Research on Steel Logistics Park under the Integration of the Beijing-Tianjin-Hebei Region

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Abstract. In order to adapt to the Chinese government coordinated development of national strategic requirements of the Beijing-Tianjin-Hebei region, the existing steel logistics park need to be upgraded. The steel logistics park presents three development stages in the same time. There is also a lack of overall planning, policy support, market mechanism and basic researches. For this reason, better government policy guidance and support is needed in three aspects: the unified and standard steel logistics park, the information platform/system, problem-solving mechanism for such as logistics talent cultivation. Eventually, the unified industry service standards and product standards are built as a "steel inventory" and "Internet + logistics" which are based on information network.

Introduction

The development of Beijing has attracted all kinds of personnel into the city. The saturation of population makes all kinds of social problems. At the same time, due to the imbalance of talents and resources, Hebei province, which is near Beijing and Tianjin, develop hit bottleneck problem. This brings the unbalanced development of Beijing-Tianjin-Hebei.

In order to solve the above problems, on April 30, 2015, the Chinese government pass the program for the coordinated development of the Beijing-Tianjin-Hebei region for the coordinated development of Beijing-Tianjin-Hebei and the function of the capital Beijing relief. Apart from Beijing as the center of political, culture, science, technology innovation and the international association, Tianjin is adjusted as “a base and three area”, which is the research and development of advanced manufacturing base, international shipping core area, financial innovation demonstration area, advance the reform and opening area. Hebei is positioning as “the four bases”, mainly involves the transformation and upgrading of industry, trade logistics, environmental protection and ecological conservation and transformation of scientific and technological achievements, etc.

As is well known, China is big country of steel and iron industry. According to the international steel association statistics, in 2014, China's crude steel production is accounting for 49.5% of the world. Moreover, the crude steel production of Hebei, Tianjin, Beijing is accounted for 32% of China, which is great oversupply. More than 90% of crude steel is produced by Hebei. In recent years, unhealthy haze frequently occurred in north China especially in Beijing, from Chinese government to public calls for APEC blue, and the pollution source is steel enterprises. Therefore, the program for the coordinated development for the Beijing-Tianjin-Hebei region needs to be work out step by step with productivity, environmental protection and transportation. The production, varieties and business model etc.
Steel logistics park as the central link have played a positive role in promoting the development of China's steel industry and related industries. For this situation, the steel logistics park of the Beijing-Tianjin-Hebei region need to be adjusted for the future development. Based on this, the integration of the steel logistics park in Beijing-Tianjin-Hebei region were studied in this paper.

Developing Stage

Chinese steel logistics is critical for steel industry, which is an important part of steel industry chain. According to the development of its function, three stages is mainly experienced:

A. The basic stage. This stage of the steel logistics park is only the most basic function of storage and transportation of the steel (as shown in gray part of figure 1), its core is the steel warehouse and responsible transportation. Steel storage function performed by steel warehouse, transportation function performed by professional transportation. Between the warehouse and transportation, which is only loose cooperation.

B. The enhanced stage. This stage of the steel logistics park is a result of social division of labor. Procedures for shear, polishing, binding and welding need to be processed beforehand, due to its problems on disturbing and pollution with the progress in technology, policy and humanities. Steel warehouse, therefore, in the original storage + transportation function, the processing function added (as shown in figure 1 triangle).

C. The comprehensive stage. The steel products from the factory to use cover this stage of the steel logistics park: the function of the whole industrial chain. The steel warehouse + transport + processing is the basic production function. The spot trading, futures trading, financing, e-commerce, living support and business support are added. The serving function (as shown in figure 1) for the steel logistics park, can easily make the partners to achieve
maximum resource and business cooperation. Hence it can reduce the management cost. This model of steel logistics park, in the steel products as a link, to confirm the financial strength and technical level, management ability put forward high request, only very large traders and steel mills. At this stage of the steel logistics park is the ultimate model, which covered with all the links of the steel logistics and combined with the steel logistics industry and information technology.

According to the investigation and measurement of the steel and iron authority Mysteel, the current steel logistics park of the Beijing-Tianjin-Hebei Region, present the following trend: a, three kinds of steel logistics park, volume ratio is 7:2.5:0.5; b, the proportion of output value is 3:2:5; c, benefit is 6:3:1.

As seen from above data, the first kind of steel logistics park is with the most quantity, the second one is the most profitable, the third kind is the largest, however due to the large investment and downturn of the steel market, the third type of steel logistics park is almost nonprofit. The first and the second type of steel logistics park is a production type of steel logistics park, which is the most widespread and the mainstream of China's steel logistics park. The third type of steel logistics park, the number is the smallest. The third one with high starting point and great function is the future development direction of the former two types of steel logistics park.

The Existing Problems

At present, Chinese steel logistics park is combined with good and bad ones: large quantity and wide distribution, the following problems are existed:

A. The lack of overall planning. The entry of production of steel logistics park is low, the cause of the establishing is multifarious, some steel factory build outside factory to keep productivity; some of them are steel warehouse; some of them are built for the convenient transportation. The first goal for these steel logistics park is making profit; they are lack of unified planning. Lots of coordination problem are not considered: steel logistics park for the neighboring provinces and cities; steel logistics park between the coverage radius and area. The government guidance is not enough when steel logistics park is established. However, the government and the public will take its consequence when it brings social problems.

B. The lack of policy support. Although in the development process, the local logistics has offered some policy support, however, they are not perfect and do not form a complete set. Therefore, development of Logistics Park is lack of adequate policy support. Development and standardization of logistics park are dependent on the macroscopic control of the government, moreover, only a very effective method between regions and enterprises of government can realize resources sharing and information sharing, and healthy development of logistics park can realized while it run in accordance with the rules.

C. The lack of market rules and mechanisms. For the service of the third type of steel logistics park, its established in the condition of market economy: every economic behavior should follow its market rules. Logistics park decisions should be rather based on the market, than rely on imagination. The situation of nowadays is: lots of large steel logistics park be constructed blindly, each of them developed their own platform has led to a serious cause of vicious competition, waste of resources and long-turn recycling or idle of the land.

D. The lack of basic research. Logistics Park is a new thing in the process of logistics development of steel logistics park, its research is almost blank, and there is no specific organization and team engaged in the research of Logistics Park. Therefore, the objective
situation in the process of the development of Logistics Park is the lack of science, technology, education and management support. Further research is needed on Logistics Park planning, the mode of logistics park developing and logistics park service functions such as some important issues. Logistics Park is very lack of talents. Service of the steel logistics park is a long and complicated process, which is in need of all aspects of talent, not only professional talents but also inter-disciplinary talent. Our country is in need of the steel logistics park research. Besides Mysteel, some large steel enterprises are also focus on research: the steel logistics park planning and platform establishing, as well as some basic statistical data.

**Solution**

The existence of steel logistics park of Beijing-Tianjin-Hebei has a positive role, such as: it can bring tax revenue and solve the problem of employment to the local, and promote the circulation of steel, etc. However, it also bring some problems to the local, such as: the ecological problems, environmental issues, traffic safety and road damage, etc.

Subjectively speaking, the willingness of the government departments to carry out policy guidance to regulate the steel logistics park from the space layout, industry planning, platform and other aspects of the merger; steel logistics park builders, also intend to regulate the steel logistics park, in order to avoid malicious competition, reduce management costs, improve the overall profit margins, improve logistics efficiency. Therefore, regardless of the government departments or builders have a high enthusiasm to regulate the logistics park.

Objectively speaking, there are many problems in the current situation of the steel logistics park, due to the lack of overall planning, policy support, market rules or mechanism, basic research, etc.

Therefore, the development of the steel logistics park should be guided and optimized from the following aspects:

A. Increase government policy guidance and support. At present, there are many steel logistics park in Beijing-Tianjin-Hebei region, but there lack of how to operate the steel logistics park's thinking, that is to say the park now needs to solve the problems of how to upgrade, how to excess Park transformation, and the coordination problem between the park and so on. In order to solve these problems the Beijing-Tianjin-Hebei need to continue to promote the cooperation in the steel logistics park, through the method of “government guidance + market demand + enterprise operation”. First of all, we need to consider the characteristics of regional economic development and logistics demand, scientific planning of steel logistics park. Before the construction of the steel logistics park, we must carry out comprehensive investigation and diagnosis system of the whole area of steel logistics demand and logistics development, and comprehensive analysis on regional economic development planning, city planning, industrial development planning, traffic planning etc. We also need to strengthen the regional economic linkage and industrial cooperation and development awareness to promote the construction of the park and industrial development, especially the advantages of industrial development. Finally, a benign interaction: the development of the park to support the industry, the development of the industry to strengthen the positioning of the park, positioning of the park to achieve the functions of the park, functions of the park to promote the upgrading of the industry. Secondly, overall planning of the steel logistics park, improve the operating efficiency of the park. In the logistics park linkage development need to consider how to rely on local advantages and characteristics, through the integration of resources, rational division of labor, to achieve a win-win situation.
B. Establish uniform standards for the steel logistics park. Steel is the only product of the steel logistics park, but it does not have a unified logo, there is lack of coordination between the various producers, which leads to the need for the producer’s own code in each logistics link. This will result in some problems of the waste of resources, low efficiency, the problem can not be traced back, etc. Therefore, the steel logistics industry association need to break through the barriers of administrative divisions, to form a cross regional industry alliance, in order to comprehensively promote the standardization work of the regional logistics park, through the joint development of regional logistics park development planning, logistics market rules, industry standard management, industry technical standards. And it also need to create the conditions for interconnection and coordinated development of the steel logistics park: strengthening the construction and implementation of standards for steel logistics park infrastructure, management process, quality of service, improve the steel logistics park organization and socialization.

![Service System of Steel Logistics Park Based on Steel Inventory](image)

**Figure 2.** The service system of steel logistics park based on steel inventory.

C. Speed up the construction of information system and information platform. On the basis of the unified standard, with "steel inventory" as a link, through inter regional cooperation, and gradually form a network operation, will maximize the logistics park service function (Figure 2). On the one hand, through the logistics park information development, realize the park information sharing, can play the overall advantages and complementary advantages, to achieve internal logistics park intensification, scale and specialization, so as to enhance the efficiency of steel logistics park. Through the establishment of communication mechanism with other steel logistics park, to realize the opening and sharing of logistics infrastructure resources and logistics information resources, the steel logistics park platform can be integrated into the organization and socialization of logistics network service system. On the other hand, through information linkage cross industry to achieve industry regulation, information sharing, business linkage, between the park resources, logistics service quality,
logistics business process management extends to the manufacturing industry, trade, financial institutions, etc. Steel logistics park to develop suitable information systems according to their own business model and characteristics, through the use of cloud computing, big data, logistics network technology to speed up the park traditional operation and service model innovation and change, strengthen inter regional integration, through the logistics park entity platform and the combination of network platform of “Internet + logistics”.

D. Three regions should jointly develop logistics personnel. The coordinated development of the steel logistics park cannot be separated from the high quality logistics personnel. Logistics personnel development and training needs of Beijing, Tianjin and Hebei common to complete and promote the free flow of talent in a reasonable range. Beijing, Tianjin and Hebei should reach a consensus on the sharing of personnel exchanges and cooperation, and establish logistics talent education and training mechanism actively; promote the construction of major logistics related disciplines in colleges and universities, to further improve the logistics education system; carry out international cooperation in running a school, and establish an international, high-level supply chain and international logistics management personnel training base; encourage universities, scientific research institutions and large well-known logistics enterprises to establish a research alliance, the establishment of logistics experimental base and logistics talent incubation platform; improve the logistics practitioners practicing qualification certification system, logistics vocational training and qualification certification combined; and actively introduce senior personnel, the formation of international logistics research and development center; integration of colleges and enterprises, enterprises and research institutions, to encourage domestic and foreign well-known universities, research institutions, cooperation and exchanges.

Conclusion

The steel logistics park of Beijing-Tianjin-Hebei facing great opportunities and challenges now. It needs continuous and orderly development of the steel logistics park, under the pressure of three aspects: environmental protection, transportation and capacity transfer upgrade. On the one hand, the government needs to give guidance and policy support from the space layout and development direction of the steel logistics park; on the other hand, need more steel logistics park established industry alliance to break their barriers, build a unified industry service standards and product standards, establishment of information network to the "steel inventory" as the basis, to form a new development model of “Internet + logistics”.

References

