are 0.94, 0.95, 0.95, respectively, and clearly exceed the desirable level of 0.90 (Bentler, 1990). The normed Chi-square statistic is 1.50 within the recommended range between 1.0 and 2.0, and the RMSEA is 0.07 below recommended value of 0.08 (Hair et al., 1998). Overall, the model has a good fit. Table 3 presents the standardised maximum likelihood parameter estimates and their Z-statistics for the model.

4.3. Hypotheses testing

The first set of hypotheses examines the effects of integrative mechanisms on GR. The results provide support for Hypotheses 1a and 1b: information-based and people-based mechanisms are positively related to GR ($\gamma = 0.30$, $p < 0.05$;

Table 3
Path coefficients for the hypothesised and fully mediated models.

Path	Hypothesised model			Fully mediated model	
	Expected sign	Coefficient	Z-statistics	Coefficient	Z-statistics
H1a	Information-based mechanisms → GR	0.30**	2.33	0.28**	2.26
H1b	People-based mechanisms → GR	0.21*	2.59	0.19**	2.47
H2	Joint problem solving → GR	0.47*	3.31	0.53*	3.60
H3a	GR → global sourcing barriers	-0.55**	-2.23	-0.56*	-3.45
H3b	GR → sales growth rate	0.51**	2.14	0.68*	6.18
H4a	Information-based mechanisms → global sourcing barriers	-0.06	-0.33		
H4b	Information-based mechanisms → sales growth rate	0.02	0.13		
H5a	People-based mechanisms → global sourcing barriers	-0.20	-1.70		
H5b	People-based mechanisms → sales growth rate	0.05	0.45		
H6a	Joint problem solving → global sourcing barriers	-0.25	-1.14		
H6b	Joint problem solving → sales growth rate	0.15	0.71		
Controls	Firm size → GR	-0.05	-0.79	-0.05	-0.82
	Firm size → global sourcing barriers	0.02	0.33	0.04	0.49
	Firm size → sales growth rate	-0.14**	-2.01	-0.13	-1.86
	Business experience → GR	0.07	1.21	0.08	1.31
	Business experience → global sourcing barriers	-0.06	-0.76	-0.10	-1.20
	Business experience → sales growth rate	0.01	0.10	-0.01	-0.19

One-tailed test.

* $p < 0.01$.

** $p < 0.05$.

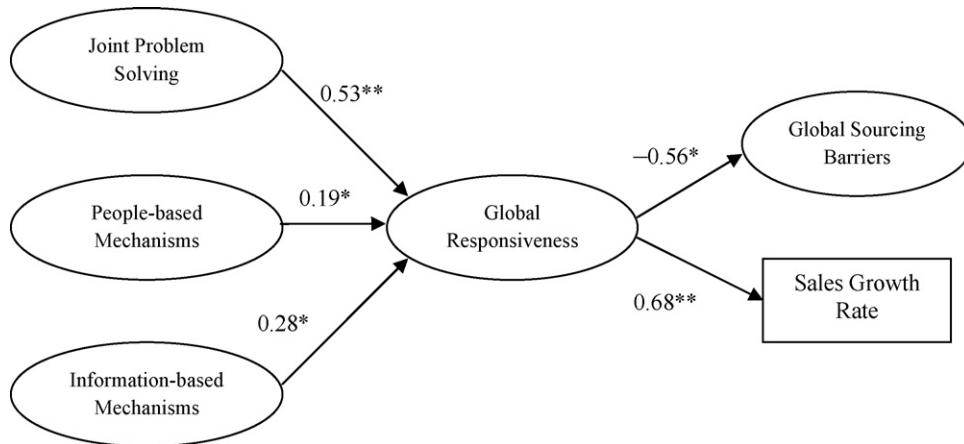


Fig. 2. The fully mediated model. Note: This is a simplified version of the actual model. It does not show error terms, control variables, or the indicator variables of the latent constructs. Firm size and business experience were included in the model as control variables. Latent variables are represented by ovals; an observed variable is represented by rectangle. ** $p < 0.01$, * $p < 0.05$; one-tailed test.

$\gamma = 0.21, p < 0.01$). Hypothesis 2 is also supported: joint problem solving with overseas suppliers is positively related to GR ($\gamma = 0.47, p < 0.01$). Similarly, Hypotheses 3a and 3b receive support: GR is negatively related to global sourcing barriers ($\beta = -0.55, p < 0.05$) and positively related to MNC performance ($\beta = 0.51, p < 0.05$). However, Hypotheses 4a,4b and 5a,5b are not supported: information-based and people-based mechanisms are not significantly related to global sourcing barriers or MNC performance. Finally, Hypotheses 6a and 6b are not supported: joint problem solving with overseas suppliers is not significantly related to global sourcing barriers or MNC performance.

4.4. Nested model test

The SEM appears to provide strong support for the hypothesised model. However, the model was less supportive of the relationships between the social capital constructs and dependent variables. Following the suggestions of methodologists, we therefore compared our hypothesised model with a nested model by utilizing the chi-square difference test (Bentler & Bonett, 1980; Steiger, Shapiro, & Browne, 1985). We deleted the direct effects of the three social capital constructs on the two dependent variables (i.e., insignificant paths), which yielded a fully mediated model. Its fit indices are slightly better than the hypothesised model ($\chi^2_{(178)} = 263.42$, GFI = 0.83, NNFI = 0.94, IFI = 0.95, CFI = 0.95, RMSEA = 0.06), and the difference in Chi-square is insignificant ($\Delta\chi^2 = 5.85, \Delta df = 6, p = 0.44 > 0.05$), indicating that the fully mediated model provides a better fit with the data than the hypothesised model. In brief, the chi-square difference test suggests that the revised model is a better model. Fig. 2 depicts the fully mediated model with the standardised maximum likelihood parameter estimates.

5. Discussion and conclusion

5.1. Theoretical implications

This research contributes to the field of IB in several respects. Since the inception of the GR construct in the seminal work of Yenyurt et al. (2005), interesting discussions have evolved around GR. Yet, empirical test upon this construct has not presented. As an initiative attempt to empirically study GR in its nomological network, our study offers important evidence indicating that this construct indeed is of critical importance to IB research. In particular, we find that GR is a critical variable enabling successful global sourcing and improved MNC performance. The positive effect of GR upon MNC performance not only demonstrates the crucial role played by GR but also poses important questions for future IB research in relation to this new construct. For example, whilst the findings of both Yenyurt et al. (2005) and our study indicate that GR is positively related to MNC performance in global industries, its impact for firms following other types of strategies, such as transnational and multidomestic strategies, is not clear. It will shed further light upon our understanding of GR by examining important contextual variables moderating GR's effect upon MNC performance.

A key finding of this study is the full mediation effect of GR. Without GR, people-based mechanisms, information-based mechanisms, and joint problem solving will not affect sourcing barriers or MNC performance. That is to say, social capital may not necessarily lead to the reduction of global sourcing barriers or better firm performance unless GR is well established, which indicates the critical role of GR as a key variable in research on MNCs in a global environment.

The findings confirm that structural social capital manifested in information-based mechanisms and people-based mechanisms, and relational social capital manifested in joint problem solving are major facilitators for GR. The results resonate with Nahapiet and Ghoshal's (1998) contention that social capital acts as an aid to adaptive efficiency since it encourages cooperative behaviour which can facilitate learning. A main implication for future research on GR is that we need

to explore variables that may influence the development of GR besides social capital, especially those that may have a negative impact on GR. This is because those variables may not only influence GR but also constrain the positive effect of social capital on outcome variables, such as global sourcing barriers. On the other hand, it is also beneficial to delve further into the key mechanisms through which social capital affects GR. In our study, we identified the positive effect of social capital on GR. Yet, scholars have cautioned that social capital may have negative aspects such as constraining learning and knowledge spillover (Li, 2004; Yli-Renko et al., 2001). Therefore, subsequent research may enrich our understanding of the relationship between social capital and GR by exploring whether social capital may also negatively influence GR.

In addition, as the relationships with suppliers may vary according to the industry, the product, or technological dimensions, future research examining GR will be significantly benefited by exploring the effects of those dimensions.

Methodologically, we have translated Yeniyurt et al.'s (2005) conceptualisation of GR into a concrete measurement. Whereas GR is still a novel construct at the conceptualisation stage, our study is among the initial efforts made to operationalise this novel construct and we find reliability and validity in our operationalisation based upon rigorous standards. Simultaneously, drawing from previous literature on global sourcing, we also develop and validate a measure of global sourcing barrier. It is our hope that this study will trigger both theoretical and empirical works examining GR within and beyond the global sourcing context, and that future research can offer further validation of these scales.

5.2. Managerial implications

A major implication for practitioners is that managers should not only actively deploy various integrative mechanisms but also vigorously develop GR, without which the positive influence of social capital may be severely constrained. As the findings indicate, social capital may not enable MNCs to attenuate the impact of sourcing barriers unless a certain level of GR has been established. Therefore, it is imperative for MNCs to identify social capital that is instrumental in the development of GR, and devote organisational resources to cultivate such social capital. Our study suggests that MNCs can focus upon information-based and people-based mechanisms as well as joint problem solving.

Moreover, our findings also highlight the importance of the setting, i.e. China, a transition economy with unique institutional and cultural characteristics. As Chinese culture emphasises relationships over commercial considerations (Child & Möllering, 2003; Forrest, 2005; Griffith & Harvey, 2004), certain types of social capital may be more important in this specific global sourcing setting. To effectively exploit lucrative sourcing opportunities, it is necessary to astutely harness social capital by leveraging people-based mechanisms and joint problem solving. For example, Motorola in Tianjin has offered training courses for managers to share operational, technological, and organisational experiences in order to compete in the Chinese market.

Furthermore, joint problem solving may act as a platform wherein MNCs can effectively cultivate reciprocal, idiosyncratic inter-firm relations with Chinese suppliers. This will enable MNCs to streamline their global supply chains whilst simultaneously maintaining strategic flexibility. Meanwhile, as information on Chinese suppliers is still fragmented and harder to obtain (Forrest, 2005), information-based mechanisms play a vital role in achieving successful sourcing in China.

Finally, the resultant typology of global sourcing barriers offers a systematic tool for managers to predict, frame, and evaluate sourcing problems. This may allow managers to understand sourcing obstacles better, facilitate their problem solving, and provide guidance for resource commitment and training for sourcing projects.

5.3. Limitations and future research

This study is subject to several limitations, which could also open up several avenues for future research. Firstly, as the results are drawn from a survey of MNCs engaged in global sourcing in China, the findings may not generalise to other settings. It is our hope that follow-up studies will establish the generalisability of our findings across different contexts. Secondly, the cross-sectional research design may restrict our ability to make causal inferences. Further research using longitudinal data may help to better understand the overall process.

5.4. Conclusion

In this study, we endeavour to shed light upon GR within the context of global sourcing. Based upon survey data from China, we elucidate how social capital affects GR and how well-developed GR helps reduce global sourcing barriers and increase firm performance. In particular, we find that GR completely mediates the associations of social capital with sourcing barriers and sales growth rate. Therefore, we hold that GR is a key facilitator for global value chain. To secure corporate survival amid intensifying global competition, MNCs need to cultivate and enhance GR to extract more value from global sourcing activities.

References

- Adler, P. S., & Kwon, S. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27, 17–40.
- Alguire, M. S., Frear, C. R., & Metcalf, L. E. (1994). An examination of the determinants of global sourcing strategy. *Journal of Business & Industrial Marketing*, 9, 62–74.

- Anderson, J. C. (1987). An approach for confirmatory measurement and structural equation modeling of organizational properties. *Management Science*, 33(4), 525–541.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.
- Armstrong, S. J., & Overton, T. S. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research*, 14, 396–402.
- Bagozzi, R. P., & Philips, L. W. (1982). Representing and testing organizational theories: A holistic construal. *Administrative Science Quarterly*, 27, 459–489.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 33–46.
- Bartlett, C. A., & Ghoshal, S. (1987). Managing across borders: New strategic requirements. *Sloan Management Review*, 7–17.
- Bartlett, C. A., & Ghoshal, S. (1989). *Managing across borders: The transnational solution*. Boston, MA: Harvard Business School Press.
- Bennett, R. (1998). Charities, organizational learning and market orientation: A suggested measure of the propensity to behave as a learning organization. *Journal of Marketing Practice: Applied Marketing Science*, 4(1), 5–25.
- Bentler, P. M. (1990). Comparative fit indices in structural equation models. *Psychological Bulletin*, 107(2), 238–246.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588–606.
- Bentler, P. M., & Chou, C. (1987). Practical issues in structural modeling. *Sociological Methods and Research*, 16(1), 78–117.
- Black, J. S., & Mendenhall, M. (1990). Cross-cultural training effectiveness: A review and a theoretical framework for future research. *Academy of Management Review*, 15(1), 113–136.
- Chandler, A. (1962). *Strategy and structure: Chapters in the history of the industrial enterprise*. Cambridge, MA: The MIT Press.
- Child, J., & Möllering, G. (2003). Contextual confidence and active trust development in the Chinese business environment. *Organization Science*, 14, 69–80.
- Cho, J., & Kang, J. (2001). Benefits and challenges of global sourcing: Perceptions of US apparel retail firms. *International Marketing Review*, 18(5), 542–561.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64–73.
- Dyer, J. H., & Hatch, N. W. (2006). Relation-specific capabilities and barriers to knowledge transfers: Creating advantage through network relationships. *Strategic Management Journal*, 27, 701–719.
- Eriksson, K., Johanson, J., & Majkgard, A. (1997). Experiential knowledge and cost in the internationalization process. *Journal of International Business Studies*, 28(2), 337–360.
- Eriksson, K., & Chetty, S. (2003). The effect of experience and absorptive capacity on foreign market knowledge. *International business review*, 12, 673–695.
- Fey, C. F., & Denison, D. R. (2003). Organizational culture and effectiveness: Can American theory be applied in Russia? *Organization Science*, 14(6), 686–706.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50.
- Forrest, R. S. (2005). Global sourcing: Insights and opportunities from China and beyond achieving. *Supply Chain Excellence through Technology*, 7, 66–70.
- Granovetter, M. S. (1992). Problems of explanation in economic sociology. In N. Nohria & R. Eccles (Eds.), *Networks and organizations: Structure, form and action* (pp. 25–56). Boston: Harvard Business School Press.
- Griffith, D. A., & Harvey, M. G. (2004). The influence of individual and firm level social capital of marketing managers in a firm's global network. *Journal of World Business*, 39, 244–254.
- Ghoshal, S., & Bartlett, C. A. (1990). The multinational corporation as an interorganizational network. *Academy of Management Review*, 15(4), 603–625.
- Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within the multinational corporation. *Strategic Management Journal*, 21(4), 473–496.
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis with readings* (5th ed.). New Jersey: Prentice Hall International.
- Hartmann, E., Trautmann, G., & Jahns, C. (2008). Organisational design implications of global sourcing: A multiple case study analysis on the application of control mechanisms. *Journal of Purchasing & Supply Management*, 14, 28–42.
- Harzing, A. (2001). Of bears, bumble-bees, and spiders: The role of expatriates in controlling foreign subsidiaries. *Journal of World Business*, 36(4), 366–379.
- He, Z., & Wong, P. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15(4), 481–494.
- Heide, J. B., & Miner, A. S. (1992). The shadow of the future: Effects of anticipated interaction and frequency of contact on buyer–seller cooperation. *Academy of Management Journal*, 35(2), 265–291.
- Henderson, A. D. (1999). Firm strategy and age dependence: A contingent view of the liabilities of newness, adolescence, and obsolescence. *Administrative Science Quarterly*, 44, 281–314.
- Helper, S., & Sako, M. (1995). Supplier relations in Japan and the United States: Are they converging? *Sloan Management Review*, 36, 77–84.
- Hult, G. T. M., Ketchen, D. J., Jr., & Slater, S. F. (2005). Market orientation and performance: An integration of disparate approaches. *Strategic Management Journal*, 26, 1173–1181.
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(July), 53–70.
- Kim, K., Park, J.-H., & Prescott, J. E. (2003). The global integration of business functions: A study of multinational businesses in integrated global industries. *Journal of International Business Studies*, 34(4), 327–344.
- Kogut, B. (1985). Designing global strategies: Comparative and competitive value-added chains. *Sloan Management Review*, Summer: 15–28.
- Kotabe, M., & Murray, J. Y. (2004). Global sourcing strategy and sustainable competitive advantage. *Industrial Marketing Management*, 33(1), 7–14.
- Leonidou, L. C. (1999). Barriers to international purchasing: The relevance of firm characteristics. *International Business Review*, 8, 487–512.
- Lee, H. L. (2002). Aligning supply chain strategies with product uncertainties. *California Management Review*, 44(3), 105–119.
- Lengnick-Hall, C. A., & Beck, T. E. (2005). Adaptive fit versus robust transformation: How organizations respond to environmental change. *Journal of Management*, 31, 738–757.
- Li, L. (2004). An examination of the foreign market knowledge of exporting firms based in the People's Republic of China: Its determinants and effect on export intensity. *Industrial Marketing Management*, 33(7), 561–572.
- Liao, J., Welsch, H., & Stoica, M. (2003). Organizational absorptive capacity and responsiveness: An empirical investigation of growth-oriented SMEs. *Entrepreneurship Theory and Practice*, 28(1), 63–85.
- Lu, J. W., & Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, 22(6), 565–586.
- Luo, Y. (2000). Dynamic capabilities in international expansion. *Journal of World Business*, 35(4), 355–378.
- Madhok, A. (1995). Revisiting multinational firms' tolerance for joint ventures: A trust-based approach. *Journal of International Business Studies*, 26, 117–138.
- Makhija, M., Kim, K., & Williamson, S. (1997). Measuring globalization of industries. *Journal of International Business Studies*, 28, 679–710.
- McEvily, B., & Marcus, A. (2005). Embedded ties and the acquisition of competitive capabilities. *Strategic Management Journal*, 26, 1133–1156.
- Menon, A., Bharadwaj, S. G., Adidam, P. T., & Edison, S. W. (1999). Antecedents and consequences of marketing strategy making: A model and a test. *Journal of Marketing*, 63(2), 18–40.
- Miller, D. (1987). The structural and environmental correlates of business strategy. *Strategic Management Journal*, 8, 55–67.
- Mol, M. J., Tulder, R. J. M., & Beije, P. R. (2005). Antecedents and performance consequences of international outsourcing. *International Business Review*, 14, 599–617.
- Moore, J. F. (1993). Predators and prey: A new ecology of competition. *Harvard Business Review*, 71, 75–86.
- Murtha, T. P., Lenway, S. A., & Bagozzi, R. P. (1998). Global mind-sets and cognitive shift in a complex multinational corporation. *Strategic Management Journal*, 19(2), 97–114.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242–266.
- Nohria, N., & Ghoshal, S. (1997). *The differentiated network—Organizing multinational corporations for value creation*. San Francisco: Jossey-Bass Publishers.
- Peltokorpi, V. (2007). Intercultural communication patterns and tactics: Nordic expatriates in Japan. *International Business Review*, 16, 68–82.
- Persson, M. (2006). The impact of operational structure, lateral integrative mechanisms and control mechanisms on intra-MNE knowledge transfer. *International business Review*, 15, 547–569.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management*, 12(4), 531–544.
- Rexha, N., & Miyamoto, T. (2000). International sourcing: An Australian perspective. *Journal of Supply Chain Management Winter*, 27–34.

- Robert, M. M., Petersen, K. J., Handfield, R. B., & Ragatz, G. L. (1998). Success factors in strategic supplier alliances: The buying company perspective. *Decision Sciences*, 29, 553–577.
- Roth, K., Schweiger, D., & Morrison, A. (1991). Global strategy implementation at the business unit level. *Journal of International Business Studies*, 22, 369–402.
- Sambharya, R. B. (1996). Foreign experience of top management teams and international diversification strategies of U.S. multinational corporations. *Strategic Management Journal*, 17, 739–746.
- Schmid, S., & Schurig, A. (2003). The development of critical capabilities in foreign subsidiaries: Disentangling the role of the subsidiary's business network. *International Business Review*, 12, 755–782.
- Siegel, S. (1956). *Nonparametric statistics for the behavioral sciences*. Tokyo: McGraw-Hill.
- Steiger, J. H., Shapiro, A., & Browne, M. W. (1985). On the multivariate asymptotic distribution of sequential Chi-square statistics. *Psychometrika*, 50, 253–264.
- Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of organizations* (pp. 142–193). Chicago, IL: Rand McNally.
- Stroh, L. K., & Caligiuri, P. M. (1998). Increasing global competitiveness through effective people management. *Journal of World Business*, 33(1), 1–16.
- Takeishi, A. (2001). Bridging inter- and intra-firm boundaries: Management of supplier involvement in automobile product. *Strategic Management Journal*, 22, 403–433.
- Tasi, W., & Ghoshal, S. (1998). Social capital and value creation: The role of interfirm network. *Academy of Management Journal*, 41(4), 464–476.
- Templeton, G. F., Lewis, B., & Snyder, C. A. (2002). Development of a measure for the organizational learning construct. *Journal of Management Information Systems*, 19(2), 175–218.
- Timmons, J. (1999). *New venture creation: Entrepreneurship for the 21st century* (5th ed.). Boston, MA: Irwin/McGraw-Hill.
- Trent, R. J., & Monczka, R. M. (2003). Understanding integrated global sourcing. *International Journal of Distribution & Logistics Management*, 33(7), 607–629.
- Trent, R. J., & Monczka, R. M. (2005). Achieving excellence in global sourcing. *MIT Sloan Management Review*, 47(1), 24–33.
- Tsang, E. W. K. (1999). The knowledge transfer and learning aspects of international HRM: An empirical study of Singapore MNCs. *International Business Review*, 8, 591–609.
- Tsai, W. (2000). Social capital, strategic relatedness and the formation of intraorganizational linkages. *Strategic Management Journal*, 21(9), 925–940.
- Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42(1), 35–67.
- Venkatraman, N. (1989). Strategic orientation of business enterprise: The construct, dimensionality, and measurement. *Management Science*, 35(8), 942–962.
- Volberda, H. W. (1996). Toward the flexible form: How to remain vital in hypercompetitive environments. *Organization Science*, 7(4), 359–374.
- Yeniyurt, S., Cavusgil, T., & Hult, T. G. (2005). A global market advantage framework: The role of global market knowledge competencies. *International Business Review*, 14(1), 1–19.
- Yeoh, P. L. (2004). International learning: Antecedents and performance implications among newly internationalizing companies in exporting context. *International Marketing Review*, 21, 511–535.
- Yli-Renko, H., Autio, E., & Sapienza, H. J. (2001). Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic Management Journal*, 22, 587–613.
- Yli-Renko, H., Autio, E., & Tontti, V. (2002). Social capital and the international growth of technology-based new firms. *International Business Review*, 11(3), 279–304.
- Zaheer, A., McEvily, B., & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*, 9(2), 141–159.
- Zahra, S. A., Ireland, R. D., & Hitt, M. A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technology learning, and performance. *Academy of Management Journal*, 43(5), 925–950.

Ming-Tien Tsai is a professor at the Department of Business Administration, National Cheng Kung University, Taiwan (ROC). He received his Ph.D. from Columbia University. His publications have appeared in the *Industrial Marketing Management*, *Journal of Business Research*, *Journal of Knowledge Management*, *Journal of Business Ethics*, and *Quality & Quantity*.