

Analysis of Human Resource Development and Management in Regional Economic Development

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Abstract: At present, China's economic growth model has gradually shifted from high-speed growth to high-quality development. Under the era of digital economy, a steady and sustainable economic development has become the main goal of the country's development. The practice of modern economic development has shown that human resource is not only the premise of regional economic development, but also one of the important sources of regional economic growth. The coordinated development of human resource and economy is not only an inevitable requirement for high-quality development, but also the first task to assume to solve the imbalance in regional economic development. Based on the interaction mechanism of human resource development and management and regional economic development, this paper selects data from the 2021 China Statistical Yearbook, takes the 2011–2020 national population census data as samples, analyzes the current status and existing problems of human resource development and management in China's regional economic development from three dimensions (human resource quantity, quality, and structure), as well as explores the path of human resource development and management in regional economic development, such as increasing investment and improving the quality of human resource, allocating human resource in a reasonable manner and improving the human resource structure, allocating talents in different regions in a balanced manner, coordinating the shortage and saturation of talents, *etc.*, so as to promote a balanced development between regional economic development and human resource development and management.

Keywords: Human resource development; Human resource management; Regional economy

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1. Introduction

A coordinated development between human resource and economy is the fundamental requirement for development. Examining the relationship between the two and rationally developing regional human resource are essential for realizing the harmonious development of society and economy. As the first resource, talent has become an impetus for promoting the high-quality development of regional economy^[1]. At present, the geographical differences in the development and management of human resources in China are still pronounced. Rapidly developing cities such as Beijing and Shanghai attach great importance to the absorption and training of talents, while the northwest region, which is relatively backward in economic development, still has weak awareness of talents, insufficient human resource development, and poor of human resource management. As of 2020, the country's population has reached 1,412.12 million, of which primary and junior high school diplomas comprise the majority. The low human resource quality incites a need for improvement. How to carry out human resource development and management effectively and scientifically, improve the quality of human resource continuously, allocate the human resource

structure rationally, promote the coordinated development of human resource development and management and regional economic development, as well as achieve regional integrated development is a topic worth discussing.

2. Connotation of human resource development and management

The concept of “human resource development” was first proposed by an American scholar, Nadler, who pointed out that human resources should be investigated, analyzed, planned, and adjusted based on the existing human resources of enterprises or organizations, according to the development-strategy goal of the organization and the change of the organization structure, so as to improve the organization’s human resource management level, improve the efficiency of human resources management, and promote the rapid progress and development of the organization ^[2,3].

“Human resource management” involves carrying out rational and scientific development and utilization through the analysis of the human resource management content, setting a programmed and institutionalized management mechanism, realizing the optimal allocation of human resources, and gradually improving the management effect of human resources ^[4].

In short, the objective of human resource development and management is to optimize and integrate the existing human resources within the organization, so that the potential human resources can be developed and utilized to the greatest extent, and various internal elements can be optimized and integrated to maximize the value of the organization ^[5]. The human resource development and management system covers three aspects: human resource quantity, human resource quality, and human resource structure.

3. Relationship between human resource development and management and regional economic development

In the 1960s, Theodore Schultz proposed the theory of “human capital.” He studied the relationship between human capital investment and economic development, and revealed the role of human quality in economic development from the perspective of economics. It opened the prelude to the research on the relationship between modern human resources and economic development ^[6].

3.1. Internal mechanism of human resource development and management to promote regional economic development

The growth of human capital is the impetus for economic growth, and human resources have always been at the core of economic development. With the continuous development of regional economy, human resource development has been gaining intensity, and economic growth has become more dependent on human resources. The impact of talent development on regional economic development is now more prominent ^[7]. The driving mechanism of human resource development and management on regional economic development is reflected in the following three aspects: first, regions with higher accumulation of human capital have higher production capacity and innovation ability; an improvement in the average human capital level promotes the physical capital and research and development level, which is conducive to regional economic growth ^[8]; second, human resource development and management is realized through various means, such as education investment, employee training, and medical and health investment; education investment can improve the workers’ basic ability, enhance their cultural and scientific levels in the learning process, as well as promote their cognitive, creative, and judgment abilities, thereby improving their intellectual level overall; human resource training, on the other hand, promotes the absorption and dissemination of knowledge by human resources, improves the level of science and technology, as well as enhances the professional skills of human resources, thereby improving production capacity and efficiency, which in turn would increase economic returns ^[9]; third, based on the driving force of the first two elements

such as talents and innovation, human resource development and management is conducive to improving the quality of regional talents rather than the quantity, applying the ability factors such as intelligence and physical strength to practical work, giving full play to the comprehensive quality of human resources, reducing brain drain, optimizing regional talent structure, improving talent competitiveness, and eventually driving the transformation, optimization, and upgrading of regional economic growth ^[10]. In addition, improving the scientific and technological innovation level of market subjects and promoting industrial structure adjustments are conducive to realizing economic transformation, promoting the reasonable allocation of regional economic resources, as well as promoting sustainable regional economic growth ^[11].

3.2. Feedback effect of regional economic development on human resource development and management

On the one hand, the adjustment of industrial structure in the process of regional economic development affects the cost, structure, and level of human resource development and management. With the rapid development of regional economy and the continuous adjustment of industrial structure, new industrial clusters are formed. In order to stabilize their market position, market participants will increase the human resource development and management cost, expand the scale of talent introduction, and absorb and cultivate more high-level talents. High-quality human capital will improve the employment structure, further promote the development of regional economy, form a cluster-type effect, and create a good social and economic cycle, thereby ensuring long-term development of both, regional economy and human resources ^[12,13]. On the other hand, China has gone through different stages of economic development: “agriculturalization → industrialization → informatization → knowledge-based → digitalization.” It has achieved high-quality regional economic development, and its human resources have shifted from labor-intensive to knowledge-based, and now to meeting the needs of talents in the digital age. This verifies that the economic base determines the superstructure. At present, there is a higher demand for social talents as a result of regional economic development. This increasing demand promotes the continuous optimization and upgrading of the human resource development and management system, as well as the structural improvement of the regional, professional, and talent markets. High-quality human capital accumulation and increments have been achieved, and there is a steady momentum in regional economic development; additionally, the regional development gap has been narrowed ^[14].

4. Current situation of human resource development and management in regional economic development

4.1. Status quo of human resource quantity

Population is the basis of human resource. The scale and trend of population change are reflected in the population size, its natural growth rate, and its changes. According to **Table 1**, in the past ten years, the total population has been increasing year by year, but the natural growth rate of the population has fluctuated. This is due to the significant decrease in birth rates based on the data analysis of the National Bureau of Statistics. In addition, according to the data from 2021 China Statistical Yearbook, the proportion of urban population has increased significantly, whereas the rural population has decreased year by year in the past ten years.

Table 1. National population and natural growth rate from 2010 to 2020

Year	National population (10,000 people)	Natural growth rate (%)
2011	134,916	6.13
2012	135,922	7.43
2013	136,726	5.90
2014	137,646	6.71
2015	138,326	4.93
2016	139,232	6.53
2017	140,011	5.58
2018	140,541	3.78
2019	141,008	3.32
2020	141,212	1.45

Source: China Statistical Yearbook 2021

According to **Table 2**, the distribution of human resources in China has gradually transitioned from teenagers to young people in the seven national censuses. People aged 15–64 make up the majority of the national population size, and the scale of human resources has greatly expanded. However, the proportion of the elderly population has seen a significant increase in 2020, with a difference of only 4.45% from the proportion of population aged 0–14 in that year. The issue of aging human resources will become more prominent. With the decline in the natural growth rate of China’s population and the accelerated aging of the population, the total employment volume continues to decline, and the existing labor resources are in short supply.

Table 2. Proportion of population of each age group in the seven national censuses (unit: %)

Year	0–14 years old	15–64 years old	More than 65 years old
1953	36.28	59.31	4.41
1964	40.69	55.75	3.56
1982	33.59	61.50	4.91
1990	27.69	66.74	5.57
2000	22.89	70.15	6.96
2010	16.60	74.53	8.87
2020	17.95	68.55	13.50

Source: China Statistical Yearbook 2021

4.2. Status quo of human resource quality

Education is the basis for the systematic development of human resources. It is also considered to be the key indicator for measuring the quality of human resources. It can be seen from **Table 3** and **Table 4** that the education level of the national population has generally improved. In the 1960s, the population with primary school education ranked first, while the population with junior college education and above was the least. In the 21st century, the situation improved, and in 2020, the population with college education and above increased. The downward trend in the number of illiterates is evident, from 233.27 million in 1964 to 37.75 million in 2020. The illiteracy rate has been decreasing year by year. Especially since 2000, the illiteracy rate has dropped to single digits, with only 2.67% in 2010, indicating that the quality of human resources in China has improved to a certain extent. However, on the whole, as of 2020, the supply of high-

level talents and high-skilled talents in terms of education level remains at a low level. The apparent gap in supply and demand has resulted in the failure of meeting the needs of high-quality economic development. According to the 2021 China Statistical Yearbook, there are also clear regional differences in the quality of human resources in China, and the level of education reveals a specific characteristic: “high in the east and low in the west.”

Table 3. Level of education per 100,000 people in the seven national censuses (unit: person)

Year	College and above	High school and secondary school	Junior high school	Primary school
1953	/	/	/	/
1964	416	1,319	4,680	28,330
1982	615	6,779	17,892	35,237
1990	1,422	8,039	23,344	37,057
2000	3,611	11,146	33,961	35,701
2010	8,930	14,032	38,788	26,779
2020	15,467	15,088	34,507	24,767

Source: China Statistical Yearbook 2021

Table 4. Illiterate population and illiteracy rate in the seven national censuses

Year	Illiterate population (10,000 people)	Illiteracy rate
1953	/	/
1964	23,327	33.58%
1982	22,996	22.81%
1990	18,003	15.88%
2000	8,507	6.72%
2010	5,466	4.08%
2020	3,775	2.67%

Source: China Statistical Yearbook 2021

4.3. Current situation of human resource structure

Since 2012, the national economic development has shown a “three-two-one” structure, *i.e.*, the tertiary industry has the largest GDP, followed by the secondary industry, with the primary industry having the lowest GDP. By 2020, the primary industry’s GDP was 7,775.41 billion yuan, the secondary industry’s GDP was 3,845.53 billion yuan, and the tertiary industry’s GDP was 5,539.68 billion yuan. Economic development and human resources are complementary to each other. The industrial layout of human resources reflects the power source of regional economic development. It is also related to the optimization and upgrading of the industrial structure. According to **Table 5**, from 2016 to 2020, there was a shift in the employment structure of China’s human resources industry from the primary industry to the tertiary industry; however, the employment structure in the secondary industry remained the same. In recent years, the employment of the tertiary industry ranked first. From the perspective of human resource structure, the adjustment of industrial structure changes the human resource structure by affecting the employment structure. The industrial structure adjustment and economic transformation and upgrading have led to an imbalance in employment structure. The coexistence of labor shortage and unemployment has become increasingly prominent. The gap between human resource supply and demand must be narrowed, and the human resource structure requires further optimization ^[15].

Table 5. Employment structure of human resources industry from 2016 to 2020 (unit: ten thousand people)

Year	Primary industry	Secondary industry	Tertiary industry
2016	20,908	22,295	33,042
2017	20,295	21,762	34,001
2018	19,515	21,356	34,911
2019	18,652	21,234	35,561
2020	17,715	21,543	35,806

Source: China Statistical Yearbook 2021

4.4. Regional heterogeneity in the coordination between human resource development and management and economic development

Based on the analysis of the quantity, quality, and structure of human resources, and taking into account of the 2021 China Statistical Yearbook data, it can be seen that from a regional perspective, the unbalanced education level and economic development have led to large regional differences in terms of the quantity, structure, and quality of human resources in China ^[16,17]. In view of the geographical advantages and policy support, high-level talents and high-skilled talents are mainly concentrated in core industries and economically developed eastern, central, and first- and second-tier cities. In the western region, due to the relatively backward education level, poor policy support, and slow industrial development, the attraction to talents is weak, resulting in structural imbalance and resource shortage in terms of human resource quality and quantity between regions. In addition, due to the acceleration of urbanization, the main labor force is concentrated in cities, which makes the development of poverty-stricken areas more challenging. As a result, the pace of economic development declines rather than increases ^[18].

5. Path exploration of human resource development and management in regional economic development

5.1. Increase investment and improve the quality of human resources

By analyzing the internal mechanism of human resource development and management to promote regional economic development, it can be seen that human resource development and management is realized through various methods, such as education investment, employee training, and medical and health investment, all of which would help promote regional economic growth. As of 2020, the total number of people over the age of six in China was 1,315,347,565. Among them, those with primary school education accounted for 26.41%, junior high school education accounted for 37.03%, regular high school education accounted for 16.13%, junior college education accounted for 8.54%, and university education accounted for 37.03%, with undergraduates accounting for 7.16%, and postgraduate degrees accounting for 0.82%; the remaining 3.91% were those who had never attended school. This shows that the overall quality of human resources is not high.

Therefore, first of all, the government should promote the development and increase the investment in education, in order to improve the education level of human resources, set a solid foundation for basic education, and prioritize the education problems in remote and poor rural areas ^[19]. Second, vocational training should be taken as another means to improve the quality of human resources. In today's era of digital economy, the accelerated development of science and technology and the acceleration of information updating accentuate the importance of continuing education and training ^[20].

5.2. Reasonably allocate human resources and improve the structure of human resources

The rationality of the human resource structure is also one of the influencing factors of regional economic

development. According to the analysis above, in the 2020 GDP, the primary industry accounted for 7.65%, the secondary industry accounted for 37.82%, and the tertiary industry accounted for 54.53%. In the employment structure of the human resources industry in 2020, the employment in the primary industry, secondary industry, and tertiary industry accounted for 23.6%, 28.7%, and 47.7%, respectively. Both the GDP and the industrial employment structure show a “three -two-one” structure. This shows that economic development and human resources are complementary to each other. Therefore, first of all, it is necessary to allocate human resources in a reasonable manner, actively develop the tertiary industry, give full play to the advantages of the tertiary industry, and vigorously develop emerging service industries to adapt to the growth of digital economy. Secondly, it is necessary to plan the distribution of talents rationally in the three major industries and attach importance to professional and technical personnel.

5.3. Balance the allocation of talents in various regions to effectively coordinate the shortage and saturation of talents

According to the 2021 China Statistical Yearbook, there are clear regional differences in terms of the human resource quality in China. Talents with higher education levels are concentrated in Beijing and Shanghai, while those in Hainan, Tibet, and other regions have lower education levels. Considering the current situation of economic development and human resources in the eastern, central, and western regions of China, the following measures should be taken in order to narrow the regional gap and alleviate regional heterogeneity: first, the state should vigorously support the economic development and human resource development in the western region, beginning with employment, people’s livelihood, market, and other aspects, along with the development status of remote areas in the west by introducing more generous talent policies, so as to promote long-term and stable economic development in the western region; from a long-term perspective, it is necessary to coordinate the current situation of talent shortage in different regions, prevent talent gathering and “hometown plot,” and maximize the talent “reservoir” resources by implementing the “limited post” system in some areas with relatively saturated human resources, so as to indirectly promote more excellent talents to flow into the western region, balance the allocation of human resources, and realize the simultaneous development of economic development and talent development management ^[21].

Disclosure statement

The author declares no conflict of interest.

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