Developing Country Studies
ISSN 2224-607X (Paper) ISSN 2225-0565 (Online)
Vol.7, No.4, 2017

Optimizing Administrative Mechanism of Trans-regional Science Park Collaborations in China—A Case Study of Yangtze River Delta S&T City

Xiao KONG[1*] Feng FENG[2]
1.School of Public Affairs, University of Science and Technology of China, 96 Jinzhai Road, Hefei 230026, China
2.School of Management, University of Science and Technology of China, 96 Jinzhai Road, Hefei 230026, China

Abstract
With several national strategies being brought up in China, innovation collaborations especially trans-regional innovation collaborations becoming increasingly important. This paper using the specific case of Yangtze River Delta S&T City —one inter-provincial cooperatively constructed Science Park in China— trying to improve administrations of trans-regional science parks. By field visiting and structured interviewing with major governments and related partners, this paper optimized current administrative structure of Yangtze River Delta S&T City that has hindered its development for years and provided experiences for similar trans-regional science park collaborations in China.
Keywords: Trans-regional Science Park; Yangtze River Delta S&T City; Administration Structure

1. Introduction

China's innovation strategy has made great progress, which can be reflected by the successively established 16 National Independent Innovation Demonstration Zones nationwide, as well as the continuously rising innovative ability of China (Dang & Motohashi, 2015; Florini, Lai, & Tan, 2012; Y. Huang, Audretsch, & Hewitt, 2013; Ke & Xia, 2012). While for Inter-regional corporations, although a series of national strategy has also been proposed, such as the "One Belt, One Road" strategy (Swaine, 2015) and the "Yangtze River Economic Belt" strategy (N. Huang, 2015; Xinmu, 2010), related successful practices are rare, especially for inter-regional innovation corporations.

Yangtze River Delta S&T City is the first one and also the only one inter-provincial cooperatively constructed Science Park in China. First proposed in 2011, the Yangtze River Delta S&T City aims to establish a trans-regional science park that can combine the advantage of Shanghai's innovation resources, supportive policy and Zhejiang's low business cost, and eventually realize innovation and economic integration of these two regions. Till now, although more than 5 years have passed since the proposal of this project, the progress is slow. This was caused by the complexity of trans-regional cooperation, which has many problems to solve, such as how to design the benefit sharing mechanism, how to layout industries fairly (Geng, 2016; Xuejie, 2014). Moreover, since the co-built science park is under the administrative control of governments at all levels of both Shanghai and Zhejiang, how to coordinate trans-regional administrations is particularly complex and important.

This paper is focused on the specific problem of how to achieve effective administrations on trans-regional science parks. This paper by field visiting and structured interviewing of major governments and related partners of Yangtze River Delta S&T City, first summarized current problems that hinders the development of the science park, then gathered policy orientations on the top-level administrative design of the park, and eventually proposed an optimized administrative mechanism. We believe that our work can greatly speed up the process of this project, and more importantly, can provide experience for other potential trans-regional science park corporations in China.

The rest part of this paper is organized in the following manner; section 2 summarizes the historical development of Yangtze River Delta S&T City and its current administrative mechanism. Section 3 summarizes current problems that hinder the progress of the science park. Section 4 makes corresponding policy suggestions and based on that proposed an optimized administration model. Section 5 summarizes and states the main conclusions.

2. Background

After years of innovation-driven development, Shanghai has entered a new development stage of industrial agglomeration and diffusion; Shanghai now is under increasing pressure of scientific and technological achievements transformation and industrial upgrading, who needs urgent industry structure optimization after attracting and incubating a series of industrials (Bin & Jing, 2016; Guoping, 2015; Yaoxin, 2014). This situation becomes more prominent after 2014 the State Council of China put forward new requirements of establishing Shanghai into innovation centers with global influences (Qing & Yugang, 2015; Yijun, Long, & Tongjian, 2015).

However, limited space and extravagant business cost make the scientific and technological innovation difficult to be locally transformed and new strategic emerging industries hard to be introduced. More and more enterprises in Shanghai have to seek outward layout for more profit, which is caused by increasingly serious constraints such as lack of space, rising business costs (Ting & Xiaoli, 2015). While for north Zhejiang areas that adjoin Shanghai Jinshan municipality, its economic level is far lagging behind, and it is seeking for development opportunities with numerous undeveloped land resources and relatively cheaper labors.

The co-built Yangtze River Delta S&T City is located just at the conjunction areas of Shanghai and Zhejiang. The economic and industrial development level gradient in this area makes it have unique advantages as carriers of Shanghai industry diffusion, and also provides opportunities for the less developed Zhejiang areas. The proposed mode for Yangtze River Delta S&T City is an inter-provincial science park that is composed of two parts—Fengjing hi-tech Park and Pinghu hi-tech Park—. The Fengjing Park is located at Fengjing town (southwest of Shanghai municipality) and the Pinghu Park is located at Pinghu city (northeast of Zhejiang province). The Fengjing Park was originally a sub-part of Jinshan high-tech park, who belongs to the Zhangjiang National Innovation Demonstration Zone. The total planning area of Yangtze River Delta S&T City is 87 square kilometers, including 45 square kilometers in Pinghu and 42 square kilometers in Fengjing.

2.1 Historical developments of Yangtze River Delta S&T City

The initial originator of Yangtze River Delta S&T City is Zhangjiang National Innovation Demonstration Zone Management Committee. The co-building of Yangtze River Delta S&T City was launched by the agreement—Strategic cooperation framework agreement of establishing Shanghai Zhangjiang Pinghu hi-tech park— assigned by Pinghu Municipal People's government and Shanghai Zhangjiang National Innovation Demonstration Zone Management Committee in September, 25, 2011.

After years of hard exploration, the Yangtze River Delta S&T City started to form an inter-provincial developmental pattern of “one city containing two parks”. But the overall progress of this project is seriously lagged behind. To further advance the building of Yangtze River Delta S&T City, with the permission of Zhejiang provincial government, Zhangjiang National Innovation Demonstration Zone Management Committee officially issued in 3, March, 2016, the *notice on the set up of the leading group and working group of Yangtze River Delta S&T City building*. Till now, the first-stage of this project has been authorized by Zhangjiang National Innovation Demonstration zone Management Committee to start; the total size is about 7.91 square kilometers, including 11345 acres vacant land.

2.2 Current administrative structures

The current decision-making layer of Yangtze River Delta S&T City is the newly established leading group, with executive deputy director of Zhangjiang National Innovation Demonstration Zone Management Committee and district chief of Shanghai Jinshan district People's Government as the group leaders. Zhangjiang National Innovation Demonstration Zone Management Committee also organized the working group as the direct executant of the leading group’s decisions, but the group members and leaders have not been totally confirmed.

Besides, Pinghu Park and Fengjing Park have established their own running company and management committee separately. In Apirl, 2014, Zhangjiang National Innovation Demonstration Zone Management Committee authorized an investment corporation in Pinghu and an investment corporation in Shanghai to establish a joint company—Shanghai Zhangjiang High-tech Park Pinghu Joint Development Co.,Ltd—as the operation entity of Pinghu Park, in which the investment corporation of Shanghai was the majority shareholder (55%). The joint company is responsible for infrastructure building, investment invitation and such construction and operational affairs of the park. At the same time, approved by Zhejiang provincial government and Pinghu municipal government, Pinghu Park established a management committee that is responsible for the government administrative affairs of the park, such as project examination and approval. Also, in August, 2015, another joint company—Shanghai Zhangjiang Changsanjiao Sci-tech City Fengjing Joint Development Co.,Ltd—was established as the operation entity of Fengjing Park, whose all three shareholders were investment corporations from Shanghai. Fengjing Park also established its own management committee.

3. Problems Hinder the Development of the Science Park

Theoretically, existing administrative structure of Yangtze River Delta S&T City can meet the basic requirements for its development. However, in practice, the results are still far from satisfactory. Current administrative structure of Yangtze River Delta S&T City failed to solve many in-depth problems in trans-regional cooperation, especially between two administrative regions; the major problems that hinder the development of the science park are summarized as follows.

●The newly established leading group of Yangtze River Delta S&T City did not include leadership of Zhejiang province, causing its inability in solving trans-regional issues and making decisions that need the support of both Shanghai and Zhejiang. Moreover, the deficiency of the working group’s members results in the

malfunction of its duties.

●The absence of a united administrative and operating mechanism. Yangtze River Delta S&T City stretches over two provincial administrative areas, so its development is under the administrative control of governments at all levels of both Zhejiang and Shanghai, including Zhangjiang National Innovation Demonstration Zone Management Committee (agent organ of Shanghai municipal government), Jinshan district government, Fengjing town government, Zhejiang provincial government, Jiaxing municipal government and Pinghu municipal government. In practice, Pinghu Park and Fengjing Park established their own management committees and operating companies separately. This has brought great challenges for the united development of Yangtze River Delta S&T City. The separately established operating companies and management committees made each park had their own independent governance institution and running company, which made it easier for Pinghu Park and Fengjing Park acting of their own free will, while the overall development of the Yangtze River Delta S&T City was ignored. So the administrative mechanism from the government needs optimization instead of currently separately management communities. Moreover, a unified controlling company is required to achieve the unified management of parks in both Fengjing and Pinghu.

●The difference in development orientations and the absence of unified development plans. The Pinghu Park is located at less developed area who pursuit low-end manufacturing industries that could rapidly bring high economic output for local development. While the Fengjing Park now belongs to Zhanjiang National Independent Innovation Demonstration Zone, who prefers strategic emerging industries that could meet the standard of the National Independent Innovation Demonstration Zone. As to the development plans, although both parks made specific plans, but their plans failed to obtain the approval of both governments. Pinghu's plan was approved by Zhejiang government but failed to get the permission of Shanghai. Fengjing made its own plan without the permission of Zhejiang government and also failed to meet the requirement of the development strategy of Shanghai. The absence of unified plans directly results in the interruption of on-going construction projects including infrastructure construction, road traffic, technology sharing centre and environmental systems, which greatly interfere with the overall development process of Yangtze River Delta S&T City.

●The absence of appraisal mechanism. The absence of appraisal mechanism resulted in the discount in fulfilling the duties involved in the agreement. For example, Shanghai Zhangjiang High-tech Park Pinghu Joint Development Co.,Ltd has signed an agreement with Pinghu local government on infrastructure building, benefits distribution, etc. But the local government frequently disobeyed the agreement and transfer many resources to other jurisdictions. This situation also exists in Fengjing Park. Actually, in the design of administrative mechanism, although many factors have been considered to guarantee that all partners can take their supposed role in the corporation of building Yangtze River Delta S&T City, however, a valid supervision institution and punishment mechanism have not been established to penalize the non-performance behaviours.

4. Optimization of the administrative structure of Yangtze River Delta S&T City

According to the above mentioned problems, we performed structured interviewing with major leaders of the governments and related partners of this project, several suggestions are summarized as follows.

●Give more powers to Zhangjiang National Innovation Demonstration Zone Management Committee. Yangtze River Delta S&T City is the first one and also the only one inter-provincial cooperatively constructed Science Park. During its development, many problems occur because Zhejiang and Shanghai divers greatly in economic and social development, such as different development ideas, different interests and demands, as well as how to coordinate the implementation of decision making. Full support and authorization of Shanghai's and Zhejiang's government is vital to solve these problems, and an ultimate decision maker is necessary to make the final decisions. Considering that the planned Yangtze River Delta S&T City is to be established to meet the standard of the Zhangjiang National Innovation Demonstration Zone. So we suggest that Shanghai and Zhejiang should together proposal the integrated construction of Yangtze River Delta S&T City into policy agenda as soon as possible and supportive policy should be made to authority Zhangjiang National Innovation Demonstration Zone Management Committee as the administrative and evaluation subject of Yangtze River Delta S&T City building.

●Improve integrated administrative and management mechanism. Firstly, add one related leadership of Jiaxing municipal people's government to the leading group of Yangtze River Delta S&T City to form the decision-making mechanism with Zhangjiang National Innovation Demonstration Zone Management Committee as the main body, Shanghai Jinshan municipal people's government and Zhejiang Jiaxing municipal people's government as supporters, at the same time, establish the working mechanism of regular consultation and major issues negotiated specifically. Secondly, on the basis of current working groups, adding members of related leaders of both Zhejiang's and Shanghai's government at all levels. The newly optimized working group should be responsible for the coordination of administrative affairs between each park and their local government.

●Establish a controlling corporation of Yangtze River Delta S&T City. Establish a controlling corporation over Shanghai Zhangjiang High-tech Park Pinghu Joint Development Co.,Ltd and Shanghai Zhangjiang

Changsanjiao Sci-tech City Fengjing Joint Development Co.,Ltd. The newly established controlling company should be responsible for the overall construction of the whole city (including Pinghu Park and Fengjing Park).

We believe that to push forward the co-building of Yangtze River Delta S&T City, a valid administrative structure must be first established. The administrative structure should clearly define the supposed duties and powers of each partner. We therefore based on the above suggestions proposed an optimized hierarchic administrative system with each layer has its specific function and duty, in which Zhangjiang National Innovation Demonstration Zone Management Committee is in charge of guidance, planning and evaluation, the leading group is the decision-making layer, the working group is responsible for coordinative services, the companies is the execution layer. The optimized administrative structure as well as the specific functions and duties of each layer were shown in **Fig.1**.

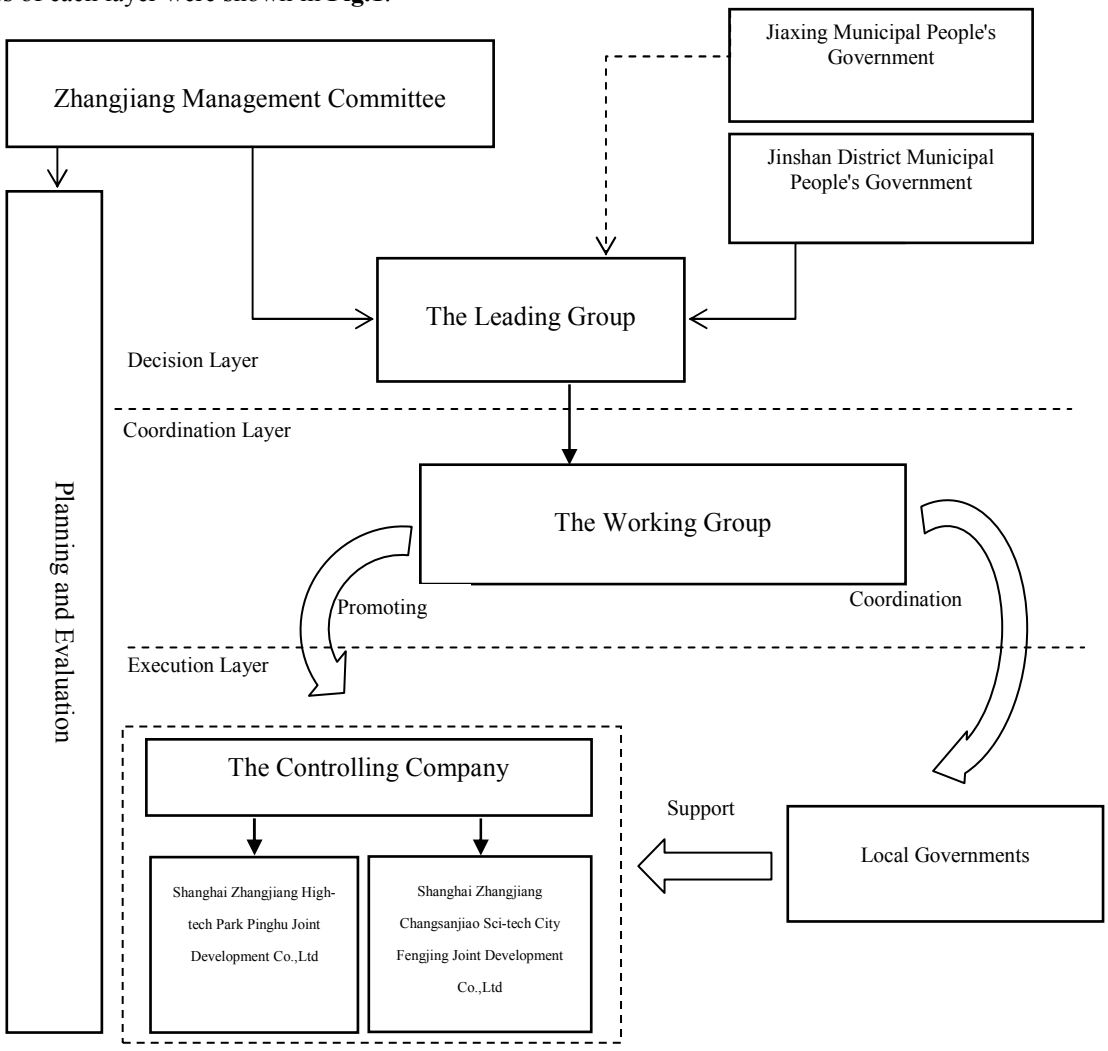

Figure 1. The Optimized Administrative Structure of Yangtze River Delta S&T City

Zhangjiang National Innovation Demonstration Zone Management Committee is the convener of the leading group; its duties are as follows: 1.Making the overall development plan and other specific plan of Yangtze River Delta S&T City; 2.Evaluating the general development process of Yangtze River Delta S&T City.

The principal functions of the leading group include five aspects: 1.Decisions on major issues and construction development of Yangtze River Delta S&T City; 2.Inspection and decision of supportive policies of introducing innovative resources and collaboration issues between Zhejaing and Shanghai; 3.Inspection of policies and affairs that needed to be reported to the national or provincial government for support; 4.Coordination of major problems during inter-regional cooperation; 5.Inspection of the changes of organization system, operating mechanism and leaderships of Yangtze River Delta S&T City.

The duties of the working group include six aspects: 1.Submit major affairs to the leading group; 2.Undertake important works decided by the leading group; 3.Coordinate the implementation of the development plan of Yangtze River Delta S&T City; 4.Organization and coordination of collaborative affairs between Shanghai and Zhejiang's government; 5.Coordinate the implementation of supportive policies for the

development of Yangtze River Delta S&T City; 6.Coordinate the administrative services of local government departments for Yangtze River Delta S&T City.

The duties of the controlling company include: 1.The overall construction of Yangtze River Delta S&T City according to the development plan; 2.All investment invitation affairs of Yangtze River Delta S&T City; 3.The overall operation and running of Yangtze River Delta S&T City; 4.Negotiation with local government on specific issues when needed. Besides, Shanghai Zhangjiang High-tech Park Pinghu Joint Development Co.,Ltd is responsible for the specific construction works in Pinghu Park and Shanghai Zhangjiang Changsanjiao Sci-tech City Fengjing Joint Development Co.,Ltd is responsible for the specific construction works in Fenjing Park. Both these two subsidiary companies are under the direct leadership of the controlling company.

5. Conclusions

This paper using the exact case of Yangtze River Delta S&T City focuses on the study of how to achieve effective administration of trans-regional collaborated science parks. By field visiting and structured interviewing with major governments and related partners, this paper from the angle of administrative mechanisms optimized current administrative structure of Yangtze River Delta S&T City. We believed that our work can greatly push the development process of Yangtze River Delta S&T City, and therefore provide experiences for other potential trans-regional science park collaborations in China. Still, there are many other problems that hamper the development of Yangtze River Delta S&T City, such as how to balance benefit sharing between Zhejiang and Shanghai, which is a research direction that we will keep exploring in our future studies.

References

Bin, H., & Jing, H. (2016). The research on Problem about Bearing Capacity of Employment in Shanghai Industrial Structure Adjustment and Upgrading. *Science & Development*(90), 23-30.

Dang, J., & Motohashi, K. (2015). Patent statistics: A good indicator for innovation in China? Patent subsidy program impacts on patent quality. *China Economic Review, 35*, 137-155.

Florini, A. M., Lai, H., & Tan, Y. (2012). *China experiments: From local innovations to national reform*: Brookings Institution Press.

Geng, L. (2016). National High-tech Zone to Build Inter-Regional Cooperation Mechanisms in China. *Reformation and strategy, 32*(9), 43-46.

Guoping, W. (2015). Creating Environmrnt Benefit for Industrial Upgrading to Match the Construction of Shanghai Science and Technology Innovation Center with Global Influence. *Science & Development*(75), 16-19.

Huang, N. (2015). Construction of Shanghai Free Trade Zone and the Development of Open Economy of Yangtze River Economic Belt. *China Development, 4*(4), 93-100.

Huang, Y., Audretsch, D. B., & Hewitt, M. (2013). Chinese technology transfer policy: The case of the national independent innovation demonstration zone of East Lake. *The Journal of Technology Transfer, 38*(6), 828-835.

Ke, W., & Xia, W. (2012). Research on Relative Policy and Application of Zhangjiang National Independent Innovation Demonstration Zone [J]. *Science & Technology Progress and Policy, 12*, 024.

Qing, R., & Yugang, Z. (2015). Thoughts and Suggestions on Shanghai's Technology Innovation Center Construction with Global Influence. *Scientific Development*(69), 65-69.

Swaine, M. D. (2015). Chinese views and commentary on the 'One Belt, One Road'initiative. *China Leadership Monitor, 47*, 1-24.

Ting, Z., & Xiaoli, Z. (2015). Evaluation of the Industrial Layout of Rationalization Shanghai Port Industrial Park Based on the Grey Relational Analysis. *Marine Economy, 5*(1), 32-38.

Xinmu, W. (2010). The Yangtze River Economic Belt Should Be Developed Into A National Strategy. *Resources & Environment in the Yangtze Basin, 19*(10), 1157-1158.

Xuejie, L. (2014). Thoughts on inter-provincial cooperatively constructed science park. *Economy and industry*(1), 21-22.

Yaoxin, L. (2014). Accelerate Shanghai Industrial Layout and Structure Adjustment. *Science & Development*(60), 71-75.

Yijun, L., Long, X., & Tongjian, Z. (2015). Research on Knowledge Transfer Mechanism and Promotion Effect in Scientific and Technological Achievements Transfer. *Science and Technology Management Research*(8), 110-113.