

An Analysis of Competitiveness on Industrial Cluster Based on Value Analysis

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Abstract: The Industrial cluster is a new industrial organization between the market and the enterprise. As a common phenomenon in the process of industrialization, the industrial cluster has made great contributions to economic development in both developed and developing countries. This paper uses the theory of Value Analysis to analyze the competitiveness of the industrial cluster. The analysis shows that while the cost of the industrial cluster is lower than that of the market or enterprise, the function of the industrial cluster is stronger than that of the market or enterprise. The value of the industrial cluster is bigger than that of the market and the enterprise under the same condition. Thus, the industrial cluster shows great vitality and competitiveness.

Keywords: competitiveness; industrial cluster; value analysis

1 Introduction

The industrial cluster is the groups composed of the cross-linked enterprises, specialized suppliers, service providers, financial institutions, manufacturers of related industries, and other relevant bodies concentrated in a specific area, which compete and co-operate each other.^[1]

As a common phenomenon in the process of industrialization, the industrial cluster has made great contributions to economic development in both developed and developing countries. In the transitional period of China, the industrial cluster has also become an important way to promote Chinese economic development. Many regions along the southeast coast in China have achieved remarkable economic performance with the help of the industrial cluster. To nurture and strengthen the industrial clusters in the vast underdeveloped areas in central China and western China is an important policy of local government to develop regional economic.^[2] By analyzing and comparing the cost, function and value of the industrial cluster with the enterprise and the market, this paper attempts to use the Value Analysis theory (VA for short) to demonstrate the competitive advantages of the industrial cluster.

2 Analysis of the competitive advantages of three industrial organizations based on VA

2.1 Industrial cluster integrating the advantages of enterprise and market

Ronald H. Coase argued in *The Nature of the Firm* that “the main reason for creating profitable enterprises seems to be the cost using the price mechanism.”^[3] He believes that reasons why business can survive are the price mechanism which has a cost. And the cost of management within an organization was less than the cost of the market. That is say, a single transaction, instead of a series of transactions, reduced transaction costs greatly.

However, since late 1970s and early 1980s, especially 1990s, the world political and economic patterns have changed dramatically. The rapid technological change and rapid economic development lead to great changes in the survival and developmental environments of business. These changes are mainly taken place in market environment, economic environment, political environment and the international environment.^[4] They are characterized by unprecedented uncertainties. They cause changes of competitive condition of the enterprises. The competition of enterprises shifts from the static state to dynamic one. There are more interactions. The competitive environments become more and more instable and complex. Thus, the traditional model of corporate organization is at a loss.^[5] Clearly, in order to survive and develop, the enterprise must adjust and reconstruct its organizational structure to establish dynamic organizational structure which is highly nimble and flexible to adapt to market change. This kind of organizational structure is called flexible organizational structure, organizational network,^[6] or the industrial

cluster. This was a major organizational change and innovation made by enterprise to respond to the new changing environment in recent years.

The industrial cluster is characterized by flexible specialization of production (namely flexible organization), multiple components, geographic concentration, the relationship among enterprises, cooperation network, social and cultural identification, self-enhancement, internal integration and exterior chain combination, synergism and collective efficiency, competition, integration, life cycle, good public infrastructure and facility, the rapid spread of knowledge, the mutual demand based on value chain, the extraversion input-output, the sharing of resources.^[7]

The key to the industrial cluster is the dense concentration of industries in certain spatial scope. The industrial cluster concentrates kinds of organizations and institutions the enterprises need, such as the upstream and downstream organizations, R&D organizations, financial service agency, and other essential organizations and agencies. The complete industrial chain conduces to reducing the system costs (including production costs and exchange costs). It realizes enterprise optimization function. It improves the benefit of economies of scale and economies of scope. And it meets the maximal goal of corporate value. Thereby, the competitiveness of the industry and enterprise has been promoted. Therefore, it can be said that the industrial cluster which integrates the advantages of the enterprise and the market is more vital and competitive than the market and the enterprise.

2.2 Industrial clusters avoiding the "market failure" and "organization failure"

We can use Williamson's theory on transaction cost to explain how the industrial cluster ensures the function of industrial organization and maximize the value of the enterprise and the market at less transaction costs than that of the enterprise and the market.^[8]

Williamson believes that an enterprise is both "an economic person" and "a contract person". As a "contract person", the following characteristics of an enterprise are very clear. First, it is characterized by limited rationality. The ability to recognize of the parties involved in transaction in economic activities is limited.

That is to say, the ability to collect and process lots of relevant market information is conditioned by many factors. Secondly, it is characterized by opportunism. That it is to say, the traders take the assumption of limited rationality as premise to pursue their interests by fraudulent means. Because of the limited human rationality, it is possible for some traders to use the condition of asymmetric information or the favorable position of bargaining to cheat other traders.

The assumption of opportunism mentioned by Williamson expands the theory of human self-interest motive in traditional economic theory, leaving room for the economic man to seek strategic action under the guidance of self-interest. In addition, he also believes that the transaction cost relates to transaction characteristics, such as asset specificity, transaction frequency and transaction uncertainty.

When an investment is used to support certain specific transactions, the asset shall be invested specifically. If the transaction asset has been put into while the transaction is terminated, the invested asset would loss in whole or in part, because it cannot be used other way. There are mainly four types of asset specificity, namely place asset specificity, material asset specificity, human asset specificity and specific assets. Once these assets are invested, they are difficult to be diverted. Therefore, the two parties involved in transaction are dependent. If one breaks a contract, the other one will be in a tremendous risk of transaction.

The complex and changing market affected the stability of transaction. In addition, the asymmetrical information and asymmetrical interdependence of the two parties involved in transaction also increase the uncertainty of transactions and the risk of breaking a contract.

Transaction frequency relates to transaction cost in linearity. Frequent trading means signing repeatedly. It leads to higher average cost and transaction cost.

According to the characteristics of transaction process, Williamson divides coordinating ways in transaction into four types as follows. The first one is Market Regulation, namely, the classical market contract. The second one is Tripartite Regulatory Approach. The third one is Bilateral Regulatory Approach. The fourth is Unified Regulatory System, namely the vertical

integration.

To sum up, the tripartite regulatory system and the bilateral regulatory system are complementary. Market regulatory system and unity regulatory system are the two basic coordinating ways. Theoretically, the market depends on the price mechanism, and plays a role to improve the trading efficiency continually. In fact, the market runs at the price of high transaction costs, including the cost of getting transaction information, bargaining, signing and transaction coordination. Furthermore, because the transaction is in fact a process of mutual game, a variety of risks of transactions appear, which leads to “market failure” and the difficulty for enterprise to achieve its value.

The enterprises often use integration to correct “market failure” and reduce transaction costs. However, the process of integration leads to the expansion of the enterprise. The enterprise must create new departments to strengthen the management. As a result, the management cost increases quickly. Because of the increasing hierarchies and the elongating chain of management, bureaucracy arises. All of these make the managerial effectiveness low. It is difficult to know and evaluate the relative contributions of the employees of all departments. All kinds of “free-rider” and sluggard cannot be supervised effectively. As a result, the incentive mechanism in the enterprise will lose its efficiency. Thus not only does the cost of the enterprise increase but also leads to “the failure of enterprise”. Since the enterprise cannot function effectively, it reduces its own value.

Clearly, the industrial cluster is similar to “bilateral regulatory system” proposed by Williamson. Different from the bilateral regulation which is one kind of passive organizational adjustment to stabilize transaction relationship between the two parties involved in a free market, the industrial cluster is an organized market-transaction which the enterprise carries out initiatively in strategic cooperation. In the industrial cluster, the cooperation is mainly 2-2 cooperation. So it can simply save a variety of related costs in market transaction and ensure the enterprise to function effectively and maximize its own value.

In the process of transaction, the industrial cluster helps the enterprises to reduce associated costs. Although

the enterprises transact frequently, the transactions between them all are hardly market relationship, since the industrial cluster has its own property. Instead of increasing transaction cost, the geographical proximity and frequent contact make the enterprises get more information and trust each other by virtue of face-to-face communication. The regular communication and cooperation between the enterprises in the industrial cluster reduce greatly the cost in searching for information of the trading partners. The mutual trust and commitment established in the process of providing personalized service can reduce a variety of risk of transaction. Even if conflicts appear during service, they can be resolved by negotiation, avoiding endless bargaining and lawsuit which cost a lot. Compared with individual enterprises, the industrial cluster not only reduces effectively the transaction costs between enterprises and ensures effectively the transactional functions of the market, but also improves the profitability of the enterprise to maximize its own value.

For the parties involved in a transaction, the industrial cluster can promote organizational learning among enterprises in the cluster and know better the uncertainties of the environment to reduce the transaction costs brought by human “limited rationality”. The long-term cooperation between enterprises in the cluster prevents the traders from opportunistic behavior. Because a one-off betrayal and fraud will lead to tit-for-tat retaliation and penalty in the long-term cooperation, which minimizes the transaction costs brought by opportunistic behavior in the transaction.

In light of the three transaction characteristics, the industrial cluster urges the enterprises in the cluster to cooperate strategically and establish a partnership. Of course, the asset specificity is the most important. The high asset specificity means that fixed costs and variable costs in investment include a substantial part of the “unable-taken-back costs” or “sunken costs”. Therefore, it is very important to maintain the contract relationship between the traders (including the psychological contract). It can solve effectively this problem to establish syndication to “share” the specific assets. The opportunistic behavior is closely related to the uncertainty of the transaction, the changing market and the limited rationality of the traders. Unable to predict

what will happen in the future, the two parties in the transaction cannot set down the terms in contract to resolve everything in advance. If there is asymmetry information, it is difficult to avoid opportunistic behavior. The industrial cluster can avoid this kind behavior. In market, the higher is the frequency of transactions, the larger is the volume of transactions, and the higher is the transaction costs. The industrial cluster can eliminate the negative influence produced by the transaction frequency by virtue of the transaction within the cluster.

The transaction costs increase the total costs of the traders. As an effective innovation of industrial organization, the industrial cluster avoids the “market failure” and the “organizational failure”. It reduces the transaction costs and solves the problem of specialized economic and transaction cost caused by division of labor. The industrial cluster provides an efficient trading relationship, market structure and institutional arrangements.^[9]

3 Conclusions

In short, the industrial cluster saves the following transaction costs, organizational costs and improves the values of the enterprise on the premise of ensuring its functions. Firstly, the industrial cluster avoids the blindness of transaction and reduces the cost of searching information. Secondly, the enterprises within the cluster reduce the transaction costs caused by bargaining by virtue of certain procedure and convention. Thirdly, the coordination among enterprises within the cluster can effectively save the costs of supervision in the transaction. Both of the parties involved in the transaction will refrain from opportunistic behavior. Fourthly, the industrial cluster helps the parties involved in the transaction to deal with the uncertainties and reduce the risk of transaction. Finally, while the

enterprises within the cluster cooperate and transact each other, they are still relatively independent and competitive. The enterprises avoid the management cost in the integrated organization. The industrial cluster makes the best use of the market advantage, optimize its own function and maximize its own value.

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