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# The Impact of the Spatial Evolution of Human Capital on Economic Development from the Perspective of New Urbanization



**Abstract:** - With the continuous growth of China's economy, more and more people are entering cities, and a new era of urbanization is coming. Urbanization is an important indicator of a country's industrial development level. The development of new urbanization has brought about the transfer of human capital, and more and more people are moving from rural areas to cities, driving the development of urbanization. In this regard, by studying the spatial transfer of human capital, we can understand the relationship between human capital and economic development. The rational allocation of resources in human capital is also an important measure to promote high-quality economic development. Secondly, the three types of investment in human capital, namely education, science and technology, and health, play an important role in the transformation of economic industries and high-quality development, and thus promote the rapid development of new urbanization.

**Keywords:** New urbanization、 Human capital、 Spatial evolution、 Economic development

## 1 INTRODUCTION

High-quality development of new urbanization is a project related to the lifeline of the national economy, involving human relations, industrial structure, ecological environment protection, network resources utilization and many other aspects. The 19th CPC National Congress and the Central Urbanization Construction Conference called for the establishment of a modern regional management system for social development and economic development in urban areas where people and nature coexist harmoniously. The strategic plan for the development of new urbanization emphasizes that China should take the people as the foundation, promote the four modernizations in coordination, optimize the layout, improve the construction of ecological civilization, and diligently take the road of socialist democracy and new urbanization. The important prerequisite for the change of urbanization process depends on the change of the promotion mechanism. In other words, from the traditional way of relying too much on the driving force of exogenous vehicles such as soil resources, population aging, property and so on, "factor-driven" and "investment-driven", it is usually relying on human capital and derived new knowledge, new technology and other internal structural power sources to achieve the driving force. In view

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of this, for a new urbanization process, This study attempts to study the harm of human capital spatial characteristics to the development of new urbanization economy, explore the most essential regularity of human capital development trend towards new urbanization economic growth, and provide theoretical and empirical reference for promoting the development of new urbanization society in China.

## 2 RELEVANT RESEARCH

### 2.1 Relevant research on new urbanization

The concept of urbanization was first put forward by overseas urban planners. Overseas cities are called urbanization, which is defined as a process of resource elements transforming into secondary and tertiary industrial clusters. In China's overall urban planning, it is defined as "the whole process of everyone's production and processing, lifestyle from rural to urban, manifested as the transformation of rural population to urban population, and the continuous development and perfection of the city"[1].

The development process of China's traditional urbanization is consistent with China's extensive expansion economic structure. Taking the road of intelligent development is an inevitable trend to promote the completion of China's middle class. At this stage, the long-term stable and continuous socio-economic development will lead China to become the world economy of world attention. The obstacles to economic growth are shown in Table 1. At this stage, China is facing the moment of leaping over the middle-income trap, which reflects the shortcomings of the traditional urbanization development trend method, which is one-sided and concerned about the accumulation of quantity. With the integration of urbanization ecological environmental protection norms, the urban interior space design has been developing in a disorderly manner, and the region has gathered serious energy consumption, urban environmental ecological deterioration, climate extremism and other disasters. Compared with the human-land relationship and industrial layout of urbanization, urbanization has concentrated the population in some spatial areas, and has been hampered by Internet resources, resulting in many social development contradictions such as management system security protection, information obstruction, fair and reasonable profit sharing dilemma, and risk prevention measures improvement. With the rapid development of China's economy, the material standard of living has greatly improved, the people have made significant profits, and the people's willingness to pay for business transactions has gradually increased. Persisting in the traditional urbanization mode will aggravate the basic contradictions in China at this stage and cultivate and practice the core socialist values[2].

Table 1 Regional distribution of population

region	population size	Compared with last year
town	920 million	+6.46 million
rural	491 million	-7.31 million

In response to this new dilemma in the process of traditional urbanization, the report of the 18th National Congress of the Communist Party of China clearly stated that China should take the road of new urbanization with Chinese characteristics in the future. The business philosophy of urbanization development is self-centered urbanization construction, attaches importance to the quality of urbanization construction, persistently creates a green ecology, civilized behavior, and livable and healthy environment, improves the quality of people's life, and completes the comprehensive, coordinated and sustainable development trend of social and economic development[3].

### 2.2 Relevant research on human capital

Compared with material capital, human capital needs to present the existing property in a different way. It is especially condensed in the labor force. After the process of capital allocation and processing, the knowledge reserve, personal health, skill learning and the acquired level of effort contained in the labor force become the core of economic development[4]. Overseas scholars think that culture, education and skills are very important in our daily life, and scholars regard this awareness as the origin of human capital. The definition of human capital was first clearly put forward by overseas scholars, who defined human capital as the sum of personal cognition, skills and physical health. Human capital depends on the investment in education and medical service projects,

and finally is mainly reflected in everyone's thinking and skills. The International Organization for Economic Cooperation and Development defines human capital as "the basic knowledge, skills, abilities and qualities that one has and can establish one's own and social development welfare forum", indicating that human capital is a comprehensive indicator to measure the quality of labor force. The concept of human capital not only focuses on the teaching of human capital, but also attaches importance to the healthy life of human capital, and also attaches importance to the combination of education and healthy life. It is also a practical exploration to include cultural education, the reconstruction of labor force, health and the effective inflow of labor force into the framework of human capital analysis[5]. As shown in Figure 1 below.

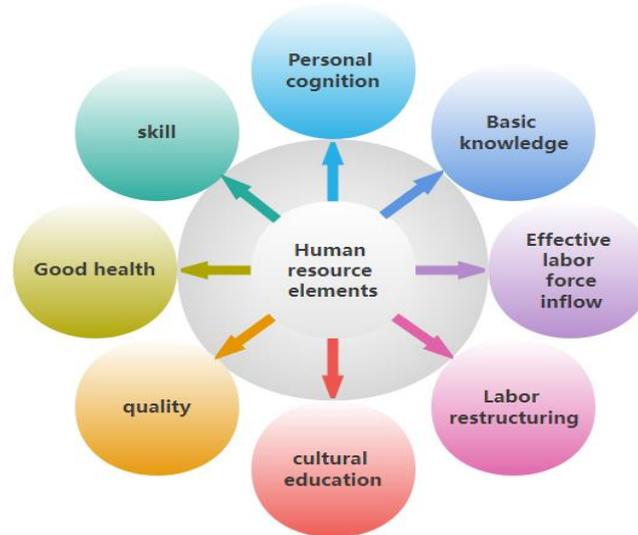


Figure 1 Elements of human capital

### 3. DEVELOPMENT OF HUMAN CAPITAL UNDER NEW URBANIZATION

#### 3.1 Spatial transfer of human capital

In the process of urbanization, the transfer of rural population to urban large-scale labor force and the harm of population loss to rural areas have slowly aroused high social concern[6]. The research on the supply and demand of agricultural labor by experts and professors in Chinese Mainland shows that in 2011, rural labor only accounted for 2.1% of the total rural human capital, and the number of labor is very small. It is worth mentioning that the rural population structure has also undergone tremendous changes. First, the aging of agricultural producers is serious. According to the third batch of domestic agricultural popularization data in 2016, only 19.2% of the managers of agricultural enterprises are young people under the age of 35, and more than 1/3 are over the age of 55. Secondly, compared with the lost population, the level of operators of left-behind children in rural areas is generally too low. In 2020, among migrant workers from all over the country, 1% were not enrolled in school, 14.7% in primary and secondary schools, 55.4% in secondary schools, 16.7% in general high schools, and 12.2% in junior colleges and above. The proportion of migrant workers with college degree or above was 1.1% higher than that of the previous year. Among migrant workers, 16.5% are college graduates and above, 1.7% higher than last year. Among the local migrant workers, 8.1% and 0.5% are college graduates and above. As shown in Table 2. Undoubtedly, the dramatic changes in rural population structure will have an important impact on the current level of international relations in rural areas. Human capital is an indispensable driving force for regional economic development and industrial upgrading, as well as for corporate profits and capital appreciation. In the process of new urbanization, human capital also plays an important role. Compared with the need of traditional urbanization agriculture for population and individual working ability, new urbanization requires more and more high technology, and the driving force and utilization rate of human capital are closely related. Under the condition of intelligent system, the migration of rural human capital to urbanization has become the basic fulcrum norm to promote the sustainable and stable development of new urbanization and economic development[7]. As shown in

Table 2.

Table 2 Proportion of education level of rural manpower

degree of education	%
Have not attended school	1
Primary school culture	14.7
Junior high school culture	55.4
High school culture	16.7
College or above	12.2

### 3.2 Problems in the spatial evolution of new urbanization rural human capital

#### 3.2.1 High difficulty in human capital transfer

In rural human resources, low level is an important issue[8]. With the adjustment of economic growth mode and economic structure, non-agricultural industries have higher and higher requirements for the quality of labor force, while the quality of rural labor force is relatively low, the relativity of labor experience in non-agricultural industries is low, the ability of technological innovation is weak, and the non-agricultural industry cannot bear it[9]. Due to the lack of professional skills, low professional level and low competitiveness of job hunting, the interior space design of graduates' employment is becoming increasingly narrow.

#### 3.2.2 Poor transfer stability

The overall quality of a person includes many aspects of physical and mental health, such as cultural level, professional skills, life ideal, ideology, habit formation, etc[10]. Because of the low psychological quality of the rural labor force and individuals, they encountered many practical problems and dilemmas in the transfer process, lacked scientific and reasonable exploration and accurate judgment, and it was difficult to find jobs for a long time; Although the ability to adapt to the new environment is poor and it is very easy to drain, most of the jobs sought are temporary and seasonal[11]. As shown in Figure 2 below.

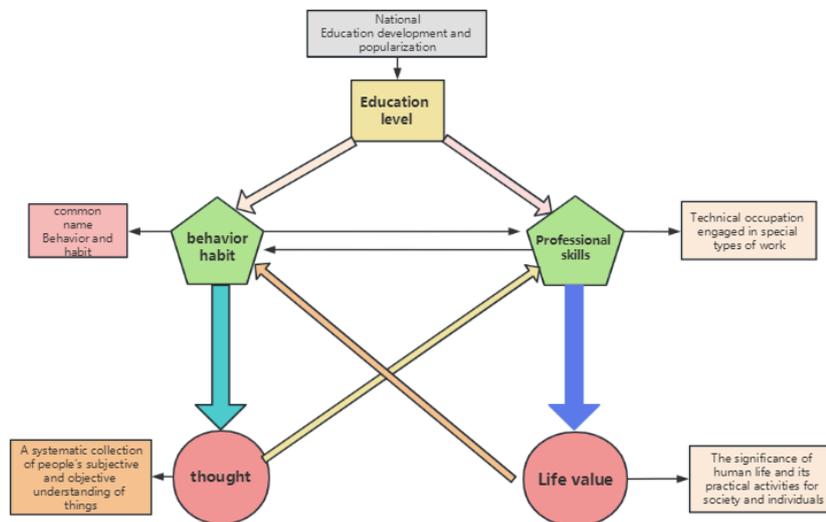


Figure 2 Overall quality of people

#### 3.2.3 Low income treatment

In China, the urbanization rate of the urban permanent residents is 52%, while the urbanization rate of the registered population is only 34.5%. There are more than 200 million migrant workers and their families in the city. We can gather these people in the city, but we haven't provided long-term installation for them[12]. At the same time, there are many unreasonable situations, such as different pay for the same work, salary arrears, job position discrimination, and labor relationship disputes[13]. As shown in Table 3.

Table 3 Negative effects of labor migration

Injustice	Equal pay for equal work
	Wages in arrears
	Discrimination at work
	Deviation of labor relations disputes

4. NECESSITY OF HUMAN CAPITAL DEVELOPMENT FOR ECONOMIC DEVELOPMENT

4.1 Relationship between human capital and economic development

High-quality development of economic development is a series of rapid development measures to meet the growing people's yearning for a better life. Its core feature is that scientific and technological innovation is the basic driving force, coordination is the internal structural feature, the green and low-consumption types will be widely produced, open sharing will become an inevitable trend, and resource allocation efficiency will be improved. Reform and innovation must require talents in many new fields and emerging industries, and human resources solidify a person's professional knowledge, work experience and professional skills, which is the premise of promoting high-quality economic development. The strategic deployment of future economic development trend should take the rational allocation of talents as the starting point and the independent innovation of talents as the basic driving force, and constantly tap the potential of human resources and the level of human resources' contribution to the economic development trend[14]. As shown in Figure 3 below.



Figure 3 Elements of high-quality economic development

4.2 Problems in the development of new urbanization human capital

In general, China is paying more and more attention to the development of the human resources market. All parts of the country are also actively carrying out human resources management and services. The overall trend of human resources development shows a good development situation. However, compared with the high-quality economic development regulations, there are still some problems and problems to be solved at the human resources level. As shown in Figure 4 below.

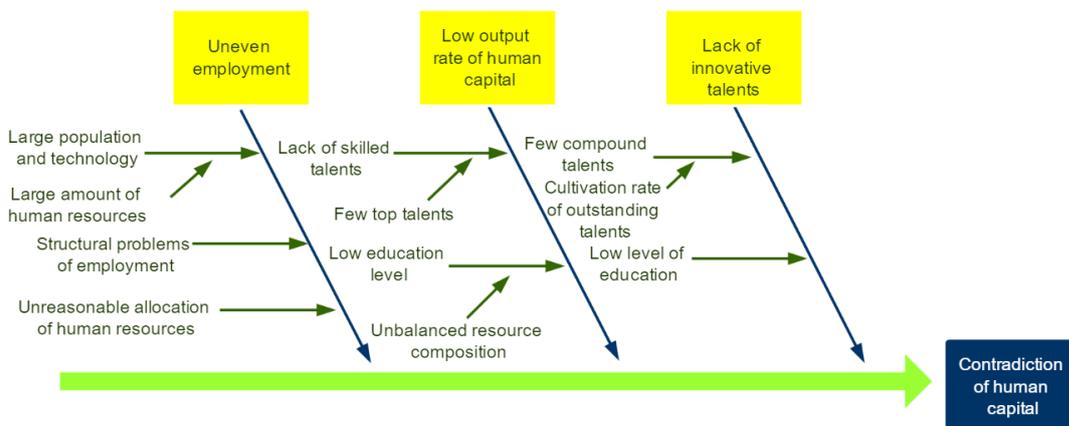


Figure 4 The contradiction of human capital

4.2.1 Uneven employment

China has a large population base, a rich and colorful total human resources, a basically stable relationship

between the supply and demand of human capital, and a stable employment situation. However, there are still structural problems in employment, and the problems of unbalanced and immature employment still exist. For example, the contradiction between the number of local graduates and the employment rate has become increasingly prominent. With the change of social environment, many people's employment awareness has changed, and the allocation of human resources is not scientific[15].

4.2.2 Inefficiency of human resources

According to the data of the Bureau of Education in recent years, the level of human network resources has continued, with a certain degree, the team of skilled talents has further developed, and more and more skilled talents have emerged in various fields, but the overall human network resource structure is relatively unbalanced, with many top talents and low education level.

4.2.3 Lack of high-quality talents

China's society attaches great importance to the optimal allocation of human resources, and China's human Internet resource service industry has also obtained unprecedented development trends. Various innovative development models and business types of optimal allocation of human resources have begun to emerge, and the human resources market is also increasingly sound. However, at present, the people of the world are all melting pots, and there is mutual influence among all parts of the world. Compound talents, high-quality and high-quality talents are necessary professionals for the future economic development. However, the development of this part of the field of excellent talents is relatively slow, and the problems generally exist, resulting in the total number of high-quality talents.

5 IMPACT MECHANISM OF HUMAN CAPITAL ON ECONOMIC GROWTH IN URBANIZATION DEVELOPMENT

5.1 Promotion of human capital in technology development trend

Contemporary economic growth theory believes that one of the ways of economic growth is human capital, technological innovation and economic growth. When the application of new technology is widely grasped by all sectors of society due to technology diffusion, it represents the cycle of new technology[16]. The time of each application cycle of new technology means the output and economic growth of all sectors of society, and technological innovation is the main reason why the return on scale of factor input boundary companies does not fall or do not fall. The total output value of human capital is the prerequisite for scientific and technological innovation. Human capital with certain professional ability, professional ability and strength is the key driving force for innovation. The reprocessing and creation activities of human capital in their respective jobs are the most timely driving force to promote technological innovation, which comes from the factor utility and efficiency of human capital[17]. Refer to Figure 5.

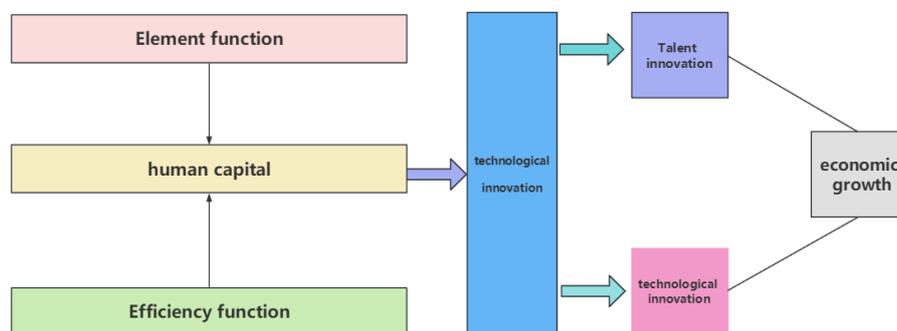


Figure 5 Human capital promotes economic growth

First of all, human capital has the function of elements[18]. In the process of modern social and economic development, like other production and manufacturing factors such as human capital and material capital, the importance of the functional level of factors cannot be ignored. The essential function of human capital means that human capital, as one of the capital management elements in the production process, participates in the

processing process. Only when human capital is closely linked with modern manufacturing technology and equipment, can the processing process win. From the perspective of high-quality development, the essential functions of human capital are related to the development and innovation of science and technology. A new production process and new commodity must be based on the corresponding human capital cooperation. Secondly, human capital has the function of high efficiency. As shown in Table 4. The efficiency function of human capital promotes the independent innovation ability of people from all walks of life through internal and external effects. The utility of internal structure has a positive impact on the production and manufacturing efficiency of human capital itself, which promotes the emergence of scientific and technological innovation products. External effects refer to the effects of human capital on others and production and processing factors, the effects of external effects on the efficiency of asset capital and the use of "learning by doing". First of all, the investment of human capital in projects is related to the efficiency of human capital itself. In the same production, people who learn according to their professional skills have higher production and processing efficiency than those who do not meet the actual professional skills learning conditions. Because the boundary production and processing efficiency of human capital are high, it is not easy to reduce the boundary production and processing efficiency of human capital. Secondly, the increase of human capital increases the productivity of another factor of production and manufacturing. The return rate of human capital boundary will not only reduce the return rate of physical capital boundary, but also reduce the return rate of physical capital boundary. The investment in human capital projects will continue to produce the zero-connected regions with relatively backward production and processing efficiency of quality capital boundary, relatively backward function of human capital efficiency, high return rate of physical capital boundary and low return rate of boundary, and reduce the efficiency of the reduction of return rate of physical capital boundary[19]. The production efficiency and economic growth rate of the whole processing process, together with the efficient function of human capital, are mainly reflected in the reduction of enterprise operating costs. The investment in human capital projects can reduce the investment in the corresponding physical capital projects and reduce the company's operating costs, which is in line with the current situation in the period when China's "factor development trend drives the development trend" to "technological innovation drives the development trend". The factor function of human capital is closely related to the efficiency function. The factor function is the premise of the efficiency function. The realization of the efficiency function is reflected in the factor function of human capital. First of all, human capital is one of the elements of capital management. Only when it is integrated with other material capital can it be produced. Secondly, the efficiency function is applied to two elements in the integration of human capital and material capital project investment. There is an efficient optimal total market share between human capital and material capital project investment, that is, there is an interdependent relationship between human capital and material capital. The importance between them is precisely the strong elasticity of such diversification. The research of overseas authoritative experts shows that, The elasticity of the synergy of human capital and material capital generally depends on the synergy of human capital and material capital. With the development of technology, the investment of material capital will promote the increase of human capital demand. There is usually more than one synergy between human capital and material capital[20].

Table 4 Expression of efficiency function

Efficiency function	Internal effect	Human capital has a positive impact on its own production efficiency
	External effects	Impact of human capital on other people or means of production

The vigorous development of scientific and technological innovation has gradually emerged from human capital. Especially when high-tech regions expand to low-technology regions, the total output value of human capital in the technology diffusion region lies in the ability to digest and absorb new technologies and keep pace with the times. The accumulation of human capital of high-tech workers is achieved through the digestion and absorption capacity and technological innovation capacity of a country's professional capacity. In addition, human capital can also promote the economic benefits of the application of material capital and capital, promote the allocation of chemical capital, and have a positive role in promoting the rapid development of high-tech. Therefore, the main overall goal of human capital investment in human capital projects is obviously to promote the ability of independent innovation in the new era of gross national product. Under the background of the new era, the core

development trend of human capital investment innovation is machinery, equipment and mechanical kinetic energy, which is an important way to avoid the "middle-income trap" in the process of social development.

### **5.2 Human capital promotes industrial structure and industrial structure updating, and promotes economic development**

The early industrial structure of a country is determined by the purely natural cultivation of the country. Human capital is the breakthrough point from the orange of the national industrial structure to the industrial structure under the governance of the ecological environment. As a scale effect, human capital and material capital are closely related to forming a more effective manufacturing process, changing the traditional factor supply structure, and promoting the upgrading of industrial structure. In recent years, with the efficient development of social development, the traditional labor-intensive development mode urgently needs to solve the problems of technology-intensive development and technology-intensive development and innovation based on the concept of high support point, high-quality human capital and independent entrepreneurship of senior experts. The whole industrial chain with a strong total value of human capital is generally a pillar industry that can truly understand new technologies and key industrial structures. The emergence of new technologies will generally promote new industries and support the development of new industries. For example, we will promote the full education of big data cloud computing, the emergence of new industries such as online postal express packages and live broadcasting, create new jobs, and promote the rapid development of the tertiary industry. Industrial structure establishes the industrial structure of labor force. Human capital can help alleviate and deal with the structural problems of college graduates' employment and the adaptability of labor force to employment in the development of China's economy. The industrial structure of labor has an important impact on the quality and speed of China's economic development. First Walter's basic law believes that with the development of economy and the mobility of GDP and labor in the primary, secondary and tertiary industries at the level of GDP, the more social and economic development, the more labor should migrate to the secondary and tertiary industries and clarify the division of labor. With the advent of the global scientific and technological revolution, in this environment of transformation of social development momentum, scientific and technological innovation and industrial structure, employment puts forward higher requirements for the quality and skills of the workforce. The efficient development of high-end industries such as artificial intelligence applications, cloud computing technology, and the "Internet of Things" model has put forward new requirements for professional competence while providing many jobs for employees. On the one hand, human capital reaches the requirements of high-end industries and new industries for practitioners with high-quality labor force; On the other hand, human capital has seriously affected the overcapacity of the lower labor supply capacity in the secondary labor market, which alleviates the structural problems of labor employment and the overall employment level in the sales market under the contemporary Chinese economic conditions. In addition, companies have different needs for human capital, and the asymmetry of information between the human capital sales markets generally requires additional career coupling time and labor costs. Human capital grants the heterogeneous professional ability of the labor force, reduces the retrieval costs and transaction fees of the labor force sales market, more efficiently finds the work suitable for the professional ability, and solves the difficulty of inconsistent labor supply and demand caused by the asymmetric information of the labor force sales market.

### **5.3 Impact of cultural education, health and high-tech human capital on economic development**

Human capital is different from general material capital. It is a unique way of asset. Through many factors such as professional knowledge and professional ability, it indirectly acts on the production process to promote economic development. Therefore, human capital investment mainly promotes economic development by investing in employees' own knowledge, professional ability and health concept. There are three main methods of human capital investment. The role of education investment, health investment and high-tech investment in the economy. As shown in Figure 6 below.

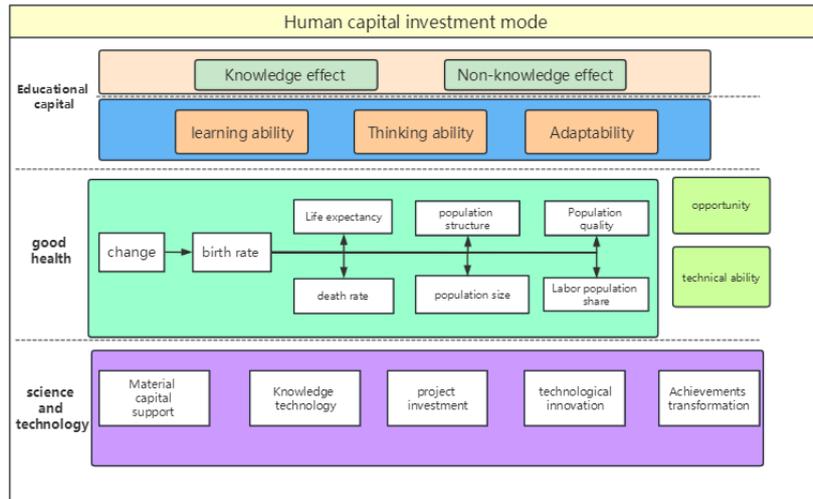


Figure 6 Investment mode of human capital

(1) Educational human capital investment promotes economic growth by taking labor productivity and efficiency as the carrier.

Education includes "knowledge effect" and "non-knowledge effect". On the one hand, people get jobs through education, and give full play to their ability to obtain knowledge, technology, professional knowledge and professional skills; On the other hand, people continue to produce and understand a new concept of value, work responsibility and consciousness through education. Only with such high quality, knowledge and professional skills of employees, as well as with highly technical production equipment in line with the operational steps, economic development activities can reach the highest value of greater efficiency. The relatively high quality of education also ensures that employees have higher learning ability, thinking ability and adaptability. They can successfully integrate into the complicated work with professional ability in a shorter time, and can continuously improve their working methods, productivity and labor efficiency in their own positions. The process of economic development of investment in education human capital projects with constant productivity is the gradual improvement of industrial development, The new industry has replaced the whole process of the old industry supply chain, and the process of such replacement cannot be separated from the support of human capital. The improvement and change of the whole industrial chain is closely related to the labor productivity and technological innovation ability related to human capital. When the investment and education of human capital are accompanied by the level of human capital knowledge, the professional quality of employees is constantly improved, which is beneficial to the development of general industrial industries towards knowledge-intensive, professional and powerful high-tech countries. The gross national product of different types of human capital is in line with the rapid development of work-oriented, property-oriented and technology-intensive industries. Especially when changing new development concepts, skilled talents and managerial human capital are particularly important. In addition, the GDP of human capital depends on the transformation, upgrading and efficiency of the whole industrial chain structure. In general, the transformation and upgrading of the whole industrial chain must adapt to the fashion trend and economic development, and must have an advantage in the fierce competition. Because the total value of human capital owned by the whole industrial chain is higher than that of other industries, the human capital IQ required for the transformation and upgrading has high resilience and relatively high adaptability.

(2) The influence mechanism of healthy human capital on economic growth

Physical and mental health property is beneficial to social and economic development by changing the production function. The investment in physical and mental health changes the birth rate, death rate and life expectancy per capita, changes the population structure and quality of socio-economic development, changes the number of socio-economic development population and the market share of the working population, and changes the production function. In addition, the implementation of per capita life expectancy and the application of personal saving behavior are specifically manifested as investment personal behavior, which impairs the investment level of social

and economic development. The socio-economic development of physical and mental health impairment can also be considered from the perspective of expected goals. Human capital investment in physical and mental health includes various types of investment, as well as investment in "daily appliances" formed chemical capital. This kind of selection is actually the result of many people's investment in different types. It is beneficial to social and economic development to find suitable human capital and invest in balanced diet. It reduces the economic benefits of cultural and educational investment of the concept of healthy life itself, and the depreciation rate of the investment in staff working hours education. The physical and mental health of employees is beneficial to their learning time and learning efficiency. They have more opportunities to receive education and grasp more skills, knowledge and skills, so as to promote the learning of cultural education human capital investment courses and promote the production process performance of all sectors of society.

### (3) The impact of high-tech human capital investment on economic growth

Human capital refers to the number of employees' IQ, long-term mechanical energy, knowledge and skills. Like material property, human capital is the input factor of material creation and production and processing at home. New technology human capital plays an important role in the production and processing of material and raw materials, especially in the knowledge and technology in the frontier and innovation fields of material and raw materials production and processing. Scientific research and development are essentially supported by scientific researchers' material funds. The project investment in the new technology human capital project will be promoted by promoting technology diffusion. Because the development objectives and industries of different types of industries are different, the knowledge of various departments can be used for reference and mutually complementary, resulting in economies of scale. Technology diffusion will refer to the latest technological innovation achievements of all-inclusive technology, and promote social technological innovation.

## 6 CONCLUSION

Economic transformation and upgrading is the theme style of China's social and economic development in the "Fourteenth Five-Year Plan" or even longer period, and urbanization development is the inevitable choice of China's economic development. The development of new urbanization has brought about the transfer of labor force and population, which has also led to the spatial transformation of human capital. At the same time, the spatial transformation of human capital has also brought some inevitable problems, such as the uneven distribution of human resources, the imbalance of labor structure, etc., which has led to slow economic development. In this regard, we understand the relationship between human capital and economic development, among which, education. The three types of investment in health and science and technology have improved labor productivity, thus bringing new impetus to the transformation of industrial structure and high-quality economic development, and further promoting the development of new urbanization.

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