# Trustworthiness on Social Capital of Structural Hole and Firm Resource Acquisition

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For ANZAM Conférence 2007

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## Abstract

Social capital plays an important role in the growth of small-medium enterprises (SMEs). However, limited research exists on how the social capital of structural hole contributes to resource acquisition from the perspective of entrepreneurs and how trustworthiness is related to the effectiveness of social capital. The study examines these issues based on a sample of Chinese firms. The findings indicate that social capital of structural hole has positive effects on the firm's resource acquisition and trustworthiness does not significantly mediates the relationship between social capital of structural hole and resource acquisition in the context of China.

Keywords: social capital of structural holes, trustworthiness, resource acquisition, entrepreneurs.

# **INTRODUCTION**

In striving for success for an organization, strategies call for entrepreneurs to develop resources and competencies that meet criteria to provide long-term competitive advantage for a firm (Barney, 1991; Black & Boal, 1994; Nahapiet & Ghoshal, 2000; Golden & Ma, 2003). Social capital is increasingly being recognized as an important strategy along this line. Small and medium enterprises (SMEs) have limited resources and market share to achieve their economic goal, compared with large companies. Entrepreneurs employ social capital embedded in network ties to overcome these limitations and gain competitive advantage (Peng & Luo, 2000).

Of two types of social capital, bonding social capital and bridging social capital, this study focuses on bridging social capital, which is based on structural hole. Bonding social capital reinforces exclusive identities and connects homogenous people, while bridging social capital links heterogeneous individuals or groups across diverse cleavages (Putnam, 2000; Burt, 2005). The social capital of networks is not only in the presence of relationships but is also embedded in the absence of relationships (Bass, Butterfield & Skaggs, 1998). In such absence, the brokerage role between two unconnected parties in triad or more than two parties is significant in social capital generation. A definition of the structural hole in this study is referred to in Burt's (2005) definition, that is, the absence of a link between two actors from different dense social clusters in the networks. The social capital of structural hole is embedded in weak ties in which clusters, within which relations are denser than outside, are occasionally bridged (Burt, 2005). The social capital of structural hole presents opportunities for access to new and diverse sources of information and resources for firms, individuals and groups (Burt, 2005).

With the nature of weak connection, there is also a risk that one side of structural hole may take a free ride, as this relationship does not bear mutual obligation and is influenced by self-interest and resource dependency (Uizz, 1997; Walker et al., 1997; Medcof, 2001; Wang, 2007). Given a chance of opportunism in exchanges of structural hole, both sides of structural hole need to

demonstrate trustworthiness through major transitions (Blau, 1968; Uizz, 1996; Molm, Takahashi & Peterson, 2000; Healy, 2001). As such, trustworthiness plays an important role in reducing opportunism of social exchange and guaranteeing positive outcomes through structural holes. Trustworthiness in reciprocity in the context of structural holes in this study is defined as meaning that the other side can be trusted in return with reliability and risk free conduct in exchange relations (Molm et al., 2000). Trustworthiness is identified to be critical factors in the network of SMEs in various industries (Uzzi, 1997; Sherer, 2003).

While there have been an increasing number of studies focusing on social capital embedded in strong ties (Bass et al. 2004), the impact of structural-hole social capital is under explored. Little research exists on how trustworthiness is related to effectiveness of the structural-hole social capital in resource acquisition from an entrepreneurial perspective.

The study investigates the extent to which social capital of structural hole has a positive impact on a firm's resource acquisition and whether trustworthiness influences the relationship between social capital of structural hole and resource acquisition of a firm.

## THEORETICAL BACKGROUND AND HYPOTHESES

## Social capital of Structural Hole and Resource Acquisition

Economic action is embedded in a social structure consisting of ongoing networks of interpersonal relationship and social ties that both facilitate and constrain the action taken by individuals (Uzzi 1997). Social capital is a productive resource facilitating a firm's business operations through the networks (e.g. Coleman, 1988; Burt, 1992; Tsai & Ghoshal, 1998). From a perspective of resource dependency, social capital is "the aggregate of the actual and potential resources that are linked to the possession of a durable network of relationship or mutual acquaintance and recognition" (Bourdieu 1986, p. 248). The resources in this study are referred to tangible goods such as financial resource, materials, land or others related to production (Uzzi, 1999). ). From a functional perspective, social capital is about establishing relationships purposefully and employing them to generate intangible and tangible benefits in short or long terms (Cross and Cummings, 2004; White, 2002). Exploitation of structural holes can serve the strategic concerns of economic payoff for entrepreneurs in three aspects. Firstly, bridging the link between different social clusters gives entrepreneurs access to a new source of resource (Peng and Luo, 2000; Burt, 2005). The resource channel can be created through the information access and control in bridging the holes. Secondly, entrepreneurs engaging in structural holes connected by various social clusters will be quick to learn about business activities in these separate groups (Healy, 2001; Burt, 2005). Finally, entrepreneurs with rich structural-hole engagement are likely to know when it would be rewarding to bring together separate groups, which gives the entrepreneur a disproportionate say in whose interest is served when the contacts come together (Burt, 2005). Consequently, through activities of bridging structural holes, entrepreneurs can directly or indirectly create an opportunity for their firm to make a favorite resource transfer. A

structural hole is a potentially valuable context for strategic action to create business value for the firm (Burt, 2005; Weisinger & Salipante, 2005). Social capital thus is embedded in the structural holes and generated through bridging them.

The social capital of structural holes is derived from the opportunities that such holes provide to network entrepreneurs through a flow of additional useful resources from a variety of social clusters, rather than relying on common sources within a closed network (Putnam, 1993; Uzzi, 1997; Burt, 2005; Weisinger & Salipante, 2005). Large companies with long engagement in the industry and strong financial strength can dominate the exiting source, such as existing major supply and market shares. This situation puts SMEs in a constrained position in business. Within the same supply circle in their industry, they often end up with a shortage of supply and customers when competing with large companies, which may cause the firm to be unable to operate at full capacity. If entrepreneurs of SMEs are able to strategically create new channels to get information and resources beyond the existing source, they can advance their firm's position in business. Compared with the function of a closed network which is utilized to incubate cooperation between firms, structural hole-based social capital is more applied for a firm's strategic concerns (Burt, 2005). It is thus proposed that

Hypothesis 1: Social capital of structural hole is positively related to resource acquisition.

# The Mediating effect of Trust on social capital and acquisition of resources

It may be risky for entrepreneurs to initiate and develop the social capital of structural hole with people from other social clusters, as structural hole is a territory in which people usually do not know each other well and do not have obligations to each other in running their business. Given such less bounded relations, there is a risk of no reciprocity from one side of the absent linkage. Practically and theoretically, the more risk is involved, the more critical trust between two sides of exchange will be expected (Burt, 2005).

#### **Trustworthiness and Social Capital of Structural Holes**

This study takes Adler and Kwon's (2002) view on trust in relation to social capital and addresses the trustworthiness issues from a perspective of both a source and effect of structural-hole social capital. In general, the social capital perspective identifies the importance of concrete interpersonal relations and networks in generating trust. Social exchanges within the context of social capital are expected to be reciprocal ones that in short or long term kindness and services will be returned (Bourdieu, 1986; Portes, 1993). Trustworthiness in reciprocity in networks involves a party (trustee)'s appreciation of another side (trustor)'s trust and response in a positive manner by returning kindness and other assistances. Trustworthy behavior in the social exchange, thus, creates conditions for accumulating

social capital as well as avoiding sanctions for failing to adhere to collective expectations (Kay & Hagan, 2003).

Burt (2005) believes that trust is an essential source of social capital, but presenting with different degrees between strong-tie and structural-hole networks. The social capital of structural hole depends on trust as much as it depends on the value created by brokers involving in exchanges (Burt, 2005). According to the social dilemma theory, uncertainty embedded in weak ties will create a necessity to develop trust (Molm et.al., 2000). Arguably, the weaker the assurance of structure, the greater opportunity entrepreneurs have to develop trust for social exchange; and that the greater the risk in the social exchange, the more necessary it is for involved parties to demonstrate trustworthiness to one another (Kollock, 1994; Molm et al., 2000).

The weak relationships provide a situation that allows both untrustworthy behaviors to exist and trustworthy behavior to be demonstrated (Molm et al., 2000). To initiate and factionalize weak ties, the trustworthiness of involved parties needs to be perceived by each other during the interaction. Trustworthiness in the social capital of structural hole is likely to be a mediator for these parties to interact with each other, who are otherwise unconnected. In turn trustworthiness establishes the expectations between two sides of a social exchange. The expectations of entrepreneurs with regard to social networks include avoiding behavior based on greed, fulfilling relations of reciprocity, and subordinating immediate desires to longer-term firm achievement (Portes & Sensenbrenner, 1993). Clearly, entrepreneurs' strategic risk-taking activities related to resource acquisition within social networks provide a foundation of necessity for trust (Kay & Hagan, 2003).

#### **Trustworthiness and Acquisition of Resources**

When social capital of structural hole functions in a base of self-interest and the rule of reciprocity, the extent of trustworthiness of involved parties is a key factor leading to beneficial outcomes (Molm, et al., 2000). Trustworthiness of the brokerage side of structural hole in assurance of resource is likely to play a significant role for the dependent firm to gain the transaction of resources. (1) Trustworthiness facilitates the willingness of parties of structural holes to engage in exchanges of information and resources(Uzzi, 1996). (2) Trustworthiness increases the positive expectations of entrepreneurs on other brokerage parties to enhance actual exchanges for information and resources. Trustworthiness reduces the risk of opportunism and increases chances of exchange between nonbonded ties. Entrepreneurs will confidently take actual steps in the exchange process to win the support of the other side for resources acquisition for a firm (Siegrist, Earle & Gutscher, 2003). (3) Based on trustworthiness, the scope of structural holes is likely to be expanded from existing connections to broader ones (Sallee & Flaherty, 2003). To that extent, entrepreneurs will have a chance to explore more clusters outside of their own to gain resources from newly potential channels. It, thus, is hypothesized that,

Hypothesis 2a: Trustworthiness is positively related to resources acquisition.

Hypothesis 2b: Trustworthiness mediates the relationship between social capital of structural holes and resources acquisition.

# METHOD

## **Sampling and Procedure**

The aim of this study was to understand the behavior of entrepreneurs concerning social capital at the firm level. The participants were entrepreneurs who operated business ventures and who had therefore assumed responsibility for the strategy and administrative activities of their respective firms. Data were collected by a survey that was conducted in 2004 and 2006 in various locations in China, including Shanghai, Beijing, Changsha, Nanning, and Suzhou. 30 or a few more questionnaires were given to entrepreneurs in each location respectively, with 168 questionnaires in total. This yielded a sample for the study of 104 respondents (81 males and 23 females) who represented a variety of industries.

To test the social capital of structural hole, a social group who has monopoly power in business through the government system was chosen to be the other cluster with which the entrepreneurs try to link. They are not part of the industry within strong ties and are in a position to link firms from different social or industrial clusters to connect. This enables them to broker a perceived high value of social capital in exchange relations.

# Validity

First, the questionnaire was translated from English into Mandarin, as the original items were all derived from the English-based literature. The versions in Mandarin and English were made equivalent in meaning, refining the questions through backwards-forwards translation. Second, respondents were guaranteed anonymity and confidentiality. Third, all items were tested for common method variance using the approach of Harmann's one-factor test. The result indicates that the data did not suffer the problem of common method variance on the basis of a factor loading of 0.40 as the criterion for inclusion. Finally, the chosen items yielded a reliable Cronbach's alpha.

# Measures

First, based on the literature, a questionnaire was designed and developed. Second, a pilot investigation was conducted with a questionnaire survey and then followed by interviews with eight participants to obtain feedback on the instrument. The questionnaire was then modified based on the feedback. Finally, the revised questionnaire was distributed at appropriate opportunities during 2004 and 2006. The subjects were asked to express their level of agreement with a given statement via a five-point Likert scale – ranging from 'Strongly Agree' to 'Strongly Disagree'.

Dependent variables. The variables of resource acquisition tested the extent to which a firm obtains the resources through networking. The variable of resource acquisition was tested by a scale composed of two items

Independent variables. The social capital of structural hole tested the extent to which a firm possesses the networks with the official group for their business, establishing relationships with the brokerage side. This construct is composed of three items.

Trustworthiness tested the extent to which the entrepreneur believes that people of the official group follow the rule of reciprocity and pay back in return once networking with them. Three items constituted the scale to test this variable.

Control variables. Since benefits of social capital are aggregated for the firm, two control variables at the firm level are included in the analysis. The firm size is a measure of the number of employees in the firm as a firm's size is negatively related to the need for social ties for survival and prosperity in China (Peng & Luo, 2000). The firm year measures the length of the firm's existence since it was established. The entrepreneurs' years of work in the current company is also controlled for in the hierarchical regression analysis.

## Analysis and Reliability

Using scales based on 104 participants, the analysis involved regression on dimensions with variables of strategy of social capital (Cronbach's alpha = 0.70), resource acquisition (Cronbach's alpha = 0.84), trustworthiness (Cronbach's alpha = 0.87). Prior to the statistical analysis, the codes of the responses to a number of items were reversed, so that all of the items that were measured with a higher score represented a higher level of preference on the scale. The analysis of mediating effect followed a three-step procedure to test a mediation model proposed by Baron and Kenny (1986).

# RESULTS

The means, standard deviations and Pearson correlations are analyzed.

The results of hierarchical regressions in Table 1 indicate the relationships between social capital of structural hole and resource acquisition. First, social capital of structural hole has positively direct effects on the firm's resource acquisition (p < 0.01). Hence, hypothesis 1, stating that social capital of structural hole is positively related to resource acquisition, is supported. Second, trustworthiness is positively related to resource acquisition (p < 0.005; p < 0.001 respectively). Hypothesis 2a, thus, is supported. Finally, trustworthiness is significantly related to resource acquisition with the social capital of structural hole controlled for in the model (p < 0.01) and is not significantly related to the social capital of structural hole. The results of hierarchical regression indicate that trustworthiness does not significantly mediate the relationship between resource acquisition and the social capital of structural hole. Hypothesis 2b, thus, is rejected.

Variable	Acquisition of Resources					
	Model 1	Model 2	Model 3	Model 4		
	TWR <sup>b</sup>	Reso Acq <sup>d</sup> .	Reso Acq.	Reso Acq.		
Step 1 Controls						
Firm year	46	21	08		17	
Firm size	.11	09	28		10	
Work year in Co.	.47	.19	.48*		.15	
Step 2 Main Effect						
Social capital of structural hole	01	.73**			.73**	
<b>Step 3 Mediating</b> Trustworthiness in				.43*	.08	
R <sup>2</sup>	.20	.65		.76	.66	
Adjust R <sup>2</sup>	.11	.54		.61	.50	
F	1.35	5.61		5.2	4.2	
Observation number (firms)	104			104	104	

# Table 1. Hierarchical Regression Analysis of Mediating between Social Capital based on Structural Hole and Acquisition of Resources in Chinese Firms

<sup>a</sup> Standardised coefficients are reported.

\* p < .05; \*\* p < .01; \*\*\*p < .001

<sup>b</sup> TWR stands for Trustworthiness in reciprocity; <sup>c</sup> BC stands for Behavioral Commitment; <sup>d</sup> Reso Acq stands for Resource Acquisition.

# DISCUSSION

This study examined whether the social capital of structural hole is positively associated with a firm's resource acquisition and whether trustworthiness mediates the relationship between social capital of structural hole and resource acquisition in the context of China's transition economy. The findings provide insights into these important issues from both theoretical and practical perspectives and contribute to the literature of entrepreneurship and social capital.

# **Theoretical implication**

The study contributes to the literature of social capital by exploring the function of structural hole from a perspective of entrepreneurship strategy. The findings show that not only the strong ties may produce the social capital as addressed in the literature, but also the weak ties of network, structural holes, embed social capital, which play the important role in resource acquisition of SEMs. Entrepreneurs of SMEs adopt a strategy bridging structural holes to gain resource for their firm's operation and growth.

The findings of the study also contribute to the understanding of trustworthiness in such social capital of structural hole. They indicate that although trustworthiness of the other side's

reciprocity is positively related to resource acquisition, a chance to develop significant trustworthiness in the connections of structural hole is limited. As a result, trustworthiness does not significantly mediate the relationship between social capital of structural hole and resource acquisition in the Chinese context. The findings of the study suggest that entrepreneurs perceive that it is difficult to cultivate solid trust in connections of structural hole, though they rationalize that trust is a positive component in networks, which guarantees resource acquisition for the firm.

It may suggest that social exchanges of structural hole cannot entirely depend on trustworthiness, which requires long-term embeddedness. Instead, an interest-oriented motive raised by the agent theory may be applicable to explain the development of vulnerable relations between a less dependent side and weakly connected parties in structural holes (Eisenhardt, 1985). These involved sides may only develop calculation-based exchange in the short term. The action is based on the assumption that the dominant side may not necessarily guarantee resource acquisition in the long term, but will comply with reciprocity as game rules in each exchange in the beginning. From an angle of structural hole connection, the findings support the previous study of Molm et al.(2000) that reciprocity exchanges for a short period of time are not conducive to building trust and Burt's (2005) assumption that it is risky to trust in the network of structural hole. It also lends support to Bass's (2004) proposition that the structural hole theory applies more to networks of market transactions than to networks of cooperative relationships.

# **Practical Implication**

In China, connections are always believed to be crucial for doing business in a broad scope. The findings of this study provide an explanation of how a mechanism works in such connections to help entrepreneurs gain benefits for a firm. Bridging structural holes is an effective way to gain resources and should be adopted as a strategy for Chinese entrepreneurs, in the acute competition for gaining resources.

Trustworthiness of the dominant side in the reciprocal rules in exchanges may be a basic element to guarantee resource acquisition in China. However, the findings indicate that it is not significantly related to embeddedness in social capital of structural hole in China. This may suggest that Chinese entrepreneurs do not see a direct link between social capital of structural hole and trustworthiness in reciprocity of the dominant side through the effort of establishing connections with other social clusters from various sectors.

# LIMITATIONS AND FUTURE RESEARCH

# Limitations

Although the study develops an insight into the social capital of structural hole, limitations should be noted. While social capital of structural hole has been linked with a firm's gain in resources through trustworthiness, in practice the functions of social capital of structural hole to generate benefits are

complex. The results of the study only reflect some of the factors in these relationships. Affective trust and affective commitment, for example, may be important to the development of network for social capital reasons (Lawler & Yoon, 1996; Molm et al., 2000).

The current study does not examine group social capital of structural hole, which may directly bring benefits to the parties' affiliations. Additionally, selection of the connected side of structural hole, which may be another factor impacting on the effectiveness of social exchange, was not included in this study. Finally, while scales of the measurement developed in the study have a high inter-correlation rate, they need further modification and testing.

Finally, methodologically the deliberate selection of a powerful social cluster in this study has a potential to skew results, as trustworthiness may be inferred due to the position and reputation associated with players in strong positions. The effect of commitment of the more powerful side of the structural hole for social capital therefore should be addressed in the future research.

# **Future research**

This study examines the factors of structural hole as structural embeddedness, trustworthiness for the outcome of networking. The strategic alliance theory suggests that not only relationship or willingness to ally, but also partners' characteristics affect the alliance outcome (Saxton, 1997). Future research may like to examine the influence of selection of structural hole on the firm's resource acquisition to comprehensively picture how social capital works in this regard.

Another avenue of research in the future is to link entrepreneurs' personality and the development and utilization of structural hole as the firm's strategies. Typical characteristics of a successful entrepreneur are the ability to take risks, innovativeness, and the readiness to grasp profitable opportunities (Littunen, 2000).

In conclusion, this study has explored the mediating effect of trustworthiness on the relationships between the social capital of structural hole and benefit gain. Despite the limitations in this research, the obtained understanding of these linkages is important for developing further research on how networks of structural hole evolve and function, especially for firms operating within China's transition economy.

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