



A Study of the Impact of Digital Intelligence Technology on Rural Youth's Ability to Enhance Income Generating Capacity

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Abstract. As China's political and economic landscape continues to evolve, the digital transformation is having a profound impact on all sectors, including rural areas. In this process, rural youth, because of their innovative spirit and strong power of action, have become a key force to promote the sustained growth of the rural economy, and the phenomenon of rural youth returning to the countryside is becoming a new focus of social attention in rural areas. How to use digital intelligence technology to improve the comprehensive quality of rural youth in this context, and then enhance their income-generating capacity has become an important starting point for China's agricultural and rural farmer issues. The following are some of the key points of the study.

Keywords: digital intelligence technology; rural youth; income-generating capacity.

1 Introduction

The study helps to gain a deeper understanding of the popularity and application effect of digital intelligence technology in rural areas, especially it can focus on the obstacles to the popularization and acceptance of digital intelligence technology among rural youths, and analyze the challenges they face in terms of technology, capital, and market, so as to put forward effective strategies to solve the problems. One of the main outcomes of the existing studies is that the private and public actors who collaborate to implement smart technologies in the agricultural sector significantly lack knowledge of either farming or digitalization [1]. The future dreams of youth also highlight some persistent and fundamental rural development issues as barriers to attracting and retaining youth in rural areas—a clear, central issue is rural jobs [2]. Therefore, rural youth have become a key force in promoting sustained rural economic growth, so how to promote rural employment for urban youth and the retention of rural youth in the countryside is the core proposition. In this regard, "smart farming" plays an important role. The term 'smart farming' constitutes a wide scope and demanding expectations. In this paper, smart farming is defined as the system of data driven tools for decision support

in one or several parts of a farm's production, not restricted to nor limited by the agricultural sector they belong to [3]. More young people in rural areas would help address the broad issue of an ageing rural population structure [2]. Not only that, but it can also bring about a considerable increase in the income of rural youth, and optimise employment in rural industries and promote the optimal development of rural industries. In short, raising the incomes of rural youth depends on digital technologies, the continued development of new technologies and the training of new types of rural youth. Good technology and income for rural youth is the key to rural development.

2 Core Concepts

According to Chinese law, citizens over 18 years of age are required to assume full civil responsibility, while UNESCO defines 16-45 years of age as youth. Considering the special needs of agricultural development and rural revitalization, this paper defines rural youth as those aged between 18-45 years old, living and working in rural areas, regardless of the nature of their hukou. Digital intelligence, as a new trend after informatization and digitization, is not only the simple digitization of data, but also focuses on the in-depth analysis and effective use of data to achieve intelligent decision-making through the integration of advanced technologies. Rural youth are both beneficiaries and enablers in this process. Income-generating capacity, on the other hand, is the ability of an individual or an organization to transform its skills, knowledge and experience into real economic returns, and is the comprehensive strength it demonstrates in market competition. Therefore, this paper aims to study how digital intelligence technology affects this particular group, enhances their income-generating capacity, and contributes to rural revitalization.

3 Logic of the Impact of Digital Intelligence Technology on the Income Generating Capacity of Rural Youths

3.1 Technical Logic

The logic of technology plays a crucial role in the underlying logic of the integration of agricultural digital intelligence. Key information technologies represented by AI, big data and VR have brought about a profound blood-letting renewal of the entire agricultural practice. The integration of agriculture and digital intelligence is an inevitable choice for Chinese agriculture to cope with the impact of emerging technologies under the tendency of intensification, and it is also an important way to promote the transformation and upgrading of agriculture and improve the efficiency of agricultural production.

In the technological context, cutting-edge technologies continue to support modern rural youth, whether it is the quality and efficiency of intelligent farming and precision agriculture in the production channel; or e-commerce live broadcasting in the sales channel, and big data to accurately locate the target population, all of which can bring

greater technological benefits to the rural youth to a certain extent, and ultimately be converted into their own income-generating capacity.

3.2 Relational Logic

As a key force in rural revitalization, China's rural youth are actively adapting to the era of digital intelligence and have become a core group in promoting the integration of rural digital intelligence and traditional agriculture. How to retain young talents and how to grasp the objective scale of young talents and rural development are issues that need attention and concern in rural China at this stage. Uncertainty about the length of work and fluctuating pay, combined with a lack of job security and social protection measures, have combined to increase the propensity of young laborers in rural areas to leave the agricultural sector. This precarious work situation makes it difficult for young workers to rely on agricultural income to maintain a stable livelihood, and even more difficult to plan for long-term career development. At the same time, the lack of job security and social protection makes it difficult for them to face risks without adequate support and security, further exacerbating their sense of insecurity and concern for the future. Therefore, in order to attract and retain young laborers, rural areas need to make efforts to improve the working environment, raise wages and improve occupational security and social protection mechanisms to create a more stable and attractive employment environment for young workers.

This requires that, in the context of the integration of digital intelligence, through government-led and social hosting, rural youth can realize the transformation of old and new relationships through the conversion of old and new technologies, old and new ideas, and gradually realize the organic combination of personal value and rural revitalization. Looking to the future, youth drive technological progress, technology supports youth innovation and development, and ultimately digital intellectualization provides an effective path for rural youth to realize their self-worth.

4 Status Study

4.1 Current Status of The Integration of Chinese Agriculture and Digitalization Technologies

In the first half of China's agricultural digitalization development, digitalization technology became dominant, with new technologies such as intelligent farm machinery and precision agriculture gradually replacing traditional farming methods, and demonstrating the distinctive features of digitalization in crop monitoring, data collection and analysis. Entering the second half of the integration of agricultural digital intelligence, the widespread application of artificial intelligence technology has had a profound impact on the traditional agricultural production model. This change is not only limited to the functional level, but also triggered profound changes at the structural level.

4.2 Status of Digital Technology Use Among Rural Youth in China

The level of awareness of AI among rural youth in China is relatively low, but has been on the rise in recent years. Limited educational resources, little degree of exposure to rural areas by high-precision industries, and lack of systematic IT education and training limit rural youth's exposure to numerical technologies to some extent. Despite these limitations, the use of AI by rural youth is gradually increasing. They have gradually familiarized themselves with and used AI technology through the Internet, live social software and other platforms, and have taken agricultural products out of the countryside through live Internet broadcasting. At the same time, some rural youth have also tried to apply AI to agricultural production and rural management, thus improving production efficiency and management level.

5 Dilemmas in the Application of Digital Intelligence Technology in Income Generation for Rural Youth and Strategies to Address Them

5.1 Dilemma Analysis

5.1.1 Imbalance in the Application of Digital Intelligence Technology, Talent Training Has Become a Shackle

Uneven levels of technology diffusion and application have been a central constraint on the effectiveness of digital intelligence. Although in some more developed rural areas, young people have an open and positive attitude towards new technologies and are willing to try and apply them to improve their income-generating capacity. However, on the whole, due to the uneven distribution of educational resources and the imperfect technical support system, rural youth generally lack the necessary technological literacy and operational capabilities. They often feel overwhelmed when facing digital intelligence technology and find it difficult to fully grasp its essence and advantages, thus limiting the effectiveness of its application in income generation.

5.1.2 The Cost of Counting the Wisdom of Rural Youth is a Challenge

The issue of cost investment in digital intelligence technology is also a major challenge for rural youth. Many advanced digital intelligence devices and services require high initial investment and ongoing maintenance costs. For rural youth with limited financial means, this is undoubtedly a heavy burden. They often find it difficult to afford these costs due to insufficient funds, and are thus unable to fully enjoy the convenience and benefits of digital intelligence technologies. This not only limits their potential for income generation, but also affects their motivation to participate in the application of digital intelligence technologies.

5.2 Solution Strategies

Establishment of a Talent Pool for Rural Youth and Implementation of Precise Training in Employment Skills

First of all, learn Zhuozhou city to establish rural young talents and growth enterprise information base, classification talent system. Take grass-roots organization leadership type (village "two committees" team members, college student village officials, etc.), production type (species, breeding, agricultural products processing, agricultural machinery operation) and skill driven type (electrician, plumber, welder, mason, etc.) three types of talents as the basic classification [4]. Strengthen the data support in the system, regularly update the talent pool resources, and put the cultivation of practical agricultural talents into practice.

In addition, a new paradigm of online and offline agricultural and rural youth skills training is constructed. Under the maintenance of Internet technology, different training objectives and learning contents are formulated in a precise, personalized and customized manner for different agricultural and rural youth talent bases [5]. Under the support of precise skills, new skills and technologies will be added to young rural talents to stimulate income-generating potential from the inside out.

Agricultural Internet Marketing Helps Rural Youth Leapfrog Income Generation

In order to enhance the income-generating ability of rural youth, we can start from multiple dimensions, combine agricultural Internet marketing, precision marketing, personalized customization, sentimental memory consumption and other modern marketing strategies to build a set of targeted and specific income-generating plans.

Rural youth can take advantage of Internet marketing to break the traditional geographical limitations and push agricultural products to a broader market. Similarly, precision marketing is a big trend. It can help rural youth more accurately grasp the needs of consumers, use big data and artificial intelligence technology to deeply analyze the purchasing behavior and preferences of target customer groups, and finally develop personalized marketing strategies through data integration and analysis.

Sentimental memory consumption, as an emotional marketing strategy, can arouse the emotional resonance of consumers. Rural youth can dig deep into the cultural connotation and historical stories of agricultural products, and establish an emotional connection with consumers by telling the stories behind the products and passing on history and culture. At the same time, rural youth are guided to focus on the excavation of the historical and cultural value of the countryside and the development of characteristic rural resources, and they are guided to pay attention to the impact of new technologies such as the Internet on rural development, expand the field of rural entrepreneurship, extend the industrial chain of agricultural production and other industries, and closely link technologization with rural revitalization [6].

6 Conclusion

Technology has always been the core driving force for continuous innovation in agriculture, as well as an important issue in raising the income level of rural youth. Under the influence of technological logic and relational logic, the digital integration of agriculture has entered a new stage of rapid development under the impetus of digital and intelligent empowerment. Actively embracing digitalization and intelligence has become an inevitable trend in agricultural development. Rural youth need to actively adapt to and accept the changes in concepts and ways of thinking brought about by digital intelligence technology, and actively strengthen data connectivity, accelerate technological openness, and intensify cross-border and cross-domain cooperation with a more open and inclusive mindset. This is the most urgent and effective response strategy, and an important means of promoting agricultural and rural development.

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