

### Impact of Information Technology Human Capital on Agricultural **Economic Growth**

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Abstract. As a new resource element, information technology human capital has an important impact on agricultural economic growth. By analyzing and researching various types of information technology human capital, this paper concludes that the relationship between information technology human capital and agricultural economic growth are interrelated, mutual support and mutual promotion. Information technology human capital plays an important role in promoting the growth of agricultural economy.

#### Introduction

Agriculture is the foundation of the national economy. The development of agricultural economy is related to the development of the entire national economy. However, the weak quality of agriculture determines that agriculture is the short board of our national economy. At present, with the rapid development of China's information industry, information technology has been immersed in all aspects of urban life. However, in rural areas, the dissemination of information technology is relatively weak, with low hardware infrastructure coverage.

Therefore, under the condition that the traditional human capital has no significant effect on the agricultural economy in our country, in order to increase the income of farmers and promote the growth of agricultural economy. This new method of promoting rural economic growth through upgrading the level of rural information technology in human capital has very important theoretical and practical significance.

#### The Meaning of Information Technology-Based Human Capital

The IT-based human capital refers to the amount of capital condensed on laborers resulting from the accumulation of knowledge and skills acquired by laborers in collecting, storing, using, processing and disseminating information through information network technologies, It also includes the amount of capital that laborers condense on laborers through the integration and absorption of organizational and social capital through information network technologies.

It differs significantly from the amount of capital (traditional human capital) that laborers accumulate or condense in knowledge and skills acquired by workers through investments in education, training, migration, health care, practical experience, etc., And purely a single organizational capital and social capital is also different, Therefore, it is a compound human capital and more realistic human capital.

Information technology human capital through modern information technology has changed the way and speed of knowledge dissemination. First of all, it will enhance the traditional human capital. Second, it has an integrated function on organizational capital and social capital. Eventually stabilizing and promoting the economic environment.

From the microscopic point of view, information technology-based human capital formed through the combination of information network technology and traditional human capital is an important property that can bring income to people;



From a macro point of view, both information technology-based human capital and traditional human capital will promote economic growth.

In the field of agriculture, the main agricultural operators have increased their knowledge and ability in all aspects through the use of modern information technology, and their respective levels of traditional human capital, organizational capital and social capital have also risen. These changes are reflected in the agricultural production, processing and Sales and other aspects, and ultimately promote agricultural economic growth.

### The Role of Information Technology-Based Human Capital on Agricultural Economic Growth Path

Information technology-based human capital is to innovate and transform micro-economic organizations through transforming traditional human capital and absorbing the methods of integrating organizational capital with social capital. Information technology-based human capital first and foremost plays a role in the user's traditional human capital through modern information technologies such as mobile phones and the Internet. For example, in reality, the original intention of rural households to use mobile phones was to facilitate contact with the outside world, but objectively and unconsciously improved their non-traditional writing, reading comprehension and language communication skills - traditional human capital, customized mobile phone text messages and Internet browsing Information can also increase its knowledge of specific areas - traditional human capital, which is the impact of information network technology based on SMS and Internet on the traditional human capital of farmers.

Information technology human capital is a new endogenous dynamic formed after the effective combination of information technology and traditional human capital. It is an effective way to enhance traditional human capital and innovate and transform the organization.

Therefore, we say that IT-based human capital accelerates the accumulation efficiency of traditional human capital. This is manifested mainly in two aspects. First, it accelerates the formation of traditional human capital.

In general, the formation of traditional human capital is mainly based on investment in education, health care, practice and relocation. Information technology, in a completely new form, changes the ways in which actors receive information and enhances the formation efficiency of traditional human capital and accelerates the formation of traditional human capital through enhancing the ability of actors to acquire knowledge.

Second, to break the concept of space-time of the accumulation of traditional human capital.

Modern information technology represented by distance education and network database has broken the space-time limitation of traditional human capital accumulation, shortened the space-time distance between knowledge and information exchange, improved the speed of knowledge and information transmission, and provided people with learning and communication More convenient way.

Information network technology integrates the traditional human capital of farmers, organizes capital and social capital to transform them into practical IT-based human capital so as to realize the large-scale transformation of non-land elements of farmers. Finally, it also embodies information technology-based human resources The industrial contribution of capital to agricultural development.

IT-based human capital can also integrate the traditional human capital, social capital and organizational capital of managers, professional and technical personnel, and ordinary employees to form the IT-based human capital, realize the innovation of enterprises and enhance the core competition of enterprises Force, so that the company's products have a competitive advantage.

Because in the field of agriculture, the formation of IT-based human capital in different main body categories is through the use of modern information technology to collect and store information, use, process and disseminate information, and through the integration and improvement of their respective traditional human capital, organizational capital and Social capital



and formed.

Therefore, IT-based human capital has not only promoted the increase of traditional human capital of various agricultural operators, but also eventually led to the growth of agricultural economy.

In short, IT-based human capital, through the promotion of traditional human capital, realizes the transformation of farmers, enterprises and other subjects, and finally reflects the macro-innovation and upgrading of the agricultural industry.

# The Practical Path of Information Technology Human Capital to Promote Agricultural Economic Development

## Promote Agricultural Economic Development by Raising the Level of Human Resources for Personal Information Technology

The vast rural areas in China, most of the economy, science and technology and communications are underdeveloped, especially the popularity of computers is still relatively low, combined with the majority of users for dial-up Internet access, slow, low efficiency, is the Internet to rural development, bottlenecks for agricultural production services, Seriously affected the Internet information and other agricultural development and utilization.

In the context of such hardware is not yet developed, to enhance the level of personal information technology-based human capital, generally follow the "clear direction - search content - the use of information" this path. By increasing the construction of information infrastructure, we can improve the material conditions for the application of rural information technology. Increase human capital stock to provide talent support for rural development. Tap the potential of "Internet + agriculture" to improve agricultural production efficiency.

## Promote Agricultural Economic Development by Raising the Level of Information Technology-Based Human Capital in Agriculture-Related Enterprises

As a major participant in the agricultural economy, agricultural-related enterprises should seize historical opportunities, develop agricultural information resources, meet the challenge of new technological revolution and make contributions to the construction of China's agricultural informatization.

However, at present, the agriculture-related enterprises in our country are generally small-scale, backward in technology, low in product quality and low in overall quality of staff, which seriously hinder the application of modern information technology in agriculture-related enterprises.

Therefore, we must step up our guidance and policy support to promote the operation of agro-industries to large-scale, industrialized and informatized industries and upgrade the information-technology-based human capital level of agricultural-related enterprises from various aspects.

By increasing investment in agricultural information infrastructure construction. Relying on cloud technology management agriculture-related production and business activities. Use Big Data to Improve the Core Competitiveness of Agriculture-related Enterprises. Strengthen information awareness, improve information quality and cultivate information talents. With the "Internet + agriculture-related enterprises" to expand the space for rural e-commerce development and other means to achieve the goal of agricultural economic development.

# Promote Agricultural Economic Development by Increasing the Level of Government Information Technology Human Capital

In the process of rural economic development in our country, the government plays an important leadership role. It is not only the concrete organizer and implementer of rural public management, but also the core force of rural economic development.

The government human capital is also the main source of institutional innovation and policy supply in the rural areas. The social and economic environment in rural areas is optimized, the



scientific and technological human capital is encouraged, the human capital of enterprises is used to make creative efforts, the agricultural economic growth is promoted vigorously, and the rural sustainable development is realized.

Therefore, we should take active measures to improve the level of government information technology-based human capital, strengthen the guiding role of the government in the construction of agricultural information and promote the construction of new countryside.

By improving the information environment, strengthening government service capabilities. Using Modern Information Technology to Create a Learning Government and Improve the Efficiency of Government Administration. Use big data technology to optimize government decision-making capabilities. We will give full play to the advantages of "Internet +", create a smart city, and innovate the service mode of the government so as to promote the development of agricultural economy.

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#### References

- [1] Zhong Shuiying, Li Qiangyi, Xu Fei. Spatial Unbalance and Dynamic Evolution of Agricultural Modernization in China [J]. China Population, Resources and Environment, 2016,7 (7): 145-152
- [2] Li Li-chun. Evaluation of the Benefit of China's Agricultural Modernization from the Perspective of Post-modern Agriculture [J]. Agricultural Economics, 2013, (12): 7-14
- [3] DU Jiang, LIU Yu. Analysis of Agricultural Economic Growth Factors: Material Capital, Human Capital, or Foreign Trade? [J]. Nankai Economic Research, 2010, (3): 73-89
- [4]. Journal of South China Agricultural University (Social Sciences Edition), 2015, (1): 25-35 Comment for this article: Feedback Author Email Title Code Content Copyright by Journal of South China Agricultural University
- [5] Lin Yifu System, Technology and Agricultural Development in China [M]. Shanghai: Gezuge Press, 2008
- [6] BAN Xiao-jing, REN Bao-ping. Analysis of Timing Changes and Regional Differences in the Quality of China's Economic Growth [J] .Journal of Economic Research, 2011, (4): 26-40.
- [7] Zhang Xia. Factors Affecting Agricultural Economic Development [J]. China Collective Economy, 2015 (6): 10-11
- [8] Chen Dongdong. Gray correlation analysis of the main logistics influencing factors of agricultural development [J]. Statistics and Decision, 2010 (14): 107-108.