

Building Competitive Advantage of Locations for Automobile Industry: Changchun as the Example

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Abstract

A location must establish its own competitive advantages to meet the demand of global economy age, therefore, first, this paper brings forward the definition of competitive advantage of locations. Second, China is changing from industrial society to knowledge society, so the competitive advantage of locations for Chinese industries have the cross-characteristics of the two societies, which is globally representative. On the base of the deep influences of Transnational Corporations on automobile industry, the paper analyzes the competitive advantage of locations for automobile industry and points out the index system of that. Finally, it takes Changchun, in which there is the largest automobile enterprise *FAW* (First Automobile Works) in China, as the example to give out the way how to establish competitive advantages of locations.

Keywords: Automobile industry, Competitive advantage of locations, Changchun

In the global economy age, Transnational Corporations (TNCs) become the main economic subjects of the global economic action, so the location conditions are the key to attract the investment of TNCs. This paper considers that keeping and attracting industrial resources has been in the period of global competition for locations, and locations have to establish their own competitive advantages like nations. Locations should establish a new mechanism to improve and develop all kinds of conditions, to make them to promote and cooperate with each other, and enhance the integrated strength. Therefore, the paper brings forward a definition of competitive advantages of locations, which means the integrated strength of locations to attract and keep industrial resources in the global economy times. Locations should confine the contents of their competitive advantages according to their own industrial characteristics and conditions of external connection, and then bring forward the routes and approaches to establishing advantages.

1. The model of competitive advantage of location

1.1 The enlightenment of Porter's theory of competitive advantage

Michael Porter (2003) pointed out that locations can influence the competitiveness and the model of resources of local competitive advantage (see Figure 1). Therefore, the competitive advantage of location comes from the integrated and concerted development of four interlinked factors which are firm strategy, structure and rivalry, demand conditions, factor conditions and related and supporting industries, which have their own systems and are closely interconnected.

1.2 The enlightenments of the global location theory and the theory of industrial clusters

Locations can not have all the related and supporting industries because of local relative scarce resources, so they must build their connection systems. The point of the global location theory is that cities should manage to become a convenient network node in the multi-polar and multi-level world system of cities and strengthen their industrial attraction (Guo, Rong chao, 2004). Therefore, locations need integrate their inside and outside by building sound connection networks, and win initiative in the location competition. The researches of clusters show that local

capability to absorb knowledge and innovate makes the local advantage industries in long-term flourish. Paul M. Romer(1986, 1990) brought forward that knowledge was the new dynamic resource of economic growth, emphasized that innovation was the non-competitive knowledge which could be accumulated constantly, and redefined the basic input of product as material capital, knowledge of innovation and human resources.

1.3 Building the model of competitive advantage of locations

This paper considers that Porter has brought forward the main contents of competitive advantage of location, but his model is not complete. Whereas local resources are scarce, the external connection is not only a means but an important part of competitive advantage of locations. Therefore, competitive advantage of location is completed. And the researches of clusters show that the capability to absorb knowledge and innovate has become the core capability for sustainable development of local industries.

So this paper brings forward the model of competitive advantage of location composed of two parts, the internal one of which is a diamond model composed of five interlinked factors that are firm strategy, structure and competition, factor conditions, demand conditions and related and supporting industries with the capability to absorb knowledge and innovate as the core, and the external one of which is building convenient material connections and information ones with the important locations in each regional level(see Figure 2).

The internal part is the intrinsic factors of competitiveness advantage of locations, and the external connection is the assistant power. Location should build a good industrial environment to drive the development of external connection, and the external connection can make up the resource scarcity of the location. It should connect with important locations in all regional level, centralize the outside floating factors by building itself, help the location to complete the internal diamond model, and increase its core capability.

2. The index system of competitive advantage of locations for automobile industry

The meanings of location advantage is different in different societies(see Table 1, Zhang Yun, 2001; Wang Xing ping, 2005), and China is changing from industry society to knowledge society, so the contents of the location advantage for manufactures must have the crossover characteristics of the two societies. In the manufactures, Transnational Corporations (TNCs) have great influence upon China's automobile industry, and they will perform inestimable functions, therefore, locations will compete more and more drastically for global resources of the automobile industry. Undoubtedly, building competitive advantage of location for the automobile industry is important for each location with the automobile industry, so the paper takes the automobile industry as the example to discuss the competitive advantage of a certain industry.

The paper adjusts Porter's model and ascertains the content of the model of competitive advantage of location for the automobile industry according to the characteristics of the TNCs' locations and the index of the relative studies on the automobile industry. Most of the TNCs' locations have the same characteristics which are fast international transportation, near international airports, abundant high-quality specific human resources, complete communication and information net, near the administrative centers and the convergence locations of commercial institutions(Guan, Chi ming et al., 2003). The index of Chen, Qing tai et al.(2004) are the automobile industrial foundation, local consumers, enterprises and enterprisers, location conditions, the industrial historic achievements, the strength of TNCs, the degree of marketization, and the degree of innovation of state-owned corporations. According the above analysis and the characteristics of the automobile industry, the paper points out the indices of competitive advantage of the automobile industry (see Table 2).

3. Building Changchun's competitive advantage for its automobile industry

Some Chinese experts pointed out that there will be three locations with international competitive advantage of automobile industry, which are Changchun, Shanghai and Guangzhou(Chen, Qing tai, et al.,2004). Changchun is an important city for China's automobile industry, and also it is one of the central cities in the Northeast old industrial bases, but it is more difficult for Changchun to develop the clusters with international competitive advantage than for the other two cities (see table 3). So it is very important for Changchun to find the train of thoughts to enhance Changchun's competitive advantage for its automobile industry, and it can be used for reference to other locations with correspondingly worse conditions.

3.1 The condition analysis of Changchun's competitive advantage for its automobile industry

Changchun has only two excellent indices in the above compare with Shanghai and Guangzhou(see Table 3), which shows that Changchun's comprehensive strengths is much worse than the other two cities. In addition, the strengths of Changchun's relative industries and local suppliers are weak because there are only three enterprises in the list of nationwide 100 top suppliers in 2004.

However, Changchun still has other advantages. First, it has the advantage of comprehensive environment resources

because it is ranked the 1st in the 200 Chinese cities with comprehensive environment resources(Ni, Peng fei, 2005). And it is ranked the 2nd with the water conservancy, environment, public property management industry, the 5th with the culture, sports and recreation industry, and the 9th with education industry in the 47 cities in the analysis of Chinese clusters competitiveness(Ni, Peng fei, 2005). Second, Changchun has strong R&D ability. It is ranked the 10th with the science-technological competitiveness, the 4th with the transformation ability of the science-technology, and the 11th with the structure competitiveness in the 200 Chinese cities, and the 8th with the service industry of R&D and geologic prospecting industry in the 47 cities(Ni, Peng fei, 2005). Also, a group of strong enterprises, colleges and R&D institutes establish the base of Changchun's innovation ability.

According to the above analysis on the location for Changchun's automobile industry, the paper brings forward two principles of building Changchun's competitive advantage for the automobile industry. One is promoting the R&D advantage by building the international R&D network with Changchun as the core and developing the capability to both self-R&D and cooperative R&D. The other is developing the disadvantages, the little information of local consumers and the weak relative industries and local suppliers, by building the regional clusters and nationwide information network.

3.2 Enhance the R&D capability of Changchun's automobile industry

On the one hand, Changchun should build good *Internal* R&D model, flowing the international technological trend and giving prominence to the state-brand strategy (see Figure 3). In the model, the enterprises, R&D institutes, colleges and the institutes of enterprises cooperate and form the core strength of self-R&D. Demand should be guided by the market and follow the international trend such as protecting environment, saving energy resources, developing new energy resources and new materials. The nation brands are the carrier of the corporate strategy. Capital from government comes from direct investment and indirect investment, the former of which is usually allowance or procurement, and the latter is helping small and medium-sized enterprises by all kinds of policies. Corporations should cooperate extensively and absorb the corporations of the relative industries into the group for self-R&D to combine technology and application and shorten research time, for example, the cooperation of Anshan Iron Group, which is the largest Iron Group in Northeast China, and First Automobile Works (FAW), which is the core of Changchun's automobile industry, must influence deeply the self-R&D ability. Therefore, R&D can drive the division and cooperation of Changchun's corporations, and finally drive the technology development of Changchun's automobile industry.

On the other hand, Changchun should increase the cooperation of important domestic and foreign enterprises and research institutes, and construct an international network of R&D. First, Changchun builds the cooperation network by establishing bilateral and multi-party organizations considering the characteristics of different regions and their different development emphasis of automobile industry and the supporting ones. The paper suggests Changchun to combine the R&D institutes of Harbin and Dalian in Northeast China, and the strong R&D institutes and colleges of Shanghai, Beijing, Guangzhou and Wuhan in other domestic regions. The ways to build cooperation organizations should differ in forms and styles, for example, in the December of 2004, Hongkong and Changchun signed a framework agreement to construct Changchun-Hongkong center for accelerating productivity, and the first cooperate object is building Changchun-Hongkong base for R&D and production. Second, Changchun's corporations should walk out and fetch in positively, build the sub-centers in the appropriate locations of FAW with Changchun as the core, cooperate with the R&D institutes of domestic important corporations and foreign ones, and fetch in the domestic and international R&D institutes to upgrade Changchun's R&D strength continuously.

3.3 Build the regional cluster of automobile industry and the national transportation network and information network

First, Changchun should concentrate on build the Northeast cluster of automobile industry. Changchun should strengthen the industry affiliations with Shenyang, Harbin and Dalian by building the industry alliances. And as the production center, Changchun will establish an industrial corridor with Shenyang, Dalian and Harbin as the production bases for automobile components. Moreover, Changchun should cultivate some trans-regional large enterprise groups with the enterprises of automobile industry and the supporting ones by the strategy of enterprise alliance. At the same time, Changchun should build the Northeast transportation network with Shenyang and Dalian as the centers, which have better foreign transportation connection, and Changchun and Harbin as the sub-centers. So Changchun will build the regional industrial cluster on the base of the automobile industry and the supporting industry of the Northeast China.

Second, Changchun should build the nationwide network for production and transportation. By the networks for production and purchase of the core enterprises such as FAW (First Automobile Works), Changchun should set up the nationwide production network with Yangtze River Delta, Pearl River Delta, Central China, Beijing-Tianjin area

and Southwest China where there have appeared automobile clusters. And the coastal areas with Shanghai, Guangzhou, Beijing and Tianjin as the centers are the main development directions. Changchun should set up the modern stereoscopic transportation network platform and the network platform of logistic information, and establish trans-regional modern logic enterprise groups by cultivating third-party logistics, spreading the networks with the addition of important cities in the above regions as the nodes.

Third, Changchun should establish a nationwide information network. On the one hand, Changchun can promote the ability of propaganda. For example, the government, large enterprises and automobile associations should hold meetings of product show and sales, publicizing the information by media, websites and inviting domestic and overseas enterprises. The automobile culture should be built, and the first step can be considered as visiting the modern enterprises of FAW. The government and automobile associations can organize enterprises to attend the domestic and overseas meetings of the automobile industry and the supporting ones to show products, to get information and to find business opportunities. On the other hand, Changchun should promote the ability to gather information of customers, the one of technologies, the one of materials of automobile industry from the domestic important production locations. The paper suggests Changchun to establish the Northeast information network with Shenyang, Harbin and Dalian, and set up the information network of other regions with Beijing, Tianjin, Jinan, Hefei, Nanjing, Shanghai, Hangzhou, Wuhan, Chongqing, Nanchang, Changsha, Liuzhou and Guangzhou from the north to the south which are the domestic important production bases or main markets or both. It is not only a convenient method for Changchun to set up institutions for information collection in the above cities, but also the foundation of Changchun's domestic complete information network. Moreover, Changchun should build the data bases, analyze and process information in time with Changchun as the center and Beijing, Shanghai, Guangzhou and Chongqing as the branches.

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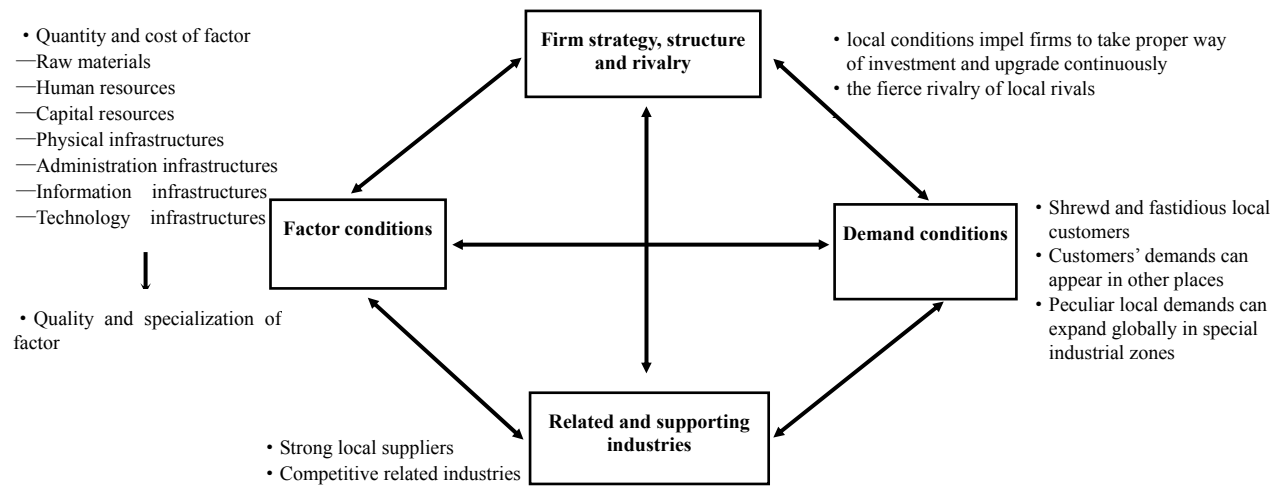


Figure 1. The Sources of Local Competitive Advantage

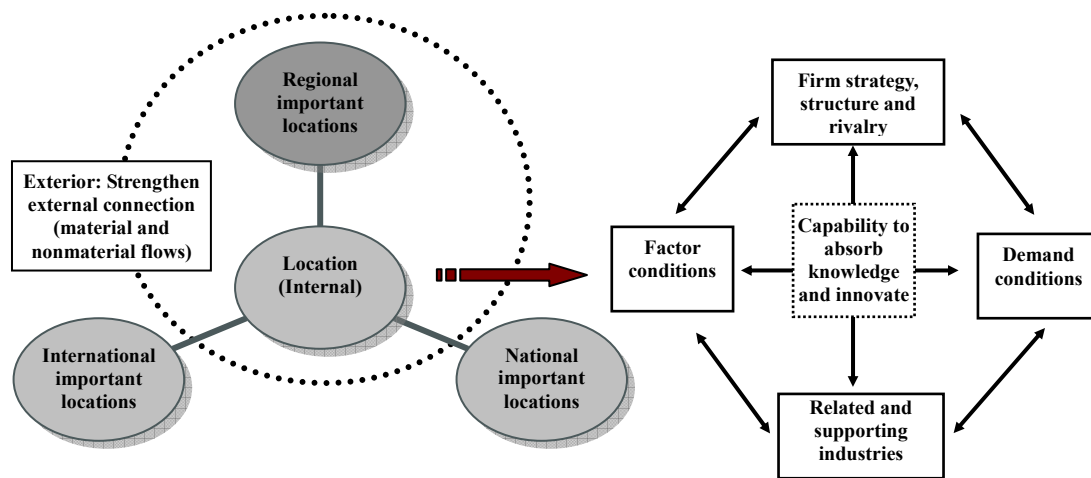


Figure 2. The Model of Competitive Advantage of Locations

Table 1. The evolvement of the meaning of location advantage

| Social style | Agriculture | Industry | Knowledge |
|-----------------------|------------------------------------|------------------------------|------------------------------|
| Means of production | Labor and land | Resources, capital and labor | Intelligence resources |
| Forms of Production | Handcraft production | Machinery production | Knowledge service |
| Products | Agricultural product and livestock | Industrial product | Product of knowledge service |
| Main industry | Agriculture and stockbreeding | Industries and manufacturing | Service and high-tech |
| Production Conditions | Seasons and weather | Capital and labor | Internet and intelligence |
| Location choice | fields | Cities and towns | Everywhere |
| Mobility | less | Part | mobility or fixation |

Table 2. The index system of competitive advantage of location for the automobile industry

| | Classes of index | Indices |
|---------------------------------|--|--|
| Internal competitive advantages | Firm strategy, structure and rivalry | industrial prior accounting-based performance, strength of TNCs, strength of local enterprises and enterprisers |
| | Factor conditions | Industrial foundation, degree of marketization, strength of the innovation of state-owned corporations, strength of R&D, environment |
| | Demand conditions | local customers |
| | Related and supporting industries | Strength of local suppliers, competitiveness of the supporting industries |
| External competitive advantages | external connection (material and nonmaterial flows) | Infrastructures of transportation and that of communication, network system, and geographical location |

Table 3. The location index analysis of Changchun’s, Shanghai’s and Guangzhou’s automobile industry5

| locations | Industrial prior accounting-based performance | Strength of TNCs | Strength of enpreises and enterprisers | Industrial foundation | Degree of marketization | strength of the innovation of state-owned corporations | Local consumers | Location external connection |
|-----------|---|------------------|--|-----------------------|-------------------------|--|-----------------|------------------------------|
| Changchun | Good | Excellent | Good | Excellent | Average | Average | Average | Good |
| Shanghai | Excellent | Excellent | Excellent | Excellent | Excellent | Excellent | Fastidious | Excellent |
| Guangzhou | Excellent | Good | Excellent | Good | Excellent | Excellent | Fastidious | Excellent |

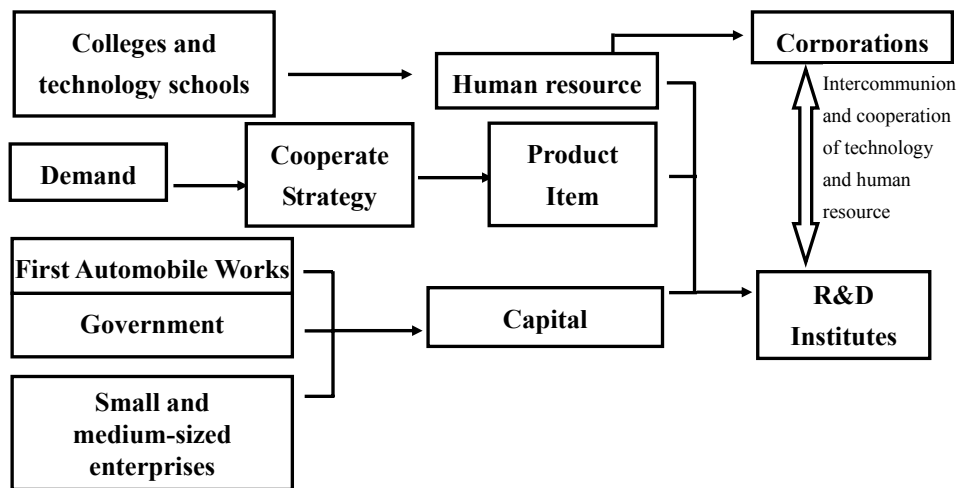


Figure 3. Self-R&D Model of Changchun’s Automobile Industry and Related Ones