

---

# INTERNATIONAL JOURNAL OF SCIENCE ARTS AND COMMERCE

---

## **The Influence of Industrial Clusters on the Competitiveness of Chemical Production Enterprises in Zhejiang Province**

**Fang Baihong**

(Asia Metropolitan University)

---

### **ABSTRACT**

*Enterprise competitiveness is a key indicator for evaluating an enterprise. For an enterprise, competitiveness covers the company's operating ability, profitability, and management ability, and is concentrated in the aspects of enterprise management, profitability, culture, sustainable development, and development concepts. How to promote the improvement of enterprise competitiveness is an important problem facing China at present. The purpose is to use the cluster effect to promote regional economic growth. Industrial cluster model to improve the competitiveness of enterprises. It can be said that industrial clusters profoundly affect the corporate structure and economic growth. Under such conditions, industrial clusters have a significant reflection on improving the strength of agglomerations and regions. Promoting the development of industrial clusters has become the main strategic task of promoting economic growth, improving and protecting people's livelihood, and strengthening social stability. Therefore, how to use these factors and how to enhance the role of these factors, so that industrial clusters can become a booster for the competitiveness of enterprises, has become an important issue for the government, enterprises and academia to think together. This paper analyzes this issue through a series of studies and target Zhejiang chemical production enterprises to help enterprises fully understand the importance and mechanism of these factors, and assist companies to extract their essence and remove their dross, thereby promoting Improvement of the enterprise's own competitiveness. As far as the current situation is concerned, the cultivation and growth of the Zhejiang chemical industry cluster requires the establishment and improvement of a policy system that supports enterprises and the establishment of a good cooperation and communication*

*mechanism. Strong development ability can occupy a solid market position in the future market.*

**Keywords: chemical industry; industrial cluster; enterprise competitiveness; empirical analysis**

## INTRODUCTION

### Research Background

The rapid development of the world economy has promoted the development of industrial clusters, and has a wide range and a large scale (Li Pan. 2018; Zhonghua Li, Boling Liu, & Cuillian Zhang. 2018; Luo Youhua, & Liu Tieming. 2019). The formation of industrial clusters promotes economic development from two levels, namely the regional economic level and the national economic development level. From the perspective of the development of international industrial clusters, some old industrial areas have gradually declined in the global competition since the 1970s. When many voices lamenting the inevitable end of the old industrial areas continue to sound, people find that in some areas. The sudden emergence of old industrial areas shows unique competitive advantages (Li Xinfeng & Zhang Xiaoyan, 2019; Susur, Hidalgo & Chiaroni, 2019).

Investigating the reason, it is found that a distinctive form of regional industrial organization appears in these areas-industrial clusters. "Cluster" belongs to the field of biology, which refers to bringing individuals together under the influence of various factors to form a cluster. If many companies are gathered in a specific space, it is also called an industrial cluster (Li Pan. 2018; Luo Youhua, & Liu Tieming. 2019; Wang & Tong, 2019). With the increasing development of the market economy, the market competition relationship is also intensifying. Therefore, companies wanting to gain a foothold in the development of the market economy need not only to explore competitive advantages within their own value chain, but also to build a good external connection relationship. To obtain the common advantages brought by the cooperation between enterprises from industrial clusters.

There are many factors that affect the level of regional competitiveness, including the level of corporate innovation, corporate industrial structure, and government influence. The industrial cluster, which is regarded as an intermediary, is characterized by the correlation between the two major media, the enterprise and the market (Li Weimin, 2014; Li Congdong, Chen Xiaofeng, Gao Lianyi, LICong-dong, CHENXiao-feng, & GAOLian-yi. 2015; Li Xianbo, Li Tongsheng, Zheng Yanxia, &

Wang Zhenzhong, 2019). Certain correlation patterns make the characteristic dimensions of industrial clusters manifest from four aspects, including: socio-cultural dimensions, external economic dimensions, members' internal correlation dimensions, and geographical proximity dimensions.

First, the formation of culture under industrial clusters is the product of historical development, which is different and special. Industrial clusters have unique cultural dimensions. For example, the cultural characteristics of the traditional advantages of the Yongkang region in China are the “Hometown of One Hundred Workers”, and the cultural characteristics of the heritage and skills displayed in the Ningbo area are the “Bong Tailors”. The cultural characteristics reflected in the historical development of Wenzhou It is "Yongjia Culture". The traditional characteristics of the above regions will undoubtedly show the cultural characteristics of Zhejiang industrial clusters. The cultural characteristics of these three regions have enhanced the characteristics of cultural cross-correlation and interactive correlation among enterprises in this cluster.

Second, the second major feature of industrial clusters is the dimensions of internal associations among members, which mainly include policy institutions, research institutions, service institutions, and manufacturing institutions. Because the internal structure has the characteristics of networking, and it is connected with multiple institutions, the interaction between them has become a certain scale of internal relationship, which reduces the cost of internal association of the enterprise and has a certain degree of impact on the transaction cost of the enterprise ( Liu Jiejiao, 2012; Ju Rongliang; 2019).

Third, the third major characteristic of industrial clusters is the external economic dimension. In the process of industrial clusters, cultures will affect each other and manage internal members in association. In many aspects, corporate industrial clusters show significant characteristics, such as innovative technological capabilities, R & D knowledge capabilities, and information acquisition capabilities. All in all, the industrial clusters exhibit corresponding externalities. This feature is mainly manifested in spillover technology, shared knowledge, and access to common resources (Liu Manfeng, 2011; Zong Gang, & Ma Ning, 2012; Li Erling, & Wei Lixia, 2019; Xiaoyuan, Kewei, Dan, Yonghui & Yuan, 2019). For example, in a pharmaceutical manufacturing industry, where technology, talents, and knowledge are shared within its cluster, its economic externalities are clearly reflected in the corresponding results that have spillover effects.

Fourth, the geographical proximity dimension, which is one of the foundations of the feature. Its geographical proximity is reflected in the industrial cluster process of

some enterprises, which uses multiple channels to share information and knowledge. Geographical proximity enhances the advantages of related companies in sharing information, transferring knowledge, and co-creating technologies (Lin & Wang, 2019; Giuliani, Balland & Matta, 2019). For example, because of its geographical proximity, Zhangjiang's pharmaceutical manufacturing industry has lower industrial cluster costs compared to other Shanghai pharmaceutical industries.

Since entering the 21st century, China's industrial clusters have developed rapidly. Through policy forces, local governments have planned and attracted social enterprises to gather in a specific regional space, forming various industrial clusters, regional markets, commodity distribution centers, research and development bases, and so on. As a rising manufacturing country, China has been far ahead in the value added of its manufacturing products. The strength of our country can no longer be questioned by any country. This is the basic guarantee for China to realize the construction of a strong country. "Made in China" is no longer the original "Made in China", but has become a globally recognized world factory. The outstanding advantage of China's manufacturing industry is that it has a complete range of industries and a complete industrial chain. It is not just a technological improvement that can win a competitive advantage, but an overall transformation and upgrade.

The development of industrial clusters is conducive to technological innovation, to improving the competitiveness of enterprises, to attracting funds and increasing profit margins, and will ultimately be beneficial to regional economic development. With the development of economic development in Zhejiang Province, various types of industries have been attracted to gather there, and an industrial cluster with certain characteristics has gradually formed. It has become an important economic growth point in the province, and a number of outstanding companies have also emerged. Companies, such as Zhejiang Lihe Group Co., Ltd. Lihe enterprise keeps innovating and thinking, adheres to standardized management, establishes a set of scientific, rigorous and systematic management system and matching system processes, and introduces the information management system in an all-round way. At present, the annual comprehensive production capacity is over 10,000 tons It has a city-level R & D technology center, has advanced and perfect testing facilities, strict management and quality assurance system, and has been rated as an international quality credit "AAA" by the China Product Quality Association."Enterprise, Bank Credit "AAA"enterprise.

This also brings certain opportunities and challenges to the improvement of the competitiveness of chemical production enterprises in Zhejiang Province. How to improve the competitiveness of this enterprise through the industrial cluster model has

become the focus of this paper. Based on the related theories of industrial clusters, this paper constructs a system framework for analysis. Zhejiang Chemical Production Enterprise as a research object, this paper analyzes the development of the cluster where the chemical production enterprises in Zhejiang Province are located, and raises issues such as how industrial clusters affect the competitiveness of enterprises, how to exert the influence of industrial clusters, and how to improve the competitiveness of enterprises in the cluster. Strive to provide a reference for the government to formulate industrial cluster development policies, and also provide a basis for enterprise development, and provide guidance value for improving enterprise competitiveness.

### **Problem Statement**

(1) The development of industrial clusters is one of China's most advantageous industries. How to promote the long-term and stable development of industrial clusters is an important issue.

(2) Some industrial cluster areas and agglomerations in China have problems such as small scale, weak accumulation of advanced factors, and lack of independent innovation capabilities. The scale advantages and external economics of industrial clusters cannot be fully utilized, which will seriously restrict regional competitiveness. The promotion will affect the improvement of the international competitiveness of enterprises and the industrial clusters in which they are located.

(3) China's research on industrial clusters has just begun. The theory of how to combine the advantages of industrial clusters with the country's national conditions and the development of the times is very important. The theoretical connotation and practical value of cluster development need to be clarified.

(4) How to recognize the positive influence of the government on the development of industrial clusters, and how to better coordinate the market's leading role with the government's service role, in-depth theoretical thinking and research are imminent.

### **Research Questions**

According to a large number of studies, it is known that accelerating and deepening industrial clusters can increase the economy and improve the quality of production of enterprises, and also affect the regional economic strength and market competitiveness. It is precisely because of such a development situation that during the rapid development of China's economy, one of the main core development

contents of industrial clusters is to increase the speed of forming clusters in the region while increasing the scale of agglomeration.

Based on this, the significance of this research is analyzed. The research status of domestic and foreign industrial clusters and the development of organizational competitiveness are elaborated. Next, the research method and related technical route of this paper are explained, and the basic structure arrangement is clarified, which lays the research foundation for the later research. The related theoretical foundations of industrial clusters and the competitiveness of enterprises in the cluster are fully discussed. First, the meaning, types and related characteristics of industrial clusters are introduced, then the life cycle and growth process of industrial clusters are analyzed, and the analysis of industrial clusters on enterprises. The impact of competitiveness, including the cost advantage of the company, market demand, corporate innovation capabilities and core capabilities, etc. From a qualitative perspective, it does not directly reflect the acceleration of current industrial clusters in the deep-seated reasons for the simultaneous improvement of regional competitiveness.

### **Research objectives**

(1) Through case studies, summing up the experience and enlightenment of the development of industrial clusters will help Chinese enterprises to further their strengths and avoid weaknesses. Strive to promote the competitiveness of enterprises in industrial clusters, and further promote the functional positioning and important value of government and related departments in the development of industrial clusters.

(2) Study the positive impact of industrial clusters in China's national conditions, give play to the leading role of the market, handle the relationship between the market and the government, and better play the role of the government in promoting.

### **Literature Review**

Enterprise competitiveness is a very rich concept. The resources and capabilities of an enterprise and its external environment determine the competitiveness of an enterprise (Gang Li. 2014; Li Congdong, Chen Xiaofeng, Gao Lianyi, LICong-dong, CHENXiao-feng, & GAOLian-yi. 2015; Liu Ping. 2017; Weidong Li, 2019). Therefore, to define the competitiveness of an enterprise, we need to integrate all these factors, which is generally defined as: an enterprise can make full use of its own internal resources, such as capital, technology, management mode, etc., give full play

to its own capabilities in all aspects, at the same time, it can adapt to the changing external environment, handle the relationship between the enterprise and the government, and continuously create high-quality products, so as to better meet the market demand than other competitors. The ability to ask. As shown in Table 2-1 below, it is the explanation of some scholars on the concept of enterprise competitiveness:

Table 2-1 Definition of Competitiveness of Domestic and Foreign Enterprises

Researcher	Conceptual definition
M.Porter 1985	The value that a business creates for its customers beyond its costs
Cohen,1989	A company's ability to consistently make profits
G.Hamel, 1990	The ability of a company to create value for customers and the market
WEF,1994	The ability of one business to create more wealth than another
G.M.Fish,1995	It means that the enterprise has a stronger ability to acquire, create, learn and apply knowledge than its competitors.
Zhang Zhiqiang et al., 1999	The ability of a business to create profits for the business while meeting consumer demand
Fan Xiaoping, 1999	The market share and business area of the enterprise, and the ability of the company to increase its operating efficiency
Wang Boan et al., 2002	Enterprise competitiveness refers to the ability of an enterprise to survive and develop
Luo Guoxun, 2009	The ability of the company to adapt to the outside circumstances and to use the outside circumstances to achieve positive growth

To sum up, we find that corporate competitiveness is a broad concept. According to different research perspectives, its definition is also different. With the continuous development of the competitive market, the research angles of scholars from various countries will change according to the characteristics of the development of the times. From the 1980s to the present, the research on the source of corporate competitiveness has roughly gone through a process of returning to the company's own capabilities from the inside to the outside of the company. In fact, the competitiveness of enterprises is the result of mutual influence and mutual promotion between the internal resources and outside circumstances of the enterprise. Resources are the foundation of enterprise development, and environment is the soil on which enterprises depend (Li Youjun, & Kang Xilan, 2012; Li, Han, & Shen, 2019).

Therefore, if an enterprise wants to obtain sustainable market competitiveness, it needs to make reasonable use of its internal and external resources, handle the relationship between the two, and jointly promote the long-term development of the enterprise.

## **Preliminary Research on Enterprise Competitiveness**

### **i. Summary of foreign research**

(1) Research on enterprise competitiveness based on industry analysis and strategic positioning. The main representative is Professor Porter of Harvard Business School. Professor Porter has published "Competitive Strategy", "Competitive Advantage", and "National Competitive Advantage". His theory of corporate competitiveness is mainly composed of three core theories: corporate competition positioning theory, basic competitive strategy theory, and value chain theory. Porter mainly analyzes the competitiveness of enterprises from the perspective of industrial development (Liu Manfeng, 2011; Öz, Ö, 2019; Thomas, 2019). It believes that enterprises must choose long-term profitable industries in order to obtain competitive advantages. At the same time, it has proposed three strategies of total cost leadership, differentiation and focus to enable enterprises to gain competitiveness. Porter believes that two aspects need to be considered in establishing corporate competitiveness: one is the choice of industry and the positioning of the market. Industry choice can prevent enterprises from entering industries without development prospects, and market positioning can enable enterprises to more clearly understand their position and capabilities. The second is strategic choice.

(2) Research on the competitiveness of enterprises based on the view of resources. Different from Porter, the research on enterprise competitiveness based on the view of resources has shifted attention from the outside of the enterprise to the inside of the enterprise, and from the industrial environment and strategic positioning of the enterprise to enterprise resources and capabilities. Wernerfelt and others believe that researching the competitiveness of enterprises must solve two problems: one is how to obtain a competitive advantage; the other is how to maintain a competitive advantage. At the same time, the theory of enterprise competitiveness based on the view of resources believes that the assets, capabilities, organizational processes, nature, information, and knowledge of an enterprise can be considered as a whole resource and divided into three categories: physical capital resources, human capital Resources, organizational capital resources. Wernerfelt (1984) and Barney (1991) believe that because the resources and capabilities of enterprises are heterogeneous, it is this heterogeneity that determines the differences in performance of enterprises. Tainan

proposed in 1994 that when this resource has four characteristics—one is rare, difficult to imitate, difficult to replace, and can create value, it becomes a “strategic resource”.

At the same time, the competitiveness of enterprises can be summarized as the following basic elements: (1) the essence of competitiveness of enterprises is the comparative productivity between an enterprise and other enterprises; (2) the industries involved in competitiveness of enterprises are in the competitive market and are open; (3) the competitiveness of enterprises has the characteristics of sustainability and non contingency; (4) the competitiveness of enterprises is reflected in customer value(Including market share and customer satisfaction) and the enterprise's own interests (including profit and development); (5) these factors also affect each other, the relationship is complex.

Enterprise competitiveness is not only an external "excellence", but also an internal ability to support external excellence. This internal support is more important than external excellence (Liu Ping, 2017; Weidong Li, 2019). The competitive edge of the enterprise market is actually the external manifestation of the internal support of the enterprise. Enterprise competitiveness is based on the internal support of the company's own advantages and competitive resources in the past and present markets showing excellent performance. At the same time, the competitiveness of an enterprise is also a kind of its own capabilities. It includes three aspects of the capability resource elements, capability system and mechanism, and capability status. Some scholars believe that the competitiveness of an enterprise comes from the resources owned by the enterprise. Each enterprise has its own resources, but the resources of each enterprise are different. The resources that an enterprise has are heterogeneous, but it is because of the Those subtle and sometimes decisive differences exist between them, thereby revealing the internal reasons that cause the competitive position of the company to change.

### **Independent variable : Cultural factors**

The so-called "culture" is relative to all human beings in economic and political termsMental activity and product. Is very extensive and most humaneConcept, simply put, culture is the collective name of the elements of human life in the region:Clothing, crown, culture, objects, food, housing, travel, etc. For any company, it has its own corporate culture. Corporate culture, or organizational culture, is an organization's unique cultural image composed of its values, beliefs, rituals, symbols, and ways of doing things (Liu Zuyun, 2016; Zou Weijin, & Hu Pan, 2019). In simple terms, it is all aspects of the enterprise in its daily operation. Corporate culture is the

spiritual wealth and material form created by the company's production, operation and management activities under certain conditions. It includes the corporate vision, Cultural ideas, Values, Entrepreneurial spirit, Ethics, Codes of conduct, historical traditions, Business system, Cultural environment, corporate products, etc. For companies, corporate culture is corporate soul is pushing enterprise development inexhaustible motivation. It contains very rich content, and its core is the spirit and values of the enterprise. The values here do not refer to the various cultural phenomena in corporate management, but the values held by the company or its employees in operating activities. Different from a single corporate culture, the culture in the cluster emphasizes the overall cultural characteristics of all enterprises in the industrial cluster. It is composed of the participation of all enterprises in the cluster. Although the cultural characteristics of these enterprises are different, they can eventually show a certain Commonality. However, similar to corporate culture, the culture in the cluster is still the same as corporate culture in terms of classification and division, but at this time the scope has been expanded and evolved into cultural values within the industry, moral codes within the industry, and codes of conduct within the industry.

For a specific industrial cluster, due to the different sizes and effects of various enterprises, the leading enterprises in the cluster actually occupy the core position of the culture in the cluster while dominating the industrial cluster. The cultural construction in an industrial cluster is often led by leading enterprises in one or more clusters and interacts with each other, eventually driving the joint development of cultural construction in the cluster. this paper is to study the influence of cultural construction in the cluster on the competitiveness of enterprises.

### **Preliminary Study of Cultural Elements and Enterprise Competitiveness**

On the whole, economic development is a cultural phenomenon. The survival and development of human beings are all in the creation of culture and have cultural connotations to follow. The products and tools created by human production and life, as well as the formed philosophical thinking and thoughts. It belongs to the category of cultural creation. From this level, the connection between culture and economy has a long history, but the real comprehensive entry of cultural factors into the economic development is still in the second half of the industrial economy.

In October 1999, the World Bank proposed that culture is an important part of economic development, and culture will also be an important factor in the way and conditions of the world economy. Cultural factors have a greater impact on economic activities. From the production of products to foreign trade, as well as the creation of

industrial and corporate cultural concepts, they all reflect the impact of culture on economic development and even its decisive role. Since the 21st century, cultural influence The economic impact is more prominent. Countries around the world have gradually paid attention to the impact of cultural factors on the economy, and have strengthened research on the impact of cultural differences on the choice of economic development methods.

As far as the current rescue situation is concerned, almost all research focuses on the analysis from the perspective of corporate culture and corporate competitiveness. Whether there is a correlation between corporate culture and competitiveness, that is, whether corporate culture has an impact on the formation of competitiveness, has attracted the attention of scholars in related research fields (Zou Weijin, & Hu Pan, 2019; Chen & Gao, 2019). This research has sorted out the existing research and found that the research on the relationship between the two is mainly divided into the following three categories:

(1) Corporate culture and competitiveness are integrated, that is, corporate culture is part of corporate competitiveness. This view is an understanding of corporate culture from a narrow perspective. They put corporate culture together with the technical capabilities and management methods of the enterprise as corporate competitiveness. This view is also supported by some practitioners who believe that corporate competitiveness includes excellent corporate culture. (2) The corporate culture itself is the competitiveness of the company. Scholars in this perspective understand corporate culture from a broad perspective in their research. They believe that corporate culture itself is the competitiveness of the company. (3) Corporate culture is the driving force or key influencing factor for corporate competitiveness. This view regards corporate culture and corporate competitiveness as two separate entities that emerge in the course of corporate development. These scholars believe that in the process of corporate development, corporate culture has an impact on the formation of corporate competitiveness through its own functional characteristics, such as value orientation and cohesion.

Although scholars have different perspectives on the relationship between corporate culture and competitiveness, these studies have one thing in common: corporate culture and competitiveness are inseparable. Is there a relationship between the cultural construction in the cluster and the competitiveness of the company? As mentioned earlier, the construction of culture within the cluster can lead the enterprises in the cluster to develop their own corporate culture, thereby achieving the effect of affecting

## METHODOLOGY

This paper analyzes and analyzes the chemical manufacturing industry cluster in Zhejiang Province. According to the different influences, the competitiveness of the cluster enterprises is divided into three different layers: the first layer is the outside circumstances layer, and the outside circumstances will have the most impact on the competitiveness of the cluster enterprises (Li Shaoming, 2017; Lin Di & Guo Huijie, 2019; Gryshchenko, Ganushchak-Efimenko, & Shcherbak, 2019). The direct impact will also have a direct impact on the actual organizational structure, scale and capacity of industrial clusters. The second layer is the scale, structure, and capabilities of industrial clusters. These factors directly affect the comprehensive competitiveness of the enterprises in the group. The third layer is the comprehensive competitiveness of industrial clusters.

## SAMPLING DESIGN

The research purpose of this paper is the specific impact of industrial clusters on the competitiveness of chemical production enterprises in Zhejiang Province. Therefore, it is necessary to conduct research on chemical production enterprises in Zhejiang Province. At the same time, it is also necessary to conduct research on government and chemical industry related personnel. This is a basic research. Method is also an important way to obtain research data. Therefore, chemical production enterprises in Zhejiang Province are the focus of this paper's analysis. this paper must issue a questionnaire to the scientific research and management personnel in the enterprise, and then organize and analyze the data. In addition, as it involves government elements, the relevant public officials in the government responsible for the development of chemical production enterprises will also be included in the scope of the study. For chemical production enterprises, to realize the good development of industrialization, support from the government level is inevitable, which involves many issues such as the Environmental Protection Agency, the Department of Health, and local government policies. Therefore, it is necessary to conduct comprehensive research and visits to government personnel.

### Analytical scale

The nominal variables in the research are transformed so that the latent variables that cannot be directly measured are transformed into measurable variables that can be directly measured. The nominal variables mentioned in this paper are also called

latent variables, which are comprehensive variables of outside circumstances, cluster structure, cluster size, and cluster capacity and competitiveness (Lin Di & Guo Huijie, 2019; Wang & Tong, 2019). According to the hypothetical model that has been proposed, in the actual research, we need to deal with the eight variables encountered. We need to conduct detailed measurement and analysis of these variables. The variables that need to be measured are: (1) outside circumstances variables; (2) cluster size Variables; (3) cluster structure variables; (4) cluster resource variables; (5) cluster capacity variables; (6) enterprise market competitiveness variables; (7) enterprise profitability variables; (8) enterprise growth ability variables.

### **Questionnaire pretest**

In the questionnaire survey stage, this paper selected 56 small and medium-sized enterprises in the Zhejiang chemical industry cluster as the survey object. In the early test phase, training courses organized by the municipal government and chemical industry associations were conducted. A survey questionnaire was issued to each company during the survey. I asked if I could find the shortcomings in time. Before it is filled out, I will explain the concept of the industrial cluster to the participants and put forward the time limit for the filling. After the questionnaire is retrieved, the questions are answered and the suggestions of the participants are recorded. During the survey, 380 questionnaires were issued, and 323 were actually recovered. It was determined that there were no missing pages in the recall. The effective questionnaire recovery efficiency was 100%. During the survey, they communicated with senior management staff of 10 companies and consulted. They also communicated with 4 scholars in cluster enterprise research and listened to suggestions. Finally, the suggestions of various experts and managers are combined to appropriately adjust the content in the measurement questionnaire.

## **ANALYSIS**

**Research Objective 1: Cultural Elements**

Table 4-Table of Hypothesis Test Results Related to Cultural Elements

Hypothetical path	Normalized path factor	C.R.	Whether to support the hypothesis
Direct impact of outside circumstances on the scale, structure, resources and capacity of small and medium-sized industrial clusters			
H1a: CM $\leftarrow$ OC	0.104	4.292***	stand by
H1b: CS $\leftarrow$ OC	0.120	2.519*	stand by
H1c: CR $\leftarrow$ OC	0.127	3.120*	stand by

As shown in Table 4-3, through data analysis, all CR values show support for the null hypothesis, which shows that the outside circumstances does have a direct impact on small and medium-sized industrial clusters, which can reflect the establishment of the null hypothesis. . From the analyzed data, the standardized path coefficients are 0.104, 0.120, and 0.127, respectively. The final results also show that the original hypotheses H1a, H1b, and H1c are all true. Therefore, it can be concluded that: (1) the construction of the cultural platform of the industrial cluster is positively related to the competitiveness of the enterprise; (2) the promotion of entrepreneurship is positively related to the competitiveness of the enterprise; (3) the cultural interoperability within the cluster and the enterprise There is a positive correlation between competitiveness. In summary, it can be concluded that H1 is established, that is, the cultural construction of the cluster has a positive correlation with the competitiveness of the enterprise. Specifically:

(2) The entrepreneurial spirit has a typical exemplary effect. This spirit can come from inside a Zhejiang chemical manufacturing enterprise, but also from outside the enterprise, provided by the industrial cluster. Existing research results show that the spirit of inter-enterprise is closely related to the development of enterprises. For hard-working production enterprises such as chemical companies, entrepreneurship is not only a guide to the orderly development of an enterprise, but also an important source of motivation for employees and managers. The typical entrepreneurial spirit in the cluster will form a clear pilot role and lead the common development of the enterprises in the cluster, which will have a positive effect on improving the competitiveness of Zhejiang chemical manufacturing enterprises.

(3) Cultural communication within the cluster is an important way for enterprises to learn from each other. Ancient People's Cloud: Three people must have our teacher. There is no shortage of gold, no one is perfect, and any outstanding company has flaws. Even if Zhejiang Lihe Chemical plays a leading role in the entire Zhejiang chemical production industry cluster, it does not mean that the company can stand still. The development of any enterprise is not closed, but open. The cultural exchange within the cluster can help Zhejiang chemical manufacturing enterprises to actively learn the cultural advantages of other enterprises in the cluster, so as to continuously improve the cultural connotation of the enterprise itself, and then enhance the competitiveness of the enterprise.

To sum up, as a special cultural element, the cultural construction in the cluster will greatly benefit Zhejiang chemical manufacturing enterprises. Within the cluster, no company can stand alone, and the relationship between the two is prosperous. The development of culture in the cluster can bring positive help to all enterprises in the cluster.

### **Research Objective 2: Inter-cluster Communication**

Table 4-Hypothesis test result table for internal communication elements

Hypothetical path	Normalized path factor	C.R.	Whether to support the hypothesis
H2a: CR $\leftarrow$ CM	0.171	3.078**	stand by
H2b: CS $\leftarrow$ CM	0.097	1.868	not support
H2c:CA $\leftarrow$ CM	0.197	3.808**	stand by

From Table 4-4, it can be found that among the three sub-hypotheses in Hypothesis H2, H2a and H2c have reached a positive conclusion, while Hypothesis H2b has been

negative. From the calculation results of C.R., it is assumed that the final value of H2b (1.868) is significantly different from H2a (3.078 \*\*) and H2c (3.808 \*\*). The final results show that the data do not support the establishment of the hypothesis H2b. That is, the final results show: (1) Assuming H1a, a positive correlation exists between the cluster cooperation mechanism and the competitiveness of the enterprise; (2) Assuming H2b, the positive relationship between the carrier role of the industrial cluster and the competitiveness of the company is not established; (3) Assuming H3c, a positive correlation between the enterprise exchange mechanism between the industrial clusters and the competitiveness of the company is established. To sum up, suppose H2 part holds.

For the chemical industry, in the chemical industry cluster, the interrelationship and existence status of the enterprises, of course, has a significant impact on the enterprises in the cluster. However, not all sub-elements can have sufficient impact. At least from the analysis results, cluster carriers cannot directly promote the competitiveness of enterprises, and the cooperation and exchange mechanism between enterprises has obvious effects on the competitiveness of enterprises influences.

First, as far as the cluster is concerned, the cooperation mechanism and communication mechanism between enterprises is one of the important ways for enterprises to communicate and promote each other. Cooperation is the theme of this era. Cooperation is mutual benefit, and cooperation is always the key to the development of industrial clusters. Cooperation does not mean elimination of competition, but seeking cooperation in competition. The chemical industry is actually a very abstract industrial concept. It just technically defines that the industry is guided by chemical principles, while the industry's corresponding product range is very wide, covering building materials (cement, oil and gas, coatings, Glue, etc.), fertilizers, pesticides, laboratory materials, disinfectants, industrial preparations, etc. The market capacity of each product is obviously not fully occupied by an industrial cluster. At the same time, the main business corresponding to different companies is also different, for example, some companies' main business is coatings, some are chemical fertilizers, and some are experimental materials. Therefore, competition does not prevent cooperation. The purpose of cooperation and exchange is to achieve a strong alliance and promote the development of the weak. Each year, the chemical manufacturing industry cluster in Zhejiang Province organizes mutual exchanges between companies, and each company sends special personnel to other companies to conduct research and study, which will undoubtedly help companies improve their competitiveness. On the other hand, the purpose of the exchange mechanism is to communicate with each other. In addition to technical exchanges, it is more important to share information. This is of great significance for companies to grasp market trends and formulate corporate development strategies, and it is important to enhance their competitiveness. Measures.

Second, for the cluster carrier, the cluster carrier is already in a fixed state when the

cluster is confirmed. This carrier mainly plays a role in the formation of industrial clusters. For example, the establishment of industrial parks, when enterprises in the industry have settled in the industrial parks, then the role of the carrier has been brought into play. In the development of subsequent industries, the role of the carrier has weakened, because it already exists and is used. It is a key factor to promote the formation of industrial clusters, but it is difficult to continue to play a role in the development of the industry.

## CONCLUSION

Based on a review and review of relevant domestic and foreign research literature, this paper conducts an in-depth analysis of the development of domestic industrial clusters and the competitiveness of internal enterprises, and conducts a key research on the relationship between industrial clusters and internal enterprise competitiveness (Li Yuan, Zhao Daozhi, & Zhu Xiaoguang, 2013; Zhonghua Li, Boling Liu, & Cuillian Zhang, 2018; Chen & Gao, 2019). Combined with the full-text analysis, the conclusions obtained are as follows:

(1) Industrial clusters have overall competitiveness. On the basis of combing all relevant competitive theory perspectives on the roots of corporate competitive advantage in the world, it points out that the competitiveness theory has transformed from enterprise analysis to industrial cluster analysis, and that it defines the core concept of the overall competitiveness of the cluster based on expansibility (Ju Rongliang, 2019). It is a useful theoretical attempt for cluster research and competitiveness research.

(2) The overall competitiveness of industrial clusters is jointly formed in the evolutionary processes that complement each other. From the perspective of evolutionary economics, a new perspective is used to demonstrate the relationship between cluster growth and the life cycle and evolution of the overall competitiveness of the cluster. Based on the competitive advantages of the industrial cluster market, and from the perspective of coordinated evolution, combined with cluster growth, analyze the competitiveness of the cluster market and its evolution mechanism (Li Congdong, Chen Xiaofeng, Gao Lianyi, LICong-dong, CHENXiao-feng, & GAOLian-yi, 2015; Weidong Li, 2019). Demonstrate the formation and promotion logic of the overall competitiveness of the cluster. Establish a general dynamic model for cluster competitiveness. The overall competitiveness is attributed to symbiosis and rooting capabilities, and finally it is organized and coordinated through system integration capabilities. The evolution analysis structure that uses market competitiveness as a starting point is effectively connected with the framework analysis conclusions based on a system perspective and verified .

(3) The overall competitiveness of industrial clusters is limited by multiple factors. If

the cluster wants to truly have its own overall competitiveness, then it must be clear about the limitations of itself and the outside circumstances, and the risks that it will inevitably face in the development process (Li Xinfeng, & Zhang Xiaoyan, 2019; Thomas, 2019). The overall competitiveness of the cluster must effectively integrate factors such as market mechanisms, government management, technological innovation, and regional culture, and strengthen the symbiosis of cluster enterprises and the overall rooting of the cluster.

(4) The overall competitiveness of industrial clusters can be supported by policy services to achieve sustained and healthy growth. This paper proposes the establishment of a technological innovation mechanism, the cultivation of a collaborative network of large and small enterprises, the optimization of the industrial echelon structure within the cluster, the strengthening of the cluster's roots, the establishment of a support service system, the role of the government, the formation of a trust and cooperation cluster culture, and the growth of the cluster. Countermeasures and suggestions for developing the overall competitiveness of industrial clusters in various aspects such as timely adjustment of response measures at different stages of development (Chen, & Gao, 2019). The ultimate purpose of researching the overall competitiveness of industrial clusters is to explore how the industrial clusters develop and find the reasons for the successful establishment of the clusters. On the one hand, industrial clusters can clarify the reasons for their own success and continuously improve their overall competitiveness in the future development process. On the other hand, for those areas that are still exploring the path of economic development, on the other hand, to identify the development model and development path that are suitable for them, how to adapt to local conditions and give full play to the advantages of regional resources, combined with the current Specific developments promote the development of industrial clusters with market competitiveness.

In practice, for local governments focusing on the development of the regional economy, consideration should be given to whether the enterprises within the cluster can form a symbiotic relationship with each other and the degree of symbiosis; consider whether the enterprise and the environment form a root and the depth of the root; system planning To create a suitable development environment for enterprises, this can effectively promote the better development of the regional economy (Li Erling, & Wei Lixia, 2019).

## **RERERENCES**

Chen, M., & Gao, Y. (2019). An Empirical Study on the Relationship between Media Enterprise Competitiveness and Social Responsibility. In 4th International Conference on Modern Management, Education Technology and Social Science (MMETSS 2019). Atlantis Press.

Gang Li. (2014). An Empirical Analysis of the Impact of Financial Indicators on Enterprise Competitiveness. *Management Science*, 17 (2).

Giuliani, E., Balland, P. A., & Matta, A. (2019). Straining but not thriving: understanding network dynamics in underperforming industrial clusters. *Journal of Economic Geography*, 19(1), 147-172.

Gryshchenko, I. M., Ganushchak-Efimenko, L. M., & Shcherbak, V. G. (2019). Cluster enterprises as interactive form for implementation of business ideas with socially important population representations. *Management*, 29(1), 22-34.

Ju Rongliang. (2019). Research on Competition and Cooperation Paradigm and Networked Enterprise Organization. China Social Science Press.

Li Congdong, Chen Xiaofeng, Gao Lianyi, LICong-dong, CHENXiao-feng, & GAOLian-yi. (2015). Extension Evaluation Method of Enterprise Competitiveness. *Industrial Engineering*, 8 (4), 5-10.

Li Erling, & Wei Lixia. (2019). Derivation, Cluster Formation and Rural Space Reconstruction: A Case Study of Ethnic Musical Instrument Industrial Cluster in Lankao County, Henan Province. *Economic Geography* (6), 127-135.

Li Pan. (2018). Empirical Analysis of the Coupling Relationship between Regional Industrial Transfer and Industrial Clusters: A Case Study of Huai'an City. *Shanxi Science and Technology* (5).

Li Shaoming. (2017). Talking about the Brand Construction of Zhangjiakou Industrial Cluster. *Market Forum* (3), 31-34.

Li Weimin. (2014). Government, Market and Enterprise. *Contemporary Economy* (1), 4-7.

Li Xianbo, Li Tongsheng, Zheng Yanxia, & Wang Zhenzhong. (2019). Dual-effect operation mechanism of government market and construction of main function area. *Research on science and technology management* (3), 58-60.

Li Xinfeng, & Zhang Xiaoyan. (2019). Strategies to promote the development of strategic emerging industry clusters. *Modern Management Science* (12), 27-29.

Li Youjun, & Kang Xilan. (2012). Fuzzy Evaluation of Enterprise Competitiveness. *Journal of Daqing Petroleum Institute* (1), 87-89.

Li Yuan, Zhao Daozhi, & Zhu Xiaoguang. (2013). Research on Government and Enterprise Behavior Game Model Based on Carbon Tax. *Resources Science*, 35 (1), 125-131.

- Li, S., Han, S., & Shen, T. (2019). How Can a Firm Innovate When Embedded in a Cluster?—Evidence from the Automobile Industrial Cluster in China. *Sustainability*, 11(7), 1837.
- Lin Di, & Guo Huijie. (2019). Swot-ahp analysis of regional brand research on Jinjiang sporting goods industry cluster. *Business economy* (6).
- Lin, L., & Wang, F. (2019). Geographical Proximity vs. Network Tie: Innovation of Equipment Manufacturing Firms in Shanghai, China. *ERDKUNDE*, 73(3), 185-198.
- Liu Jiejiao. (2012). Product Compatibility, Network Effects and Enterprise Competitiveness. *China Industrial Economy* (7), 28-33.
- Liu Manfeng. (2011). Dea Evaluation of Enterprise Competitiveness. *Journal of Jiangxi University of Finance and Economics* (02), 35-36 + 34.
- Liu Ping. (2017). Influencing Factors and Determinants of Enterprise Competitiveness. *Science of Science and Management of Science and Technology* (5), 134-139.
- Liu Zuyun. (2016). Government and Enterprise: Game of Interest and Game of Morality. *Jiangsu Social Sciences* (05), 122-129.
- Luo Youhua, & Liu Tieming. (2019). Research on the Internationalization Governance Capability of Industrial Clusters. *Journal of Hunan University of Finance and Economics* (2).
- Öz, Ö. (2019). The Competitive Advantage of Nations: the case of Turkey: assessing Porter's framework for national advantage. Routledge.
- Susur, E., Hidalgo, A., & Chiaroni, D. (2019). The emergence of regional industrial ecosystem niches: A conceptual framework and a case study. *Journal of cleaner production*, 208, 1642-1657.
- Thomas, S. C. (2019). Foreign intervention and China's industrial development, 1870-1911. Routledge.
- Wang, J., & Tong, X. (2019). Industrial clusters in China: embedded or disembedded?. In *Linking Industries across the World* (pp. 223-242). Routledge.
- Weidong Li. (2019). Research on the Theory and Method of Enterprise Competitiveness Evaluation. China Market Press.
- Xiaoyuan, Z., Kewei, L., Dan, Z., Yonghui, C., & Yuan, L. (2019). Study on the Cultivation of Industrial Clusters in characteristic Towns in Western China—using the cultivation of TCM industry cluster in Taicun town, Xianyang city, Shaanxi province as an example. In *IOP Conference Series: Earth and Environmental Science* (Vol. 304, No. 3, p. 032004). IOP Publishing.

Zhonghua Li, Boling Liu, & Cuillian Zhang. (2018). Analysis on the construction strategy of professional clusters to meet the needs of industrial clusters. *Modern Vocational Education* (18).

Zong Gang, & Ma Ning. (2012). Dea Evaluation of the Competitiveness of Industrial Enterprises. *Research on Quantitative, Economic and Technical Economics*, 19 (11), 92-95.

Zou Weijin, & Hu Pan. (2019). Government and Corporate Environmental Behavior: Improved Game and Game Equilibrium. *Theoretical Monthly*, (6), 161-164.