# A Study on the Structural Model of Human Resources Cooperative Development from the Perspective of Beijing-Tianjin-Hebei Integration

Yue Qingchun<sup>1</sup>

<sup>1</sup>School of Ethnology and Sociology, Minzu University of China Beijing, China China People's Police University Langfang, Hebei

**Abstract**—As the integration of Beijing-Tianjin-Hebei becomes a national strategy, the integration process of Beijing-Tianjin-Hebei continues to deepen. The abundant human resources in the region provide a strong guarantee for coordinated development and also support an important engine for coordinated development. Starting from the realistic background of the coordinated development of human resources in the region, this paper systematically analyzes the theoretical basis of coordinated development, and puts forward scientific and reasonable policy recommendations from the perspective of theoretical models. This not only has important theoretical significance, but also has a little practical value for improving the level of human resources coordination and fully implementing the integration strategy.

## 1 Introduction

In 2014, the coordinated development of Beijing-Tianjin-Hebei became a major national strategy, marking that the coordinated development of Beijing-Tianjin-Hebei has entered a substantive promotion stage. [1] As an important engine and main path for regional coordinated development, the coordinated development of human resources between regions has gradually been put on the agenda of the coordinated development of Beijing-Tianjin and Hebei. General Secretary Xi Jinping once pointed out: We must focus on accelerating the process of market integration, resolve to remove various institutional barriers that restrict the free flow and optimal allocation of production factors such as capital, technology, property rights, talents, and labor, then promote various factors in accordance with market laws. Therefore, promoting the coordinated development of human resources in the region, and forming an integrated development pattern of human resources is not only a strategic drive for building an innovative country, but also an important task for systematically promoting regional coordinated development. According to the combing of related theories and practices, this article systematically summarizes the coordinated development model based on the in-depth analysis of the human resources coordinated development theory, and proposes relevant policy recommendations. Specifically include: Firstly, the focus is to straighten out the coordination system, mechanism, legal system and policy from the regional coordination level, then to promote the adjustment of institutions and their functions, and improve the level of coordination, adopting a phased, systematic and gradual development strategy, and gradually realizing manpower optimal

allocation of resources. Secondly, based on the characteristics of the coordinated development of Beijing-Tianjin-Hebei, we should optimize human resources and ensure the efficiency of collaborative work. Thirdly, to optimize the configuration of human resources between regions, we may rely on the governments of the three places to promote the overall development and effective integration of human resources, and form a scientific and reasonable coordination pattern.

#### 2 Research Status

## 2.1 Domestic Research

The collaborative development of human resources between regions is currently a hot topic of domestic academic research. From the perspective of the research content, it mainly focuses on synergy influencing factors, development models, mechanisms and countermeasures, while the research on structural mechanisms and policy processes is still in preliminary exploration stage. It is embodied in the following three aspects:

• Research on the coordinated development of regional human resources. On the one hand, through the analysis of the bottleneck of human resource development in Beijing-Tianjin-Hebei, the system can be summarized as: the mechanism of talent cooperation, the construction of the talent market system, the environmental issues of talent introduction, etc. On the other hand, the construction process based on the integration of talents, including administrative barriers, institutional barriers, and the protection of human resource markets in various regions.

<sup>\*</sup> Corresponding author: yueqingchun@163.com

- Research on the cooperative development model of regional human resources. First of all, on the basis of the development of human resources in the Beijing-Tianjin-Hebei region, a strategic layout of coordinated development is proposed, which advocates the formation of a human resource development model with complementary advantages and a reasonable human resource cooperation mechanism. Secondly, based on the "Triple Helix Theory", in view of the constraints in the process of human resource sharing between regions, a sharing model with government, industry and schools as the "main spiral" is proposed. Finally, three models of collaborative development of regional human resources are summarized: cross-regional human resource cooperative development model, geographical human resource cooperative development model, and the same type of human resource cooperative development model.
- Policy research on the coordinated development of regional human resources. On the one hand, based on regional human resource development at home and abroad, it has constructed a regional human resource coordinated development indicator system, and proposed a series of political, economic, cultural and other countermeasures. On the other hand, from the perspective of regional coordinated development, constructing a human resource development mechanism that combines government guidance and market tools. In addition, the collaborative development of human resources is the external manifestation of the realization of social macro planning, and its policies should be based on education cooperation, enterprise cooperation, government cooperation, and talent market concepts.

## 2.2 Foreign Research

From the perspective of foreign literature, relevant research mainly focuses on the concept of human resource collaborative development, the motivation of collaborative development, the elements of collaborative development, and the collaborative development model.

- The concept of the coordinated development of human resources. Foreign academic circles have different opinions on the definition of collaborative development, and there is no systematic consensus, but its connotation can be summarized into four core characteristics: the efficiency of collaborative development; the availability of collaborative development elements and resources; the sharing of collaborative development; the sustainability of coordinated development.
- The motivation for the coordinated development of human resources. Based on the analysis of relevant foreign literature, the motivations driving the collaborative development of human resources among regions mainly include: obtaining external resources; achieving cost sharing and risk sharing;

- improving the performance of human resources across regions.
- The elements of collaborative development of human resources. Existing studies are mainly based on relevant core elements and supporting elements, analyzing the elements that affect the collaborative development of human resources from different perspectives, including geographic proximity; trust; communication; mechanism environment.
- The model of collaborative development of human resources. The research on collaborative development model mainly includes: EU model (matching industrial structure with human resource structure, realizing the free flow of human resources, accelerating human capital investment cooperation, and improving the human resources social security system); Japanese model (government promotion, diversified industrial structure and strengthened management).

#### 2.3 Evaluation

According to the current research status at home and abroad, it can be summarized into three aspects: Firstly, in terms of research content, the current research on the factors affecting the collaborative development of human resources mainly focuses on institutional and policy factors, and environmental factors have not been thought as a whole to consider the collaborative development of human resources, there is also a lack of research on the internal mechanism of the collaborative development of human resources. Secondly, in terms of research methods, mostly subjective qualitative analysis and theoretical derivation, and relatively few objective empirical studies. Finally, in terms of policy recommendations, there are many structural policy analyses, and there is a lack of process policy recommendations and model analysis.

# 3 Theoretical Basis

#### 3.1 System Theory

In 1932, American theoretical biologist Bertalanffy founded the system theory. He emphasized any system is an organic whole, it is not a mechanical combination or simple addition of various parts. The overall function of the system is a new quality that each element does not have in an isolated state. At the same time, it is believed that each element in the system does not exist in isolation, each element is in a certain position in the system and plays a specific role. The elements are interrelated and form an indivisible whole. The element is the element of the whole. If the element is separated from the system as a whole, it will lose the function of the element. Regarding the integration of Beijing-Tianjin-Hebei, we apply the vision of system theory to the coordinated development of human resources and regard it as an essential part of the integration of Beijing-Tianjin-Hebei. At the same time, the human resources in the three places are themselves a system, and they form an organic and dynamic system.

## 3.2 Synergy Theory

In the 1970s, the famous German physicist Harken founded "Synergy". He believed that the synergy in "Synergy" refers to the coordination between the various components or subsystems of the system and the joint cooperation to produce new structures and functions. Synergy theory develops the system theory view, which believes that through collaboration, each subsystem or element can produce a function beyond the subsystem or individual elements cannot play. This kind of synergy is mainly embodied as a kind of nonlinear effect. Through this nonlinear effect, the system can produce a new stable state and orderly space-time structure at a higher level. [2] By changing the control parameters and then the order parameters (changing the status of each subsystem and the way of association in the phase change process), the system control is transformed into an orderly structure. For the coordinated development of Beijing-Tianjin-Hebei, to realize the effective integration of human resources, it is necessary not only to create hardware conditions such as a collaborative system and collaborative resources, but also to establish and improve software factors such as policies and legal systems. So that the various subsystems tend to cooperate.

#### 3.3 Stakeholder theory

Stakeholder theory originated in the 1960s, and gradually became a research paradigm in the field of management after the 1980s. In 1963, the Stanford University Research Institute made an authoritative definition of stakeholders for the first time: stakeholders are such groups. Without their support, the organization cannot survive.[3]In 1984, Freeman clearly put forward the stakeholder management theory. He believes that the stakeholder management theory is a management activity carried out by business managers to comprehensively balance the interests of various stakeholders. [4] From the perspective of the collaborative development process of human resources in the Beijing-Tianjin-Hebei region, based on interest relevance, willingness to participate, and ability to influence, three types of government, scientific research institutions, and enterprises have been formed. These stakeholders jointly participate in an institutionalized network system and participate in the collaborative development process through certain procedures and methods. Specifically, the stakeholders based on certain interest demands, give play to their resource advantages, form a certain interest network structure, and then achieve the goal of coordinated development.

## 4 Policy recommendations

The coordinated development of human resources in Beijing-Tianjin-Hebei is a complex system with multiple levels, and various factors show a certain level of relationship, forming a relatively complex system chain. In order to put forward scientific and reasonable policy recommendations, a structural model will be constructed based on stakeholder theory, synergy theory and system theory (As shown in Figure 1). The salient feature of this structural model is that it clearly expresses the hierarchical relationship of the collaborative development of human resources from the perspective of systems engineering, thus makes relevant policy recommendations.

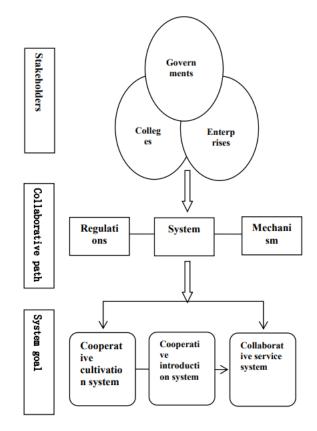


Fig 1. The Structural Model of Collaborative Development

#### 4.1 Stakeholders

- Governments: On the one hand, to build a service-oriented government, it is necessary to rectify the relationship between the government and enterprises, the market, and talents, and return power to the market, so that the government can concentrate on the macro-control of talent development, and strive to improve the level of social management and public service capabilities. Then creating a good development environment for talent development. On the other hand, to construct a limited government, the government must know how to retire and enter in terms of changing its functions.
- Colleges: Firstly, taking advantage of the university's faculty, experience in running schools and international exchange channels to jointly cultivate regional strategic human resources. Secondly, facing the international advanced level, national development strategy and regional coordinated development needs, we may give full play to the scientific research advantages of scientific research institutions, jointly carry out

regional scientific research activities, and improve the quality of regional strategic human resources. Finally, integrating existing resources between universities and scientific research institutions, and give full play to the overall advantages of regional universities and scientific research institutions, thereby further improving the overall level of regional strategic human resources.

• Enterprises. On the one hand, according to the needs of the respective strategic human resources of the enterprises, establishing regional collaborative development organizations in related fields such as pillar industries and basic industries to form a corporate-level strategic human resources collaborative development mechanism. On the other hand, focusing on the outstanding human resources of enterprises to develop regional pillar industries and basic industries to achieve a reasonable match between the regional strategic human resource structure and the industrial structure.

#### 4.2 Collaborative Path

- Regulations. On the one hand, the three places will construct inter-regional strategic human resource training policies, use policies, introduction policies, mobility policies and sharing policies to achieve strategic human resource policy regional compatibility, eliminate policy differences between regions, then to provide good environment for human resource mobility. On the other hand, establishing a unified regional strategic human resource security guarantee system, and cooperate to build a fair and orderly regional strategic human resource legal environment, then to form a unified regional human resource market.
- System. System construction is fundamental, overall, stable and long-term.[5] Based on the successful experience of collaborative development of human resources, constructing the government as the strategic human resource macro-controller, universities and scientific research institutions as the strategic human resource training providers, enterprises as the strategic human resource development users, and the talent market and intermediary organizations as the human resource basic configurator.
- Mechanism. Firstly, establishing a benefit compensation mechanism for the collaborative development of regional strategic talents, and realize the rational distribution of human resources between regions through the transfer of benefits subjects. between development Secondly, an evaluation and incentive establishing mechanism for the collaborative development of regional strategic talents, and encourage relevant stakeholders to actively promote the integrated development of regional strategic collaborative development. Finally, establishing a behavioral restraint mechanism for collaborative development of regional strategic

talents, and to formulate joint-binding talent development policies and institutional norms.

## 4.3 System goal

- Regional human resources training system. In the collaborative development of strategic human resources, all parties make full use of the advantages of strategic human resource education and training in various regions to enhance the overall strategic human resource training capabilities of the region, so as to realize the complementary advantages of all parties in the region and establish a regional strategic human resource training system with complementary advantages.
- Regional human resources introduction system. In terms of human resources introduction, the three places should coordinate and share resources to avoid vicious competition within the region, improve the efficiency and quality of regional strategic human resource introduction, and establish a coordinated regional strategic human resource introduction system.
- Regional human resources service system. All
  parties should formulate mutually connected
  strategic human resource service policies and build
  an interconnected regional human resource market
  based on the principle of mutual benefit and
  gradual progress, and establish a smooth and
  efficient regional strategic human resource service
  system.

### 5 Conclusions

Based on the combing of related theories and practices, this article summarizes the problems in the process of coordinated development of the three places, and puts forward relevant policy recommendations. By straightening out the coordination system, mechanism, legal system and policies, promoting the adjustment of institutions and their functions, adopting a phased, systematic, and gradual development strategy to gradually realize the optimal allocation of human resources.

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