



Research on the Core Competitiveness of Small and Medium-Sized Enterprises Based on Nvivo Text Mining Technology - Data from China

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ABSTRACT

How to obtain and maintain competitive advantage is one of the important topics in strategic management research. Resource basic theory is an important analysis angle of strategic management. Understanding enterprises from the perspective of resources and capabilities can help enterprises to form more lasting competitive advantages. Based on the grounded theory, this paper studies the lighting enterprises in Guzhen town of Zhongshan city, deconstructs the resources from the perspective of the basic theory of resources, and explores the kinds of resources that affect the competitive advantages of enterprises. The research shows that capital resources and relationship resources are important factors that affect the competitive advantages of SMEs.

Keywords: *small and medium-sized enterprises; resource-based view; Nvivo text mining technology; grounded theory*

1. INTRODUCTION

1.1 Enterprise Practice Background

Small and medium-sized enterprises are an important force in my country's national economic and social development, and they play an irreplaceable role in promoting economic development, expanding employment, promoting scientific and technological innovation, and meeting the diversified needs of consumers. Guangdong is the forefront of China's economic development. Small and medium-sized enterprises have exceeded the one million mark, accounting for more than 99.8% of the total number of enterprises in the province (He Qiaoyun et al., 2013)^[1]. Flexible organizational structure and quick response to market demand have always been the basis for the competitive advantage of SMEs, but due to the lack of corresponding standardization in their management, the lack of long-term development thinking by enterprise managers, and the uncertainty of the return on investment in management resources and other factors Influence, will eventually lead to the lack of sustainable

development of SMEs. Taking technology SMEs as an example, less than 10% of them survive for more than 5 years (Zhu Yanxin, 2012)^[2]. Therefore, it is of great practical significance for enterprises to discuss how to obtain and maintain their competitive advantages for small and medium-sized enterprises.

1.2 Theoretical background

In the existing literature, the enterprises' need for the function of strategic management, "the complexity of the environment", "dynamic", "the speed of change is getting faster and faster" and other words to describe the external environment appear the most frequently of. In this environment, the competition among enterprises is mainly manifested in the viewpoint of "quality and cost of products and services" that cannot fully reflect the characteristics of today's competition (Li Yuan, 2007)^[3]. Therefore, in the changing external environment, how to obtain a competitive advantage is an important subject of strategic management research.

According to the research report of the Chinese

Academy of Social Sciences on "The Role of Small and Medium-sized Enterprises in Financial Crisis Recovery", 40% of small and medium-sized enterprises have closed down in the 2008 financial crisis, 40% of enterprises are currently on the verge of life and death, and only 20% of enterprises were not affected by the financial crisis (Wang Rui, 2009) ^[4]. From this, we can see that the changes in the external environment faced by SMEs are more turbulent, and it is more in line with the research theme of strategic management to discuss the acquisition and maintenance of corporate competitive advantages in this context. It can enrich the theory of strategic management.

Therefore, discussing the strategic management of small and medium-sized enterprises can not only help enterprises to solve practical problems, but also enrich the theoretical system of strategic management. From the perspective of resource-based theory, this paper explores how SMEs can gain competitive advantage.

2. THEORETICAL REVIEW

2.1 Resources

Penrose in 1959. When she answered why enterprises were diversified, she believed that those successful enterprises were driven by certain uniqueness. Wernerfelt (1984) ^[5] developed Penrose's theory and proposed the concept of resource-based-view for the first time, and defined this uniqueness as a resource, thinking that compared with the traditional product concept, observing enterprises from the perspective of resources. Barney (1990) ^[6] divided organizational resources into tangible assets, intangible assets and organizational capabilities.

2.2 Ability

Grant (1991)^[7] argues that defining an enterprise by what it is capable of doing can provide a more lasting analytical basis for corporate strategy formulation than defining what it needs to do. The products and services provided by enterprises to consumers are only the carrier to meet the needs of consumers, and the needs of consumers will basically remain stable, but the carrier to meet the needs is constantly changing. Such as the consumer's demand for the function of transportation, the carrier can have cars, trains, ships, high-speed rail and planes. If the enterprise only defines the enterprise by the product, it will often result in insufficient analysis of the competitive environment, ignoring the existence of competitors, and the formulated strategy will also be greatly discounted.

What exactly is ability, organizational ability rather than personal ability, organizational ability is not the accumulation of simple personal ability. Hamel (1990)^[8] gave the answer, he believed that the core

competitiveness of a company refers to the accumulated knowledge in the organization, especially the knowledge about how to coordinate production skills and organizational technology. Why does this knowledge affect the competitive advantage of an enterprise? According to Polanyi's classification of knowledge, tacit knowledge or tacit knowledge is more likely to form an enterprise's competitive advantage. Because for the tacit knowledge possessed by the organization, sometimes even employees within the organization do not know what it is, let alone competitors, there is no problem of reproducibility, which will eventually lead to differences between enterprises.

When more and more words such as dynamism, hyper competition, complexity and uncertainty are used to describe the external environment faced by enterprises, it shows that enterprises are more and more difficult to make strategic decisions. Old capabilities become obsolete or prevent the emergence of new capabilities. Leonard (1992) ^[9] pointed out that once the core competence of an enterprise is formed, the problem of core rigidity often occurs. This core rigidity will hinder the acquisition of competitive advantages of enterprises. Inspired by this, Teece (1994) ^[10] proposed the concept of dynamic capability, arguing that dynamic capability refers to the integration, construction, or reconfigure of an enterprise in response to a rapidly changing external environment. The ability of internal and external competencies, namely the dynamic ability, is the ability to change the ability.

To sum up, the resource-based theory is an important theoretical basis for enterprises to make strategic decisions, and provides an indispensable analytical perspective for strategic analysis.

3. RESEARCH DESIGN AND METHODS

3.1 Research objects

This article takes the lighting industry in Guzhen Town, Zhongshan City as the research object. The lighting industry is the leading industry in the ancient town. After nearly 30 years of cultivation and development, it has become a lighting industry cluster with an annual output value of over 100 billion yuan, and has become one of the world's largest lighting professional markets. One of them is the largest professional lighting production base and wholesale market in China. Selecting enterprises in the same industry as the research object can eliminate the impact of industrial opportunities on the competitive advantage of enterprises, and can better obtain the motivations that affect the competitive advantage of enterprises.

This study visited 18 enterprises in Guzhen Town through interviews, among which 4 enterprises were interviewed in depth.

3.2 Research methods

The case study method is an important research method in the field of enterprise management, but its rigor and scientificity of data analysis has been questioned. It can give the researcher the opportunity to obtain the interviewee's explanation and explanation of the relevant phenomenon, and can achieve full communication through multiple feedbacks in the process of investigation, thus ensuring the authenticity, validity and richness of the data obtained by the researcher.

Grounded theory was developed by Glaser Barney and Anselm Strauss in 1976. It is a comparative scientific qualitative research method, which refers to the discovery and development of theories through systematic data collection and analysis. Strauss & Corbin believes that grounded theory emphasizes the development of theory, and the theory is rooted in real-world data collected, and the continuous interaction of data and analysis.

Grounded theory believes that this research method is suitable for those fields where the existing theoretical system is not very complete and it is difficult to effectively explain practical phenomena, or it can be said that there are gaps in theory and some new phenomena have emerged (Li Zhigang, 2007)^[11].

In the theoretical study of strategic management, some scholars once believed that it is tautology to analyze the mechanism of enterprises to obtain competitive advantages from the perspective of resources, and the value of resources to enterprises' competitive advantages is self-evident. However, for enterprises at the start-up stage, they still need to know which resources contribute more to the value of the enterprise. Therefore, data analysis methods based on grounded theory can more easily help unsuccessful enterprises obtain the types of resources of successful

enterprises. On the other hand, using quantitative methods to define resources is difficult to operate.

4. DATA PROCESSING

4.1 Arrangement of interview data

In the process of data processing, the text data obtained from the interviewed enterprises are coded and classified. Finally, a segment of the enterprise's resource and capability factors is formed.

4.2 Data Abbreviation and Conceptualization

4.2.1. Data abbreviation

Now code the segment of this interview. The coding rules are as follows: unit- number. For example, code a - 1 means "the segment with the total number of 1 from company A ". Concentrate and preserve the original paragraphs as much as possible, so that the information can reflect the mentality and consciousness of the interviewee as much as possible. Finally, each paragraph is explained to condense the initial concept.

According to the method shown above, this study abbreviated 151 paragraphs, and condensed them into 15 initial concepts, namely: capital, equipment resources, brand resources, agency resources, social resources, and human resources, technical resources, cultural concepts, organizational decision-making, technical ability, market ability, adaptability, adaptability, financial management ability, entrepreneurial ability, etc.

4.2.2 Conceptualization

The above 15 initial concepts are grouped into a category with similar meanings, so as to complete the last step of open coding. The categorization process of concepts is shown in Table 1:

Table 1 Examples of conceptual categorization process

Classification number	total serial number	initial concept	category
A	1	assets	funds
B	3	Liquidity	
...	
A	7	machine	Technical equipment
B	9	factory equipment	
C	11	production line	
...	
A	13	Reputation	brand
B	15	loyalty	

...	Organizational management
A	14	efficiency	
B	twenty three	normalize	
...	human capital
A	10	business personnel	
B	34	Worker	
C	Entrepreneurial talent
A	twenty one	leadership	
B	33	strategy	
C	community resource
A	31	agent	
B	26	relation	
C	

Through the above steps, the open coding of the interview text was completed, and 15 initial concepts and 7 categories were extracted.

4.3 Spindle coding

Using the typical model of "causal condition-phenomenon-context-mediation

condition-action / interaction strategy-result", 2 main categories were extracted, and 7 categories and 15 initial concepts were used to explain the two main categories through open coding. category. The main categories obtained in this study are "enterprise resources" and "enterprise capabilities". The main categories are constructed from the canonical models shown in Tables2 and3 below:

Table2. Exemplary model of "enterprise resources"

Main Category: Enterprise Resources			
causal condition	Competitive environment, strategy formation	Phenomenon	The understanding of the existing resources of the enterprise is not enough, and the enterprise resources cannot be well integrated
context	Business Performance	intermediary condition	How to use resources and corporate performance
Action / Interaction Strategy	Management intervention and training	result	What is Enterprise Resource and How to Use Enterprise Resource

Table3. Exemplary model of "corporate capabilities"

Main Category: Enterprise Capability			
causal condition	Diversity of market environment, static nature of resources, dynamic nature of corporate strategy	Phenomenon	Uncertainty about the company's strategic development direction, Dynamic requirements for resource integration
context	The stativity of resources and the dynamism of capabilities	intermediary condition	Work goals, common interests, performance

Action / Interaction Strategy	Management intervention and training	result	Resources are tapped and fully utilized, and the competitive advantage of enterprises is fully tapped
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4.4 Selective Coding

Through the two steps of open coding and main axis coding, two main categories are obtained, namely "enterprise resources" and "enterprise capabilities". In selective coding, the connotation of the main categories is first analyzed and explained.

Enterprise resources refer to the collection of various production factors that the enterprise owns, controls or can use in the process of providing products or services to the society and can help achieve the business objectives of the enterprise. Corporate resources should be understood from a broader perspective everything material and immaterial that can be translated into support, help, and advantage is a corporate resource.

Enterprise capability refers to the dynamism of capabilities and the ability to combine resources,

including management, innovation, risk taking, and application analysis. Based on this, capability is defined as: enterprise capability refers to the collection of all elements that an enterprise can utilize in whole or in part and can create value for customers. It should be noted that in addition to the various resource elements owned by the enterprise, enterprise resources also include the resources and public resources of "cooperative" organizations that are not owned by the enterprise but can be used by the enterprise, which we call marginal resources.

Through the above analysis, this study believes that the two main categories of "enterprise resources" and "enterprise capabilities" can be used as core categories, which ultimately affect the formation of enterprise competitive advantage.

Table 4 Grounded Theory Qualitative Analysis Table

selective coding	Spindle code	open coding	frequency of mention
Enterprise resources	funds	Corporate capital is the blood of an enterprise	13
		Believing that a business without capital cannot develop	11
	Device resources	Enterprises have enough equipment to meet production needs	5
		The company has high-end equipment, which can meet the flexible needs of customers	2
	Brand resources	The brand has a certain influence since its inception	2
		Efforts are being made to expand corporate influence	4
	Agency Resources	The company is actively expanding agents	4
		The company has a perfect agent channel	4
	community resource	The company has accumulated certain social resources since its establishment	6
		Since the operation of the enterprise, it has accumulated a lot of contacts	9
	Human resources	The company's management is very good and decisive	5
		The company has many employees and sufficient	4

		labor force		
		Company personnel are relatively stable	2	
		Enterprises with many employees, labor-intensive, low cost	4	
	technical resources	More than 50 professional and technical management personnel, strong technology	2	
		Certain technical equipment of the company	3	
		The company has certain patent resources	3	
	cultural concept	Market-oriented, good quality, trustworthy	1	
		Satisfying customers is the driving force for our business growth	2	
	Enterprise capability	organizational decision	The market competition is fierce, and the management decision-making is decisive	7
			High management efficiency, able to meet customer delivery time requirements	3
technical skills		Enterprises can meet the individual needs of customers	3	
market power		Accurate positioning of enterprises to the market	2	
		Ability to quickly integrate market resources	7	
		The company's sales ability is good	1	
adaptability		Ability to follow the pace of the market as the market changes	3	
Resilience		Ability to quickly adjust corporate strategy in the event of a wrong decision	2	
financial management ability		The company has certain financial management capabilities	3	
Entrepreneurship		Business leaders have extraordinary leadership charisma	10	

5. CONCLUSIONS

Through the data method based on grounded theory, it is shown that enterprise resources and enterprise capabilities are important motivations for enterprises to obtain competitive advantages. The first is the funding resource, which is mentioned the most frequently. At present, my country's financial market system is not perfect. It is much more difficult for small and medium-sized enterprises to obtain financing and loans than large enterprises and state-owned enterprises. Funds have become an important bottleneck restricting the survival and development of small and medium-sized enterprises. The conclusions of this study are consistent with other scholars' researches on the competitive advantage of SMEs, which mostly focus on the financing environment.

The second is relational resources. My country is a human society. "Relationship" and "face" are not only the core concepts that management scholars are concerned about in conducting localized management research, but also the core resources that business practitioners care about. Having "relationship" is better than improving the internal the management level can bring higher value to the enterprise.

The last is entrepreneurial ability. The personal leadership charisma of entrepreneurs has a key impact on the competitive advantage of small and medium-sized enterprises. This conclusion is consistent with the actual situation. Small and medium-sized enterprises are mostly formed by the unique ability of the founder, lack of planned company operation management, and the competitive advantage of small and medium-sized enterprises changes due to the change

of the ability of enterprise leaders.

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