

Analysis of the Integrated Development Path of Digital Economy and Traditional Industries——A Case Study of Daqing City, Heilongjiang Province

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Abstract: The digital economy is profoundly changing the development direction of the global economy, and injects a strong impetus into the real economy, promoting the emergence of new models and new formats of the real economy. Agriculture is the basic industry of the national economy. The integration of the agricultural field and the development of the digital economy has great potential, which can not only achieve the purpose of revitalizing the real economy, but also promote the upgrading and transformation of agriculture. The high integration of the digital economy and Daqing's agriculture can add fresh blood to the development of Daqing's agriculture and form a powerful boost.

1. Introduction

Throughout the history of industrial structure changes in the process of economic development, technological innovation has always been the core variable to promote the upgrading and development of industrial structure. Since the world economic development has entered the fourth industrial revolution, the new generation of information technology represented by big data, 5G technology, artificial intelligence, blockchain, etc., is gradually promoting the penetration and integration of traditional industries with the real economy as the main body. The transformation and development of traditional industries in the direction of digitization and intelligence has made the economy and society gradually enter a new development period driven by digital information technology. Under the multiple backgrounds of information technology advancement, new scene conversion, new business format improvement, and new model driving, the integration and development of traditional industries and digital economy will inevitably be the general trend. Tan Daibing. (2022) used the PVAR model to explore the dynamic interaction between the digital economy subsystem and the transformation and optimization of the industrial structure. The results show that the digital economy has a positive and positive role in promoting the optimization of the industrial structure, but the final driving effect will be affected. Economic level, regional differences and other conditions[1]. Hu Zhihui (2022) showed through research that the digital economy can promote the optimization of industrial structure by enhancing capital strength and optimizing labor allocation. The efficiency of capital allocation is higher in the eastern coastal areas of my country, followed by the central and western regions[2]. Wu Xinyue (2022) studied the impact of the digital economy on the optimization of my country's industrial structure from the three dimensions of

"infrastructure", "digital industrialization" and "industry digitization" of the digital economy[3]. The effect of digital economy infrastructure on the optimization of industrial structure is more obvious in the eastern and central regions of my country, while the effect of industrial digitalization on the optimization of industrial structure in the western region is greater than the other two indicators.

2. Overview of the development of digital economy in Daqing

The digital economy takes digital knowledge and information as the key production factors, digital technology as the core driving force, and modern information network as an important carrier. Accelerate the reconstruction of new economic forms of economic development and governance models. The digital economy is crucial to national economic development. Vigorously developing the digital economy and promoting digital development is ultimately to build a digital industry cluster, and to strengthen the construction of a digital society and a digital government to achieve the goal of digital China.

2.1 Overview of the Development of Digital Economy Enterprises

As of August 2022, the number of digital economy enterprises in Daqing has grown to 1,014, covering 5 fields and 29 categories. From the perspective of field division, there are 161 digital product manufacturing companies, 174 digital product service companies, 266 digital technology application companies, 301 digital factor-driven companies, and 112 digital efficiency improvement companies. Among the economic enterprises, there are 4 agricultural enterprises, 171 industrial enterprises, 577 service enterprises and 262 other enterprises, of which 21 are industrial enterprises above designated size and wholesale and retail enterprises above designated size. The primary, secondary and tertiary industries are all covered, and the digital economy is everywhere and everywhere. In the first half of 2022, the construction of digital infrastructure will accelerate, and more than 20 digital economy projects such as industrial Internet and smart parks will be introduced, with a total investment of more than 6 billion yuan[4].

2.2 Overview of digital infrastructure construction

As of June 2022, more than 95% of the city's business systems have achieved cloud deployment; 6,871 5G base stations have achieved 100% urban coverage; a complete "city-county (district)-township (town)" three A high-level government network system; six basic information resource bases including comprehensive population, enterprise legal person, spatial geography, credit system, electronic license and electronic seal have been built, and the city's basic data support system has been constructed. In 2021, the scale of Daqing's digital economy will exceed 100 billion yuan, and the added value of the core industries of the digital economy will account for 8% of GDP. The construction of the Digital Economy Industrial Park in the Economic and Technological Development Zone is underway, the Daqing Digital Creative Design Industrial Park project has been launched, and the Daqing Beidou Digital Industry Platform project has been signed and implemented

2.3 Overview of the development of digital life

The application of digital technology in the field of life has had a great impact on the lives of residents, who enjoy the convenience and intelligence brought by different data application scenarios. Digital office, digital government affairs, and digital life such as "screen-to-screen", "key-to-key", "line connection" and "cloud communication" are becoming the new normal. For example, Daqing Oilfield Information Technology Company seized the new opportunity of "changing lanes and

overtaking" to create a new format of digital economy. Overcame 18 key technologies such as data leakage prevention, and developed 23 network security products and industry solutions in the "Network Security" series. In the field of IPv6, organize the construction of the national IPv6 verification platform as the leader of the energy group of the National Expert Committee; in the field of 5G, undertake the task of building a private network for the group company; in the field of cloud data, set up the first professional cloud computing technical team in Daqing Oilfield , became the first Huawei CSP five-diamond service provider in the three northeastern provinces.

3. Analysis of the integration path of digital economy and traditional industries in Daqing

3.1 Create an open and shared digital technology ecosystem

The digital economy can make up for the lack of production models in traditional industries and promote the innovative agglomeration development of emerging and traditional industries. First of all, in the development of industrial integration, it is necessary to focus on breaking through the research and development bottlenecks of key technologies such as artificial intelligence and the Internet of Things, clarifying the main direction of core technologies, and at the same time actively implement technology diffusion with the support of core technologies, and promote the application of new technologies in my country's traditional industries. Significantly reduce production costs and transaction costs, and improve production efficiency and matching efficiency. It is also necessary to accelerate the construction of a global open digital industry system, promote the horizontal and vertical opening of the industrial chain, and establish a digital alliance for coordinated development at home and abroad. Finally, highlight the role of the main body of Daqing's enterprise innovation. Encourage enterprises to actively carry out research and development, promote technological innovation, management innovation and business model innovation, accelerate product upgrading, build a new value chain, and actively expand domestic and international markets; cultivate a group of multinational enterprises that master core technologies with capital transnational operations as a link , to create a rational, orderly and fair competition industrial digital ecosystem under the concept of a new international order.

3.2 Implement a digital industry system with extensive integration

The digital development of traditional industries needs to innovate organizational forms, optimize production processes, improve product quality, reduce production costs, and achieve a broad integration of platform, intelligence, and networking. On the basis of the development of "Internet + Agriculture", Daqing City must actively create a model of digital technology application, so that the main body in the digital economy can drive the development of the industry. First, actively explore the platform economic model. Accelerate the construction of a number of networked service companies, provide business design and process reengineering for the structural optimization of traditional industries and product upgrading, and provide a series of services such as system coordination, operation guarantee and cloud platform management for the sustainable development of the integrated economy; traditional Under the cloud platform development model, the industry must effectively use massive data to break through the problems of "data island" and "information distortion" in the process of industrial development, so as to promote the optimal allocation and effective flow of various resource elements. Second, realize the comprehensive integration of traditional industries and the digital economy. Attention should be paid to the systematic construction of the integrated development of traditional industries and the digital economy, and new technologies should be widely used in traditional industries such as food processing, clothing, automobiles, and construction to achieve structural optimization, transformation and upgrading of traditional industries.

In the production, circulation, consumption, distribution, transaction and other links of traditional industries, realize the intelligence and networking of the whole process, realize the improvement of management level and optimization of transaction mode, and improve the market competitiveness of traditional industries.

3.3 Build a digital infrastructure covering all elements

As a new type of production factor, improving its production efficiency in resource allocation will help drive the high-quality development of my country's traditional industries. Heilongjiang Province and Daqing City also face the problem of digital infrastructure coverage. Therefore, Daqing City should speed up the introduction of various industrial policies, financial policies, and investment and financing policies to promote the construction of digital infrastructure, fully stimulate the vitality of the market, mobilize the enthusiasm of private investment and financing, and establish and improve traditional industries based on point and face. , from small to large, from urban to rural digital infrastructure system. Secondly, it is necessary to actively promote digital technology to empower traditional industrial infrastructure, realize the process optimization of its entire process and each link, and finally realize the coordinated development of various technical modules, and give full play to the synergistic effect of traditional industry upgrading and optimization.

3.4 Increase financial support for digital transformation

Talents are the key elements and scarce resources for the development of digital agriculture. Promoting the construction of talent teams and cultivating market entities is an effective way to realize the deep integration of digital economy and industry. Facing the actual needs of society, we should not only pay attention to the problem of insufficient digital economy talents, but also attach great importance to the problem of imperfect training mechanisms, and increase the training of professional talents such as digital agricultural technology innovation talents, production and operation talents, and management service talents. , fully stimulate the development vitality of market players. In response to the problem of insufficient talent, it is necessary to effectively combine credit support, tax relief, employment subsidies and other comprehensive measures to optimize the business environment and employment environment of digital agriculture, enhance the attractiveness of digital agriculture to employees and entrepreneurs, and increase employment in the field of digital agriculture. Number of people and businesses. The Daqing Municipal Government should establish an in-depth cooperation mechanism with Heilongjiang Bayi Agricultural Reclamation University, train professionals in the digital economy by order, and realize the sustainable development of Daqing's digital economy.

4. Conclusion

At present, the overall development level of the digital economy in Daqing still has a lot of room for development. The construction of digital infrastructure and the proportion of industrial enterprises applying the Internet are important factors affecting the current level of digital economy development in Daqing. On the whole, the external factors that affect the overall level of the development of the digital economy are the natural and geographical environment. Since Daqing City is located in a remote inland area in the north and is not coastal, it has formed a certain degree of restriction on the development of import and export e-commerce. The internal factors affecting the development level of the digital economy are government investment and infrastructure construction in the digital economy. Although the total investment is increasing year by year, the overall investment is relatively small, which in turn affects the proportion of industrial enterprises using the Internet. It is

recommended to increase investment in the construction of digital economy in Daqing City, focus on strengthening the construction of digital infrastructure, make full use of the national and local digital resource sharing system, and make up for the weakness of basic resources in remote areas. Increase the introduction of Internet technical talents and highly educated talents, and formulate more and more attractive policies for the introduction of talents. Increase financial support for Daqing City, at the same time, focus on the digital transformation of key businesses of industrial enterprises, and improve the digital construction level of enterprises; promote the construction of smart agriculture, focus on building an e-commerce trading market for agricultural products, and strengthen the digital and intelligent construction of logistics systems , and then promote the transformation of Daqing's industrial structure and accelerate the pace of high-quality development in Daqing.

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