Equipment Manufacturing Industry Organization Mode Innovation: Made by Scattered to the Cluster Network Transformation-in Henan Province as an Example

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Abstract. Equipment manufacturing industry cluster is the development trend of world equipment manufacturing industry. The industrial scale of China's equipment industry ranks first in the world, but the development level of China's equipment manufacturing industry is in the middle of the world. This paper takes Henan Province as an example, aiming at the problems of industrial cluster innovation system, closely link imperfect, cluster planning and unreasonable layout of existing network transformation in industrial clusters, the ways and Countermeasures of cluster network transformation and development of the cultivation of the dragon shaped chain of industrial clusters, the establishment of national characteristic industrial parks, and guide enterprises closely with universities, scientific research institutions, perfect intermediary service system and other measures. The innovation of this paper is to promote the innovation of the equipment manufacturing industry organization mode, and promote the upgrading and development of the equipment manufacturing industry.

The Development Status of the Network Organization Mode of Equipment Manufacturing Industry Cluster in Henan Province
Since 2015, Henan Province, the main platform for the construction of industrial parks as the full implementation of the national three strategic planning, infrastructure services and gradually improve the technical level, greatly enhance the strength, the scale of the industry continues to expand, the industry cluster network organization mode is becoming more and more perfect. The main performance in the following aspects [2].

Enterprise projects to accelerate the gathering, the scale of the strength is significantly improved, cluster network organization model is increasingly perfect

The first three quarters of 2014, the province's industrial parks billion yuan and above 5482 projects under construction, an increase of 480 over the previous year, completed an investment of 958 billion 730 million yuan, accounting for 86.1% of total investment, industrial agglomeration area continues to expand, as of September 2014, the province's industrial parks built area of 1819.36 square kilometers, the province's industrial agglomeration scale industrial enterprises the above area reached 7763, the province has 89 industrial agglomeration scale industrial area of the main business income of more than 10 billion yuan, accounted for the province's total industrial agglomeration scale industrial area accounted for more than 60%. at the same time, cluster area benefit quality increase, cluster
network organization "promotion" has become increasingly prominent, such as the Henan province from 2013 to two a standard of three star cluster "promotion" in 2015 2 six star industry agglomeration area 3, three star 34 two star clusters, agglomeration, agglomeration speed and scale double strength Promote.

**Leading industries more prominent, distinctive features of the cluster network obvious advantages**

Henan province in the most competitive, the best growth, the highest correlation principle, the intensive cultivation of the characteristics of the leading industry. As of 2015, through five years of construction, Henan province has formed Luoyang Power Valley, Anyang machine tools and forging, the Central Plains and the Zhengzhou valley electric valve and engineering machinery, paper making machinery in Jiaozuo mechanical vibration, Xinxiang, Nanyang new energy equipment, mining machinery Jiyuan and constant lifting machinery such as a large number of high-quality industrial cluster.

**Equipment manufacturing industry is complete, the network structure is clear and perfect**

The equipment manufacturing industry in Henan province to the general equipment manufacturing, electrical machinery, special equipment manufacturing industry and equipment manufacturing industry and high-tech zones in Henan Province electronic information industry, which each have a large core industry with the advantages of scale manufacturing enterprises, and around the large number of small and medium absorbing supporting enterprises, construction and service platform the intermediary service system construction has greatly promoted the equipment manufacturing industry, network structure clear and perfect.

**Henan province has the social network environment of equipment manufacturing industry agglomeration**

Industrial automation intelligent has Henan Province, machinery manufacturing and other research institutions, many universities of science and engineering have to transition to research university, growing research team become the source of knowledge innovation of Henan equipment manufacturing industry cluster social network. Governments at all levels in Henan Province in promoting the revitalization of the equipment manufacturing industry, adopted a series of policy levers on regional transformation economic development with strong power, machine tools, transportation, equipment and other major equipment manufacturing enterprises, to create favorable conditions for the construction of equipment manufacturing industry cluster network organization. In Henan Province, education, finance, insurance, industry associations and other service system is relatively complete, a strong impetus to the development of equipment manufacturing industry cluster.
Equipment Manufacturing Industry Cluster Network Organization Mode Existing Problems

Industry link is not close, the formation of the phenomenon of accumulation instead of the chain

From each area inside, the industry chain is not perfect, the main factors restricting the local matching rate is still low. The development of industrial agglomeration in the cluster network organization construction, the competent department of project tends to despise industry, pay attention to the core enterprise of small enterprises attach importance to despise, and ignore the manufacturing value-added services, leading to lack of industry chain. The formation of industrial cluster to heap generation chain, cluster effect [3].

At the same time, the core enterprise quantity is small and medium and small sized enterprises relationship only stay in the product service relationship, there is even more intense competition between the loose relationship, integration is difficult, for example, Zhengzhou air harbor industrial area, as Foxconn intelligent terminal products of the leading representative, due to the special identification system of Apple's mobile phone, can be realized in cooperation with other enterprises in the cluster and coordination, and the industry chain has not been fully integrated, can improve the rate of local matching utility at the same time, the development of small and medium-sized enterprises supporting, chip production, mold design and manufacture, the software system development and other supporting enterprises, thus showing the number of smaller industrial links do not close.

Cluster innovation system is not perfect, the traditional enterprise development model is still widely exist

The core technology of equipment manufacturing industry in Henan province is still mainly relying on imports. The reason is mainly composed of the following aspects one cluster enterprise positioning deviation. For example, high tech Zone gathering area to scale in the first place, thus ignoring the gathering area of the small scale of investment, high technology project development potential of the high-tech enterprises in the region less. And enterprises with independent intellectual property rights. However, even developed patents and products better, also due to the lack of supporting funds and post investment, it is difficult to achieve industrialization. According to statistics, in 2013 the equipment manufacturing industry in Henan province R&D the expenses of 122 billion 100 million yuan and 150 billion 600 million yuan in Shanghai City, they are very different [4].

On the other hand, no regular technical exchanges between enterprises cluster technical support mainly from government policy planning. Technical cooperation in scientific research institutions and enterprises, scientific research achievements cannot be effective for the enterprise productivity, thereby limiting the knowledge network within the barrier free diffusion. For example, 2016 China top 500 private enterprises, 12 private enterprises in Henan Province on the list of the Zhongtian Swiss group, dragon group, Golden Dragon precise copper tube, Jin Li Jin Wan Yang lead smelting, Jiyuan iron and steel, Jinhui stainless steel seven for energy and raw material processing enterprises.

Cluster planning and layout is not reasonable

On the one hand, Henan province equipment manufacturing industry group is simply the space in the cluster, it cannot play the adjustment of economic structure of industrial cluster function, the development of many industrial parks lack of scientific planning, the
specialization is not reasonable, the regional focus on the development of content is not unique, thus restricting regional cluster expansion extend the industrial chain and industrial competitiveness. An industrial cluster are still in simple production clusters, not solve many development problems, such as inadequate investment in research and development led to the ability of independent innovation is weak, cluster structure distribution is not reasonable.

On the other hand, Henan province city county district market competition is not reasonable, service platform, duplication of infrastructure. Because of local protection in Henan Province, the municipal government planning industrial layout strong, lack of cooperation, lack of coordination, commercial elements in the region to achieve barrier free flow, and the formation of regional economic blockade and market segmentation cluster network regional barriers and industrial barriers lead to double cluster external enterprises to enter, it is difficult to form a cluster network, further hinder the development of the cluster.

The lack of core enterprise and lack of complement of leading enterprises, vicious competition still exists

The creation of the core enterprise and the brand has an important role in promoting the implementation of cluster scale advantages, the equipment manufacturing industry in Henan Province, characteristics of the brand is not outstanding, under the jurisdiction of shooting range is narrow, cannot pull the local regional economic development. At the same time, Henan province each gathering area of complementary low, such as the Henan province 180 agglomeration areas, super the 79 relates to the equipment manufacturing industry, 25 of which are machinery manufacturing, 34 for agricultural and sideline products processing. Food, clothing, chemical industry area were 32, 27, 23. The gathering area differentiation is low. The reason, on the one hand, in the early stage of cluster network construction, to expand the size of the main products in the project introduction, cultivation and localization combines the advantages of existing line, and upgrading of traditional industries are in conflict, and extending the industrial chain, value-added services do not match, resulting in homogeneity throughout the province for the project to undertake industrial transfer, enterprise competition For industry, the phenomenon occurs frequently, and even the existence of agglomeration areas such as tax return, vicious competition venue funds. On the other hand, in recent years, with the development of strategic emerging industrial layout, Henan local government in order to scramble for the development of new energy, new materials, electronic information, biological medicine and logistics industry, continue to increase investment preferential, led to a new round of industrial restructuring and upgrading in the process of overcapacity, aggravated the vicious competition area.

The Ways and Countermeasures of Transformation and Development of Cluster Network

After more than 5 years of government guidance and self-construction, Henan equipment manufacturing industry cluster network is facing more transformation and development further, need more measures to promote cluster network transformation, move from the "1 mode" to "2 mode".
Actively cultivate dragon shaped chain of industrial clusters, strengthen network collaboration, promote healthy competition

The formation of "leading enterprises significantly improve effect," supporting the small and medium-sized enterprise dragon industrial agglomeration, strengthen the chain, supporting the collaborative development. Henan province should continue to strengthen the ability to undertake the transfer of industries around the billion yuan of industrial clusters, vigorously develop the weak leading industry clusters, to carry out targeted investment promote the vertical integration between the industry, focus on guiding core enterprises and projects, so as to promote the coordinated development of supporting small and medium enterprises, improve the dragon network. At the same time, the establishment of leading industry cluster cultivation plan, scientific analysis of a number of major projects, the establishment of cluster support project library, and dynamically adjust according to changes in the external implementation of rolling environment and development, support the development of a number of leading projects, also need to encourage leading enterprises through mergers and acquisitions or peer companies, so as to improve the industry concentration, positive Promote the perfection and development of the Dragon-shaped chain industry cluster, and form a healthy competition[5].

Enterprises to strengthen the close ties with universities, scientific research institutions, to promote the construction of innovative service platform

In addition to cluster relying on its own efforts to continuously enhance the ability of technological innovation, but also should be combined with universities and research institutes in the gathering area in the construction of a number of national engineering centers and laboratories, in order to promote the development of common technology platform and the industrialization of high technology service platform construction. At the same time, the implementation of construction technology.

Innovation incubator platform, vigorously promote the annual new technology zone the center of a number of enterprises, more than the provincial engineering technology research center and other research and development platform. Thirdly, the promotion of industrial technology collaborative innovation, industrial innovation between entrepreneurs and investors to build exchange platform to build industry innovation alliance. So as to realize the key technology and core technology breakthrough.

To create advanced, with the national characteristics of the industrial agglomeration area

According to the "China 2025" plan, Henan province should seize the new round of development of the manufacturing industry high ground, focus on intelligent terminals and mobile information security, industrial robots and intelligent equipment, new energy equipment, energy saving and environmental protection equipment, biopharmaceuticals, new materials and other emerging industries in advanced manufacturing field, and vigorously promote the industrial design. The construction of industrial software development services two key productions. At the same time, Henan relying on the advantages of industrial clusters, based on one hundred billion yuan of industrial clusters, to create a number of national characteristic industry cluster base, and strive to enter the national "13th Five-Year" plan. For example, the global intelligent mobile phone key production base as a platform, the positive development of tablet computer intelligent home appliances, wearable intelligent terminal
products, promote networking major demonstration, cloud computing and big data capacity building project, to create a national intelligent terminal manufacturing base, the cold chain food and leisure food as the focus, to create trillion yuan level food manufacturing base. The pants for the lead, the positive development of the brand apparel, home textiles, leather bags and other industrial clusters, to create the national textile and garment manufacturing base [6].

To improve the intermediary service system, and improve the service function of self-organizing organizations such as industry associations.

First of all, pay attention to market research, entrepreneurial guidance, management, assets assessment, accounting, law, international trade, exhibition, staff training, construction of logistics and other intermediary service organizations, to further improve the intermediary service system, in order to fully adapt to all kinds of equipment manufacturing enterprises to the diverse service requirements, in terms of self-discipline organization construction industry association so, can use the mode of operation of industry associations, and actively promote cooperation and coordination, improve the network structure. Secondly, agglomeration between information sharing platform, in order to understand the cluster of other parks in the direction of industrial development, dynamic policy, create the precondition for cooperation in the park.

In addition, the use of scientific evaluation system to guide the construction and development of the cluster network, the assessment model, should weaken the added value of cluster district tax revenue, the number and size of the proportion of enterprises will focus on the assessment of cluster innovation, investment environment, foreign investment and other indicators of the proportion. Finally, the equipment manufacturing industry guides broaden the various financing channels, in order to build a good financial environment, promote the transformation and development of the cluster network.

References


