

# 7

## The Application of Social Capital to the Construction of Organizational Capability

*Ku-Ho Lin, Shi-Huei Ho, and Yao-Ping Peng*

### Introduction

Small and medium-sized enterprises (SMEs) have played a significant role in the economic development of Taiwan over the last decade. However, with the rise in competitive pressure in both local and foreign markets, and the rapid changes in technologies and environments, such firms should work to constantly accumulate, adjust, and update internal knowledge, resources, and core competitive capabilities. Helfat and Peteraf (2003) stressed the importance of dynamic capabilities, and noted that the developmental direction and path of capacity would change significantly over time. This means that analysis of firm performance should focus on development of capabilities rather than exploration of resources, thus moving from the static view of the resource-based theory to a dynamic view of capability. According to the dynamic capability view, firms should face a changing environment with good flexibility and adaptability (Teece, Pisano & Shuen, 1997), while the development of capabilities is highly based on best practice (Daniel & Wilson, 2003). Eisenhardt and Martin (2000) believe that dynamic capability is a concrete process, and one that refers to integrating, relocating, and acquiring resources, or taking advantage of resources to seek and even create market changes.

However, SMEs are exposed to more serious problems than larger firms, such as liabilities associated with foreignness and newness (Oviatt & McDougall, 1994; Sethi & Guisinger, 2002) and scale difference (Musteen, Datta, & Butts, 2014). If SMEs do not consider the risks and opportunities brought about by international and global competition (Lu & Beamish, 2001; Oviatt & McDougall, 1994), they may not survive in the market in the long run. Moreover, most previous studies have

stated that effective dynamic capabilities are conducive to enhancing performance and lowering the failure rate (Helfat & Peteraf, 2003; Zott, 2003), although the uncertainties due to turbulent foreign markets may lead to different results (Gupta, Smith, & Shally, 2006). Taiwanese firms face problems such as low added value, slower growth, and lack of competitive advantage due to their focus on low-tech, labor-intensive export-oriented manufacturing. These firms also face challenges in developing their specific capabilities to enhance performance. A review of the literature on SMEs clearly shows that many authors have noted the importance of social capital and firm networks—and the benefits, like knowledge, that can arise from these—from which SMEs can obtain the resources they require (Bierly, Damanpour, & Santoro, 2009; Van de Vrande, De Jong, Vanhaverbeke, & De Rochemont, 2009). However, few studies have examined the relationship between network attributes and performance (Musteen et al., 2014), especially in the context of Taiwan, where SMEs account for 98 % of the economy. For this reason Taiwanese SMEs were chosen as the research sample in the current work.

To effectively respond to market opportunities and competitive threats, scholars believe that international companies should work to integrate their own resources with the diversified resources that can be obtained from overseas suppliers in order to create a greater capability for differentiation (Dyer & Hatch, 2006; Kotabe & Murray, 2004; McEvily & Marcus, 2005). Firms should thus establish strategic relationships with each other in order to obtain valuable knowledge assets from their partners. The resources that originate from strategic relationships and leverage effects are called inter-firm social capabilities (Nahapiet & Ghoshal, 1998; Yli-Renko, Autio, & Tontti, 2002). However, previous research on social capital carried out at the firm level examined the relationship between the establishment and maintenance of inter-firm relationships and performance, thus neglecting the ability of internal members to coordinate external resources and information. Therefore, social capital can be divided into two forms, intra-firm and inter-firm (Adler & Kwon, 2002). Comprehensive intra-firm social capital allows the utilization of intra-firm knowledge and resources, enabling firms to be more responsive to the challenges brought about by globalization (Griffith & Harvey, 2004; Francis, Ananda, & Jyotsna, 2009).

In addition to working to improve intra-firm coordination capability, the members of such networks should also process and share the

valuable information and knowledge that can be acquired from the external environment (Zaheer & Bell, 2005). Most previous research thus focused on how to apply the knowledge and information acquired from partners to enhancing competitive advantage and performance, but there exists a Black Box between the information acquired from external firms and the environment and the enhancement of firm performance, as such works failed to consider this issue from a process perspective (McEvily & Marcus, 2005). This study thus examines some questions on the relationship between antecedents and consequences in this context, and asks whether the valuable information, resources, and knowledge derived from intra-firm and inter-firm social capital can have direct, positive effects on firm performance. It has been noted that the dynamic view has now replaced the static, strategic view of resource advantages (Barnett, Greve, & Park, 1994) in studies that explore how firms recombine and integrate their resources to adapt to the changes in the market and technology, and this new view is based on the concept of dynamic capabilities. In addition to setting forth how to develop capabilities (Helfat & Peteraf, 2003; Zollo & Winter, 2002) and exploring the influence of such capabilities on firm performance and survival (Adner & Helfat, 2003; Helfat & Raubitschek, 2000), some researchers have explained how the links between resources, capabilities, and competitive advantage (i.e., improved performance) are a development process, with the resources forming the capabilities, while the capabilities influence firm performance (Barney, 1991; Chang & Gotcher, 2007). As capabilities have a positive influence on performance, the question arises as to how firms should develop the capability to confront an ever-changing market environment. Zott (2003) claimed that since the dynamic capabilities of different firms may differ, they will have different effects on firm performance, which agrees with the research findings of Adner and Helfat (2003). O'Reilly and Tushman (2008) divided dynamic capabilities into exploitative and explorative capabilities. They claimed that the routines, procedures, and skills required by exploitative capabilities are fundamentally different from those needed by explorative capabilities. Therefore, this study aims to discuss the influence of the valuable information, resources, and knowledge acquired due to dynamic capabilities, as expressed in intra- and inter-firm social capital, and how this relates to improving organizational performance. The conceptual model examined in this study is presented in Fig. 7.1.

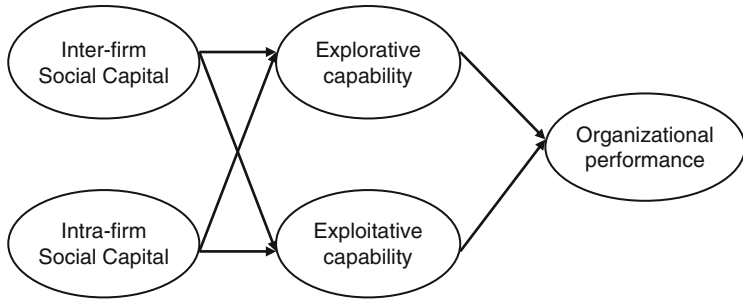


Fig. 7.1 Conceptual framework

## Literature Review and Hypotheses Development

### Dynamic Capability View

Organizational capability is the skill of an enterprise to coordinate and integrate resources and effectively apply the resources to meet threats of external competition (Hill & Jones, 1998). With the enhanced institutionalization of enterprises, organization members are bound by existing cognitive and behavioral tendencies, as well as the decision-making inspiration mode, leading to the formation of organizational inertia (Nelson & Winter, 1982; Hannan & Freeman, 1984) and a greater danger of sinking into a competence trap (Levitt & March, 1988; Levinthal & March, 1993). Leonard-Barton (1992) pointed out that core rigidities often occur once an organization forms its core capability, which eventually will not only fail to bring about competitive advantages, but even hinder further development. In order to eliminate problems like organizational inertia and core rigidities, Teece and Pisano (1994) put forward the concept of dynamic capabilities in accordance with the RBV. In long-term competition, continual construction of dynamic capabilities is needed to maintain persistent competitive advantages (Teece et al., 1997). Emphasis on environmental changes and strategies can help firms to achieve appropriate adaptation, integration, and reconfiguration of both the internal and external skills and resources required to address changes in the environment. Zollo and Winter (2002) divided the evolutionary process of knowledge and capabilities into stages of generative variation, internal selection, replication, and retention by using the concepts of variation, selection, and retention from the traditional evolutionary paradigm. Some scholars also add explorative and exploitative capabilities to the evolutionary stages of knowledge and

capability building (March, 1991). Explorative capabilities emphasize the generation of new perceptions and ideas, or variations of existing ones, and the selection of the most appropriate of these. Conversely, exploitative capabilities emphasize behavioral mechanisms, that is, the ways used to spread the best ideas to all the relevant components of the organization (Levinthal & March, 1993) and then improve the implementation of internally specified tasks through individual absorption (Zollo & Winter, 2002).

The majority of related studies (Dougherty & Hardy, 1996; Pennings & Harianto, 1992; Teece et al., 1997; Schreyögg & Kliesch-Eberl, 2007) agree that the development of firm capabilities can establish or strengthen an enterprise's competitive advantages in a turbulent environment. In view of the time needed to develop capabilities, and the fact that results of any learning process are often highly idiosyncratic, a manager must decide which capabilities to develop and invest in, and then devise strategies for doing so (Schreyögg & Kliesch-Eberl, 2007). Thus, managerial decisions as to what capability to develop, or which ones to develop concurrently, are also strategic decisions. This study employs the dynamic capabilities view to explain the trade-off between explorative and exploitative capabilities, along with the effects of this relationship on organizational tensions.

#### *Direct Effects of Explorative and Exploitative Capabilities on Organizational Performance*

In this study a firm is seen as pursuing two distinct and conflicting capabilities, each benefitting the organization: explorative and exploitative. If it has both capabilities then an organization can not only improve operational efficiency (profitability, market share, and productivity), but also promote innovative performance (new product development, new market development, environmental adjustment, and flexibility). Based on existing studies of organizational ambidexterity, the current work divides organizational performance into organizational effectiveness (relative product quality, new product success, and customer retention), growth/share (sales level, growth rate, and target market share), and profitability (ROE, gross margin, ROI) (Narver & Slater, 1990; Slater & Narver, 1994; Jaworski & Kohli, 1993; Lubatkin et al., 2006; Han & Celly, 2008).

Examining new alternatives is the essence of explorative capability (March, 1991), which thus is a source of new technology and knowledge (Rothaermel & Alexandre, 2009) as well as a type of innovation capability. Explorative capability is the foundation of organizational growth, and firms in competitive environments that lack resources and

industrial development capacity will apply this capability to seek opportunities for growth and innovation (Hurley & Hult, 1998). In the context of greater internationalization, Prange and Verdier (2011) indicate that an effective explorative capability can enable firms to dynamically make use of value-adding or disruptive capabilities in order to achieve new and innovative competitive advantages. Disruptive capabilities can help organizations to change their basic structures, enabling them to overcome the problems of path-dependence and inertia, thus encouraging organizational growth. Accordingly, explorative capability can not only create new products and services as well as develop new markets (Jansen, Van den Bosch, & Volberda, 2006), but also enable organizations to develop more appropriate structures. Firms can align themselves with changes caused by both the market environment and future customer demand by adopting a structural change approach based on organizational re-integration and restructuring (Katila & Ahuja, 2002; He & Wang, 2004). Therefore, we hypothesize:

**H1** The strength of explorative capability is positively related to organizational performance.

Exploitative capability is a type of dynamic capability, involving activities like path-dependent learning and knowledge storage. Firms tend to stress the development of existing markets, not extending to new ones until they accumulate adequate capabilities. As this will reduce the uncertainties inherent in explorations and experiments, this approach can also improve survivability (Prange & Verdier, 2011). Slater and Narver (1994) proposed that continuous learning can help firms track and respond to consumer demand, enabling them to capture market opportunities while providing suitable target products so as to promote profitability, sales growth, and customer retention. The accumulation of experience and lessons makes enterprises aware of how to avoid repeating mistakes, how to reduce production and transaction costs, and how to strengthen their capabilities of mutual understanding as well as problem coordination and solving (Jiang & Li, 2009). According to Prange and Verdier (2011), firms that focus on exploitative capabilities can survive in the short term by effectively exploiting their existing resources, knowledge, and routines. Therefore, we hypothesize:

**H2** The strength of exploitative capability is positively related to organizational performance.

## **Social Capital View**

In addition to physical capital and human resources, the social resources of a firm, also termed as social capital, are also production factors, and are considered the fourth type of capital influencing the competitive power and economic development of companies (Coleman, 1988; Nahapiet & Ghoshal, 1998). Based on the RBV, Nahapiet and Ghoshal (1998) regarded social capital as an organizational resource, and defined it as the existing or potential resources in a firm's network relations that are acquired or transferred by individuals or social organizations. Both the position and relationships that firms have within a network may affect the ability to acquire resources and thus achieve relational rents and competitive advantages (Uzzi, 1997; Dyer & Singh, 1998; Yli-Renko et al., 2002). In other words, social capital is a valuable resource that is non-substitutable and cannot be acquired through imperfect imitation, as it exists in network ties. Social capital can be in two forms, intra- and inter-firm (Adler & Kwon, 2002; Yli-Renko et al., 2002; Li, 2004; Tsai, Huang, & Ma, 2009). External social capital is conducive to the acquisition and assimilation of idiosyncratic knowledge (Dyer & Hatch, 2006; McEvily & Marcus, 2005), and comprehensive intra-firm social capital will facilitate the utilization of intra-firm knowledge and resources, so as to enhance the responsiveness of multinational corporations in facing global challenges (Griffith & Harvey, 2004). Firms with good internal structures are not only better at facilitating the coordination and sharing of resources (Persson, 2006; Tsai & Ghoshal, 1998), but can also expand their managerial learning to new environments through lasting, repeated interactions (Yli-Renko et al., 2002). Therefore, this chapter adopts the research results of Adler and Kwon (2002), Yli-Renko et al. (2002) and Tsai et al. (2009) to divide social capital into intra- and inter-firm components.

### *Inter-firm Social Capital*

The research on inter-organizational relationships/inter-firm relationships and networks is mainly focused on the repeated interactions (via resources, friendship, and information) that occur among a group of actors (such as individuals, teams, and organizations), why such actors are engaged in certain interactions in different environments, and what these interactions and the positions of the related actors result in (Oliver, 1990). However, there is no agreement on how to measure the variables of inter-firm social capital. For instance, McEvily and Marcus (2005) stated that joint problem solving is an important mechanism in inter-

firm embedded ties that can increase competitive capabilities (Uzzi, 1997; Tsai et al., 2009) and facilitate tacit knowledge transfer, while information sharing and trust are the antecedents that can obtain competitive capabilities from embedded ties. According to the research focus of the current study and based on the related research results, this chapter proposes that inter-firm social capital covers bridging ties (structural dimension), joint problem solving (relational dimension), and shared values (cognitive dimension). The value of a network structure mainly comes from two aspects: on one hand, the members of the network have valuable knowledge that is required by the main firms; on the other hand, the main firms are able to put the acquired knowledge into effective use. Firms in a superior structural position may be better able to enhance their performance than others and are capable of acquiring and applying more knowledge (Zaheer & Bell, 2005). Nahapiet and Ghoshal (1998) stated that network members can use bridging ties to share ideas and thus produce new knowledge instead of merely transferring existing information. Firms can therefore acquire and create more new knowledge and advanced (creative) ideas from their interactions, which can then be applied to practice, and produce new, creative products and services, so as to improve their exploitative and explorative capabilities. McEvily and Marcus (2005) stated that joint problem solving plays an important role in the development of competitive capabilities, and that both parties bear a responsibility to maintain a relationship in order to confront their common problems together (Heide & Miner, 1992). Such cooperative agreements contain common routines or mechanisms that are followed by both parties. Whenever a problem appears, partner firms will seek solutions together through coordination (Uzzi, 1997), and thus they may develop an exclusive language by which to transfer complex tacit knowledge (Hansen, 1999), enhancing their learning and information-acquiring capabilities. Tiwana (2008) stated that the shared value among members in a network can enable the firms to absorb each other's ideas (Regans & McEvily, 2003), which aids in the transfer and integration of tacit knowledge, lowers distrust and uncertainty, and boosts mutual coordination and problem solving (McEvily & Marcus, 2005). Therefore, we hypothesize:

**H3a** Inter-firm social capital is positively related to explorative capability.

**H3b** Inter-firm social capital is positively related to exploitative capability.



### *Intra-firm Social Capital*

Intra-firm social capital refers to the interaction mode among all members within an organization (Burt, 1992; Nahapiet & Ghoshal, 1998), and a good intra-organizational network structure will enable members to acquire information from their interactions (Nahapiet & Ghoshal, 1998), and so obtain new technical knowledge quickly (Kogut & Zander, 1992; Tsai & Ghoshal, 1998). In a tight network structure the employees of each organization can transfer knowledge and information through lasting and repetitive interactions and communication, enhancing their managerial learning, obtaining new market environment information (Yli-Renko et al., 2002), and improving the capability of combining new and existing knowledge (Li, 2004). Moreover, a good inter-organizational network structure integrates various activity processes and facilitates the coordination of scattered resources and activities (Gupta & Govindarajan, 2000; Persson, 2006), which is seen as an important integrated mechanism (integrative mechanism) (Tsai et al., 2009). With regard to the structural dimension of intra-firm social capital, Tsai et al. (2009) claimed that internationalized firms should adopt the two most important integration mechanisms: the information-based mechanism and the people-based mechanism. The information-based mechanism can effectively deal with many intra-organizational routines and a lot of information, and thus provide timely information to facilitate the communication between firms, ensuring the transfer, flow, and sharing of information (Hartmann, Trautmann, & Jahns, 2008). If firms can constantly share knowledge and information they can quickly understand customer demands through continuous adjustments, and thus respond better to them. In addition, the people-based mechanism is effective in converting newly acquired knowledge to usable contents. Organizational ability, organizational learning, and organizational creativity all come from the expression of individual capabilities. The existence of a good people-based mechanism is conducive to the interpersonal communication between group members. In other words, significant communication can help integrate the existing knowledge of members and unique information from the market, helping firms to interpret the knowledge, endow it with meaning, and transfer it into organizational routines (Li, 2004; Yli-Renko et al., 2002). Through the people-based mechanism, firms can effectively internalize and routinize external knowledge and information, thus enhancing the existing knowledge base by creating new knowledge in combination with the original knowledge (Tsai et al., 2009).

Trust is seen as an important factor in organizations, and is always an antecedent variable for cooperation between intra-organizational members. When trust exists between members they will be more willing to share knowledge and resources, thus enhancing communication and resource recombination (Tsai & Ghoshal, 1998). When members trust each other they will engage in more interactions and exchange more resources and information, and even communicate about creative ideas. Moreover, when intra-organizational members share knowledge through effective communication they need to have a set of common knowledge (Cohen & Levinthal, 1990) to facilitate the combination of different types of knowledge, so as to apply this effectively and create new ideas. The establishment of this common knowledge is based on the degree to which members share a common language, vision, and mechanism. This significant sharing mechanism will enable firms to get access to knowledge programs and improve the effectiveness of searching for information. When organizational members share a common vision, they will be more likely to know the behaviors of each other, thus reducing misunderstandings and facilitating the easy exchange of ideas and resources (Tsai & Ghoshal, 1998). Therefore, we hypothesize:

**H4a** Intra-firm social capital is positively related to explorative capability.

**H4b** Intra-firm social capital is positively related to exploitative capability.

## **Methodology**

### **Data Source**

This study first modified scales developed in the extant literature to conform to its research goals. Thirty firm managers in Taiwan were selected as subjects for the pre-test questionnaire. The results of this pre-test confirmed the appropriateness of the wording as well as test reliability and validity, and the formal questionnaire was compiled after deleting some inappropriate items. The database of the Allied Association for Science Parks Industries in Taiwan was used to create a sample list, which was filtered by company business. A total of 1000 questionnaires were sent out and 237 copies were received. After eliminating three invalid questionnaires, the effective response rate was 23.4 %. All respondents

were from the top management teams of their firms such as chief executive officers (CEOs), representative directors, managing directors, or directors.

### **Assessment of Variables**

The questionnaire variables were developed from scales available in the previous literature. Except for firm size and firm age, all questions were answered using a seven-point Likert scale. Five items on explorative capability and four on exploitive capability were taken from He and Wang (2004), Lubatkin et al. (2006), Menguc and Auh (2008), and Cao, Gedajlovic, and Zhang (2009). We asked the respondents to state how their firms divided attention and resources between exploitive and explorative activities over the previous 3 years. The self-assessed estimate of sales sections contained nine questions assessing organizational performance, taken from Narver and Slater (1990, 1994), Jaworski and Kohli (1993), Lubatkin et al. (2006), and Han and Celly (2008). Market orientation was measured by 15 questions taken from Narver and Slater (1994).

Inter-firm social capital is based on the external networks of firms, including vertical relationships, horizontal relationships, and social relationships, in which firms can get access to valuable intangible assets, like knowledge and resources, to enhance their competitive advantage. Referring to the research results of Dhanaraj, Lyles, Steensma, and Tihanyi (2004), McEvily and Marcus (2005), and Tiwana (2008), this study takes bridging ties (structural dimension), joint problem solving (relational dimension), and shared value (cognitive dimension) as variables to measure inter-firm social capital.

Intra-firm social capital refers to internal members' coordination of structure, routines, and processes. Effective communication, interaction, and coordination between internal members are conducive to facilitating business operations and reducing management and other costs. Referring to the research results of Tsai and Ghoshal (1998), Yli-Renko et al. (2002), and Tsai et al. (2009), this study discussed the main elements of intra-firm social capital, such as the information-based mechanism (structural dimension), people-based mechanism (structural dimension), trust (relational dimension), and shared vision (cognitive dimension).

This study controlled two other variables that might affect the model: firm size and age. According to RBV, size (the number of fulltime employees) has a positive effect on resource allocation. It was thus taken as a control variable, expressed in the model as the number of employees

a firm has. Since firm age (the number of years since inception) expresses a firm's development stage with regard to acquiring new knowledge and technology, and is associated with its explorative and exploitive capabilities (Zahra, Sapienza, & Davidson, 2006; Cao et al., 2009), this attribute also served as a control variable. Following Lubatkin et al. (2006), both size and age were transformed by their square roots because their distributions depart from normality.

## Results and Analysis

This study used partial least squares (PLS) graph to analyze the data. This approach is particularly suitable for the exploratory nature of this study (Julien & Ramangalahy, 2003; Lee et al., 2006; Tsang, 2002) and for this reason has been used in other export studies (e.g., Lages et al., 2009a). The PLS model is estimated using an iterative ordinary least squares (OLS) regression-like procedure, with overall variance used as the primary measure of model adequacy. The PLS estimation procedure partitions the data into blocks of attributes that are related to a specific construct, and then provides estimates of the parameters in each block sequentially and iteratively until the differences between successive iterations are extremely small (Vandenbosch, 1996). Since the algorithm proceeds block by block, it works well with small sample sizes, as used in this research, and does not require multivariate normality when estimating parameters (Chin, 1997; Choi & Sy, 2010). The PLS model consists of two sets of relations: outer and inner. The outer relations are concerned with the relationships among the observed variables and latent constructs, while the inner relations refer to those between different latent constructs (Chin, 1997). The analysis was undertaken in two steps. First, the measurement models were examined for a satisfactory level of validity and reliability (Fornell & Larcker, 1981). Second, the structural model was run to test the hypotheses.

### Measurement Model

Table 7.1 summarizes the descriptive statistics of the scales, with confirmatory factor analysis (CFA) and LISREL 8.54 software (Jöreskog & Sörbom, 1992) used to measure reliability and validity. The construct validity of the scales was verified in terms of convergent and discriminant validities. According to Fornell and Larcker (1981), evaluation standards for convergent validity are as follows: (1) standardized factor loading greater than 0.5; (2) Average Variance Extracted (AVE) greater

Table 7.1 Measurement

	1	2	3	4	5	6	7	8	9	10	11	12
Bridge ties	<b>0.74</b>											
Joint problem solving	0.54	<b>0.63</b>										
Shared value	0.44	0.39	<b>0.74</b>									
Information-based	0.54	0.38	0.51	<b>0.81</b>								
People-based	0.39	0.19	0.27	0.70	<b>0.7</b>							
Trust	0.40	0.30	0.31	0.58	0.56	<b>0.72</b>						
Shared vision	0.18	0.18	0.22	0.30	0.22	0.46	<b>0.67</b>					
Explorative	0.53	0.21	0.30	0.53	0.56	0.58	0.28	<b>0.79</b>				
Exploitative	0.26	0.09	0.07	0.28	0.31	0.19	0.10	0.55	<b>0.69</b>			
Effectiveness	0.25	0.35	0.02	0.30	0.21	0.24	0.42	0.26	0.31	<b>0.81</b>		
Growth	0.28	0.26	0.07	0.25	0.21	0.19	0.30	0.29	0.32	0.78	<b>0.8</b>	
Profitability	0.37	0.22	0.32	0.41	0.35	0.25	0.24	0.36	0.27	0.53	0.66	<b>0.8</b>
Cronbach's α	0.77	0.55	0.83	0.90	0.87	0.81	0.76	0.89	0.77	0.87	0.80	0.87
CR	0.78	0.57	0.83	0.89	0.82	0.81	0.62	0.89	0.78	0.85	0.80	0.88
AVE	0.55	0.4	0.55	0.66	0.49	0.52	0.45	0.62	0.47	0.59	0.58	0.66

Note: \*\*\* p<0.001. Diagonal (bold) elements are square roots of the AVE; note that AVE is not applicable for single-item measures.

than 0.5; and (3) Composite Reliability (CR) higher than 0.7. The evaluation standard for discriminant validity is that the square root of AVE, for one dimension should be greater than its correlation coefficient with any other dimension(s).

Table 7.1 shows the AVE for all dimensions is greater than threshold value of 0.5. The CR values of all dimensions exceed 0.7. As suggested earlier, all items in the measures of exogenous variables are significantly explained by the related factor (i.e., they converge to this factor). This means that all items converge to their corresponding dimensions, giving good scale convergent validity. Lastly, as results in Table 7.1 show, the correlation coefficients of all the dimensions are less than the square root of AVE, showing that each dimension in this study has good discriminant validity.

### Structural Model Results

Although PLS does not provide statistics to measure overall model fit, we used path coefficients (recommended to be at least 0.20), variance due to path (recommended to be  $> 0.015$ ), and bootstrap t-values (recommended to be  $> 1.96$ ;  $p < 0.05$ ) to test the hypothesized paths of the structural model. Figure 7.2 shows the variance explained in the endogenous constructs, the path coefficients, and the results of hypotheses testing.

As shown in Fig. 7.2, we found support for five out of the six hypotheses presented in this chapter, with the bootstrap t-values for one path and its respective path coefficient failing to achieve the recommended cut-off points, rejecting H3b. Specifically, the findings suggest that explorative capability and exploitative capability positively affect organizational performance (0.137,  $p < 0.1$ ; 0.350,  $p < 0.01$ ), and thus H1 and H2 are supported. The findings also suggested that inter-firm social capital affects explorative capability (0.207,  $p < 0.001$ ), but not exploitative

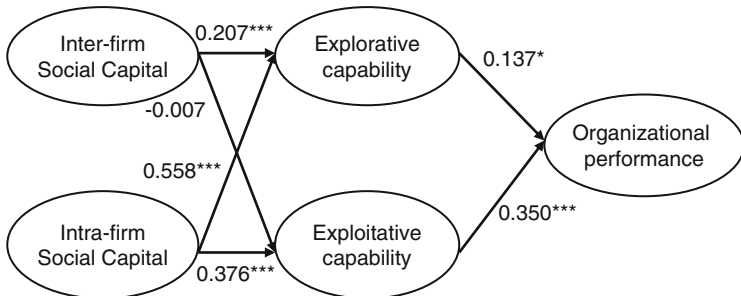


Fig. 7.2 Path analysis

capability therefore accepting H3a and rejecting H3b. The results showed that intra-firm social capital positively affects explorative capability (0.558,  $p < 0.001$ ) and exploitative capability (0.376,  $p < 0.001$ ). Consequently, support was found for H4a and H4b.

## **Discussion**

This study was conducted with the objective of shedding light on what impact social capital has on a firm's performance. The results support the notion that social capital is a critical antecedent to firm capabilities, and thus indirectly influences organizational performance.

### **The Impact of Inter-firm Social Capital on the Development of Explorative and Exploitative Capabilities**

The contracts established between firms explicitly define the boundaries between cooperative partners, thus imposing certain restrictions on the development of a partnership. However, social relationships can break through these boundaries. If firms establish a trusting and long-term affirmatory relationship, they will put more resources and energy into information exchange (Moberg, Culter, Gross, & Speh, 2002). In order to develop and maintain competitive advantages, firms will share their capabilities and knowledge internally and then transfer these into their exclusive capabilities through a process of internalization. Inter-firm social capital can overcome obstacles to the development of competitive advantages, and by using formal and informal interactions in the problem-solving and coordination processes firms can develop existing resources into appropriate configurations and social structures (Griffith & Harvey, 2004; Wang & Wei, 2007), thus realizing the free exchange of knowledge, lowering the cost of obtaining knowledge, and enhancing the ability to recognize useful knowledge (Yli-Renko et al., 2001) to facilitate learning (Dyer & Nobeoka, 2000). Moreover, Tiwana (2008) believes that the shared values between partners can enable firms to acquire each other's ideas (Regans & McEvily, 2003), thus aiding the transfer and integration of tacit knowledge and reducing distrust and uncertainty so that both parties can solve problems concerning their cooperation (McEvily & Marcus, 2005). If a closer relationship is established between firms then they will be more willing to share tacit or complex knowledge (Uzzi, 1996; Moran, 2005; Tsai et al., 2009). However, the results of the current work show that inter-firm social capital does not have any influence on exploitative capability. This may be because the cost of relationship maintenance is not in direct proportion to the effectiveness of

exploitative capability development, indicating that relationships established for mutual investment and problem solving are not only based on common interest, but also reciprocal exchange. Once such a relationship changes, the exclusive investments made in a reciprocal relationship will be exposed to risks. This is also supported in Wong (1988). In the Chinese concept of a relationship, the adaptations needed for relationship maintenance are seen as a special investment, which cannot be transferred to other objects. Once the relationship is broken, both parties have to pay a high 'relational cost'. As Asian firms rely more heavily on relationships than Western ones, which rely more on contracts, an overreliance on interpersonal relationships or social factors to maintain their business environment will result in less flexibility in the face of a very dynamic environment, thus limiting the firms' adaptability and viability (Hatsum & Pettigrew, 2006).

### **The Impact of Intra-firm Social Capital on the Development of Explorative and Exploitative Capabilities**

As intra-firm social capital enhances explorative and exploitative capabilities, we need to clarify two issues: How do firms transfer the information and knowledge acquired to explorative and exploitative capabilities, and what transfer method should be adopted to achieve this? Intra-firm social capital is a kind of relational resource that can enable intra-organizational members to engage in close and in-depth social interactions (Davidsson & Honig, 2003; Persson, 2006; Tsai & Ghoshal, 1998) that enhance the efficiency of transferring of information, knowledge, and other resources (Auh & Menguc, 2005), thus creating shared visions, norms, and values among different departments. If intra-firm members have high levels of cognitive differences of the knowledge base (perception, interpretation, and value adjustment), misunderstandings will result and this will lower the efficiency of knowledge integration (Tsai & Ghoshal, 1998). Firms should thus work to create a lasting cognition environment to encourage members to engage in social interaction and establish mutual trust so that they can share their cognitions, expressions, and meaning-interpretation mechanisms (Dyer & Nobeka, 2000), such as consensus and common experiences in terms of language, encoding, and other aspects. In this way, misunderstandings can be prevented in communication, and knowledge-sharing efficiency can be enhanced to increase a firm's competitive power through enhanced explorative and exploitative capabilities (Dyer & Hatch, 2006; Kotabe & Murray, 2004; McEvily & Marcus, 2005; Tsai et al., 2009). The results of this study show that intra-firm social capital can effectively enhance explorative and



exploitative capabilities. In other words, firms should work to create an information-sharing environment, cultivate members' ability to interpret external information and knowledge, and lower internal cognitive differences. By developing an effective organizational learning process, new knowledge can be accumulated and existing knowledge stores and structures can be updated, so that enterprises can constantly enhance their existing capabilities to develop new ones.

### **The Impact of Capability Development on Organizational Performance**

Our study found that both explorative and exploitative capabilities have positive effects on organizational performance. A capability is a combination of a series of routines, procedures, and activities (Peng, Schroeder, & Shah, 2008). Routines contain the knowledge acquired by firms to complete a certain activity, which exist in an organizational environment through the interactions that occur among resources. Capabilities thus come from dynamic interactions with the knowledge base that firms create and accumulate internally (Teece, 2006). However, a dynamic environment can mean that a firm's knowledge store may fail to meet its needs, and thus firms are encouraged to cultivate new capabilities to maintain their competitive advantages (Rothaermel & Alexandre, 2009).

The nature of this kind of activity is to help firms acquire new knowledge and integrate it with the existing knowledge in their knowledge stores (Cao et al., 2009), thus enhancing and restructuring their functional attributes (Zollo & Winter, 2002). Organizational learning plays an important role in the process by which capabilities and knowledge develop based on each other. This is a kind of control-feedback mechanism which can constantly adjust errors, update organizational memory through conscious and unconscious learning, and reinforce firms' explorative and exploitative capabilities, creating more valuable products in an existing market or expanding the market to meet customer demands in order to improve organizational performance (Lubatkin et al., 2006).

### **Managerial and Theoretical Implications**

The results of this study have some important managerial implications, specifically for managers located in remote areas. First, organizations with higher intra-firm social capital can explicitly transfer externally acquired knowledge into commonly shared knowledge. This finding offers insights concerning establishing inter-organizational formal or

informal communication and integration platforms that can integrate external knowledge with existing professional knowledge, as well as reinforce explorative and exploitative capabilities. Second, our findings also suggest that SME managers should work to develop close inter-organizational relationships and establish a superior network position. Establishing alliance relationships with external firms in order to obtain complementary resources and knowledge is a relatively practical way to achieve this. An alliance relationship is a long-term partnership established by firms through a contract or an agreement for the purpose of structuring and accumulating social capital. Third, how firms are able to provide high-quality products largely depends on the dynamic capabilities of their stable organizational structures. Organizations established under dual structure (Simsek, 2009) are better able to deal with the problems concerning knowledge integration brought about by greater internal complexity and diversity, enabling firms to identify valuable knowledge and relevant information so that the two activities designed to complete different tasks can effectively exist within the same organizational structure (Menguc & Auh, 2008). Finally, SMEs should attach great importance to creating, obtaining, and transferring knowledge in face of fierce market competition in order to enhance their core competitiveness and reduce uncertainty. It is suggested in this chapter that SMEs should also try to span the boundary between intra- and inter-networks to enhance the knowledge transfer between main internal members (e.g., knowledge interpretation, supplier searching, bargaining, and trade negotiation), in addition to exploring the value and function of the social network in enhancing the dependence between internal members (e.g., acquiring key technology, expertise, and rare resources).

For researchers, this study differs in two ways from similar works that report location effects. First, most earlier studies are focused on external social capital, but a strong complementary effect cannot be realized without firms enhancing their process of internalization. This study also takes a different view to most of the literatures on social capital, and proposes that such research should not focus only on inter-organizational social capital, but also consider intra-organizational social capital (Jansen et al., 2006). What is more, previous studies on dynamic capabilities only conceptually discuss how these enable firms to respond to changes in the market and technology, but do not explicitly discuss the features of these capabilities, such as explorative and exploitative capabilities (March, 1991; Cao et al., 2009; Kristal, Roth, & Huang, 2010). This study thus contributes to the organizational performance research by developing a

conceptually driven framework underpinned by dynamic capabilities to better understand the effects of social capital on a firm's ability to develop critical capabilities, which in turn impacts organizational performance. While the theoretical model and results are beneficial for future organizational performance research, they also highlight a clear need for further development of the concept of dynamic capabilities to incorporate the effects of social capital as an antecedent influence.

### Future Research Directions

This research adopts cross-sectional data to examine inter- and intra-firm social capital, and thus the results cannot explain how these issues change over time. In this regard, it is suggested that future researchers can carry out longitudinal studies to examine the different stages of relationship development, accumulation of social capital, and co-evolution of organizational dynamic capabilities. Besides, this study used the electronic manufacturing industry as its research object and the results may not be generalizable to other businesses. Although some researchers obtained similar conclusions in different industries, such as the new product development industry (Andriopoulos & Lewis, 2009), more work should be carried out in other industries; multi-country or multi-industry studies are also warranted in order to explore whether industry and country of origin effects have played a significant role in determining the results observed in this study.

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