

Investigating social capital, social networks, and organisational performance: the case of Chinese listed companies

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Abstract: Previous Chinese social network studies have neglected to examine a strategic alliance of trust, reciprocity, and shared norms as the cognitive dimension of social capital to mediate the relationship between three types of social networks (business, government, and employee ties) and organisational performance. Based on social capital theory, this study examined the mediating effect of a strategic alliance of trust, reciprocity, and shared norms in such a relationship through a survey of 350 Chinese listed companies. The results indicate that a strategic alliance of trust, reciprocity and shared norms plays a mediating role in the positive relationship between the three types of social networks and organisational performance. The findings suggest that managers can improve their firm's performance by using this cognitive dimension of social capital as a common agreement between their firm and alliance partners to exchange favours such as knowledge and technology.

Key words: Social networks, A strategic alliance of social capital, Organisational performance, China

I. Introduction

Social capital theorists (such as Nahapiet & Ghoshal, 1998; Putnam, 1993; 1995) consider that the components of social networks (such as trust, reciprocity, and shared norms) as social capital that enable actors to achieve their goals. Through the analysis of three dimensions of social capital (structural, relational and cognitive dimensions), most of the previous studies have considered social networks to be related to either the structural (see Chen & Wu, 2011; Davidsson & Honig, 2003; Dyer & Hatch, 2006; Gargiulo & Benassi, 2000; Li *et al.*, 2011; Soda *et al.*, 2004) or the relational dimension of social capital (see Barnes *et al.*, 2011; Chung, 2011; Jones & Taylor, 2012; Luo & Chen, 1997; Moran, 2005; Nie *et al.*, 2011; Park & Luo, 2001; Uzzi, 1996; 1997; 1999;) in their investigation of how social capital influences firms' performance. Some researchers have argued that trust, and reciprocity (as components of the relational dimension of social capital), enhance the strength of the ties in a social network, which enables the acquisition of resources such as access to information (Davidsson & Honig, 2003), organisational learning (Dyer & Hatch, 2006; Li *et al.*, 2011), and organisational social capital (Jones & Taylor, 2012; Moran, 2005), which in turn have positive impacts on organisational performance. However, other researchers (such as Chen & Wu, 2011; Nie *et al.*, 2011) have found that these components of social capital not only help a social network perform positive functions (such as cooperating to solve a problem), but also cause a social network to have negative impacts on firm performance because of the liabilities of government ties (Chen & Wu, 2011) and the rapidly changing Chinese market environment (Nie *et al.*, 2011).

Most of the previous studies on social networks have ignored the cognitive dimension of social capital that influences the relationship between social networks and firm performance. Only Liao and Welsch (2003) have examined the relationship between the cognitive dimension of social capital and organisational performance by using a hypothesis test. However, they did not clearly indicate which components of this cognitive dimension facilitate resource acquisitions, thus positively affecting firm performance. In other words, previous social network studies have not clarified which of the key coordination and cooperation components of social networks are responsible for the positive effects on organisational performance.

Furthermore, previous social network studies have also paid little attention to how senior managers use social networks as an alliance social capital of the firm to achieve their organisational goals. This study investigates how senior

managers use social networks at the individual level as an alliance of social capital of the firm to influence organisational performance via a strategic alliance of trust, reciprocity, and shared norms in Chinese listed companies.

In order to address these gaps, this study proposed and tested a strategic alliance of components of social capital (i.e. trust, reciprocity, and shared norms) as a set of mediators in the relationship between three types of social networks (business, government, and employee ties) and organisational performance, and examined how three types of social networks, i.e. business ties (those ties between the top managers in the focal firm and its customers and suppliers), government ties (those ties between the top managers in the focal firm and government officials), and employee ties (those ties between the top managers in the focal firm and its employees), influence organisational performance. This is based on social capital theory, which proposes that social networks are an alliance of social capital as strategic resources (such as knowledge) that actors can access and use to achieve their goals (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). This study used a survey to investigate how general managers in Chinese listed firms use the three types of social networks at the individual level as an alliance of social capital for their firms to achieve profit and growth goals through a strategic alliance of trust, reciprocity, and shared norms.

Based on social capital theory, a structural equation model was developed and tested by using data collected from a sample of 350 Chinese listed firms. It aimed to examine the mediating effects of a strategic alliance of trust, reciprocity, and shared norms in the relationship between the three types of social networks and organisational performance. This study makes theoretical contributions in two main ways.

First, it contributes to our understanding of whether and how a strategic alliance of trust, reciprocity, and shared norms as a cognitive dimension of social capital plays a mediating role in the relationship between an alliance of social capital of the three types of social networks (as strategic resources) and organisational performance. The exchange of favours (such as knowledge and technology) and offer of strategic resources for the focal firm depend on a common agreement between the focal firm and its alliance partners (Casanueva et al., 2013). The strategic alliance of trust, reciprocity, and shared norms plays the role of cooperation and coordination in a common agreement to exchange of favours, which leads to the improvement of organisational performance. Previous Chinese social network studies have paid little attention to the strategic alliance of trust, reciprocity and shared norms as a cognitive dimension of social capital to enable the achievement of a common agreement to exchange of favours.

Second, the study contributes to the examination of how managers in a focal firm use the three types of social networks as strategic resources for the firm to achieve its organisational goals. It provides evidence that managers select the right alliance partners who can provide valuable resources to their firm and for the exchange of favours (such as knowledge and technology) between their firm and their alliance partners, which has a positive impact on organisational performance.

In the following sections, this study provides a review of the literature and the development of the hypotheses based on social capital theory, the methods, the analysis and results, the discussions and conclusions, and the theoretical and practical implications. Finally, it indicates the limitations of this study and future research directions.

II. Theory and Hypotheses

2.1 Social Networks as an alliance of social capital & Organisational Performance

Social networks are personal and social networking relationships (ties) that are considered an alliance of multi-dimensional social capital, including resources, members, and the quality of the relationships (Nahapiet & Ghoshal, 1998). A multi-dimensional social capital alliance for a firm comprises three dimensions of social capital , i.e., the structural, relational, and cognitive dimensions of social capital (Tsai & Ghoshal, 1998).The structural dimension of social capital is the structure of the social network itself, including the strength of relationships (Burt, 1992). The strength of relationships refers to the strong and weak ties in social networks (Brass et al., 1998). Granovetter (1973) defined tie strength, including strong and weak ties as the emotional intensity, frequency of interaction, reciprocity and intimacy of an alliance relationship. The relational dimension of social capital is the quality of the personal relationships within the social network (Putnam, 1993; 1995), which is comprised of multiplex and asymmetric relationships (Brass et al., 1998). Multiplex relationships refer to ties that include more than one mode of relationship, such as business ties (*ibid.*). Asymmetric relationships refer to relationships between actors who possess different levels of power or status, or emotional intensity (e.g. government ties may represent an inequality of power) (Brass et al., 1998). The cognitive

dimension of social capital is concerned with all common aspects shared within social networks, such as shared norms or shared collective actions (Nahapiet & Ghoshal, 1998). The three dimensions of social capital integrate with each other to achieve the collective action (Tsai & Ghoshal, 1998). Social capital theorists (Nahapiet & Ghoshal, 1998; Putnam, 1993) hold that social networks as an alliance of social capital of a firm are available for actors to use to achieve their goals. Previous studies have used social capital theory to investigate how a set of resources acquired by actors through closed social relationships and networks influence organisational outcomes (a micro-macro link) (e.g. Chen & Wu, 2011; Gulati, 1995; Luo *et al.*, 2012). However, they have paid less attention to how top managers use social networks as an alliance of social capital of a firm to reach their organisational outcomes. This study focuses on how managers use social networks as an alliance of social capital of a firm to affect organisational performance via a strategic alliance of trust, reciprocity, and shared norms in the Chinese context. In this study, a strategic alliance of trust, reciprocity, and shared norms is considered the cognitive dimension of social capital as it is a shared agreement between the focal firm and its business partners, government officials, and employees, in terms of cooperation and coordination to exchange favours such as strategic resources.

In line with the literature (Casanueva *et al.*, 2013; Gulati & Singh, 1998; Koka & Prescott, 2002), social networks are an alliance of social capital in terms of top managers in the focal firm selecting the right alliance partners (i.e. key business partners, key government officer, and key employees), maintaining the cooperation/coordination with them, and using them as strategic resources of social capital to achieve their organisational goals. The use of social networks as an alliance of social capital of a firm is based on a strategic resource dimension of social capital theory. This dimension of social capital theory holds that social networks are an alliance of social capital in terms of a set of strategic resources that actors can access and use to achieve their collective actions/goals (Nahapiet & Ghoshal, 1998; Putnam, 1993; 1995). The right alliance partners, such as key business partners or key government officials might have resources that the firm needs, such as high technology, and the power to allocate/distribute sources such as financial resources to the firm (Chen & Wu, 2011). On the other hand, the focal firm, business partners, governmental officials, and employees might have different goals. For example, the focal firm's goal will be to reach its profit and growth goals, and Chinese government officials might have their own political goals (Chen & Wu, 2011). The focal firm, through an alliance relationship with its business partners, government officials, and employees, can achieve the collective goal within social networks, and top managers in the focal firm can focus on long-term goals rather than their individual goals (Gabbay & Leeders, 1999; Lavie, 2008). Top managers in the focal firm might use the three types of social networks (business, government, and employee ties) as an alliance of social capital to access strategic resources and use them to achieve their long-term goals. Thus, the following hypothesis is posed:

Hypothesis 1 (H1): *An alliance of social capital of three types of social networks (business, government, and employee ties) as strategic resources of the firm is positively related to organisational performance.*

The hypothesised relationship is shown in Figure 1.

[INSERT FIGURE 1 ABOUT HERE]

2.2 Social Networks and a Strategic Alliance of Trust, Reciprocity, and Shared norms

In the existing literature, a strategic alliance has different meanings in different contexts. For example, a strategic alliance is defined as a voluntary arrangement between companies to share, exchange, or co-develop technologies or services (Gulati & Singh, 1998). Consistent with the literature, a strategic alliance in this study, is considered as an agreement between two exchange parties to cooperate and coordinate to share/exchange favours (such as ideas, knowledge, and technology) to achieve the common/collective goal. A strategic alliance of trust, reciprocity, and shared norms is part of the collective paradigm of social capital theory, and can help a firm to achieve the common/collective goal. This paradigm of social capital theory proposes that trust, reciprocity, and shared norms as social capital can facilitate coordination and cooperation between two exchange parties to exchange favours in order to achieve collective actions for mutual benefit (Nahapiet & Ghoshal, 1998; Putnam, 1993, 1995; Tsai & Ghoshal 1998).

In the existing literature, the term "trust" is defined as a belief or a promise between the exchange partners to fulfil their obligations in an exchange relationship (Barnes *et al.*, 2011). Reciprocity is defined as the exchange of a favour between two parties, including the process of fulfilling obligations, and receiving and returning favours (Barnes *et al.*, 2011; Qian *et al.*, 2007; Wang, 2007). The exchange of favours reflects the Chinese Confucian culture as components of

Guanxi (social networks) - “xinren” (trust), and “renqing” (reciprocity). Under the Chinese Confucian culture¹, Chinese companies often use the exchange of favours (such as information and knowledge).

The term “shared norms” is defined as the common rules and standards or regulations (such as social rules, and the industry’s rules and standards) within social networks (Lapinski & Rimal, 2005; Tsai and Ghoshal, 1998). Under the collective cultural guidance of Confucianism, each individual and social network activity is guided by the social order and norms in order to reach their collective goals (Chen & Chen, 2004). This Confucian cultural guidance is consistent with the social capital view of individuals or groups within a collective culture, which “give the collectivity cohesiveness and thereby facilitate the pursuit of collective goals” (Adler and Kwon, 2002, p.21). Moreover, the social order and norms at the collective level in the Chinese Confucian culture are in line with Putnam’s (1993, p.167) concept of social capital as trust and shared norms, which “improve efficiency of society that fosters the coordination of activities”. Coordination and cooperation can facilitate the exchange of favours for actors to achieve their goals.

According to social capital theory, personal social relationships (i.e. social networks) involve the exchange of favours (Adler & Kwon, 2002). In other words, the exchange of favours is the consequence (outcome) of social networks. The exchange of favours means reciprocity. Reciprocity includes the obligation to give, receive and return favours or gifts (Qian *et al.*, 2007; Wang, 2007). Trust also includes the exchange of favours, as it comprises a belief or a promise and affection between the exchange parties to fulfil the obligations in an exchange relationship (Barnes *et al.*, 2011). The completion of the exchange of favours depends upon the quality of trust between the exchange parties under the Chinese hierarchical social relationship (Barnes *et al.*, 2011; Chen & Chen, 2004). Social capital theorists (Nahapiet and Ghoshal, 1998; Putnam, 1993) argue that actors use social networks to achieve shared common norms and goals. This means that shared common norms and goals are consequences of social networks. Shared norms refer to shared common rules and standards or regulations (Lapinski & Rimal, 2005; Tsai & Ghoshal, 1998). Therefore, shared norms are consequences of social networks. The correlation between the three types of social networks (business, government and employee ties) and the strategic alliance of trust, reciprocity, and shared norms depends on the top managers in the focal firm in terms of how to build relationships with their business partners, government officials and employees, and the Chinese hierarchy of social relationships.

Thus, the following hypothesis is posed:

Hypothesis (H2): *The alliance of social capital of the three types of social networks (business, government, and employee ties) is positively related to a strategic alliance of trust, reciprocity, and shared norms.*

2.3 A Strategic Alliance of Trust, Reciprocity, Shared norms and Organisational Performance

In the existing literature, some scholars have argued that trust and reciprocity have positive effects on firm performance (Li *et al.*, 2008; Uzzi, 1996; Wu & Leung, 2005). For example, Wu and Leung (2005) argue that all levels of trust are associated with reciprocity in business ties, and have positive impacts on organisational performance. Wu and Leung (2005) demonstrate for a focal manager, assigning value to reciprocity will enhance the inter-organisational trust relationship within Chinese social networks and improve organisational performance. A few studies, such as that by Barnes *et al.* (2011), argue that trust and reciprocity play the role of coordination and cooperation, which leads to improved firm performance. However, these studies neglected the notion that a strategic alliance of trust, reciprocity, and shared norms, as a cognitive dimension of social capital, in terms of an agreement regarding cooperation and coordination, enable the exchange of favours between two parties to achieve their collective goals or for mutual interests, according to social capital theory.

For instance, the cognitive dimension of social capital enables employees to work together for the benefit of the focal firm (Taylor, 2006). On the other hand, this allows the mutual interests of employees/business partners to be achieved and the focal firm to exchange knowledge and technology, which impacts on the MNC performance (Taylor, 2007). Hence, the following hypothesis is posed:

¹ The Confucian culture has dominated the Chinese society since the Han Dynasty (BC206-AD 220), and it has more than two thousand years of history in China (Dunning & Kim, 2007). Chinese Confucianism posits that people’s behaviours and attitudes follow social rules within the hierarchical structure of Guanxi networks towards collectivism in the Chinese social community (Chen & Chen, 2004). The hierarchy of Guanxi structure involves social relationships, for example, ruler-subject, father-son, husband-wife, sister-sister, and friend-friend (Yeung & Tung, 1996).

Hypothesis 3 (H3): *A strategic alliance of trust, reciprocity, and shared norms is positively related to organisational performance.*

2.4 The Mediating Role of a Strategic Alliance of Trust, Reciprocity, and Shared Norms

A strategic alliance of trust, reciprocity, and shared norms is a set of mediators in the relationship between the three types of social networks (business, government and employee ties) and organisational performance. This derives from the collective paradigm of social capital theory (Nahapiet & Ghoshal, 1998; Putnam, 1993, 1995). As noted earlier, this part of social capital theory holds that social capital, such as trust, reciprocity, and shared norms, can play the role of cooperation and coordination for the exchange of favours between two exchange parties in order to achieve their collective goals. The exchange of favours depends on the willing of two parties and the quality social network relationships. For example, Tsai and Ghoshal (1998) argue that good quality social network relationships (e.g. a good relationship involving trust and reciprocity) enable the exchange and sharing of information or knowledge within social networks, which helps the focal firm to achieve its sales goals (Yli-Renko *et al.*, 2001).

The social network literature indicates that the positive relationship between social networks and organisational performance is significant (Burt, 1992; Li *et al.*, 2008). Empirical studies have found that trust and reciprocity in social networks play the role of coordination and cooperation, which leads to improved organisational performance (Barnes *et al.*, 2011). But they have paid less attention to trust, reciprocity, and shared norms as a strategic alliance to exchange favours such as valued resources to achieve the collective aim.

Under the Chinese Confucian collective culture, all individuals and social network activities follow social norms as shared norms in order to achieve collective actions or goals (Chen & Chen, 2004). Previous Chinese social network studies have ignored this cognitive dimension of a strategic alliance of trust, reciprocity, and shared norms as a set of mediators in the relationship between social networks and organisational performance , but empirical studies have found that this dimension has a positive impact on a firm's performance (Liao & Welsch, 2003; Uzzi, 1997). Thus, the following hypothesis is posed:

Hypothesis 4 (H4): *A strategic alliance of trust, reciprocity, and shared norms mediates the positive relationship between the alliance of social capital of the three types of social networks (business, government, and employee ties) and organisational performance.*

III. Methods

3.1 Sample and Data Collection

The data were collected from a survey of Chinese listed firms from July 2014 to July 2015. The sampling frame was compiled by using the China Securities Market and Accounting Research (CSMAR) database. This database includes company information (e.g. company age, size, and ownership), and social network information. It is more transparent than other databases. In 2014, there were 2,587 Chinese listed companies in the Chinese A shares market. The sampling criteria were: i) companies must be listed on the Chinese A shares market; ii) companies must have used social networks; and iii) companies must be located in Beijing, Shanghai, Shenzhen, and Guangdong as open economic regions, and Sichuan or Chongqing as non-open economic regions.

The survey questionnaire was developed both in English and Chinese. It was evaluated by two language and two subject experts (fluent in both Chinese and English). It was also piloted in ten Chinese listed companies. The Qualtrics platform was used to develop an online version of the final survey and a covering letter. The survey link was sent to general managers of all of the listed companies. Due to previous social network studies (such as Park and Luo, 2001; Peng and Luo, 2000) arguing that firm locations in China's eastern and western economic areas (i.e., open and non-open economic areas) influence the use of social networks, which affect firm performance, this present study used the two economic areas to select the sample. Both the eastern and western economic areas comprise the north (such as Beijing) and south of China (such as Guangdong) in this study.

The selection of a sample was used a stratified sampling method for different geographic areas in each industry; i.e., the population was divided into subpopulations on the basis of geographic locations such as Beijing, Shanghai, Shenzhen, Guangdong, Chongqing and Sichuan provinces, and then a random sample was drawn from each geographic location. Table 1 shows the stratified sampling method employed to select the final sample of 350 Chinese listed firms. Table 1 also illustrates the steps for the selection of the sample of 350 Chinese listed firms. The steps were listed below:

1) the total number of Chinese listed firms in Beijing was only 122 out of 2758 Chinese listed firms. Similarly, Shanghai's listed firms in total numbered 152. Shenzhen's listed firms in total numbered 156. Guangdong had 186 listed firms. Chongqing had 35 listed firms and Sichuan had 93 listed firms. Thus the sampling frame was 744. 2) 55 out of Beijing's 122 listed firms were randomly selected. 57 out of Shanghai's 152 listed firms were randomly selected. 70 out of Shenzhen's 156 listed firms were randomly selected. 75 out of Guangdong's 186 listed firms were randomly selected. 23 out of Chongqing's 35 listed firms were randomly selected and 70 out of Sichuan's 93 listed firms were randomly selected. Thus the final sample included 350 firms.

[INSERT TABLE 1 ABOUT HERE]

I used social network connections or snowballing method to increase the responses rate. A response rate of 53.8% of 400 in total for the survey was received within one year. After removing the missed data of some responses, 350 responses remained as the final sample for this study's survey analysis. There is no need to handle non-response bias as the response rate is greater than 50% and the responses (400) from the survey were gained within one year. The sample size of 350 is greater than the ideal sampling ratio (about 10% of a moderately large population) (Neuman, 2000). The pilot studies were excluded from the final sample.

3.2 Measures

Respondents had to rate the present study's main constructs using multi-item measures adapted from previous studies. All of the item measures were grounded on a seven-point Likert scale, from 1 (strongly disagree) to 7 (strongly agree). The survey items together with detailed descriptions of the measures are shown in the table 1 (see the measurement model in the next section).

Independent variables - Business, government, and employee ties

Based on Barnes *et al.* (2011), Brass *et al.* (1998), and Granovetter (1973), the three types of social networks were evaluated by measuring the intensity and intimacy of the alliance relationship.

a) Intensity of alliance relationship (number of ties). Respondents were asked to indicate the total number of key customers, suppliers, government officials, and employees that they contacted either face -to -face, by email, or by telephone in an average month. For example, the intensity of business ties was measured using the following statement "*please indicate the total number of key customers and suppliers that you contacted by email, face to face (meetings), or by telephone in an average month*".

b) Intimacy or closeness of alliance relationship. Respondents were asked to indicate the extent to which they agreed with statements regarding the intimacy or closeness of the relationships with their key customers, suppliers, government officials or employees in an average month. An example of a statement is "*my relationships with key government officials are like friends or family members or old classmates*".

Mediating variable - A strategic alliance of trust, reciprocity, and shared norms

Following the studies by Barnes *et al.* (2011), Chen and Wu (2011), Nie *et al.* (2011), and Putnam (1993), four items were adapted to measure trust or shared norms, and five items were used to measure reciprocity. Respondents were asked the extent to which trust, reciprocity, and shared norms play a role in their cooperation and coordination with customers, suppliers, government officials, and employees, and to extent to which that reciprocity equates to exchange of favours such as resources.

Dependent variable -Organizational performance

Five items, adapted from Chen and Wu (2011), Chung (2011), Park and Luo (2001), and Sheng *et al.* (2011), were used to measure the financial dimensions of organisational performance: market share, growth in sales, profitability, product and service quality, and customer satisfaction. Respondents were asked to indicate their organization's current performance in terms of the aforementioned aspects, compared to that of other companies in the same industry. Three items were used to measure the strategic dimension of organisational performance in terms of whether the company had met its profitability and growth objectives in the past three years, and whether the company had increased product/company awareness.

Control variables

Company size, age, head-office location, and ownership were controlled for in terms of their potential impacts on organisational performance (Li & Sheng, 2011; Park & Luo, 2001). The sample companies were categorised into two sizes: large companies and SMEs. The companies were classified as SMEs if their capital investment was less than RMB¥ 400,000,000, their annual revenue was less than RMB ¥ 300,000,000, and their number of employees was less than 2,000. Company size operated as a dummy variable by coding 1 for a large company and 0 for a SME. For the company age variable, companies was categorised into two groups: younger (under 10 years) and older ones (10 years or more), and were coded 0 and 1 respectively. Based on Park and Luo (2001), company location was categorised into western and eastern economic areas. Company location was therefore coded 1 for Chinese eastern economic areas and 0 for Chinese western ones. Based on the CSMAR database, Chinese listed companies present three types of ownership: state-owned, privately owned, and joint ventures. Following Park and Luo's (2001) classification, the Chinese listed companies were classified into two types, based on ownership: state- and non-state-owned companies (the latter included private and joint venture companies). State- and non-state-owned companies were coded 0 and 1 respectively.

IV. Analysis and Results

Based on Anderson and Gerbing's (1988) recommendation of a procedure to perform a structural model to test hypotheses, firstly a measurement model was established using AMOS 21 (see Table 2). This measurement model was used to test the reliability, convergent validity, and discriminant validity for each construct of the measures before testing the structural model.

[INSERT TABLE 2 ABOUT HERE]

From Table 2, it can be seen that the composite reliability estimates for each construct were above the recommended threshold of 0.70 (range from 0.753 to 0.952), illustrating that the measures are reliable (Fornell & Larcker 1981). The average variance extracted (AVE) and the significance of the standardised factor loadings were used to assess the convergent validity. In Table 2, all of the standardised factor loadings are above the suggested threshold of 0.5 (lowest standardised loading=0.600, highest=0.963) and significant ($p<0.001$). According to Hair *et al.* (2010), if AVE is greater than 0.50, then the measure for each construct is convergent validity (Hair *et al.*, 2010). From table 2, it can be seen that the AVE is above 0.50, indicating the measures' convergent validity. In addition to Average Shared Variance (ASV), is used to assess discriminant validity. In Table 2, the ASV for each factor (i.e., social networks, a strategic alliance of trust, reciprocity and shared norms, and organisational performance) is less than their AVE, which demonstrates the measures' discriminant validity.

Scholars (e.g. Hair *et al.*, 2010; Hu and Bentler, 1999) suggest that a measurement/structural model over fit is examined using popular indices: the ratio of Chi-square to degrees of freedom (Chi-square/df); the comparative fix index (CFI); the root mean square error of approximation (RMSEA); the p close fit (PCLOSE); the standardised root mean square residual (SRMR) and the p-value. Based on Hu & Bentler (1999), a ratio of Chi-square/df ranging between one and three is deemed acceptable; the value of CFI should be greater than 0.95 if the model fits the data really well. A value of RMSEA equal to or less than 0.06 indicates a good fit, and from 0.08 to 0.1 indicates a mediocre fit. PCLOSE exceeds 0.05 meaning an exact fit; SRMR is less than 0.08 indicating a good fit. The P-value is less than 0.05 establishing a significant fit. Table 3 shows the model fit indices for the three-factor measurement model: Chi-square/df =2.056; CFI = 0.955; RMSEA = 0.053; PCLOSE = 1.000; SRMR = 0.065, and P-value =0.001, i.e., all of the indices indicate a satisfactory model fit. Therefore, the items in each construct were reliable indicators in this measurement model, which was used to test the structural relationship.

[INSERT TABLE 3 ABOUT HERE]

Structural model

The hypothesised relationships were tested using a structural model. Based on Hu and Bentler (1999), the results for the structural model in Table 4 indicate an adequate model fit with the data: Chi-square/df = 2.251; $p < 0.001$; comparative fit index (CFI) = 0.951; root mean square error of approximation (RMSEA) = 0.059; P close fit (PCLOSE) = 0.950, and the standardised root mean square residual (SRMR) = 0.071.

[INSERT TABLE 4 ABOUT HERE]

The results of the structural model in Table 5 indicated that an alliance of social capital of the three types of social networks as strategic resources of the firm was positively associated with organisational performance, thereby supporting Hypothesis 1 ($\beta=0.40$, $p<0.001$). An alliance of social capital of the three types of social networks is significantly related to a strategic alliance of trust, reciprocity, and shared norms, thus supporting Hypothesis 2 ($\beta=0.13$, $p<0.001$). Hypothesis 3, which predicted that a strategic alliance of trust, reciprocity, and shared norms is positively associated with organisational performance, was also supported ($\beta=0.26$, $p<0.001$).

In addition to the effects of the control variables, the results show that firm size ($\beta=0.33$, $p<0.001$) and location ($\beta=0.15$, $p<0.005$) have significant effects on organisational performance within social networks. Firm age and ownership have no significant impacts on organisational performance within social networks as their p-values exceed 0.05 (see Table 5).

[INSERT TABLE 5 ABOUT HERE]

Following the recommendation of Baron and Kenny (1986) and Hayes (2009), both Bootstrapping and Sobel's z-statistic test were used to test the mediating hypothesis. For Hypothesis 4, the Bootstrapping approach was used to establish the mediating effects in line with Baron and Kenny's (1986) guidelines. Both the direct effect of an alliance of social capital of the three types of social networks on a strategic alliance of trust, reciprocity, and shared norms and the direct effect of the strategic alliance of trust, reciprocity, and shared norms on organisational performance were found to be significant ($\beta=0.083$, $p<0.05$), supporting Hypothesis 4. The result shows that the indirect effect on the relationship between an alliance of social capital of the three types of social networks and organisational performance, through a strategic alliance of trust, reciprocity, and shared norms is significant ($\beta=0.081$, $p<0.05$), supporting Hypothesis 4. In regard to Hypothesis 4, both the direct relationship with the set of mediators of the strategic alliance of trust, reciprocity and shared norms, and the indirect relationship were found to be significant ($p<0.05$), hence there is partial mediation (Baron & Kenney, 1986).

In addition to the bootstrapping method, Sobel's z-value test (Sobel, 1982) was used to assess the significance of a strategic alliance of trust, reciprocity, and shared norms as a set of mediators in the relationship between an alliance of social capital of the three types of social networks and organisational performance. If the Sobel's z-value is greater than 1.96 ($p<0.05$), the mediating role of the strategic alliance of trust, reciprocity, and shared norms is significant. The z-value for the indirect relationship between an alliance of social capital of the three types of social networks and organisational performance via a strategic alliance of trust, reciprocity, and shared norms was found to be 2.82 ($p=0.004$). Hence, the mediating role of a strategic alliance of trust, reciprocity, and shared norms is significant.

V. Discussion and Conclusion

The result shows that an alliance of social capital of the three types of social networks as strategic resources of a firm is positively related to organisational performance (supporting hypothesis 1). This finding is consistent with the existing literature, such as Chen and Wu (2011), Casanueva et al. (2013), Koka and Prescott (2002), which indicate that the focal firm uses social networks as a strategic resource of social capital to achieve its goals, which has a positive effect on business performance. This finding also shows that top managers in the focal firm decide how to build the right alliance relationship with their customers, suppliers, government officials, and employees (e.g. keep the intimate relationship with these alliance partners), which in turn has a positive effect on the firm's performance.

Hypothesis 2, which posits a positive association between an alliance social capital of the three types of social networks and a strategic alliance of trust, reciprocity, and shared norms, is supported. This finding is similar to the argument of previous studies, such as Gulati & Singh (1998), i.e., the alliance social capital in a social network enables cooperation and coordination between the focal firm and its alliance partners to exchange/share favours such as knowledge and technology. This finding is consistent with Adler and Kwon (2002) and Barnes et al. (2011), who argue that social networks as personal relationships are for the exchange of favours and gifts (such as information and knowledge). This finding also demonstrates that the purpose of the use of personal social relationships (i.e. the exchange of favours or gifts) as cooperation and coordination in an agreement was achieved.

It was found that a strategic alliance of trust, reciprocity, and shared norms was significantly associated with organisational performance (supporting hypothesis 3). This finding is similar to the argument that the use of an alliance of trust and reciprocity enables the exchange of favours such as resources (Adler & Kwon, 2002; Barnes et al., 2011), which lead to improved firm performance.

The finding indicates that a strategic alliance of trust, reciprocity, and shared norms mediates the positive relationship between an alliance of the three types of social networks as strategic resources of the firm and organisational performance (supporting hypothesis 4). This finding shows that a strategic alliance of trust, reciprocity, and shared norms plays the role of coordination and cooperation in this positive association. This means that an alliance of partners (such as key customers and suppliers, key government officials, and key employees) provides strategic resources to the focal company that it can use to reach its profit goals via coordination and cooperation and the exchange of favours. In other words, if there is not this agreement between the focal company and its alliance partners, this might hinder the focal company in achieving its profit and growth goals, as the strategic resources the the focal company needs rely on this agreement (Casanueva et al., 2013). This is because there are different levels of the trust relationship between the focal firm and its alliance partners under the Chinese hierarchical social relationship (Barnes et al., 2011; Chen & Chen, 2004).

Based on the above discussion, the evidence shows that a strategic alliance of trust, reciprocity, and shared norms plays a significant mediating role in the positive relationship between the alliance of the three types of social networks and organisational performance.

VI. Theoretical and Practical Implications

The study has examined how Chinese listed companies use the three types of social networks (business, government, and employee ties) as strategic resources of the alliance of social capital to achieve their profit and growth goals, which helps our understanding of how managers use the three types of social networks as strategic resources via a strategic alliance of trust, reciprocity, and shared norms under the Chinese hierarchical social relationship to achieve their organisational goals. The results show that a strategic alliance of trust, reciprocity, and shared norms plays an important mediating role in the positive relationship between the three type of social networks in an alliance of social capital and organisational performance.

This offers empirical evidence for the social capital theory of implication, i.e., managers in a focal company select the right alliance partners and build a trust relationship with them to achieve a common agreement for the exchange of favours (such as valuable resources), and this can positively impact organisational performance.

From a practical perspective, this study contributes to our understanding of how managers use social networks as an alliance of social capital and build a trust relationship with their alliance partners to form a common agreement for the exchange of favours to achieve their organisational goals. The study shows that the three types of social networks in the alliance of social capital are positively associated with the strategic alliance of trust, reciprocity, and shared norms, and that the strategic alliance of trust, reciprocity, and shared norms is associated with organisational performance. This findings suggest that those managers who intend to achieve their organisational goals should choose the right alliance partners and build a close trust relationship with them in order to reach a common agreement between their firms and their alliance partners for the exchange of favours (such as knowledge and technology).

VII. Limitations and Future Research Directions

This study has three main limitations. Firstly, it only considered the components of social capital (such as trust and reciprocity) as a set of mediators (i.e., a strategic alliance of trust, reciprocity, and shared norms) in the relationship between social networks and organisational performance. It did not consider that these components of social capital may act as moderators or independent variables, and they might affect the positive relationship between social networks and organisational performance. Some studies have used trust as an independent variable that is correlated with organisational learning (Atuahene-Gima & Murray 2007). Further research could consider the components of social capital (such as trust and reciprocity) as moderators or independent variables to test the relationship between social networks and organisational performance.

Secondly, the sample in this study was from western economic and eastern economic areas. However, the cultural difference between the north and south of China may affect top managers' use of social networks, which may also lead to a difference in the organisational outcomes. For example, the culture in the south of China focuses more on business (money) than that in the north of China. In the south of China, top managers might use social networks more for business or employment relationships than friendship relationships with their business partners, government officials and employees. This study did not examine the cultural differences between the north and south of China with regard to the relationship between social networks and organisational performance. Further research could consider the

cultural differences between the north and south of China and select a survey sample from the north and south of China.

Third, the data collection achieved a high level of reliability and validity. However, subjective measures were used for organisational performance, which are imperfect. This is because some scholars suggest objective measures for firm performance to reduce the perceptual measure errors. The survey did not include longitudinal data. Further research could consider longitudinal data when collecting the survey data.

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FIGURE 1
The Conceptual Model

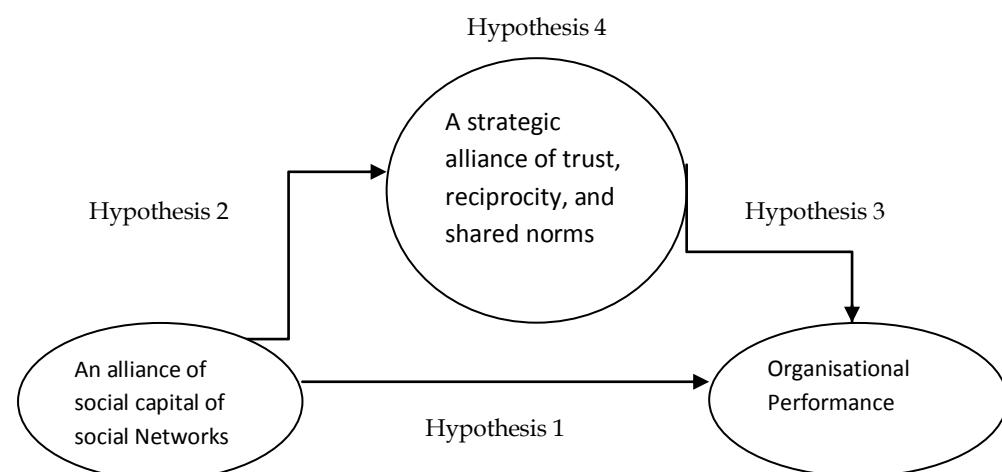


Table 1 The stratified method employed for the sample of 350 Chinese listed companies

Geographic locations	Subpopulations (the sampling frame 744)			
	N	Percent of 744	Stratified sample	Percent of 350
Beijing	122	16.4	55	15.7
Ownership: 49 SOE 89.1%				
6 Non-SOE 10.9%				
Size: 50 Large companies 90.9%				
5 SMEs 9.1%				
Age: ≥ 10 years 53 companies 96.4%				
<10 years 2 companies 3.6%				
Shanghai	152	20.4	57	16.3
Ownership: 50 SOE 87.7%				
7 Non-SOE 12.3%				
Size: 51 Large companies 89.5%				
6 SMEs 10.5%				
Age: ≥ 10 years 55 companies 96.5 %				
<10 years 2 companies 3.5%				
Shenzhen	156	21	70	20
Ownership: 66 SOE 69.5%				
29 Non-SOE 30.5%				
Size: 10 Large companies 10.5%				
85 SMEs 89.5%				
Age: ≥ 10 years 91 companies 95.8%				
<10 years 4 companies 4.2%				
Guangdong	186	25	75	21.4
Ownership: 65 SOE 65%				
35 Non-SOE 35%				
Size: 11 Large companies 11%				

89 SMEs 89%				
Age: ≥10 years 96 companies 96%				
<10 years 4 companies 4%				
Chongqing	35	4.7	23	6.6
Ownership: 19 SOE 82.6%				
4 Non-SOE 17.4%				
Size: 21 Large companies 91.3%				
2 SMEs 8.7%				
Age: ≥10 years 21 companies 91.3%				
<10 years 2 companies 8.7%				
Sichuan	93	12.5	70	20
Ownership: 65 SOE 92.9%				
5 Non-SOE 7.1%				
Size: 45 Large companies 64.3%				
25 SMEs 35.7%				
Age: ≥10 years 68 companies 97.1%				
<10 years 2 companies 2.9%				
Total	744	100	350	100

Note: 55 out of 122 Chinese listed firms were randomly selected from the Beijing location, 57 out of 152 from the Shanghai location, and so on. Beijing, Shanghai, Shenzhen, and Guangdong are open economic regions in China, while Chongqing and Sichuan are non-open economic regions. The sample frame comprises 616 open and 128 non-open economic regions.

Table 2 Assessment of the Measurement Model: Reliability, Convergent and Discriminant Validity

Items	Standardised Loadings	CR	AVE	ASV
An alliance of social capital of social networks		.919	.589	.104
The total number of key customers contacted in an average month	0.760***			
The total number of key suppliers contacted in an average month	0.861***			
The total number of key government officials contacted in an average month	0.786***			
The total number of key employees contacted in an average month	0.600***			
My relationships with key customers are like friends or family members or old classmates	0.863***			
My relationships with key suppliers are like friends or family members or old classmates	0.834***			
My relationships with key government officials are like friends or family members or old classmates	0.759***			
My relationships with key employees are like friends or family members or old classmates	0.632***			
A strategic alliance of		.753	.510	.289
i) trust: The extent to which you agree that the trust relationship with your company's customers and suppliers plays the role of cooperation and coordination to the common agreement The extent to which you agree that the trust relationship with your company's government officials plays the role of cooperation and coordination to the common agreement The extent to which you agree that the trust relationship with your company's employees plays the role of cooperation and coordination to the common agreement	0.631*** 0.832*** 0.660***			
ii) reciprocity: The extent to which you agree that the reciprocity relationship with your company's customers and suppliers plays the role of cooperation and coordination to the common agreement The extent to which you agree that the reciprocity relationship with your company's government officials plays the role of cooperation and coordination to the common agreement The extent to which you agree that the reciprocity relationship with your company's employees plays the role of cooperation and coordination to the common agreement The extent to which you agree that reciprocity is for the exchange of favors such as resources	0.719*** 0.767*** 0.856*** 0.856***			
iii) shared norms: The extent to which you agree that shared norms with your company's customers and supplier plays the role of cooperation and coordination to the common agreement The extent to which you agree that shared norms with your	0.631***			

company's government officials plays the role of cooperation and coordination to the common agreement The extent to which you agree that shared norms with your company's employees plays the role of cooperation and coordination to the common agreement	0.832*** 0.660***			
Organizational Performance		.952	.713	.108
My company has met its profitability objectives	0.806***			
My company has met its growth objectives	0.835***			
My company has increased product/company awareness	0.688***			
Market share	0.920***			
Growth in sales	0.963***			
Profitability	0.955***			
Quality of product and service	0.785***			
Customer satisfaction (fop5)	0.765***			

Note: ***p<0.001; CR is composite reliability; AVE is average variance extracted; ASV is Average Shared Variance.

TABLE 3

Model Fit Statistics for the Measurement Model

Metric	Observed value	Idea Threshold
CMIN/df	2.056	Between 1 and 3
CFI	0.955	>0.95
RMSEA	0.053	<0.60
PCLOSE	1.000	>0.050
SRMR	0.065	<0.080
P-value	0.001	<0.05

TABLE 4

Model Fit Statistics for the Structural Model

Metric	Observed value	Idea Threshold
CMIN/df	2.251	Between 1 and 3
CFI	0.951	>0.95
RMSEA	0.059	<0.60
PCLOSE	0.950	>0.050
SRMR	0.071	<0.080
P-value	0.001	<0.05

TABLE 5
Results of Hypothesized Models

Hypothesized models	Path		Standardized path coefficient	P value	Results
H1	Networks@	→ Organizational performance	0.40	***	Supported
H2	Networks @	→ A strategic alliance of trust reciprocity and shared norms	0.13	***	Supported
H3	A strategic alliance of trust and reciprocity shared norms	→ Organizational performance	0.26	***	Supported
Controls	Firm size	→ Organizational performance	0.33	***	
	Firm age	→ Organizational performance	0.01	NS	
	Firm location	→ Organizational performance	0.15	0.003	
	Firm ownership	→ Organizational performance	0.04	NS	

Note: ***p<0.001, NS is not significant (p>0.05), "Networks @" is "an alliance social capital of the three types of social networks".