Study of Competitiveness of Henan Textile and Clothing Industrial Clusters Based on Diamond Model

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Abstract: This paper analyzes the competitiveness of Henan textile and clothing industrial clusters by making use of "diamond" model proposed by Michael Porter. The paper points out the main problems existing in Henan textile and clothing industrial clusters and then mainly focuses on the solution of promoting Henan textile and clothing industrial cluster and enhancing its competitiveness.

Key words: textile and clothing, industrial clusters, competitiveness

1 Introduction

The textile and clothing industrial clusters of Henan province are mainly in Zhengzhou, Anyang, Nanyang, Xinxiang, and Xuchang. In order to attract enterprises, many cities have built special textile and clothing industrial clusters in the core area, and the degree of clusters is further improved. In recent years, the Henan provincial government paid attention to the development of the textile industry cluster, introduced a number of beneficial policies to the development of industrial clusters. Many scholars have studied this issue and many beneficial results have been obtained [1-5].

2 Analysis of the competitiveness of Henan textile and clothing industrial cluster

The American well-known economist Michael Porter pointed that whether a particular industry in one country or area is internationally competitively often depends on the corresponding industrial cluster by studying the history of the development of specific industries and that of participation of the international competition of 10 countries. The competitive advantages are decided by the factors of production, demand conditions, related industries, enterprise strategy and structure, competitive environment and opportunities, and government action. These six factors constitute the "Diamond" model of international competitiveness of the industry.

![Figure 1 Competitive diamond model](image)

2.1 Factors of production

Henan provincial government decision-making research topics (B409)
Porter divided the factors of production into two categories, namely Basic Factors and Advanced Factors. Basic factors include natural resources, climate, geographical location, unskilled and semi-skilled labor, debt capital, and so on; while advanced factors include the modernized telecommunication networks, high-tech talents, research institutes of most advanced science and entrepreneurial spirit, etc. The population, land, natural resources are congenital conditions in basic factors, while the advanced factors can only be acquired and created through long-term investment and later development. Although the basic factors have a great influence on the competitiveness of enterprises of the traditional industries, their effects on the industrial development started to decline with the fact that the scarcity of domestic resources will not affect the competitiveness of domestic enterprises resulted by development of science and technology and the acceleration of economic globalization. In contrast, the importance and its influence on the state’s industrial competitiveness of advanced factors continue to improve. Factors of production in Henan Textile and Clothing Industry are as following:

1. Abundant natural resources. Henan Province is China's second-largest cotton-producing region as well as the production base and great export province of our country's "two major yarns and cloth" at the same time. Henan is also the production base as well as an important province with large exports of hemp, silk and wool. In addition, its raw material of chemical fiber also develops on a certain scale. As a fact, all these advantages have laid a solid foundation for raw materials supporting the development of Henan textile and clothing industrial cluster.

2. Convenient transportation. Henan Province is located in central and eastern China and is an important hub of transportation of inland of China as well as a hub in strategic shift of industry, capital, technology, human resources and management from Chain’s east to west. Zhengzhou, the provincial capital of Henan becomes the biggest passenger and cargo transfer station since the Eurasian continental Bridge from China’s Lianyungang to Holland’s Rotterdam crosses through Henan province. The specific geographical location of Henan Province offers a unique geographical advantage for the textile industry cluster’s covering the Central Plains’ market at a low-cost.

3. Rich labor resources. In the international competition of labor-intensive industry, its competitive advantage largely depends on labor cost and labor quality. Domestically, Henan province is rich in labor resources with low prices so that it is of great selectiveness. In 2008, average wage in Henan textile industry is only about 70% of that in Shanghai, Jiangsu, Guangdong and other coastal areas. As a result, it allows for the rapid development of industry with a good foundation.

4. Rich Education and knowledge Resources. Relying upon the talent and technology advantages created by Zhongyuan Institute of Technology, Zhengzhou Institute of Light Industry, Henan Institute of Engineering and other scientific research institutions, Henan Textile and Clothing Industry actively and closely cooperates with these institutions to carry out all kinds of professional personnel training and has become the base of research, design and training as a set of production, learning and research. In particular, Henan province has had a skilled workforce through decades of development, which provides an important guarantee of human resources in order to revitalize the textile industry.

5. Lack of advanced technology and management talents together with deficiency in R & D. Actually, only a few large-scaled enterprises have their own R & D institutions and comparatively stronger technology development strength. The province's scientific and technical personnel account for only 3% of the total proportion of workers, and about 90% of the province's textile enterprises in a certain size have not established their own R & D centers yet. Additionally, the investment of enterprises on R & D is less than 1% of their sales income, while more seriously many enterprises do not have R & D inputs at all.

6. Low level of information technology. According to a survey, many textile zones have not established a comprehensive management platform yet and many small businesses do not conduct e-business with big enterprises having not installed the Enterprise Resource Planning System. (financial bottlenecks). Henan textile and clothing industry clusters should take count of the development of high-level and specialized production factors so as to create powerful and sustainable competitive advantages.
2.2 Demand conditions
The domestic demand condition is another important factor having an influence on the competitiveness
of an industry or a product. Henan textile and clothing industry cluster can have no possibility that it has
insufficient market demands due to the obvious trend of increasing domestic demands. China has 1.5
billion populations, in which Henan Province counts nearly 100 million. The needs for textiles and
clothing as necessities and decorations in human life will continue to increase along with the
improvement of people’s living standards. Neighboring to the great eastern textile provinces, Henan
Province matches the central and western consumer market, which makes it suitable for the
development of cotton and terminal textile industry in both market quota and a unique geographical
advantage. The rapid growth of domestic market will provide a solid support for the development of
Henan textile and clothing industry clusters.
Due to factors such as preferences and traditions, Henan consumers’ extent of demand for textiles and
clothing is also not very refined, which needs to be improved in tastes. The fact that Henan consumers
have no as high requirement for clothing brand and fabric as people in the coastal developed areas
makes Henan textile and clothing industry has no pressure. This also led to the slow development and a
lack of continual investment and driving force of innovation in Henan textile and clothing industrial
clusters. According to Porter’s cluster theory, only when the domestic customers in the cluster is the
most critical, but also the most delicate in the whole world, can manufacturers be motivated to
improve, innovate and upgrade to enter a more advanced market segment because of the heavy pressure
given by customers. In addition, only such harsh requirements for manufacturers can make them form a
long-term competitive advantage. Thus, it is the essential problem to be solved that we should develop
more critical and good-tasted consumers for Henan textile and clothing industry cluster.

2.3 Related and supporting industries
Another factor that greatly influences the international competitiveness of an industry in the country is
the international competitiveness of the country’s upstream industry of that industry and its related
industries. In general, the advantages of an industry in international competition display a way through
preponderant industrial clusters. The great influence of the level of suppliers and related industries on
the competitive advantage of a particular industry mainly results from the fact that the international
competition is usually not the one between individual enterprises, but between the production and
marketing systems belonged to different enterprises. Industrial clusters, in order to gain a competitive
advantage, require a better division of labor and more specialized products and services. As Henan
textile and clothing industry cluster is still at its primary stage, the division of labor and specialization
within the cluster is not at a high level, related and supporting industries are not in a great number, and
the industry chain is not complete yet, which compose the problem that it hasn’t built an organic
network. The tendency of pursuing "small and complete" for enterprises within the industry cluster, not
only badly affected the growth of large enterprises with latent capacity, but also weakened the
profitability of small businesses that do not provide greater developing space for related and supporting
industries and finally affected the overall development of industrial clusters. At the same time, the
intensive distribution between upstream suppliers and downstream distributors, customers and
manufacturers of complementary products, intermediaries, financial sectors and the education and
training institutions together with rough division of labor do not support the important source and
material basis for carrying out technological innovation and product upgrades for enterprises within the
cluster, which is not enough to form a cluster's competitive advantage.

2.4 Competition, corporate strategy and its structure
The fourth factor to determine the international competitiveness of an industry is associated with the
enterprise, namely, the way an enterprise sets up, organizes and manages as well as the competition state
of the industry that it belongs to. Henan textile industry mostly focuses on the capital investment,
capacity expansion and price competition rather than on the improvement of the ability of independent
innovation and quality, which leads to the extremely serious problem that products produced by different enterprises are almost the same. At present, although some firms have gradually begun to focus on product brands and the differential construction, but most enterprises still adopt the strategy of winning by quantity at a low price. It is not conducive to the sustainable development of the textile and clothing industry by making products with low-grade and low added value to bring about a waste of resources and increasing emissions from waste water.

2.5 Government
The government has played an active role in the process of Henan textile and clothing industry’s form of a cluster by proposing “guide” and “service” as its main objective to create a favorable policy environment and stable economic environment. First, governments at all levels stress the development of the textile industry in Henan Province. For example, the “Eleventh Five-Year Plan” has re-included the textile industry in the ranks of “revival” industries as well as reconsidered it as a “dominant industry”. Investment continued to increase throughout the efforts to support key enterprises to speed up their development and efforts of attracting enterprises in coastal areas to establish textile and clothing industrial zone also was made. Meanwhile, Henan Textile Industry Association has become an important part of the supporting systems by effectively supporting the development of textile and clothing industrial clusters.

2.6 Opportunity
The state’s “planning to revitalize the textile industry” has fostered the textile industry. In addition, a new round of economic recovery and implementation of the strategy of the Rise of Central China combined with the transfer of textile industry from coastal areas to the central and west, which bring a pretty good opportunity for the development of Henan textile and clothing industry.

Through the above analysis, we can see that Henan textile and clothing industry cluster has the following five major advantages: first, the unique advantages of raw materials and adequate labor resources. Second, the huge consumer market and rising consumer demand. Third, the association has played a better role as a bridge and link in contacting the government and guiding the enterprises. Fourth, the Government created a good environment in taxation, land use, etc. for the cluster’s development. Fifth, the state supports the revitalization of textile industry by implementing the strategy of the Rise of Central China. And there is also a good opportunity for the textile industry to transfer from coastal area to the central and west. At the same time, we also see that Henan textile and clothing industry cluster is still at a rough early stage of development, which means the competitiveness still relies in the comparative advantage of the labor force while advanced elements, technological innovation capability, brand construction and competition in the market are still at a lower level. Thus, compared to textile and clothing industry cluster in coastal areas, the one in Henan still has a large gap.

3 Problems existed in Henan textile and clothing industry cluster

Henan textile and clothing industry cluster has many problems as following: First, a lack of effective organization and a leading example. Secondly, the industry structure and corporate structure is irrational. Different enterprises are various in sizes that many small and medium enterprises within the cluster are small-scaled and scattered which is not favorable for large-scale production and leads to the poor market competitiveness and low profitability. Third, the imperfect industrial chain, the large shortage of supply of raw materials of chemical fiber together with low-level printing and dyeing limit the overall development of the cluster. Fourth, incomplete industry set within the cluster and the excessive competition between enterprises makes the industrial development not steady. In addition, the lack of effective collaboration in division among enterprises causes difficulty in forming the industrial cluster effect. Fifth, there are scarce products with high-tech and high added value because of low level of science and technology. Low technological innovation capability and no marked brand recognition
limited the profit space. Sixth, the government’s guidance didn’t go far enough including: slight sense of service of some government departments; no forming of the overall planning concept of industry; a strong lack of scientific guidance mechanisms; no delegation of authority to the association, the restriction of association autonomy; underdeveloped infrastructure and environmental pollution problems, and so on. Seventh, despite the completion of corporate restructuring, many enterprises have not converted their ideas and concepts without really integrating into the market economy. Eighth, the sustainable development capability is weak due to the prominent contradictions in land-use and existing environmental pollution. Ninth, information technology level is low and modern logistics system capacity is weak. Tenth, there is a shortage of talents.

4 Solutions to improve the competitiveness of Henan textile and clothing industrial cluster

4.1 Government's macro-level strategy
Government should strengthen macro-planning, train, guide and support the small and medium enterprises to help SMEs to form cluster advantages. It should guide the establishment of industry association and urge it to fulfill its functions. It should build a platform to promote the communication between enterprise and other inter-departments. It should help the textile and clothing industrial zone to advertise to build regional brand. It should also establish an integrated management and e-commerce platform to facilitate sharing of information resources in order to keep the sustainable and coordinated development of the industrial cluster.

4.2 Micro-level of the industry
Provincial Textile and Clothing Industry Association should develop industry guidelines, strengthen industry self-regulation, establish a scientific and comprehensive industry self-regulation system and improve the Textile Association's influence in the industry to ensure the implementation of self-regulatory measures in the industry. It should promote the sustainable development of textile and clothing industry by improving the service functions mainly referring to industry-specific integrated services, including policy research, industry situation analysis, industry standards development, industry, economic consulting, market development, etc.

4.3 Micro-level of enterprises
Enterprises within the cluster must pay attention to human resources, responsibility, innovation and development in order to enhance cluster competitiveness. Enterprises, in order to innovate and develop, will undoubtedly need talents, including technical personnel, design talent, management talent and international marketing talent. Consequently, enterprises should increase investment, emphasize the importance of human resource development; conscientiously fulfill their social responsibility as their development strategy. Finally, enterprises should also establish a full range of innovative ideas to improve their competitiveness.

5 Conclusion
It is involved in all aspects of the factors to build the textile and clothing industrial cluster of that have advantage, and improve the competitiveness of Henan textile industry and it is also a large and complex systems engineering. So it needs the wide participation and support of government, industry associations, enterprises and other community.
References