

The research on the operating models of public service platform of the Hubei province key-developing industrial clusters

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Abstract: Public service platform of industrial cluster includes Industry Association, Guarantee Agency, Productivity Center, R&D Center, Inspection and Test Center, Training Institutions, Product Center and Professional Market, etc. By case study in Hubei province, local government and leading enterprises, they are the major part of public service platform constructing of industrial cluster.

Key words: industrial cluster; public service platform; major part of public service platform constructing; operating model

1. Introduction

The construction of public service platform of industrial cluster commonly refers to 8 elements, which are Industry Association, Guarantee Agency, Productivity Center, R&D Center, Inspection and Test Center, Training Institutions, Product Center and Professional Market. Early 2008, according to the government file, "The pilot scheme of key-developing industrial cluster management of Hubei province", the economic commission of Hubei province has confirmed fifty-two key-developing industrial clusters¹. At the end of 2008, the economic commission of Hubei province has held an assessment of the 52². The researching of this article is focused on the operating models of public service platform of the key-developing industrial clusters.

2. The operation characteristics of the public service platform of key-developing industrial cluster

2.1 Industry association

The sustainable development of industrial cluster should not be separated from the support of industry self-government organizations (industry association). Industry associations and commerce associations play key roles in industrial cluster governing. In this case study, 14 of these 52 key-developing industrial clusters have established Industry Association. There are 4 major functions of Industry Association.

The first function is servicing as a communicating medium, which keeps contact both with government and

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¹ By the end of 2008, the Economic Commission of Hubei province has organized the annual assessment for the 52 key-developing industrial clusters. The data which cited by this article is come from the 2008 annual examination materials of each industrial cluster.

² The contents of the assessment do not refer to the "Professional Market", which aims at assessing the performances of the key-development industrial clusters organized by the Economic Commission of Hubei province.

enterprises. For one side, it conveys the common demands of enterprises to the government. For another, it is a capable assistant for the government to formulate and implement industrial cluster developing strategies. For instance, the Building Materials Association of Tuanfeng county, it has structured a well-communicating public service platform for government and enterprises in the industrial cluster, and promoted the development of steel-structure industrial cluster.

The second function is assisting the self-adjustment of industry. Industry associations promulgate and implements some rules and a variety of industrial standards, regulate business conducts of the enterprises in the industrial cluster and promote member companies to improve the management level; they maintain the interests of the member companies and the overall industry, and promote the sound development of industrial clusters. For instance, Zaoyang city friction & sealing materials industry association, it has promulgated and implemented the “Zaoyang city Friction & Sealing Materials Industry Regulation” for regulating behavior of enterprises in the industrial cluster, which has effectively promote the orderly development of friction material industrial cluster.

The third function is providing certification service. By the commission of the government, it provides the qualifications reviewing and license issuing services of market accessing qualification, certificate of origin, quality certification, production licenses and import and export licenses. Such as Suizhou city Zengdu district Mushroom Technology Association, for the protection of the quality and safety of products, it has taken the responsibility for protection of the quality and safety of products, responsible for organizing and coordinating farmer to popularize the standardization of mushrooms cultivation, experiments of new varieties and new technology, which provides the high-quality supply for export enterprises.

The fourth function is providing information and training services. For example, Jingzhou city petroleum machinery industry association and Zaoyang city friction sealing materials industry association, they provide information services, education and training services, consulting services and exhibitions, organization meetings and so on; Suizhou city Zengdu district mushroom technology association and Enshi city professional and technical association, they provide the production technical training of agricultural products for farmers, technology exchange and information consulting services.

2.2 Productivity center

Productivity center is an important platform for promoting the technological innovation of enterprises in the industrial clusters and the overall technological advances of the industrial cluster. Part of the key-developing industrial clusters have established productivity center with their own characteristics, non-woven products productivity center of Xiantao city and fan manufacturing productivity center of Guangshui city, they have been assessed as productivity center of provincial level.

The major services of productivity centers include: organize the scientific and technological forces to overcome the technical difficulties, provide projects application, product promotion, technical information exchange, technical advice and technical training services for enterprises in the industrial clusters. As the major part of constructing productivity center, it relates local government and leading enterprises of the industrial cluster.

These productivity centers are constructed mainly by government, which are the productivity center of Yingcheng city which constructed by the Technology Bureau of Yingcheng city, the productivity center of Xiangyang district which constructed by the Technology Bureau of Xiangyang district, the productivity center of Xianfeng county which constructed by the Business Bureau and the Labor and Social Security Bureau of Xianfeng county, the productivity center of Petrochemical Equipment Manufacturing Industrial Cluster which

constructed by the government of Honghu city and the productivity center of Auto-Parts-manufacturing industrial cluster which constructed by the government of Liuliping town Danjiangkou city. This kind of productivity centers serve for all the enterprises in the industrial cluster which provide the public service platform of the overall technological advances.

These productivity centers are constructed mainly by leading-enterprises, which are the productivity center of Daohuaxiang Liquor Industrial Cluster of Yiling district, Yichang city which constructed by Daohuaxiang Liquor Co., Ltd., the Nonwovens productivity center of Pengchang district and the Nonwovens productivity center of Xiantao city which constructed by Hubei Xiantao Xinfu plastic products Co., Ltd. This kind of productivity centers provide paid services for the enterprises in the industrial cluster, which promote the technological upgrading of enterprises in the industrial cluster, thereby stimulating the overall technology advances of the industrial cluster.

In addition, the Fen Manufacturing productivity center of Guangshui city has taken the operating model of “the government to promote, market-oriented, independently operating and providing paid services” which effectively promoting the internal technology transfer of industrial clusters.

2.3 R&D center

R&D center is an important public service platform which provides technical support for enterprises in the industrial cluster, which assists the improvement of the scientific and technological content of products and which enhances the market competitiveness of products. In the fifty two key-developing industrial clusters, the majority of them have established R&D center. As the major part of the construction and the operation of R&D center, they are mainly related to the following three models:

The first model is “Industry-Academia-Research driven model”. Such R&D centers are jointly organized by the enterprises in the industrial cluster, the government, the universities and the scientific research institutions. For example, the Institute of Geographical Sciences and Natural Resources Research, CAS (the Chinese Academy of Sciences) and the government of Enshi city, they have jointly organized the R&D center of Enshi City selenium resources of the Institute of Natural Resources Research, CAS. Hubei Yihua Group, Tsinghua University, Peking University, CAS, Huazhong University of Science and Technology, Wuhan University and many other nationwide universities and institutions which involves more than 60 organizations, they have jointly organized the R&D center of Hubei Yihua Group. CAS and the government of Qianjiang city, they have jointly organized the Bittern R&D center of Qianjiang city of the Institute of Process Engineering, CAS. Hubei Tri-Ring Valves Co., Ltd has cooperated with Huazhong University of Science and Technology and Tsinghua University, they have jointly organized the Valves R&D center. The benefits of such R&D center is able to effectively integrate the scientific technology resources of universities and scientific research institutions, and promote the technological upgrading and transformation of industrial clusters by Industry-Academia-Research cooperation.

The second model is “leading-enterprises driven model”. Such R&D centers are organized by the leading-enterprises, some of them are organized by single enterprise and others are jointly organized. For instance, the R&D center of Wanxiangtongda Group, the R&D center of Shiyan Zhenghe Car Body Co., Ltd, the R&D center of Chitian university of automotive technology and the nanometer technology R&D center of Shiyan Feinake Science and Technology Co., Ltd, they are in the Auto-Parts-manufacturing Industrial Cluster of Maojian district, Shiyan city. The coated abrasives R&D center of Hubei Yulishadai joint-stock company, it is in the Coated Abrasives Industrial Cluster of Tongcheng county. The R&D center of Yong'an Pharmaceutical Co., Ltd and the Salt & Chemical R&D center of Jiangnan Oilfield, they are in the Chemical Industrial Cluster of Zhekou district,

Qianjiang city. The R&D center of Hubei Trend Steel Structure Co., Ltd, it is in the steel-structure Industrial Cluster of Tuanfeng county. The R&D center of Wuhan Company, TPV Technology Group, it is in the Electronics Industrial Cluster of Caidian district, Wuhan city. The R&D center of Yili Industrial Group, the R&D center of Taizi Group and the R&D center of Huiyuan Group, they are in the Beverage Industrial Cluster of Huangzhou district, Huanggang city. The R&D center of Hubei Yangfeng Group, it is in the Phosphorus Chemicals Industrial Cluster of Dongbao district, Jingmen city. The R&D center of Daohuaxiang Group, it is in the Daohuaxiang Liquor Industrial Cluster of Yiling district, Yichang city. The R&D center of Zhijiang Group, it is in the Liquor Industrial Cluster of Zhijiang city. The Xingfa Fine Phosphorus chemicals R&D center, which is jointly organized by Hubei Xingfa Chemicals Group Co., LTD, Yichang Chu Phosphorus chemicals Co., LTD, Yunnan Shengshida Chemicals Co., LTD and Baokang Chufeng chemicals Co., LTD, it is in the Phosphorus Chemicals Industrial Cluster of Yichang city. Such R&D centers are always organized by the leading-enterprises which are sufficient fund and high technology, they mainly service for the enterprises who set them up, and they are the main forces which promote the technological innovation.

The third model is “government driven model”. Such R&D centers are organized by the guidance and the promotion of the government. The major part of its operation involves the government and enterprises. They serve for all the enterprises in the industrial clusters. The typical ones are: the Xiang textile product technology R&D Center which serves for all the enterprises in the Textiles Industrial Cluster of Fancheng district, the Xianning Phoenix Mechanical and Electronic R&D Co., LTD which serves for all the enterprises in the Mechanical and Electronic Industrial Cluster of Xianning city, the Xianfeng eco-agriculture R&D Center which is organized by the Agriculture Bureau of Xianfeng county, the R&D Center of the Agro-processing Industrial Cluster of Xiangyang district, Xiangfan city which is organized by the government and the leading-enterprises, etc.

2.4 Inspection and test center

Inspection and test center of industrial cluster provides product inspection testing services, commissioning testing services and arbitration testing services. It is the important public service platform which ensures the product quality and maintains the reputation of the industrial cluster. 10 of 52 Key-developing industrial clusters have set up inspection and test center. As the major part of the construction and operation of the inspection and test center, they are related to the following 4 models:

The first model: the inspection and test center is operating under higher level inspection centers' administration. Such as: the textile inspection and test center of Hanchuan city, it is organized by the textile inspection and test center of Hubei province and the Textiles and garment manufacturing industrial cluster of Hanchuan city; the inspection and test center of the Coated Abrasives Industry, it is organized by the Association of China Coated Abrasives Industry and Yulin Group which is the leading-enterprise of the Coated Abrasives Industrial Cluster of Tongcheng county; and the inspection and test center of friction material, it provides the friction product inspection testing services, commissioning testing services, arbitration testing services and products R&D services. Such type of the inspection and test centers, they provides service for all the enterprises in the industrial clusters, which are under the supervision of higher-level inspection centers.

The second model: the inspection and test center is organized internal by the leading enterprises. For instance, the Automotive Steering inspection and test center which belongs to the Jingzhou Henglong Auto-Parts-manufacturing Co., Ltd., the electric machinery inspection and test center which belongs to the Hubei Shendian Auto Electric Machinery Co., Ltd., the inspection and test center of Yangfeng Group, the inspection and test center of TPV Technology Co., Ltd., the inspection and test center of Zhijiang Liquor Group and the

inspection and test center of Hubei Chuyuan Group. Such kind of inspection and test centers is organized the leading enterprises, who have had sufficient funds and high technology, they mainly serve for the enterprises who set them up, and are responsible for the inspection of the product quality.

The third model: the inspection and test center is organized by the Government Department. Such as the Xianfeng Food Inspection and Test Center that organized by the Quality and Technical Supervision Bureau of Xianfeng county and the Hubei Steel Truss Inspection and Test Center that organized by the Quality Supervision Bureau of Tuanfeng county. Such kind of inspection and test center is organized by the government department, and it is a public service platform with the purpose of promoting the development of the industrial cluster and maintaining the reputation of the whole industrial cluster.

The fourth model: the inspection and test center is organized by the R&D center and Productivity Center. Such as the Fen inspection and test center that set up in the Productivity Center of Guangshui city and the inspection and test center of the Light Industry Packaging Machinery Industrial Cluster of Jingshan county that organized by the Nation Level Technology Center of Hubei Jingshan Corrugating Machinery Co., Ltd. and the Packing Machinery Technology Center of Hubei province. By the strength of their own technology, the R&D centers and the productivity centers have set up the inspection and test centers which are capable providing efficient product inspection services.

2.5 Training agency

Training agency is the important public service platform which is organized for developing human resources and training workers. Most of the key-developing industrial clusters have set up training agencies. As the major part of the construction and the operation of training agencies, they are mainly related to the following three models:

The first model: the formation of the training agency relies on local career training institute. For example, the training agency of the Auto-Parts-manufacturing Industrial Cluster of Gong'an county, it organized with the assistance of Gong'an country Hong'en career training school; the Wuxue career training center of the Pharmaceutical Chemical Industrial Cluster of Wuxue city, it organized with the assistance of the Wuxue Technology College, the Xiangyun Group which is one of the leading enterprises and the Hubei Guangji Pharmaceutical Co., Ltd.; the training center of the Light Industry Packaging Machinery Industrial Cluster of Jingshan country, it organized with the assistance of the Jingshan Electrical Technology School; the chemical career training center of the Chemical Industrial Cluster of Zhekou district, Qianjiang city, it organized with the assistance of the Qianjiang Vocational School, the Qianjiang Health School and the professional workers of the large and medium-sized enterprises. Such kind of the training agencies rely on the career training institutes, which have effectively integrated the local education resources of the industrial cluster.

The second model: the training agency is organized by the leading enterprises. For instance, the career training center of the Daohuaxiang Liquor Industrial Cluster of Yiling district, Yichang city, it organized by the Daohuaxiang Group which is the leading enterprise; the career training center of the Liquor Industrial Cluster of Zhijiang city, it organized by the Zhijiang Liquor Group; the AOC career training center of the Electronics Industrial Cluster of Caidian district, Wuhan city, it organized by the TVP Technology CO., Ltd. and the Hubei Yuli Vocational School of the Coated Abrasives Industrial Cluster of Tongcheng county, it organized by the Hubei Yulin Group. Such kind of the training agencies rely on the leading enterprises, which mainly serve for the internal staff, and also effectively improve the productivity of the labor in the leading enterprises.

The third model: the training agency is organized by the Government Department. For example, the Small

and Medium Enterprises Management Service Center of Xianfeng county which is organized by the Small and Medium Enterprises Developing Bureau of Xianfeng county, the labor training center of the Steel-structure Industrial Cluster of Tuanfeng county which is organized by the government of Tuanfeng county with the concerning of “Sunshine Project” and “The Rural Labor Employment Plan”, and the human resource training center of the Textiles and garment manufacturing Industrial Cluster which is organized by the government of Chibi city. Such kind of training agencies is organized by the government, which serve for all the enterprises, and also effectively improve the productivity of the whole industrial cluster.

2.6 Product center

Product Center is an important public service platform which provides publicity and promotion service for the products of the enterprises in the industrial cluster, and it is also an important window to demonstrate the strength of industrial cluster and product features. Some of the 52 Key-developing industrial clusters have set up product center. As the major part of the construction and operation of the inspection and test center, there are two models of Product Exhibition Center.

The first one: the government-driven model. The local government of industrial clusters leads to format the product exhibition center for all the enterprises of the industrial cluster with the purpose of promoting the products and the development of the industrial cluster. For example: the Xianfeng Industrial Product Exhibition Center that organized by the Business Bureau and SMEDA; the textile Exhibition Center of the textile industrial cluster that organized by Fancheng district government of Xiangfan; the Auto Parts industrial cluster Product Exhibition Center that organized by the government of Liuliping town Danjiangkou city; the mushrooms industrial cluster Product Exhibition Center that formed by Xugu town government of Wuhan Xinzhou district.

The second mode: leading enterprises of industrial cluster inside establish Product Exhibition Center separately or jointly. For example: the leading enterprises of the Jiahai clothing industrial cluster of Wuhan Huangpi district jointly establish Jiahai clothing industrial cluster Product Exhibition Center to provide large clothing wholes and trade area; Daohuaxiang Group assemble Product Exhibition Center that aims at publicizing special culture of Daohuaxiang and improving the value of its brand; the leading enterprises of the Chibi textile clothing industrial cluster organize Product Exhibition Center separately to have their characteristic products on display.

2.7 Professional market

Some of the key-developing industrial clusters have set up professional market which provides transaction services for enterprises in the industrial clusters. For instance, Mushroom Industrial Cluster of Xugu town, Xinzhou district, Wuhan city and Mushroom industrial cluster of San-li-gang Zhengdu district, Suizhou city, they have set up professional market which provide platforms of trading services of mushroom species and mushroom-processing products, demonstrate its function of aggregation and radiation; Jiahai Garment Manufacturing industrial cluster of Huangpi district, Wuhan city, it has set up 3 professional markets for cloth, accessories and equipment, which serves for enterprises in the industrial cluster, provides raw materials and processing equipment, saves purchasing costs and logistics costs for enterprises in the industrial cluster.

3. Closing remarks

By case studying of key-developing industrial cluster of Hubei province, it is shown that, at the beginning of

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