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An Empirical Study on the Impact of Guanxi and Trust on External Financing Efficiency in Clusters

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Abstract

Financing is a critical bottleneck problem in the development process of SMEs. SMEs' business activities are more closely embedded in the network, because the geographical location closeness facilitates the exchange of information and the diffusion of knowledge. We try to explore how the cluster network relations affect the efficiency of SMEs external financing efficiency. This paper takes a close look at firm financing patterns and factors that influence external financing performance of SMEs in clusters. However, our results suggest that financing from bank is the main financing pattern. We also find inter-firm trust is positively related with external financing efficiency and this positive relationship is moderated by the level of Guanxi. Theoretical and managerial implications are discussed.

Keywords

Guanxi, Trust, Information Symmetry, Efficiency

1. Introduction

The literature suggests that relationship plays an important role in financing and government mechanism in China (e.g. Allen, Qian, Qian, 2005; Tsai, 2002). Financing is a critical bottleneck problem in the development of SMEs. SMEs' business activities are more closely embedded in the network because its geographical location closeness promotes the exchange of information and the dissemination of knowledge. This brings advantages to business innovation capability and competence. However, whether this further brings benefits to the financing, and what are the implications during the process of financing are unclear. To solve the above problems, this paper explores how the cluster network relations affect the efficiency of SMEs external financing efficiency. Pre-

vious study is mainly focused on relationships between firm and bank or firm and other informal financing agencies like moneylender, but little is known about how the characteristics and essence of inter-firm relationship and inter-person relationship among top managers influence the financing efficiency. The effects of the relationship to be explored above are context specific, as the local resource distribution and financing policy vary. Therefore, this paper aims to investigate the interaction between Guanxi (inter personal relationship) and Trust (inter firm trust) and their influence on access to financing resources, and then give a clear explanation of how SMEs get financing benefits in clusters especially in Wenzhou area. Specially, we address two research questions: 1) how does trust influence firms' financing capability; 2) how does Guanxi moderate theses links.

The remainder of the paper is organized as follows. First, we develop our theory and research hypotheses. We discuss Guanxi as a moderator to facilitate external financing performance. The determinants of external financing performance are then discussed on the basis of relational view of strategic management and institutional theory. Next, we describe our methods to test these hypotheses. Finally, we present the results of the study and discuss their implications.

2. Literature Review and Theoretical Hypothesis

The United Nation Industrial Development Organization (UNIDO) describe a cluster as a local agglomeration of enterprises producing and selling a range of related or complementary products within a particular industrial sector or subsector (Richard, 1996). According to the study of Porter (1998) [1], a cluster is a geographically proximate group of interconnected enterprises and associated institutions in a particular field, linked by commonality and complementarities. DeWitt; Larry and Horace (2006) [2] considered that clusters can be seen as exhibiting three broad characteristics: physical proximity, core competencies, and relationships. Existing research suggested that the performance of clusters is in many aspects. It can support clustered enterprises in such fields as product development, production process improvement, technology, marketing information and so on (Tambunan, 2005) [3]. Julian and Neil (2000) [4] showed an empirical result that strength of supplier and customers, government support, decision making autonomy were much higher in clusters than non-clusters. Porter (1998) [2] thought that clusters are seen as affecting competition in three broad ways: 1) increasing the productivity of companies in the area; 2) driving the direction and pace of innovation; and 3) stimulating the formation of new businesses, which expands and strengthens the cluster itself.

Previous studies about financing issue in clusters show that the relationship plays an important role in financing and the government rule, which generally focus on the relationship between banks and enterprises or enterprises with other official financial institutions (such as venture capital institutions) and informal financial institutions (such as moneylender). But few studies distinguish the different network characteristics except for the bank-enterprise relationship and the impact to corporate financing. This has some limitations for us to completely understand the financing mechanism in different environments, especially in the new markets, in which various systems are still not perfect and the social capital embedded in the cluster network will affect the decision-making of banks and venture capital investors. Thus, the study on the effect of different types of social networks on financing efficiency is very meaningful. We consider formal ways of external financing (*i.e.* via banks, venture capital investors and other financial institutions and commercial credits), we do not consider family members and relatives here; the other is trade relationship (transaction tie), a long-term transaction-oriented relationship between enterprises and its upstream or downstream suppliers and customers.

2.1. Trust and External Financing Performance

The literature on inter-organizational relations offers two general definitions of trust: one is the willingness to rely on an exchange partner in whom one has confidence (e.g. Moorman *et al*. 1992) [5]. The other is the confidence in an exchange partner's reliability and integrity that directly and indirectly through commitment affects exchange outcomes (e.g. Morgan and Hunt 1994). Although definitions vary slightly, most authors measure trust through honesty and benevolence (Andaleeb 1995; Doney and Cannon 1997) [6] [7]. This is of particular relevance in the cultural context of Asia (Doney, Cannon and Mullen, 1998) [8]. Therefore, this study agreed the definition of trust, the willingness to rely on an exchange partner in whom there is confidence in their honesty and benevolence, concluded by Golicic and Mentzer (2006) [9]. In addition, Trust in the exchange firms reduces perceptions of outcome uncertainties, facilities risk-taking behaviors, and promotes a long term oriented relationship (Mayer *et al*. 1995) [10]. Inter-firm trust reflects the level and adhesiveness of relational embeddings

between firms. It can promote information flow since trading partners are more likely to share resources and information efficiently when they believe that the suggestions provided by both sides have already concerned about others' benefit maximization. Besides, inter-firm trust brings more openness and transparency. In operation process, transaction firms inform each side the opportunities and problems they face, which is of great importance for firms to solve existing problems and develop new operation procedures. Based on this consideration, once the market change or other problems occur, companies can share unique information, solve the problems jointly and find new solutions. More important, trust can provide advantageous relationship situation for collaborative problem solving. In reciprocal relations, seller and buyer will not intend to harm other's benefits when solving problems, and will not care too much about self-interests or take some opportunism actions. In order to overcome difficulties, they may even make extra efforts that are beyond contracts. In this view, trust can be regarded as an essential antecedent for firms to solve problems together. By way of collaborating, the integration of information and resources will be achieved, so do the new resolution and unique relational rent. Without collaboration, the potential value of trust to improve firm's performance couldn't be fully realized. The more stable the long-term oriented trade relationship between enterprises, the more opportunities of external financing, considering certificates from different sources are benefit to SMEs' application for loans. Meanwhile, from the perspective of supply chain financing, the high level of trust among suppliers and customers may enhance of firms' legitimacy which help the firm to get external financing through warehouse mortgage, or a third-party logistics companies. Therefore, we hypothesize that:

H1: The higher the Trust the firm has on the other firms, the higher external financing efficiency of SMEs in clusters is.

2.2. The Impact of Guanxi

Guanxi refers to personal relationship networks of informal social bond that individuals carry expectations and obligations to facilitate exchange of favors among them (De Keijzer, 1992) [11]. Individuals within a Guanxi network are committed to each other based on a hidden norm of reciprocity that concerns equity and exchange of favors (Luo, 1997) [12] (**Figure 1**). Guanxi can help firms to establish legitimacy in the clusters. Except for economic factors, the adjustment of transaction cost can also influenced by "non-transactional interdependent factors", *i.e.* interpersonal relationship network (formed during knowledge sharing process), regulation, trust and informally institutional factors. The frequent interactions and connections between cluster enterprises lead to dependability and foreseeability in the economic activities. They also reduce destruction and fraud, and enhance inter-firm trust. As a result, the reduction of transaction costs can be achieved. The interdependence between enterprises in cluster and the trust embedding in formal or informal relationships have produced a tighter supply chain network. In order to solve problems together, firms need to communicate effectively to improve the exchange of information and knowledge. And a high level of embedding will promote collaboration and commutation. Due to easier acquisition of partners' information from direct and indirect relationship, firms in supply chain can establish a strong tie between each other. Many studies about high-tech industry clusters have shown that the non-economic factors are as important as tech spillover for the sustainable development of clusters. Therefore, firms in supply chain attach much importance to information interaction and increase investment to improve their relation competitiveness. With a high level of inter-firm trust, firms are more inclined to rely on regulation when supervising and implementing contracts, so as to develop integration activities.

Specifically, the social network promotes firm reputation through friends, thereby promoting the establishment of legitimacy, improving information asymmetry between enterprises and the formal financing institutions. On the other hand, it is the development of social networks that promotes the specific form of financing sup-
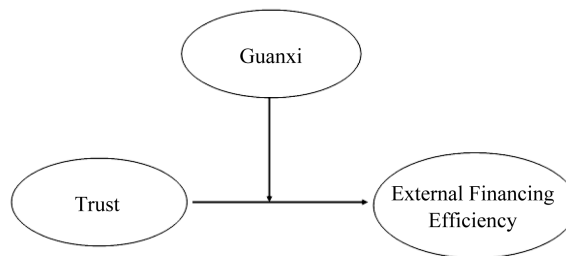

Figure 1. Theoretical framework.

ported by network information in industrial clusters, mainly represented by network enterprises' no interest or low interest collateral financing. When faced with financial constraints, the firm can efficiently get external financing and maintain good credit record by more friends' lending collateral and financial integration (other business owners in the clusters). It shows that a high level of social relationship contributes to businesses' external financing efficiency, letting the social network played a role in the financing process. Therefore, we make a hypothesis that:

H2: which proposed a positive relationship between trust and external financing performance.

3. Data and Methodology

The data used in this research was collected by questionnaire survey. There were 600 pieces of questionnaires distributed in Wenzhou district and 194 among them were valid with the usable response rate of 48.5%. Descriptive statistics analysis shows that the firms surveyed are accordance with the definition of SMEs in "Provisional Regulation of SMEs Standard". Five levels Likert from "totally disagree" to "totally agree" is used in all items measuring variables in this research to require people surveyed to show extend of recognition to each item.

Harman's one-factor test was used to check for the presence of common method variance. We subjected all the key measures to a factor analysis and then determined the number of factors accounting for the variance in the measures. Since a single factor did not emerge and the first factor did not account for most of the variance, we concluded that common method variance might not be an issue.

According to measuring **Tables 1-3** designed and data obtained, we implied factor analysis and structure reliability analysis. The result passed KMO and Crobanch's Test (all above 0.7). The results of correlation analyses and mean value of variables are provided in **Table 2**.

We controlled for the following variables. First, Industry referred to the industry the firm belongs to, including Automobile, Electric Appliance, Machine and equipment manufacturing, Clothes and shoes, Consumer products, foods, Communication, and service industry. Second, Business type referred to the main business the firm is engaged on to distinguish the position of the firm in the supply chain, including Manufacture, Manufacture and Distribution, Wholesale and Distribution, retailing, and Other Services. Third, Firm size referred to the natural log of the number of full-time employees. Fourth, Previous research suggested that R & D spend and innovation performance might vary by sale Revenues and total asset, which were added to the framework. Finally,

Table 1. Distribution of respondent.

	N	%
Sales revenues (in million RMB)		
Less than 1	3	1.5
1 - 5	6	3.1
5 - 10	12	6.2
10 - 30	38	19.6
30 - 100	83	42.8
Above 100	52	26.8
Total	194	100
Business Types		
Manufacture	97	50.0
Manufacture and Distribution	63	32.5
Wholesale and Distribution	16	8.2
Retailing	7	3.6
Other Services	11	5.7
Total	194	100

Table 2. Descriptive statistics and correlation matrix (N = 194).

Variables	1	2	3
1. Trust	1		
2. Guanxi	0.187**	1	
3. External financing performance	0.210**	0.214**	1
Mean	3.81	3.56	3.80
S.D.	0.53	0.70	0.66

Table 3. Results of regression.

Variables	Model 1 external financing performance			
	Step1 Con.	Step2 IV1	Step3 IV2	Step4
	Std. β	Std. β	Std. β	Std. β
Industry	0.005	0.013	0.025	0.042
Business type	0.032	−0.001	0.002	−0.003
Firm size	−0.041	−0.013	−0.023	−0.033
Sale Revenues	0.045	0.050	0.041	0.046
Total asset	0.172†	0.118	0.129	0.134
District	−0.010	−0.035	−0.037	−0.037
Trust		0.412***	0.422***	0.400***
Guanxi			−0.154*	−0.171*
Interaction				0.175*
R^2	0.034	0.200	0.223	0.253
Increase in R^2	0.034	0.166***	0.023*	0.030*
F-value	1.022	6.151***	6.145***	6.391***

$p < 0.05$; **$p < 0.01$; (two-tailed test).

because the sample was from different areas and district, culture and education level may vary, we coded the cases according to the district.

4. Analyses and Result

According to data in questionnaire survey, we tested our hypotheses based on Model 3. **Table 2** is means, standard deviations, correlations of variables examined in this study. **Table 3** presents the results of hierarchical multiple regressions. To create the interaction terms, both independent and contingent variables were mean centered to reduce the potential problem of multicollinearity. The stepwise regression models were used to test the hypotheses, one with external financing performance as the dependent variable. The results of the analyses are presented in **Table 3** (with the standardized regression coefficients related to the hypothesis tests italicized).

To test Hypothesis 1, which proposed a positive relationship between trust and external financing performance, we used a stepwise regression model in which the control variables and the predictors were sequentially introduced in the model. The results are summarized as Model 1. In **Table 3**, trust had a significant and positive relationship with buyer innovativeness ($\beta = 0.412$; $p < 0.01$), supporting Hypothesis 1. The R^2 value increase attributable to adding external financing performance, to the model was statistically significant at the 5 percent level (Fchange = 0.166, $p < 0.01$), thereby suggesting the predictive relevance of trust to the model.

To test Hypothesis 2, which proposed which proposed a positive relationship between trust and external financing performance. The control variables, the predictors and the interaction term (trust × Guanxi) were sequentially introduced in the model. The results are summarized as Model 1. In **Table 3**, the interaction term

(trust × Guanxi) had a significant and positive relationship with external financing performance ($\beta = 0.175$; p < 0.05), supporting Hypothesis 2. The R2 value increase attributable to adding external financing performance to the model was statistically significant at the 5 percent level (Fchange = 0.30, p < 0.05), thereby suggesting the predictive relevance of interaction term effect to the model.

Hypothesis 1 proposing that trust will positively related with external financing efficiency is supported. Hypothesis 2 the moderating of Guanxi on the link of trust and external financing performance is also supported.

5. Theoretical and Practical Implications

The objective of this study was to examine the tensions and complementarities between inter firm trust and Guanxi (inter-person relationship) in influencing external financing performance in buyer-seller relationships. We theorized Guanxi as an moderator mechanism through which inter-firm tie characteristics directly and interactively influence external financing performance at the firm level. The findings from this research reveal both inter-organizational trust positively and significantly related with external financing performance, as hypothesized. Meanwhile, evidence of a positive interaction effect strongly supports the idea that Guanxi facilitate the positive relationship of inter-firm trust and external financing performance.

The research conclusion of this article has a significant meaning for exploring and further analyzing SMEs' financing in clusters. Firstly, our data shows SMEs in clusters especially in Wenzhou area mainly obtain capital from bank (*i.e.* formal financing channel). The result reveals that the inter-firm trust has positive influence on external financing efficiency. This finding is consistent with other scholars. Trust plays a very important role on obtaining financing recourses and the level of Guanxi among top managers facilitates this relationship. Therefore, it is very important for managers to establish both capability trust and calculative trust in firm level, and then personal relationship could enhance firms' external financing performance. Secondly, previous researches on network relationship and external financing mainly focus on direct lending relationship between banks and firms. This study examines different types of networks' effect on external financing efficiency, and different mechanisms of network promotion for external financing efficiency. From the perspective of the institutional theory, Guanxi provides legitimacy in the network. The maintenance of legitimacy is achieved through single enterprise's valuable activities and groups' valuable activities. When individual enterprises pursue individual interests, they also help to achieve the network group's interests.

6. Limitation

This study has several limitations that also suggest directions for future research. First, the use of self report data may cause potential problems such as the limited recall of the respondents, biased perceptions of past realities, and common method issues. It is worth noting that although our post hoc examination and validation analysis indicate no serious common method problems, further study should try to collect data from different parties (e.g. supplier or customer) to investigate the antecedents and outcomes of external financing performance from multiple viewpoints. Second, we assessed tie characteristic from trust and Guanxi, which are central and important factors in business network, but still imperfect proxy for tie features. Future work should attempt to add other variables that may influence external financing performance arrangement to the model.

Acknowledgements

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