

Research on the Integration of Urban Clusters, Industrial Clusters and Industrial Parks

Pang Juan

Business School, Yulin Normal University, Yulin, Guangxi, 537000, China

Keywords: Urban Clusters; Industrial Clusters; Coupling; Competitiveness

Abstract: Urban agglomeration has become an important fulcrum to enhance regional international competitiveness. Industrial agglomeration and diffusion, as the main influencing factors of urban agglomeration development, has been promoting the development of urban agglomeration. A new type of organization formed by a series of enterprises and related institutions around a leading industry. Economic ties and common organizational spirit are two indispensable factors. The emergence of industrial clusters around the world is an organizational manifestation at a specific stage of economic development, which plays an important role in promoting regional competitiveness. In the urban agglomeration, each city should be rationally positioned to define its position and role in the entire urban agglomeration. For industrial clusters that have formed local advantages, we must pay attention to the innovation of institutional culture to give play to the competitive advantages of industrial clusters. This paper analyzes the formation mechanism of different types of industrial clusters, and studies the integration development trend of urban agglomerations, industrial clusters and industrial parks.

1. Introduction

Economic globalization promotes regional competition and triggers the demand for regional cooperation. Urban agglomeration has become an important fulcrum to enhance regional international competitiveness, and regional integration is highly respected [1]. With the world economy entering an era of integration, urban agglomeration has gradually become an important growth pole leading regional economic development. It is an important space carrier for each country and region to promote regional development and urbanization, and an important feature of modern regional development [2]. The development of urban agglomeration provides necessary space and material resources for the formation and development of industrial zones and industrial clusters. Urban agglomeration is the advanced form of urbanization. Industrial agglomeration and diffusion, as the main influencing factors of urban agglomeration development, has been promoting the development of urban agglomeration [3]. The regional competitive advantage is mainly due to the continuous innovation of characteristic industries. The global production factors and resources are increasingly concentrated in industrial clusters with concentrated advantages and innovative advantages [4]. An industrial cluster can be defined as serving geographically adjacent features serving the same market. A new type of organization that is a collection of companies and related institutions around a leading industry [5]. Economic linkages and a common organizational spirit are two of the essential factors.

If the coordinated development of the industrial clusters and industrial clusters in urban agglomerations cannot be realized, the urban agglomerations will lose the momentum of sustainable development, and the construction of industrial zones will lack the support of the mother city [6]. At the same time, the development of industrial clusters will lack the market, and the upgrading of industrial structure will also face bottlenecks. Whether it is from developed countries or developing countries, although the titles are different, the cluster-based development model has played a significant role in promoting local economic development [7]. Many local governments have carried out urban agglomeration planning and formulated supporting policies, trying to imitate the development model of urban agglomerations in developed regions and achieve leap-forward development [8]. The continuous emergence of industrial clusters around the world is an

organizational manifestation of the specific stage of economic development, which plays an important role in promoting regional competitiveness. The research of industrial cluster and urban cluster develops in different directions, and the reality is that they are combined continuously [9]. There is an urgent need to study the coordinated development among urban agglomerations, industrial zones and industrial clusters, and put forward the optimization path of coordinated development [10]. This paper analyses the formation mechanism of different types of industrial clusters, and puts forward that cultivating the environment for the growth of industrial clusters is an important development strategy for enhancing the industrial competitiveness of the Central Plains urban agglomeration.

2. Cluster development strategy

In order to attract external factors of production and promote their own development, industrial zones are separately divided into regions within the managed city. Thus, special administrative agencies are set up to implement special preferential management policies. The connotation of the coupling development between innovative urban agglomeration and industrial cluster refers to the coordinated development between innovative urban agglomeration and industrial cluster in a certain region. Thus, a regional economic system integrating spatial distribution of productivity and urban spatial distribution will be formed. Through the development of superior industrial clusters to influence and control the development of surrounding areas, cities concentrate together through the industrial chain to optimize and upgrade, and constantly adjust the positioning of urban functions. The motive force of urbanization development comes from many aspects, among which the development of agricultural productivity is the basic motive force of urban sprouting, and the development of industrialization is the fundamental motive force of the rapid development of modern urbanization. The urban agglomeration provides the necessary space for the development of industrial zones and industrial clusters, and plays a space carrier role in the construction of industrial zones and the development of industrial clusters. In the initial stage of the development of coupling, the main performance is the combination of innovation location advantages, the intermediate stage is mainly the coupling of innovation spillover effect, and the advanced stage is mainly the coupling of innovation system.

Industrial clusters and urban clusters are lazy, continuous integration and interactive development. At present, a large number of researches by relevant experts are generally conducted by both industrial clusters and urban clusters. In the way of Fig.1, this paper expounds the idea of combining the two with the industrial park to establish the industrial development of the urban agglomeration.

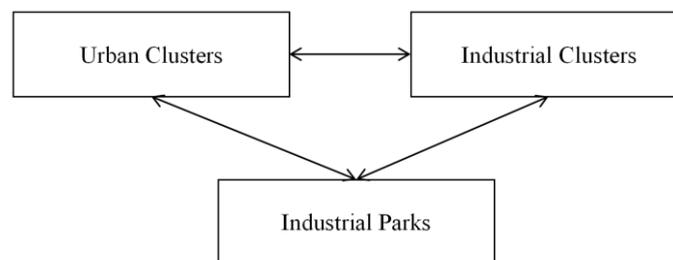


Fig.1 Relationship between urban agglomerations, industrial clusters, and industrial parks

Industrial cluster refers to a group of enterprises formed by the same, similar, and related industries, where the enterprises gather to attract a certain organization to serve them. Industrial parks or high-tech industrial zones are the main carriers for forming industrial clusters, and industrial clusters are an inevitable choice for promoting the development of industrial parks. Industrial parks or high-tech zones are the government's macro-control, drawing a certain area, by providing a large number of preferential policy advantages, related constraints and favorable infrastructure platforms. The rapid development of the manufacturing industry needs to replenish a large amount of labor from the agricultural sector. The urban effect formed by the agglomeration

has led to the continuous expansion of the scale of the gathering space and the gradual formation of cities of various sizes. With the continuous improvement of the development level of urban agglomeration, the efficiency of human resource agglomeration can be better brought into play, and more outstanding talents can be attracted to work in the city. The development of urban agglomeration has many manifestations, among which the core unit is the metropolitan area. Industrial parks or high-tech zones are the carriers of industries and solve the problem of industrial agglomeration. But there is a phenomenon that enterprises have no industry. This paper studies urban agglomerations from the perspective of economics, and emphasizes the spatial organization of economic activities and the spatial allocation of resource elements in urban agglomerations.

3. Interactive mechanism of development

A large number of homogeneous and heterogeneous enterprises gather in a certain geographical space. In the absence of state investment, private enterprises with clear property rights can spontaneously form a network of mutual competition and cooperation. Under the dual role of the government and the market, the allocation of various resource elements is implemented in different spatial areas of the city, affecting the development level of industrial zones and industrial clusters in different regions. Essentially, urban agglomeration is first and foremost an economic circle. Urban agglomeration refers to a certain number of cities of different nature, type and grade scale gathering in a certain geographical range with one or two mega-cities as the core. In the enterprise cluster, farmers can produce industrial products in the form of family. At the same time, the cluster can provide services such as brand, intermediate market, assembly line, and sales. If only the number of companies is valued within and between industrial parks or high-tech zones. It will lead to China's industrial parks or high-tech zones in the middle of the international industrial chain processing and manufacturing chain, completely without international competitiveness. The development of industrial clusters is the result of the interaction of environmental factors, demand conditions, production factors and supporting industries.

If only the number of enterprises is emphasized within and between industrial parks or high-tech zones. China's industrial parks or high-tech zones will be in the middle of the international industrial chain in the processing and manufacturing chain, and will not have international competitiveness at all. The development of industrial clusters is the result of the interaction of environmental factors, demand conditions, production factors and supporting industries. Through the construction of industrial parks and high-tech zones, it not only improves the output per unit area, but also promotes the harmonious development of metropolitan areas. The model of Figure 1 is further optimized, and the urban agglomeration development mode as shown in Fig.2 is obtained.

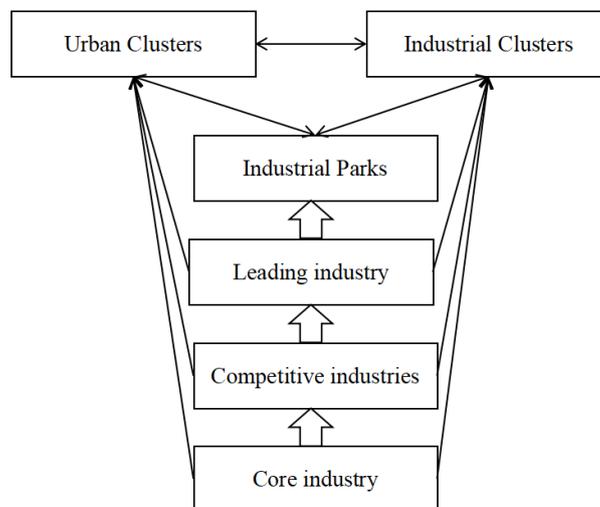


Fig. 2 Urban group development model

The main platform and carrier for the development of industrial clusters within urban

agglomerations is industrial zones. By establishing industrial zones, it is possible to concentrate the limited resources of cities and promote the development of leading industries. Industrial cluster innovation has promoted the expansion of innovative urban agglomerations. The innovation of industrial clusters promotes the division of labor in the industry chain, which is conducive to accelerating the pace of innovation. Within the urban agglomeration, different cities have set up different types of industrial zones. By establishing and accelerating the development of industrial zones, the development of urban fringe areas can be effectively promoted. The development of industrial clusters enhances the self-innovation ability of clusters, which is the fundamental driving force for the development of innovative urban agglomerations and promotes the upgrading of the innovation system of urban agglomerations. The advantages of industrial parks or high-tech zones attract key enterprises to enter the park and gradually cultivate and develop industrial clusters. Establish screening mechanism, establish screening mechanism in parks or high-tech zones, form interdependent industrial system, combine local advantages, and cultivate superior industries. The important means of local government's economic development lies in how to promote the formation and development of industrial clusters. According to the characteristics and advantages of local industrial development, the development plan of industrial clusters is formulated scientifically.

4. Conclusion

The coupling of innovative urban agglomeration and industrial cluster refers to the mutual promotion and coordinated development between urban agglomeration and industrial cluster in a certain region. This paper gives the concept and connotation of innovative urban agglomeration, industrial cluster and Industrial Park coupling. The development and evolution model among the three is established. The important criterion for judging industrial clusters is that there is a high degree of internal relationship between regional economic relations and social relations. The coupling of innovative urban agglomeration, industrial cluster and industrial park has the law of symbiosis, interaction, competition and cooperation, and the law of innovation multiplication. This has further become the reason for the increase in industrial agglomeration and the strengthening of competitiveness. In the urban agglomeration, each city should be rationally positioned to define its position and role in the entire urban agglomeration. In turn, the direction of its own development is clearly defined, and the leading industrial clusters and industrial systems are reasonably determined according to their own advantages. For those regions where industrial clusters that do not yet have local advantages are important, it is important to foster entrepreneurs in the region and institutional culture that is conducive to innovation. For industrial clusters that have already formed local advantages, we must also pay attention to the innovation of institutional culture to give play to the competitive advantages of industrial clusters.

Acknowledgement

Science and Technology Research Project of Guangxi Universities in 2015 (KY2015LX307)

References

- [1] Tan R, Liu Y, Liu Y, et al. Urban growth and its determinants across the Wuhan urban agglomeration, central China[J]. *Habitat International*, 2014, 44:268-281.
- [2] Ning L, Wang F, Li J. Urban innovation, regional externalities of foreign direct investment and industrial agglomeration: Evidence from Chinese cities [J]. *Research Policy*, 2016, 45(4):830-843.
- [3] Commendatore P, Kubin I, Petraglia C, et al. Regional integration, international liberalisation and the dynamics of industrial agglomeration[J]. *Journal of Economic Dynamics and Control*, 2014, 48:265-287.
- [4] Assessing urbanization quality using structure and function analyses: A case study of the urban agglomeration around Hangzhou Bay (UAHB), China[J]. *Habitat International*, 2015, 49:165-176.

- [5] Peng J, Wei H, Guicai L I, et al. Research on location accessibility of national new areas based on urban agglomerations[J]. *Geographical Research*, 2015, 34(1):3-14.
- [6] Kanemoto, Yoshitsugu. Second-best cost–benefit analysis in monopolistic competition models of urban agglomeration[J]. *Journal of Urban Economics*, 2013, 76:83-92.
- [7] Wei C, Taubenb, Ck H, Blaschke T. Measuring urban agglomeration using a city-scale dasymetric population map: A study in the Pearl River Delta, China[J]. *Habitat International*, 2017, 59:32-43.
- [8] Zeng C, Zhang A, Xu S. Urbanization and administrative restructuring: A case study on the Wuhan urban agglomeration[J]. *Habitat International*, 2016, 55:46-57.
- [9] Day J, Chen Y, Ellis P, et al. A Free, Open-Source Tool for Identifying Urban Agglomerations using Point Data[J]. *Spatial Economic Analysis*, 2016, 11(1):67-91.
- [10] Lemelin A, Rubiera-Morollón, Fernando, Gómez-Loscos, Ana. Measuring Urban Agglomeration: A Refoundation of the Mean City-Population Size Index[J]. *Social Indicators Research*, 2016, 125(2):589-612.