A Research on Distinctive Industries and Spatial Organization

Model of Interbasin Cells

Feng Han

School of Management, Shenyang Jianzhu University, Shenyang 110168, China

Tel: 86-24-24692209   E-mail: hanf606@163.com

Abstract

In order to solve the pollution to water resources caused by Chinese industry, this paper proposes to select and develop distinctive industries based on industry performance, to establish a clustering model for the spatial organization of distinctive industries based on market behavior and to construct a network of industrial clusters with special characteristics.

Keywords: Interbasin cells, Distinctive industry, Spatial organization model

China is still suffering from the extensive mode of growth with high input, high consumption, high discharge, disharmony, non-recyclability and low efficiency, leading to serious pollution, superimposed effects of water pollution between upstream and downstream and therefore conspicuous structural, complex and compressed issues on pollution.

The most important aspect in governing water environment is to improve the interaction between ecological benefit and social benefit, to base economic benefit on ecological and social ones. In view of China's current economic development, involving the interaction among economic, social and ecological benefits, the adjustment and optimization of interbasin industrial structure is a hot potato. In this situation, it is a development path to develop distinctive industries in order to integrate economic, social and ecological benefits, to enhance interbasin communication, to achieve the network development of interbasin distinctive industrial clusters based on the idea of industrial cluster development.

Based on his research on market behavior, market performance as well as the effects of the macro and micro environment, Scherer summarizes the accomplishments in market behavior, especially in price formation, advertising activities and R&D and develops SCP Model (Structure-Conduct-Performance) (Dong, 2005). According to SCP, this paper aims at conducting an analysis on the selection, development and spatial organization model of interbasin distinctive industries at the aspects of structure, behavior and performance and proposing corresponding countermeasures on the development of distinctive industrial clusters, which, surely, are of great theoretical and practical significance for harmonious interbasin economic, social and ecological development.

1. Selection and Development of Distinctive Industries Based on Coupling Performance Evaluation

In order to be adapted to the transformation of current world economy, industries with regional characteristics are expected to face up to economic globalization as well as increasingly fierce regional competition through innovation.

In view of the serious damages to China's water resources caused by its extensive mode of economic growth, first of all, the reality of a region should be based on and coupling performance evaluation on economic, social and ecological benefits should be conducted to have different development strategies when choosing interbasin distinctive industries.

Second, industries with regional characteristics should be the result of the coupling among industrial basis, market demands and innovative environment. (Yu, 2007).

In accordance to the current industrial reality as well as the market performance of specific industry, we can confirm relevant policies for industrial development: industries to be developed with special emphasis, industries to be transformed and industries to be developed on a large scale. As a result, industries with regional characteristics can be developed, hence effectively improving productivity and developing advantages in regional competition.

(1) Industries to be developed with special emphasis: having quite significant status in the local region due to their high contribution rate to local economy and the society as well as low contribution rate to pollution.

(2) Industries to be transformed, especially those resource industries, which should be transformed from mining and processing with low added value into deep processing with high added value; in addition, mining and processing techniques can be constantly improved through technological innovation, hence improving the utility degree of the existing resources, to lengthen the usage period of resources and to offer more time for the transformation process.

(3) Industries to be developed on a large scale: for those industries with small scale and serious pollution, countermeasures for large-scale development can be employed to expand scale through industrial merger and union in order to enable relevant enterprises to convert external cost into internal cost when dealing with pollution.

The development of all distinctive industries must center on the improvement of knowledge absorption and innovative ability. Finally, a distinctive industrial structure will come into being with the integration of economic, social and ecological benefits.

2. Spatial Organization Model of Distinctive industry Clustering Based on Market Behavior

In the era of industrial economy, certain industries could gain competitive advantages by implementing the low cost strategy with their rich local resources, while in the era of knowledge economy, more industries mainly depend on their unique regional cultural environment and innovative strategies to stand out from the crowd. Due to their diversified development backgrounds and conspicuous regional characteristics, most industries of this kind have established their regional brands, which are industries with regional characteristics. On the other hand, a majority of the current distinctive industries are located in concentrated areas, that is, a group of companies or associated institutions in the same or relevant industries get together due to their commonness and complementarity, which is clustering industrial development (Wang, 2001).

Corresponding actions can be taken in different industries:

(1) Giving priority to some industries---industrial clustering and innovation: performing technological reform, promotion and other development actions.

(2) Transforming some industries--- developing raw material-based industrial clustering into a more profound level; achieving parallel development of technological reform and promotion.

(3) Developing some industries on a large scale---closing those enterprises with poor economic and social benefits or with high contribution rate to pollution and attaching importance to developing large-scale enterprises.

The role of industrial chain network: relations should be established among enterprises from different areas in or out of certain basin to form relevant network. In this way, a structure dominated by core enterprises or market-oriented clusters composed of a leader and necessary network will come into being naturally.

3. The Network of Distinctive Industry clusters

First, industry clusters in a small region should be formed with the goal of improving performance. Then, through their communication and division of labor, comprehensive network development of distinctive industry clusters in and out of a basin can be formed by visible and invisible flows, nodes and networks including industry chain, value chain, innovation chain as well as supplies chain, hence forming the network structure of regional industry clusters.

3.1 Establishing Individual Industry Clusters

According to industrial basis and market requirements, clusters dominated by the core or the market should be constructed in a concentrated area.

Different paths for the construction of industry clusters should be flexibly employed in different industries, including moving enterprises into a concentrated area, establishing ecological industrial parks or recycling eco-parks to accomplish the construction of industry clusters.

3.2 The Basin Network of Distinctive Industry Clusters

The spatial organization of distinctive industry clusters in a basin is as follows: taking advantage of the industrial basis and transport strengths to construct individual distinctive industry clusters as well as core ones, such as constructing riverfront economic zones and promoting the construction of distinctive brands in a basin and so on.

3.3 The Regional Network of Distinctive Industry Clusters

Different network relations should be established at different regional levels. A network structure should be established with core relevant industry clusters based on industry chain, value chain, innovation chain and supplies chain according to the current development of industry clusters and the reality of the industry clusters in some core domestic economic zones. During the process of attracting investments, with the industry chain in the domestic industry clusters as the base, more efforts should be made to approach the high-end value chain as well as innovation chain and to improve the status

and innovation relations of value chain if the domestic value chain and industry chain have been one part of the foreign ones.

4. Interbasin Countermeasures

4.1 Interbasin Governmental Cooperation and Management Model

Interbasin governmental cooperation and management should be promoted in interbasin industry clusters. Management institutions and corresponding measures should be established in the city-basin areas to improve the cooperation between local governments. External issues on the relations between cities and local governments should be solved; a universal method of finance and tax reduction should be offered to promote the industrial development of all cities in the basin so that they will contribute to the basin they belong to more effectively.

4.2 Establishing Universal and Strict Industrial Management and Supervision System

First, interbasin project admittance system with universal standards of ecological protection should be established. The industries applying to enter a basin should be examined strictly and ecological benefit should be considered comprehensively and evaluated from the perspective of ecological protection, hence preventing some cities and areas from introducing high-pollution industries in order to achieve their short-term economic benefits and therefore causing serious damages to the whole basin system.

Second, information-based platforms for interbasin spatial management should be constructed to have comprehensive performance monitor. According to the principle of joint development and sharing as well as universal technological standards, joint efforts should be made to construct information platforms for interbasin spatial management to offer more reliable spatial information guarantee for the coordination and decision making of interbasin governments at all levels. This system is mainly employed to clear the existing spatial information resources, to establish universal technological standards, to have technological integration of a variety of spatial resources; a coordination system of spatial information resource management should be established and special institutions should be set up to conduct its construction and maintenance; governments at all levels (especially at the provincial and city levels) are expected to impel the project at the same pace.

References

Dong, Weigang. (2005). Harvard School of Industrial Organization Theory. *Journal of Liaoning Taxation College,* 17(2): pp19-22.

Wang, Jici. (2001). *The Space of Innovation: Enterprise Clusters and Regional Development.* Beijing: Beijing University Press.

Yu, Bin. Zeng, Juxin & Luo, Jing. (2007). Spatial Organization Innovation of Regional Competition Advantages and the Development of Distinctive Industries: Taking Wuhan City Circle as an Example. *Journal of Huazhong Normal University (Natural Science)*, 41(2): pp287-291.

Table 1. The Network Development Pattern of Distinctive Industry Clusters

Cooperation Pattern	Cooperation Advantage	Elementary cooperation method	Advanced cooperation method	Development priority	Ultimate goal
Cooperation between individual industry clusters and a city's internal relevant clusters	Universality of Spatial neighborhood and policies	Industry chain and innovation chain	Industry chain (core role), innovation chain	Improving local economic, social and ecological benefits	Harmonious development of economic, social and ecological benefits
Cooperation between individual industry clusters and relevant clusters in the same basin	Basin transport advantage and spatial neighborhood advantage	Industry chain	Industry chain, value chain (high-end), innovation chain	Improving ecological benefits in a basin	
Cooperation between individual industry clusters and relevant clusters in domestic core economic zones	Regional transport advantage, regional preferential policies and spatial neighborhood advantage	Industry chain, value chain, innovation chain	Value chain (high-end), industry chain, innovation chain	Improving industrial status, innovative ability and regional brands in a region	
Cooperation between industry clusters in a basin and foreign relevant clusters	Distinctive industry competition advantage and economic globalization	Industry chain, value chain	Value chain (high-end), innovation chain	Improving industrial status, innovative ability and regional brands home and abroad	

Figure 1. The Network Development of Individual Distinctive Industry Clusters as well as Relevant Domestic and Foreign Industry Clusters