

# *Research on the Path of High Quality Development of Regional Economy under the Background of Digital Economy*

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**Abstract:** In recent years, with the continuous innovation and breakthroughs in digital technologies such as artificial intelligence, big data, cloud computing, and blockchain, China's digital economy has developed rapidly, with its GDP proportion rising steadily. At the same time, high-quality economic development has become the main theme of the times. This article first combs the relevant research on the digital economy, high-quality development of regional economy, and the relationship between the two, and constructs a theoretical analysis framework for the impact of the digital economy on high-quality development of regional economy. Secondly, through empirical research, taking the practice and achievements of the Zhiyeyuan Technology Group in the field of digital economy as the starting point, it summarizes the landing modes of enterprises in three aspects: financial empowerment, algorithm empowerment, and data empowerment. Finally, it puts forward countermeasures and suggestions to promote the healthy development of China's digital economy and high-quality coordinated development of regional economy.

## 1. Introduction

With the acceleration of large-scale commercial application of new generation information technology such as mobile Internet, 5G technology, big data analysis and artificial intelligence, the ability of data collection, storage and analysis has been significantly improved, promoting a new round of technological revolution and industrial transformation to a higher level. The digitalization level of countries around the world is constantly improving, and the position of the digital economy in national economic development is constantly rising, becoming an important engine leading global economic development.

High quality development, as a high-frequency term and common strategic goal in the global economic field in recent years, not only summarizes the development stage, but also reflects the value orientation of development. From a global perspective, the current international political and economic environment is complex and changeable, the strategic game of major countries is intensifying, and the economic globalization is encountering a countercurrent. The impact of the

COVID-19 has promoted the reconstruction of the industrial chain, and has also accelerated the elimination of backward production capacity. The traditional industrial development model has been far from meeting market competition and consumer demand, and some new economic models that meet personalized needs have emerged. The digital economy has broken down traditional industrial spatial barriers, led the economy to rise against the trend, and entered a new stage of economic and social development and industrial transformation and upgrading, with opportunities and challenges coexisting.

## **2. Related Research and Theoretical Analysis**

### **2.1 Related Research**

As a new round of economic form following the agricultural and industrial economies, the digital economy has become an important factor in promoting deep economic and social changes. The core of digitalization is digital technology and its new business models extended from digital technology. Currently, scholars have conducted extensive research on the impact of the digital economy on economic growth.

Evans (2019) [1] also found that information and communication technology has a significant promoting effect on economic growth. Sawng et al. (2021) [2] further found that the promoting effect of information and communication technology on economic growth is mainly manifested in the short term, and this research conclusion was verified by Odhiambo (2022) [3]. Domestic scholar He Qiang (2012) [4] used provincial panel data in China as a research sample to empirically demonstrate that the development of the information technology industry helps to promote economic growth. Sun Linlin et al. (2012) [5] found that the deepening of capital brought about by information and communication technology and the improvement of total factor productivity of enterprises are two important channels for the digital economy to promote economic growth. Ge Heping and Wu Fuxiang (2021) [6] believe that digitization is the primary driving force for promoting high-quality economic development, and optimizing economic structure and improving economic efficiency are two important ways for digital economy to promote high-quality economic development.

Foreign research [7-15] shows that the digital economy can not only optimize the urban economic structure and enhance industrial competitiveness, but also drive the upgrading of traditional industries and create new growth points through digital transformation. In terms of employment, the development of the digital economy has provided cities with a large number of emerging professions and employment opportunities, especially in the fields of big data, cloud computing, artificial intelligence, etc. The increasing demand for high-skilled talents has promoted the diversification and high-skilledization of the labor market.

### **2.2 Theoretical Connotation**

High quality development is an intensive economic development model. This model means that, with a certain input of production factors, efficient allocation of production factors can achieve higher economic output, better meet the diversified needs of the people, and result in lower environmental costs. It is an economic form of sustainable development. The high-quality development of urban economy is specifically manifested in the rational allocation of production factors within and between cities, efficient cooperation between production departments, meeting the reasonable needs of the people, and achieving sustainable development in multiple dimensions such as economic benefits, social benefits, ecological benefits, and welfare benefits in accordance with the inherent requirements of economic development laws.

### **2.2.1 Digital Economy Promotes Urban Innovation Capability Enhancement**

In the era of digital economy, digital technology and data elements have become new means of production. With the digitization of means of production, traditional innovation models, business models, and industrial operation models have undergone profound changes. A large number of digital products and emerging technology enterprises have emerged, and emerging fields such as digital government, digital finance, and platform economy are flourishing, further promoting the transformation and diffusion of technological innovation achievements, leading the transformation of the life and production fields, and promoting high-quality economic development.

### **2.2.2 The Digital Economy Has Improved the Coordinated Development Ability of Urban Economy**

The digital economy can promote coordinated economic development by improving the efficiency of factor allocation. At the same time, the integration of digital technology and traditional industries has given birth to an industrial organization model with the Internet platform as the core. With the help of an open and powerful Internet platform, digital technology can distribute various production factors to the end of the "network nerve" of the entire industrial chain, and promote the transformation of the industrial organization model from an industrial chain to a network synergy. This process has led to a breakthrough in the original industrial structure and organization model. By optimizing industrial structure, we aim to enhance our ability to promote coordinated economic development. The application of digital technology can connect various links such as production, circulation, and transactions in enterprises, improve the efficiency of resource allocation in industrial and supply chains, promote the construction of factor markets and market transactions across regions and departments, and effectively reduce the inefficient mismatch of production materials, promoting the improvement of cross departmental allocation efficiency of production materials between industrial chains. The digital economy can help promote the development of urban-rural integration by giving birth to new forms of business and models. Moreover, digital technology accelerates the digital transformation of traditional industries, deepens the division of labor in the value chain of industries, and can strengthen the specialized evolution within enterprises and collaborative production between enterprises.

### **2.2.3 The Digital Economy Has Improved the Level of Shared Development among Residents**

Firstly, in the process of developing the digital economy, the rise of digital platforms will more comprehensively and deeply cover the population of all regions and social classes in China, promoting the participation of all people, including rural residents, in the development of the digital economy. This will foster more innovative and entrepreneurial behaviors, promote the sharing of digital economic development achievements among the whole society, promote the realization of product value and wealth accumulation, and enhance the degree of development sharing. Secondly, data elements are low-cost, replicable, and highly permeable production factors with natural attributes of public goods. With the development of information and communication technologies such as the Internet, the digital economy has significantly improved the sharing of knowledge technology and information data. For example, the use of intelligent mini programs such as digital finance, online education, and online healthcare can promote the sharing of high-quality education, medical security, and other benefits among people in underdeveloped areas. Thirdly, the digital economy has improved the government's digital services and governance capabilities. Digital technology has changed the way economic entities communicate, making communication more convenient and efficient, and promoting the transformation of internal communication modes within organizations. Under the background of the digital economy, government governance presents

characteristics such as intelligence, immediacy, and efficiency. With the help of digital technologies such as artificial intelligence, the Internet of Things, and big data analysis, government departments can promote the refinement of government governance by summarizing, organizing, analyzing, and summarizing massive amounts of data. This enables all people to share the convenience and efficiency brought about by the development of the digital economy, providing a platform and opportunity for all people to share high-quality public services.

### 3. Path Analysis

The scale effect and resource allocation effect brought about by the development of digital economy can enhance the process of market integration. In addition, the digital economy can lead industrial transformation through two ways: digital industrialization and industrial digitization. From the perspective of digital industrialization, the new generation of electronic information technology has penetrated into all aspects of social and economic life. The innovation of new information infrastructure such as big data, the Internet of Things, and 5G mobile networks has not only become a strong support for the digital transformation of the entire society, but also spawned a series of new development spaces and employment fields. At the same time, thanks to the huge number of Internet users and market scale in China, a number of Internet platform enterprises such as Alibaba, Tencent, Meituan, Didi, etc. have accelerated their rise, and a variety of new models and new formats based on digital platforms have emerged. These new forms of employment rely on the new generation of digital technology, which has dealt a blow to traditional formats and models, achieved lane changing and overtaking, and also absorbed more labor force. From the perspective of industrial digitization, the in-depth application of new generation information technologies represented by big data and artificial intelligence in various fields of the first, second, and third industries has promoted the restructuring of industry patterns and the transformation of production methods, revitalized traditional industries, and provided more employment and entrepreneurial opportunities for workers.

The development of the digital economy also provides a better employment platform for high skilled workers, guiding them to engage in high-end digital industries; Moreover, the digitalization of consumption triggered by the digital economy will create a large number of low skill oriented job positions for low skilled workers, such as delivery drivers and couriers, achieving optimized allocation of labor factors and increased employment, as shown in Figure 1.

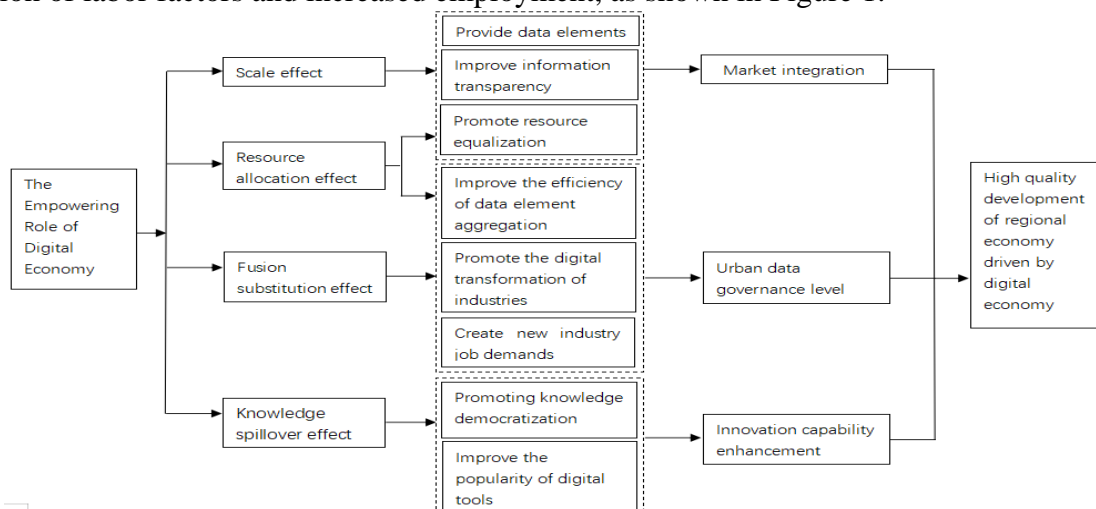


Figure 1: The path of digital economy empowering high-quality development of cities

## 4. Empirical Analysis

This article selects Chongqing Origo Technology Group Co., Ltd. as the empirical research object, and proposes solutions based on the company's achievements in the digital economy field.

### 4.1 The Current Development Status of Enterprises in the Field of Digital Economy

Chongqing Origo Technology Group is an investment controlled enterprise focusing on innovation incubation. It has launched more than 30 innovative enterprises with its own funds and incubated dozens of enterprises through three equity investment funds, covering high-tech, new materials, the Internet, big data, high-end manufacturing, new agriculture and other fields. Driven by innovation, the company forms an enterprise ecosystem through technological innovation and mode innovation, and deeply cooperates with Tencent, Baidu and other Internet companies to deepen industrial Internet.

At present, the Group has 7 wholly-owned subsidiaries, 10 holding subsidiaries and 11 joint-stock companies. The Company is committed to fine investment and has formed an industrial cluster around big data, artificial intelligence, industrial Internet, education, new retail and other sectors. The group is Tencent's core partner in the Southwest region, the operator of Tencent Cloud (Chongqing) Digital Economy Industry Base, Tencent Education Southwest Service Center, and the exclusive national partner of Tencent Smart Kindergarten. The Group has five business segments: investment incubation, industrial Internet, smart education, big data services, and new retail.

#### (1) Investment incubation

The company manages three equity investment funds with a total size of nearly one billion yuan, investing in hundreds of innovative enterprises. The investment team is one of the most senior and professional management teams in the western region. Based on a deep understanding of innovation and entrepreneurship, the team integrates funds and resources to provide nanny-style services for entrepreneurial enterprises throughout their life cycle.

#### (2) Industrial Internet

The company is a core partner of Tencent in the southwest region and a Baidu Cloud gold partner. The company is committed to the rapid implementation and execution of smart ecosystem solutions in various industries, while providing enterprises with a new generation of IT cloud-based operation management software solutions with flexible architecture, powerful functions, and application and business perspectives in complex cloud environments. The company is committed to the rapid implementation and execution of smart ecosystem solutions in various industries, currently focusing on smart education, smart community, and smart tourism.

#### (3) Smart education

The company is the Tencent Education Southwest Service Center and the exclusive partner of Tencent Smart Kindergarten in China. It has invested in more than a dozen education service companies around preschool education, primary and secondary education, and higher education. Among them, the preschool education stage focuses on information technology, food material e-commerce, smart water purification and other areas of market concern. In the middle school stage, starting from the perspective of learning ability growth, it has created a smart education platform based on big data, which can empower education from two dimensions: learning ability assessment and online teaching quality intelligent evaluation. At the same time, the group has jointly carried out new engineering talent training with Tencent, and has deep cooperation with more than ten universities including Chongqing University, Southwest University, Chongqing Normal University, Chongqing Technology and Business University, Chongqing University of Science and Technology, and Chongqing Electronic Industry Vocational College to cultivate talents

in artificial intelligence, big data, software development and other fields.

#### (4) Big data service

Chongqing Fellisen Information Technology Co., Ltd., a wholly-owned subsidiary of the Group, is a leading artificial intelligence big data service provider in China, focusing on providing data products and solutions for AI algorithm training. With a team size of more than 1,500 people and hundreds of intellectual property rights, relying on its leading technological advantages and rich data processing experience, it has provided high-quality data services for more than 500 artificial intelligence enterprises and scientific research institutions at home and abroad, covering multiple fields such as unmanned driving, education, finance, security and so on. Its core business covers three core sectors in the field of artificial intelligence: automatic driving data service, view data service and intelligent interactive data service. Currently, it is building an artificial intelligence big data industrial base with several industry leading enterprises, such as Tencent and Baidu.

#### (5) New retail

The Group's wholly-owned subsidiary Chongqing Runer Big Data Co., Ltd. is committed to providing new retail integration e-commerce services for regional governments and traditional enterprises, and to assisting in the revitalization of rural areas. Currently, it has provided services for major brands such as Tingyi, PepsiCo, Coca-Cola, Red Bull, Coconut Grove, and Jierou, as well as regional brands such as Sichuan Janssen, Inner Mongolia Mengdu beef jerky, and Xiaonaohua.

## 4.2 The Development Idea of Digital Economy of Enterprises

### 4.2.1 Financial Empowerment

#### (1) Promoting investment through joint funds

By jointly issuing funds with the local government, financial elements can be activated. Based on local characteristic industries, the funds can invest and introduce landing projects, or guide funds from outside the area to invest in projects within the area to form a "double leverage". Then, market-oriented investment operations can be carried out for start-up enterprises with broad prospects. At the same time, focusing on industries related to the digital economy, with investment as the starting point and investment promotion as the purpose, we will scientifically analyze and seize new tracks, laying a solid foundation for the transformation of scientific and technological achievements, adjustment and optimization of local industrial structure.

#### (2) Precision investment and financing based on big data models

In response to the dual challenges of digital transformation and financing faced by small and medium-sized enterprises, a digital platform service model is integrated on the basis of supply chain finance, and combined with current policy guidance, an empowerment mechanism for digital transformation financing of small and medium-sized enterprises is designed in a government subsidy environment. As an important digital bridge, digital platforms are conducive to narrowing the digital divide and solving the digital transformation problems of small and medium-sized enterprises. Supply chain finance provides credit support to small and medium-sized enterprises through core enterprises, which is conducive to the flow of credit funds and solves the problem of digital financing for small and medium-sized enterprises.

### 4.2.2 Algorithm Empowerment

#### (1) Transforming industrial soil

Origo Technology Group provides BPM technology services to local enterprises through low-cost and market-oriented methods, making their daily processes more agile, modular, integrated, and intelligent, effectively enhancing their control capabilities, helping them achieve multi system

linkage, and bridging data production factor silos.

(2) Gathering digital economy enterprises

Origo and its post investment enterprises have formed a digital economy industry cluster, selectively introducing and settling in local cities and counties according to local conditions, which can quickly create regional digital economy industry model rooms (such as industrial, agricultural, financial, medical, insurance, education, rural revitalization complex, children's health big data, etc.).

### 4.2.3 Data Empowerment

Through cooperation with major Internet manufacturers, Fellisen Technology, a subsidiary of Origo Technology Group, is deeply engaged in the field of big data, from data collection to data annotation, big model training, content review, to data governance, data mining, and intelligent application of data, to finally realize the operation and realization of data assets and build a data trading center, as shown in Figure 2.

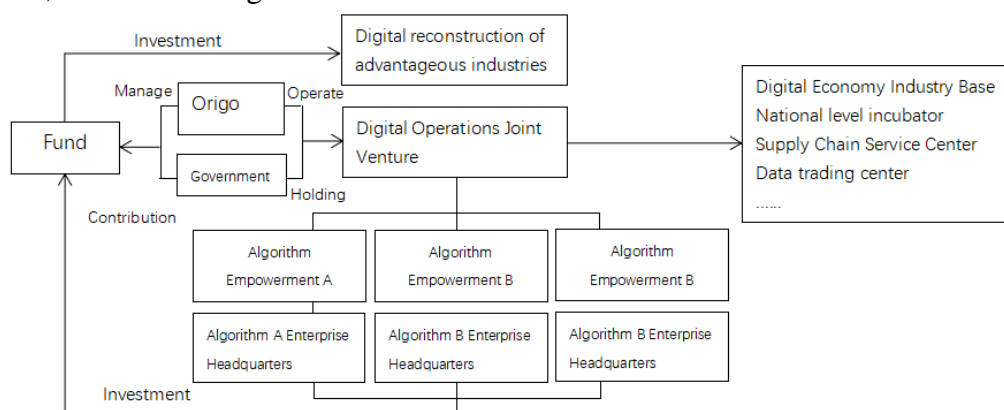


Figure 2: The Path of Digital Economy Development for Origo Technology Group

Data assets are important resources owned by local governments, including government data, public service data, market data, etc. By effectively collecting, integrating, analyzing, and utilizing these data, local governments can form valuable data assets that provide strong support for decision-making. Data empowerment means that local governments can better utilize data assets, enhance government governance capabilities and public service levels. Relying on the data asset trading platform of Fellisen Technology, local governments can also achieve the confirmation, evaluation, and trading of desensitized data, reduce the debt ratio of state-owned asset platforms, and activate the key driving force for the development of the digital economy.

## 5. Conclusion and Suggestions

To better promote the healthy development of China's digital economy, this chapter tentatively proposes the following countermeasures and suggestions:

Firstly, we should enhance and solidify the top-level design of digital transformation, continuously optimize the strategic guidance for the development of the digital economy. The digitization of industries and digital industries is the core of digital transformation in the digital economy era, which is a systematic and complex project. We should strengthen top-level design from multiple perspectives such as economic benefits, social welfare, and national security, formulate strategic plans for digital transformation, improve the governance system for digital transformation, and provide solid institutional guarantees for regulating digital transformation.

Secondly, we should further strengthen the research and development of core digital technologies

to fill the gaps in digital transformation and development. On the one hand, it is necessary to give full play to the leading role of digital technology innovation, focus on strengthening high-tech innovation, promote the deep integration of various digital technologies such as the Internet, big data analysis, artificial intelligence, and generative AI big model with various industries in the economic and social fields, foster new formats and models in innovation leadership, green low-carbon, sharing economy and other fields, and promote high-quality economic development. On the other hand, we need to enhance the agglomeration effect of innovation factors, build a cross regional, cross departmental, and cross industry innovation network structure model, build an open innovation service carrier that combines the "virtual world" and the real world, focus on building a digital economy innovation system with diverse and complementary innovation entities, and accelerate the pace of digital transformation.

Thirdly, we need to continuously improve the construction system of new digital infrastructure and continuously consolidate the achievements of digital transformation. On the one hand, it is necessary to build a big data integrated application platform, accelerate the transformation and upgrading of urban and rural network platforms, especially accelerate the construction of national Internet infrastructure, and provide software and hardware support for the development of the digital economy. On the other hand, we need to vigorously develop basic business open platforms in the fields of the Internet of Things, blockchain, artificial intelligence, and big data analysis, continuously deepen cooperation between enterprises and universities, and accelerate the transformation of scientific research achievements.

Fourthly, we need to build a digital talent development system that coordinates the evaluation and motivation of digital technology talents. Through cooperation among universities, research institutions, and enterprises, establish a digital economy talent training system to cultivate a group of composite talents who understand both technology and the market. At the same time, encourage enterprises to increase investment in research and development, and promote the original and integrated innovation of digital technology. In addition, it is necessary to strengthen international exchanges and cooperation, introduce advanced digital technology and talent resources from abroad, and promote the internationalization development of China's digital economy.

Fifthly, establish and improve market rules for data elements to provide factor guarantees for the development of the digital economy. The efficient operation of the data element market is an important guarantee for digital transformation, and it is necessary to further accelerate the process of digital transformation by standardizing the data element market. Currently, there are still data barriers between regions in China, and the effectiveness of the digital economy in promoting high-quality economic development has not been fully reflected. In the future, it is necessary to coordinate the behavioral norms of data development and utilization, establish and improve the trading mechanism of the data industry, actively cultivate platforms and market entities for data trading, and effectively improve the security and efficiency of data circulation. At the same time, we need to accelerate the protection and legislative work of information data, and improve the system of information data classification protection.

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