An Empirical Study of Resources, Dynamic Capabilities and Performance of Village firms in Clusters of China

-- With Panel Data of Yang-jiang Cutlery Industrial Cluster

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Abstract：Industrial clusters have a great significance to national and regional economic growth. Since the commencement of open-door policy there have existed many clusters in China, which become an important symbol of made-in-China products. However, when the environment is getting more and more dynamic and complex, more attention needs to be paid to the village firms in the clusters for the effects of various resources and dynamic capabilities to their performance.

Based on the literature review of village firms, this paper has formulated a theoretic model for village firms in clusters environment with three hypotheses. An empirical study was implemented with the support of panel data of the survived village firms in clusters in China from 2001 to 2008 to verify the correlation of various resources and performance during their growth.

Key words: Village Firms，Industrial Cluster of China, Village firms, Dynamic Capabilities, Performance

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1. INTRODUCTION

Ever since the 1980s of last century, new ventures, like village firms, growth in developing countries has caught a broad attention of the researchers as well as policy makers internationally. Numerous activities of village firms have become a dynamic drive for the economic growth in many countries.

Village firms always confront resources short problem during the initial stage. They are in an inferior position in terms of information, opportunities, management, resources application, etc. They also lack the capabilities in strategy formulation and implementation. Therefore, failure rate in this stage is rather high（Choonwoo，2001；Teece，2007）. For example, under the economic uncertainty many SMEs in export business are facing the serious problem of resources and capability restriction. As a statistics from China Social Science Academy indicates that under the 2008 economic crisis, about one third of SMEs in exporting industry bankrupted in the Pearl River Delta and Yangtzi River Delta in China, where exporting firms clustered intensively. Moreover, one third of others are struggling for survival. The exporting SMEs in China, who have been the important major force as China’s economic growth engine, have been confronting with more and more challenges. In the meanwhile due to resources limitation they tend to appear fragility under dynamic circumstances. In a word, they are short of dynamic capabilities.

In an environment where resources are easily to be obtained and risks are relatively low, it is easy for village firms to survive and grow. More efficient clusters would provide such an environment. Business partners within the cluster would assist the village firms to achieve its goals and provide opportunities for innovative activities (Ahuja，2000) so as to facilitate its growth (Weaver，2000). Since 80s of last century, when the southern part of China was opened to the outside world, some clusters have been formulated with favorable national policies in the Pearl River Delta, such as appliance manufacturing cluster in Shunde, IT cluster in Dongguan, Pottery and china cluster in Fushan, light manufacturing cluster in Zhongshan, cutlery cluster in Yangjiang, and do forth. Village firms within the clusters enjoy advantageous economic effect, transaction cost effect, invisible resources and convenient information transfer, learning and innovation effect, regional branding, which bring over the competitive resources advantage. In addition, spill-over technology effect provided conditions for village firms to come into being.

Industrial clusters and village firms have a mutual effect to each other (Mesquita, 2007). But the question is that what resources factors, after all, in the cluster reinforce village firms budding and improve their performance. Further more, along with the venture growth what contributions should the various resources bring to the venture in a dynamic manner? We have launched a project in 2008 sponsored by the National Science Fund to have a thorough research on this perspective. We take the typical cutlery clusters in China as our research objects, namely, Yangjiang cutlery cluster in Guangdong, Ningbo cutlery cluster in Zhejiang, and Ningde cutlery cluster in Fujian. We use the database of China Industrial Enterprises to select panel data from 2001 to 2008 to find out (1) what contributions corporate resources would do to the new ventures in its initial stage; (2) how the contributions from various resources change from time to time dynamically; (3) how the corporate capabilities change dynamically.

2. Literature review

Research indicates that the regional effect of clusters has a significant impact to the performances of firms in it, including new product promotion（Deeds et al., 1997）, sales profitability（Canina et al., 2005）and survival rate（Folta et al., 2006; Sorenson and Audia, 2000; Stuart and Sorenson, 2003）. Porter （1998）holds that the cluster impact in certain regions is due to the fact that the competition within the cluster forces firms there to continuously increase their innovativeness to keep their competitive advantage. This is to say that firm survival lies in the innovative success or more competitiveness than others.

Resource-based view (RBV) has provided a more convincing view for researching the mechanism of firms within clusters. Penrose(1959) illustrated the importance of the rare resources of management capacity in the informal decision making through a descriptive process of individual corporate growth. He points out that it is this sort of resources that facilitates the firm's internal growth. RBV has a more emphasis on the recognition of corporate resources and exploration of a firm's sustainable competitive advantages. Barney（1991）argues that resources and capability are two mutually dependent factors. The acquisition and configuration of resources is an indication of organizational capability.

In an ever dynamic environment, RBV came across with its theoretical verge, for it fails to interpret the following questions: Why some firms could maintain its competitive advantage in a fast changing and uncertain environment, whilst some other actually successful firms could not avoid from declining. How could a firm obtain its competitive advantage in a changeable environment? Teece et al（1997,2007), on the other hand, introduced the concept of dynamic capabilities into the strategic framework.. Zott (2003) followed Teece et al. in their dynamic definition, and regarded dynamic capability as a routine or process leading to resources configuration. Hou Jiazheng, a scholar from Taiwan, (2008) trimmed four dimensions of dynamic capabilities, namely, market oriented induction capability, social network capability, (these are the two external viewpoints), learning and absorption capability, and integrative capability for cooperation (these are the two internal view points).

Ren and Zhang（2005）studied the Yangjiang cutlery cluster and discovered that village firms with heterogeneous and dynamic resources were able to gain performance for growth and profit depending on a cluster environment and early growth strategies.

The deficiency of present research is that there has been no empirical study on the dynamic capability of village firms in clusters, especially that of their early stages. We position our research under the global background intending to make it internationally applicable and significant. Therefore, this exploratory research is of creatively significance.

3. Model design and research hypotheses

3.1 Research Model

Based on the previous review we put forward a conceptual framework for research（See Figure 1）. The framework of this model starts from resources （tangible, intangible, organizational and human resources）, which are effected by the organizational dynamic capabilities to realize its sustainable competitive advantage. The dynamic capabilities are four dimensional, market orientation capability, social network capability, learning and absorption capability, and integrated cooperation capability (Wang, C. L. & Ahmed, P .K, 2007). Cluster

network resources are used as adjusting factor (Folta, et al. 2006). We will explore how village firms' entrepreneurs convert their resources into performance in a dynamic manner to discover the key factors so as to provide a theoretical basis for corporate competition research within clusters.

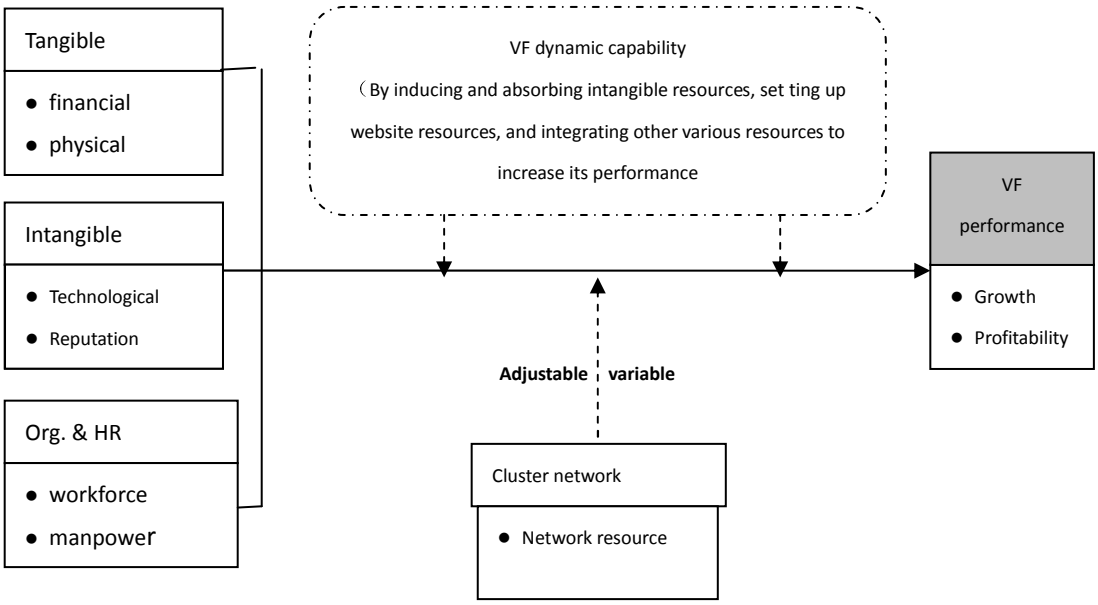

Figure1. Relationship between Village firms (VF) resources, dynamic capabilities and performance in clusters of China

3.2 Hypotheses of relationship between corporate resources and performance in growth stage（H1）

With the theoretical development of RBV more and more scholars on entrepreneurship came to study corporate growth with RBV and capability point of view. New corporate growth has been seen as a comprehensive process of using resources to develop competitive advantages. The contribution of resource to the village firms growth is obvious（Stevenson H. Gumpert D, 1985）.A new venture comes into being when the entrepreneur recognizes, evaluates and delegates his resources（Gartner W,1985; Cole A, 1965; Wang, et al. 2007）.

Timmons (1999) believes that successful entrepreneurial activities are the combination of opportunity, team and resources. In the process of entrepreneurial process opportunity is a trigger for start. Organization of the entrepreneurial team and resources integration provide the foundation for the implementation of entrepreneur plan. The success of entrepreneurship cannot be separated from management and resources. The mission of the entrepreneur is to integrate the available resources under his/her control to generate more value.

According to Penrose(1959)，the further division of resources is helpful for solving the entrepreneurial problem. Therefore it is only adaptive to clarify corporate resources in the entrepreneurial period. From Barney's typology view，resources in the entrepreneurial period can be differentiated in terms of importance as follows: Since the firm is in its initial stage its organizational resources is doubtlessly the weakest among the three. However, organizational resources and human resources are the two most significant resources during the entrepreneurial stage. The insights of the entrepreneurs, their knowledge, capabilities, experience and social relations affect the start and success of the whole entrepreneurial process. Meanwhile, the

expertise knowledge and skills in the initial stage are always in the hands of the minority. Therefore, the technological resources at this period are closely integrated with organizational and human resources, the latter of which will become sources of corporate competitive advantage. During the initial stage of the new venture, physical resources are usually in the forms of finance, plant facilities and workshop buildings.

From the analysis above we may conclude that these rare resources will determine the growth and profitability of the new venture.

Thus comes our first hypothesis regarding corporate resources and performance during the growth stage of the village firms：

H1. The scarcity of corporate resources in the initial stage is in positive correlation with the corporate performance;

H1a.The scarcity of tangible resources is in positive correlation with the initial growth of the village firms;

H1b.The scarcity of tangible resources is in positive correlation with the corporate profitability;

H1c.The scarcity of Intangible resources is in positive correlation with village firm's growth;

H1d.The scarcity of intangible resources is in positive correlation with village firms' profitability;

H1e.The scarcity of organizational and human resources is in positive correlation with the village firms' growth;

H1f.The scarcity of organizational and human resources is in positive correlation with the village firms' profitability

3.3 Hypothesis of dynamic traits of village firms in its growth stage（H2）

It can be deduced from the above analysis that the growth process of a village firm is virtually a process of resources configuration. And the dynamic capability is actually something through corporate resources configuration and integration to meet the ever changing requirements of the customers and strategic changes from the competitors（Zahra ,2006）. Corporate resources are the basis for nursing dynamic capability, which again reinforces the construction and effective application of the resources (Zahra, 2006). During the early stages of the village firms, the various resources will get changed along with the corporate growth in terms of absolute value and relative value. With the dynamic changes of the environment firms need gain and maintain dynamic capabilities to effectively integrate their resources, in the process of which the quality and quantity of various resources shall get changed.

Therefore, in the initial stage of growth of the new venture, the change of contribution from different resources reflects the dynamic change of the firm. Since resources make contribution to performance always through capabilities we can indirectly interpret the corporate resources change through the relevant changes in their contribution to the corporate performance. Researches show that firms' need for resources varies from different life cycles. Resources management decisions should be relevant to organizational life cycles (Churchill N, Lewis V. 1983, Grenier, 1972; Baum, et al. 2001).

Therefore we put forward our second hypothesis for corporate dynamic capability：

H2.The influence of various resources of village firms to the corporate performance changes as time goes on;

H2a .The influence of tangible resources to corporate growth decreases as time goes on;

H2b.The influence of tangible resources to corporate performance decreases as time goes on.

H2c.The influence of intangible resources to corporate growth decreases as time goes on;

H2d.The influence of intangible resources to corporate profitability decreases as time goes on;

H2e.The influence of organizational and human resources to corporate growth increases as time goes on;

H2f.The influence of organizational and human resources to corporate profitability increases as time goes on.

3.4 Hypothesis on cluster network of village firms（H3）

During the fast growth period of the new venture, it is unavoidable to be affected by the cluster environment. This might be positive, for it could bring more suppliers for the venture, common infrastructures and cooperation from other firms etc (Sirmon, et al. 2007). It might also bring some negative factors to the venture, such as seizure for resources out of competition. Therefore, we selected the measurable network resource for our research object to find out how it adjusts the effects resources brought upon corporate performance.

Based on the above analysis we put forward our third hypothesis for the network within clusters：

H3.The network resources within the cluster produces more positive effects to corporate performance and growth; Thus,

H3a.More effect from tangible resources in the cluster network to the corporate performance.

H3b. More effects from tangible resources in the cluster network to the corporate growth.

H3c.More effects from intangible resources in the cluster network to the corporate profitability.

H3d.More effects from intangible resources in the cluster network to the corporate growth.

H3e.More effects from organizational and human resources in the cluster network to the corporate profitability.

H3f.More effects from organizational and human resources in the cluster network to the corporate growth.

4． Research methods and empirical analysis

4.1 Sample survey and data sources

4.1.1 Introduction to cutlery cluster in China——The Yangjiang case

Cutlery clusters in China are mainly located in Yangjiang in Guangdong, Ningbo in Zhejiang, Ningde in Fujian, and Shanghai area, among which Yangjiang is the most outstanding and popular.

The Yangjiang cutlery manufacturing can be dated back to 557 AD, when the national heroin, Madam Xian stationed her troops in this region. Their process of weapon and sword manufacturing came down civilianized which lay the historic technical foundation for Yangjiang cutlery manufacturing. After China's open-door policy private business in Yangjiang has developed rapidly. Cutlery industry quickly became the main trend. After many years development, China Cooking Knife Center, China Scissors Center and China Small Knife Center came to settle in Yangjiang one after another. The following table (Table 1) indicates the position of Yangjiang cutlery in the industry.:

Table 1. The Position of Yangjiang Cutlery

Cluster total production value		**Total number of firms**		**Total size of employment**		**Annual production**		**Industrial Production value**			**Export amount and market**	
Absolute value（RMB）	Proportion-on in the world cutlery market	Absolute value（firms）	Proportion in the national market	Absolute value (10 thousand）	Proportion-on in the total employment in the city	Amount（piece）	Types	Absolute value（RMB）	Proportions-on in the total production value of the city	Proportion in the national cutlery industry	Proportion in all the exporting firms	Exported countries and regions
5.5 bn	1/6	1400	60%	>10	>50%	0.5 bn	3000	8 bn	25%	64%	83%	>100

Source:：2009 Year-Book of Yangjiang Statistic Bureau

From January, 2006 to March, 2009 we went to Yangjiang for five times for field survey, interviews and questionnaire administration. We visited some government offices like Yangjiang MOFTEC, Cutlery Industry Association, Foreign Trade Cooperation Bureau, and 12 typical cutlery manufacturers. We came to know the development process of this cluster and its internal business development. We also had a clear view of its status quo and the problems they were facing. More importantly, we received the first hand data and relevant physicals from the local government offices.

4.1.2 The Source of the empirical data —— Database of China Industrial Firms

The Database of China Industrial Firms is collaboratively issued by China Statistics Bureau, China Industrial & Commercial Administrative Bureau and some other official statistic departments. This database has collected data from more than 300,000 manufacturers in China from 1998 to 2008, covering 40 major categories, 90 medium-sized categories, and 600 small categories. Data thus collected contain enterprises' basic information, financial information (balance sheets and profits), product information (names of products), and so forth. The data needed for this research are from this ACCESS database.

Since the survival rate for village firms is considerably low, it is not easy to obtain continuous data which must not only be sustainable but also meet the requirements of this research.

The first requirement of this research is to select those cutlery firms marked 3424 in this database with which 305 firms emerged (the number is changing from year to year). Considering completeness and reliability of the data which must meet the requirement of early stage of village firms, we focus on the firms established during 2001 to 2008, and deleted the firms with fluctuating changes and incomplete data. Thus 149 village firms were selected. Further study showed that most of the selected data firms were almost located in Yangjiang in Guangdong. Since our object is cluster cutlery industry, the firms located outside clusters were again deleted. Thus we finally obtained 127firms for our research samples. These panel data are able to provide not only chronological information but also cross section information. They are much more favorable to our research.

We take into considerations of the research results from Covin and Slevin (1991), Lumpkin and Dess（2001）, and Wiklund（1999）. We measured the firms performance with applicable data from the database, together with the profitability and growth of the firms（Antonicic，2001；Yusuf，2002）. To be more specific, profitability is measured by its ROA, and growth is by growth of sales. The descriptive statistics is as tabled below (Table 2).

Table 2　Descriptive Statistics of the 127 firms from 2001-2008　Unit：10,000

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
No. of employees	127	16	690	150.74	107.416
Financial resources	127	765	54847	8601.72	10076.155
Physical resources	127	0	64960	7377.68	11309.926
Intangible assets	127	0	3132	171.34	621.957
Workforce input	127	151	24612	3204.75	3356.844
Valid N (list wise)	127				

4.2 Simple correlation analysis between variables

In order to explore the internal relationship between corporate performance and various resources, we use SPSS 16.0 to analyze the correlation of the 7 indices during the 7 years as is shown in Table 3.

The above table indicates that most of the 7 variables show significant correlation. Below 0.01 the correlation between employee size and workforce input is significant; so is that between employee size and financial resources; and that between physical resources and finance, workforce input and financial resources, intangible assets and ROA, and intangible assets and GOS. It also shows significant correlation below 0.05 between employee size and ROA, workforce input and ROA. However, less significant correlation appear between financial resources and intangible assets, financial resources and ROA, and physical resources and ROA.

Table 3 Correlation analysis for all data

		Mo. Pf employees	Financial resources	Physical resources	Intangible assets	Workforce input	ROA	GOS
No. of employees	Pearson Correlation	1	.576**	.296**	-0.081	.874**	.196*	0.122
	Sig. (2-tailed)		0	0.001	0.365	0	0.027	0.17
Financial resources	Pearson Correlation	.576**	1	.736**	-0.088	.500**	0.088	0.096
	Sig. (2-tailed)	0		0	0.324	0	0.327	0.285
Physical resources	Pearson Correlation	.296**	.736**	1	-0.107	0.155	-0.068	-0.03
	Sig. (2-tailed)	0.001	0		0.232	0.083	0.447	0.735
Intangible assets	Pearson Correlation	-0.081	-0.088	-0.107	1	-0.083	0.331**	0.324**
	Sig. (2-tailed)	0.365	0.324	0.232		0.353	0.709	0.962
Workforce input	Pearson Correlation	.874**	.500**	0.155	-0.083	1	.203*	0.1
	Sig. (2-tailed)	0	0	0.083	0.353		0.022	0.264
ROA	Pearson Correlation	.196*	0.088	-0.068	0.331**	.203*	1	0.114
	Sig. (2-tailed)	0.027	0.327	0.447	0.709	0.022		0.203
GOS	Pearson Correlation	0.122	0.096	-0.03	0.324**	0.1	0.114	1
	Sig. (2-tailed)	0.17	0.285	0.735	0.962	0.264	0.203	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.3 Regression analysis on the panel data

The regression analysis is done to explore the relationship between corporate resources and performance of village firms during initial growth stage. In the first place SPSS16.0 is adopted to find the average value of the panel data from 2001 to 2008; then a normal regression model is followed. Analytical results are indicated in the following table (Table 4).

Table 4 Growth Stage（2001-2008）Regression of 7 year's average data

		Performance sub-dimension	
Resources factors		Profitability（ROA）	Growth（GOS）
Intangible assets	Financial resources	0.267**	0.230**
	Physical resources	0.241**	0.229**
Intangible assets	Intangible resources	0.334**	0.320**
Org & HR resources	Employee size	0.143*	0.172*
	Workforce input	0.129*	0.129*
	R^2	0.661	0.638
Note：*p<0.05;**p<0.01; The regression coefficient in the table is standardized.			

The above Table indicates the level of significance between corporate resources and the regression equation coefficients of profitability and growth. The regression coefficient value is standardized Beta value. R^2 is the rate variation of dependent variable with the total variation interpreted by the regression model.

Table 4 indicates that in the initial stage the firm grows rapidly. It needs normalization and regulation from all aspects. That is why almost all the coefficients in Table 4 become significant at 0.01 or 0.05 （organizational and human resources are relevantly weak.）. It is also indicated that during the growth stage of the new venture it is intangible resources which affect more to profitability of ROA. This is felt more obviously during our survey.

Meanwhile the results of normal regression also verify part of H1, of which the organizational and human resources factor is partly correlated. Besides，the scarcity of corporate resources are in positive correlation with the performance of the new venture during its growth stage (profitability and growth), and the significance is high.

Through section data regression of the resources factors to performance on an annual basis we received the regression results of how resources effect on corporate profitability（ROA）and growth（GOS）.The effective regression is shown below (Figure 2 and 3)：

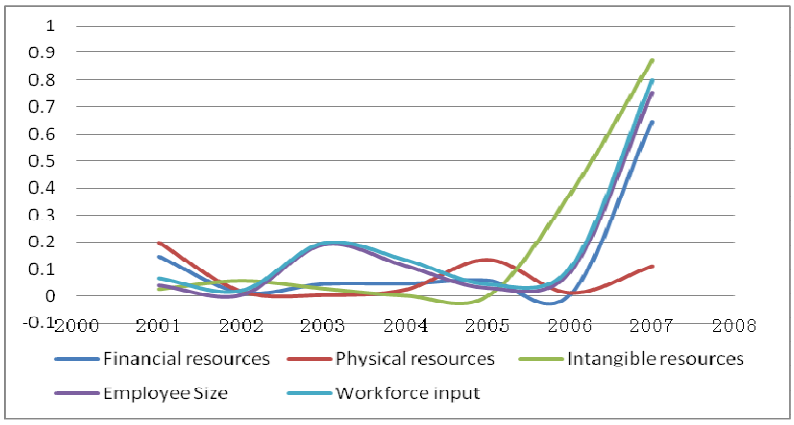

Figure 2. Resources effect to Profitability and Dynamic Capability Change

From the above figure we may see that the curve of employee size and that of the workforce input almost come into superposition. In the first few years they were fluctuating gently but came to a sudden rise in 2006. This proves the trueness of H2f; On the other hand intangible resources did not effect significantly in the first few years but also came to a rise in 2005. This disproved H2d. The reason for this disprove is that though the effects of intangible resources used in the forming period are decreasing (such as experience, reputation, network) the effects of other intangible resources, like intangible assets, popularity and Ad. costs are increasing. This results in the general growing effect tendency of resources to corporate profitability. The contribution of financial resource in the first stage did not change very much. It came to a quick rise after 2006; However, the contribution of physical resources kept on fluctuating all the time, showing an unstable tendency. This disproves H2b. it also reflected the changing tendency of corporate hard resources and soft resources. As the village firms develop, the importance of soft resources to corporate profitability increases rapidly, and tended to replace the most valuable hard resources in terms of contribution.

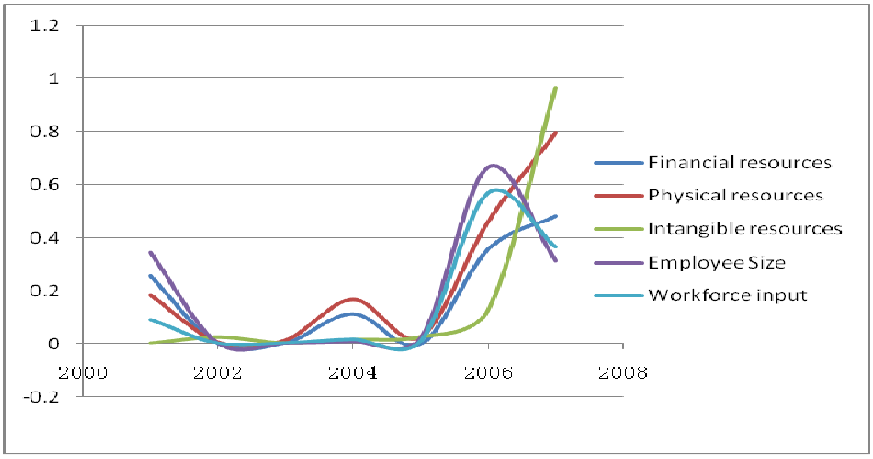

Figure3 .The affecting corporate resources and dynamic capabilities to corporate growth

From Figure 3 we can see that the contribution curves of financial resources and physical resources are very identical. This is a reflection of tangible resources impact, fluctuating from time to time, yet with an upward trend (close to a wave crest in 2008)). This disproves H2a. The contribution curves of employee size and workforce input looks identical, reflecting the effect of organizational and human resources: though fluctuating from time to time but in an upward trend

（came to a trough in 2008）, proving the significance of H2e. During the first stage intangible effect does not change much. But the effect hoiked from 2006, disproving H2c. Reasons for this disproving is that though the effect of intangible resources were decreasing (like experience, reputation, network and so on,) , the effect of some other intangible assets are increasing, which maintains the overall upward trend of its growth. As the village firms develop the importance of hard resources decreases and that of the soft resources increases relevantly.

Consequently, after regression of resources effects to corporate performance from year to year we can prove the trueness of H2e and H2f; whilst H2a、H2b、H2c、H2d are also disproved（for the reverse significance）.

5.4 Inclining correlation analysis on network resources

The positive correlation between scarcity of resources and corporate performance of the village firm is verified above (H1). In order to verify whether village firms within clusters are also affected by the cluster network resources we adopted inclining correlation analyses. The network resources are used as modulation variables to explore resources affection to corporate performance. The discoveries are illustrated in Tables 5.

Table 5. Descriptive statistics of variables and correlation analysis

Control Variables			ROA	GOS	Uncontrolled ROA	Uncontrolled GOS
Social Network resources	Employees	Correlation	.214*	.163*	.196	0.122
		Significance (2-tailed)	0.029	0.162	0.027	0.17
		df	127	127	127	127
	Physicals	Correlation	-0.082	-0.038	-0.068	-0.03
		Significance (2-tailed)	0.426	0.756	0.447	0.735
		df	127	127	127	127
	Intangible Resources	Correlation	.302**	.263**	0.331**	0.324**
		Significance (2-tailed)	0.287	0.207	0.709	0.962
		df	127	127	127	127
	Workforce input	Correlation	.251*	0.167	.203*	0.1
		Significance (2-tailed)	0.024	0.256	0.022	0.264
		df	127	127	127	127
	Financial resources	Correlation	0.072	0.087	0.088	0.096
		Significance (2-tailed)	0.335	0.281	0.327	0.285
		df	127	127	127	127

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

As is shown in the Above Table 5 that under the cluster network control correlation values of physical, intangible resources, financial resources to ROA is -0.038、0.263、0.087 respectively，less than that when network was not controlled. This means that network effects together with these factors upon ROA. This may disprove the trueness of H3a and H3c. On the other hand under the controlled situation the correlation value of employee size and workforce input to ROA is 0.214 and 0.251 respectively，more than that of uncontrolled situation. This means network resources become encumbrance to the effects of these factors. Thus it proves H3e.

Similarly, if using network resources in the cluster as controlled variable the correlation value of physical, intangible and financial resources to GOS is -0.038, 0.263 and 0.087 respectively，meaning that network resources are effecting together with these factors to GOS. Therefore, the disproval of H3b and H3d. On the contrary, the correlation of employee size and workforce input to GOS is 0.163 and 0.167 respectively，increased from the uncontrolled situation, indicating a joint effect of network resources and these factors, and thus true verification of H3f.

Therefore H3a, H3b, H3c, and H3d are proved not true，and H3e and H3f are true.

5.4 Conclusion of verification

In this research we have designed three major hypotheses and 18 sub-hypotheses, of which 10 have received support, 3 partially supported, and 5 not. To be illustrated in Tables 6.

Table 6. The Master Table of Verification Results

H1a	*The scarcity of tangible resources is in positive correlation with the initial growth of the village firms;*	Y
H1b	*The scarcity of tangible resources is in positive correlation with the corporate profitability*	Y
H1c	*The scarcity of intangible resources is in positive correlation with village firms growth;*	Y
H1d	*The scarcity of intangible resources is in positive correlation with village firms' profitability;*	Y
H1e	*The scarcity of organizational and human resources is in positive correlation with the village firms' growth;*	Partially
H1f	*The scarcity of organizational and human resources is in positive correlation with the village firms' profitability;*	Partially
H2a	*The influence of tangible resources to corporate growth decreases as time goes on;*	N
H2b	*The influence of tangible resources to corporate performance decreases as time goes on.*	N
H2c	*The influence of intangible resources to the corporate growth decrease as time goes on;*	N
H2d	*The influence of intangible resources to corporate profitability decreases as time goes on;*	N
H2e	*The influence of organizational and human resources to corporate growth increases as time goes on;*	Y
H2f	*The influence of organizational and human resources to corporate profitability increases as time goes on*	Y

H3a	*More effect from tangible resources in the cluster network to the corporate performance.*	N
H3b	*More effects from tangible resources in the cluster network to the corporate growth.*	N
H3c	*More effects from intangible resources in the cluster network to the corporate profitability.*	N
H3d	*More effects from intangible resources in the cluster network to the corporate growth.*	N
H3e	*More effects from organizational and human resources in the cluster network to the corporate profitability.*	Y
H3f	*More effects from organizational and human resources in the cluster network to the corporate growth.*	Y

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5. Conclusion and discussion

Conclusion 1： The empirical study has proved that during village firms' growing period: Scarcity of tangible and intangible resources are correlated significantly with corporate performance（H1a～H1d）. Although scarcity of organizational and human resources is in positive correlation with the corporate growth and profitability（H1e、H1f）, the correlation is not very significant. This indicates that the tangible financial and physical resources have more significance to profitability and growth. It is further discovered in our survey that the most important resources in the cluster are the being standardized workshops and machines without which the production and sales will soon get into a hobble. Moreover, since cutlery has a considerable low technology and low added value it has a lower requirement for organizational and human resources during its growth. This interprets why these resources are not so significant to profitability.

The survey also discovers the significance of intangible resources during the growing stage. Many firms in this period have accumulated necessary resources and capabilities. Therefore, they increased investment in R & D and advertising, paying more attention to the development of the special technology that they need. Entrepreneurs also realized the importance of heterogeneity resources without which they would be out of such a traditional cluster. In the 2008 financial crisis, many firms bankrupted due to the lack of intangible resources.

Conclusion 2： The research again demonstrates that the significance of various resources in village firms to its performance shifts as time goes on. This dynamic movement is as follows:

Significance on corporate profitability: the effect of the financial resources fluctuates without certain trend（H2b disproved）; effect of intangible resources increases as a whole（H2d disproved）; the effect of organizational and human resources fluctuate, but in a upward trend（H2f proved positive）.

Contribution to the corporate growth: the contribution of tangible resources is shown in a vibrating upward and increasing manner. In 2008 the effect came to the wave crest （H2a disproved）; so is the contribution of organizational and human resources to growth. In 2008, it came to a trough（H2e proved positive）; On the other hand the contribution of intangible resources to corporate growth makes a little change in the initial stage but came to a rapid rise

later on and turned into the leading affecting factor（H2c disproved）。

Another conclusion can be also reached，that is as the new venture grows, all the contribution from tangible, intangible, organizational and human resources to corporate performance increases. Moreover, the contribution from intangible resources increases much faster and finally replaced the other resources to become the leading affecting factor.

It can be further interpreted that during the initial stage entrepreneurs pay more attention to the business environment, customer needs and the searching for more business opportunities. This reflects influence of market orientation. Our survey demonstrates that most firms within the clusters are established in response to both domestic and foreign demanding orders. Therefore their existence heavily depends on the orders they receive from customers. This sort of sensitivity to market orientation is very important to the corporate performance (growth and profitability). In addition, Yangjiang cutlery is within a cluster. The external social network is a mighty force which cannot be neglected. For example, possible delay of payment to the supplier if the relation is close, production and market of some big deals can be jointly shared between firms in the cluster, better relationship with the government will have favorable conditions or priority in approvals and land or facilities, good relations with the banks will enable the firm to have an access for easier loading and again for easy recruiting of necessary technical expertise, etc. These advantages are as an amulet to fresh village firms, not only enable them for more survival possibility but also for faster growth and better performance. Therefore, the sensitivity to market orientation and social network capability are, like tangible resources, play special roles for village firms' performance.

Moreover, village firms tend to have liability of newness. In the beginning stage they pay less attention to internal management and learning ability. They also lack the ability of communication and integration. No special time and energy is paid to employee training and institutional system setting. A phenomenon is discovered from our survey that it is common for a village firms to gain large sales in the initial stage but who has a disastrous internal management, poor learning and absorbing ability, inefficient internal communication and weak integration ability. Corporate culture and core competence is not formulated. Therefore, like intangible, organizational and human resources, organizational absorbing and learning capability, communication and integrating capability are relevantly less important to corporate performance.

However, with the growth of the firm, more and more normalization is brought in. The firm, then, began to shift its focus to systemization, normalization, sustainability and internal management. Because of this focus shift the organizational learning and absorbing capability, internal communication and integration capability caused more attention. This is the major reason for different performances of firms in the same cluster. When the learning, communication and integrating capabilities increase the contribution of sensibility of market and social network to performance began to decrease.

Conclusion 3: This empirical research also indicates that when network within the cluster exert effects the correlation of tangible and intangible resources to ROA and GOS decreases, but the correlation of organizational and human resources to ROA and GOS increases. This interprets that the network within the cluster reinforced the effects of tangible and intangible resources but constrained that of organizational and human resources. It may be the reason that the internal environment of the cluster provided some protection to the firms, such as cluster brand, infrastructure, common channels for supply and sales, etc. Therefore firms within the cluster

could enjoy more tangible and intangible resources than isolated ones. However, in the cluster environment, firms of homogeneous nature need identical technicians, which may result in workforce scarcity. Human resources competition can also be very intense. Thus, cluster environment may constrain the effects of organizational and human resources.

In the mean while, it is also discovered from this research that though the cluster environment causes correlation changes between tangible, intangible, organizational and human resources to ROA and GOS, these changes are very weak and cannot turn the strong factors into weaker ones, nor change them from positive into negative（with the only exception of the correlation between organizational and human resources to GOS which became weaker）. Therefore, the effect of network resources in the cluster to corporate performance is limited. It can be concluded that how to enhance the functions of cluster network becomes realistic and significant for increasing the "Made in China" quality.

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