

# Research on the status quo, dilemma and improvement countermeasures of digital economy development in the Yangtze River Economic Belt

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## Abstract

The Yangtze River Economic Belt is a strategic representative area for the transformation and upgrading of my country's economic development model. The rapid development of its digital economy plays an important role in realizing internal and external linkages and regional coordinated development. This topic is devoted to studying the development status, research significance, development dilemma and development strategies of the digital economy in the Yangtze River Economic Belt, and put forward feasible suggestions for the further development of the digital economy in the Yangtze River Economic Belt.

## Keywords

Digital economy; Yangtze River Economic Belt; industrial digitalization.

## 1. Introduction

Building a digital society has now become a key economic development plan in my country. Digitalization is not only applied to economic development, but also to people's lives. Digitization has become a global development trend and is gradually diversifying. At present, my country's digital economy has four main directions: industrial digitization, digital industrialization, governance digitization, and data value. The research on the development of various aspects of the digital economy focuses on the following aspects: First, accelerating the digital transformation of industries. Zeng Kexin and Zhang Xiaodi believe that digital commerce can improve the connotation richness of industrial clusters, and continuously empower industrial clusters to develop digitally and intelligently. The coordinated evolution of the two promotes the high-quality development of the digital economy. Ding Shouhai and Xu Zheng pointed out that my country's current economic development has regional differences, some industries are highly dependent on technology, insufficient technology and innovation capabilities, incomplete digital economic industrial systems, and imperfect policy guarantees, etc., to some extent hinder the digital economy. development of. The second is the coordinated development of industrial digitization and digital industrialization. Han Jun and Gao Yinglu constructed an input-output analysis framework for the development of the provincial digital economy, quantitatively analyzed the correlation effect between digital industrialization and industrial digitalization, and pointed out that industrial digitalization and digital industrialization have different driving laws and effects on different regional economies. Chen Ruiyi and Dai Jing analyzed how digital industrialization and industrial digitization develop in harmony with each other, and constructed a series of indicator systems for measuring the development level of the digital economy. Interactions and linkages between industrialization. Li Teng, Sun Guoqiang and Cui Gege pointed out that digital industrialization and industrial digitization are not just simple mutual promotion. The third is to digitize the governance of the ecological environment, rural areas, and society. Fu Cuilian and Zhang Hui believe that the

current digital transformation of rural governance faces multiple constraints, such as the contradiction between the expansion of hardware facilities and the lack of treatment capabilities, the thinking tension between data governance and people-oriented governance, and the conflict between information sharing and security norms.

The diversified and high-quality development of the digital economy continuously promotes the optimization and transformation of industries and promotes social and economic growth. As a key area for the high-quality development of my country's digital economy, the Yangtze River Economic Belt continues to advance digital construction. The development of industrial digital transformation in the Yangtze River Economic Belt is relatively stable, and digital industrialization is a basic part of the digital economy. Shanghai, Nanjing, Hefei, Chengdu and other provinces and cities have become my country's digital industry development highlands, but there are still core technologies such as chips that are difficult to break through and A series of problems such as insufficient technological innovation. The rapid development of the digital economy requires the cooperation of governance systems and governance capabilities, and an effective way to accelerate the modernization of governance systems and governance capabilities is to govern digital transformation. Among the eleven provinces and cities in the Yangtze River Economic Belt, only a few regions have a high level of digitalization, and the synergy between regions is relatively weak. With the rapid development of the digital economy, the new digital era is coming, and the data element will also become a "big hit" in the new digital era. Data value can accelerate the construction of the data element market, but the development of data value in the Yangtze River Economic Belt is relatively weak. In order to seize the new opportunities brought by the new era, it is necessary to accelerate the exploration of the economic value of data elements and build a data element market. Looking at the status quo of the high-quality development of the digital economy in the Yangtze River Economic Belt from the perspective of the four development directions of the digital economy: the development of the digital economy promotes economic development in all aspects, but there are still deficiencies. Based on the current development of the Yangtze River Economic Belt, this paper analyzes in-depth the status quo of the high-quality development of the digital economy in the Yangtze River Economic Belt, and provides a basis for formulating a comprehensive and high-quality development strategy for the digital economy in the Yangtze River Economic Belt.

## **2. Status Quo of Digital Economy Development in the Yangtze River Economic Belt**

### **2.1. The digital economy infrastructure construction is relatively complete**

At present, the Yangtze River Economic Belt has established a series of new era digital information industry facilities such as electronic communication equipment, information integrated circuits, and electronic display devices. The construction of these digital infrastructures has promoted 5G communication, big data applications and digital cloud in the Yangtze River Economic Belt. The rapid development of digital industries such as computing. Especially in the lower reaches of the Yangtze River Economic Belt, the scale of digital infrastructure construction is far ahead. For example, Shanghai has achieved the goal of "Dual Gigabit Broadband City" in terms of digital infrastructure construction.

### **2.2. Rapid and efficient development of digital industries in the Yangtze River Economic Belt**

With the advent of the era of big data, traditional industries need to keep up with the pace of the times and carry out industrial digital transformation. Although the overall trend of industrial digitization in the Yangtze River Economic Belt is good, there is a clear gap in the development foundations of the upstream, middle and downstream areas. Moreover, due to the

relatively complete digital infrastructure construction in the middle and lower reaches, the development of industrial digitization is faster than that in the upstream areas. Among them, the downstream digital industry in Zhejiang Province contributes more than 50% to the economy. The artificial intelligence and other digital industries in Hefei City, Anhui Province, in the middle reaches, have also formed an industrial system with effective leadership and strong scientific research support, becoming the opening of the national artificial intelligence industry. It is one of the areas with the most intensive innovation platforms, leading the development of the province's digital industry.

### **2.3. The scale of the digital economy in the Yangtze River Economic Belt continues to expand**

With the impact of the new crown epidemic in 2020, the national economy has been greatly affected. Even in this difficult situation, my country's digital economy has maintained rapid and stable development. The total scale of the digital economy in the Yangtze River Economic Belt is 10.83 trillion. Yuan, reaching a record high, 2.23 trillion yuan higher than previous years, accounting for 44.26% of the total GDP of the Yangtze River Economic Belt, and an increase of 3.26 percentage points, taking the lead in the development of the national digital economy.

### **2.4. The digital governance of the Yangtze River Economic Belt promotes the development of the digital economy**

In the digital age, the Yangtze River Economic Belt has launched a corresponding new model of digital governance. In 2019, the Yangtze River Economic Belt launched the construction of "all-in-one service" for government services, realizing data sharing of government services in various regions. At present, the regions of the Yangtze River Economic Belt are in a leading position in the development of online services. For example, Shanghai, Jiangsu, Zhejiang and Anhui provinces in the middle and downstream regions have realized the cross-regional sharing of electronic documents such as ID cards, driver's licenses, and business licenses.

## **3. The significance of the research on the status quo of digital economy development in the Yangtze River Economic Belt**

### **3.1. It is conducive to the vigorous and healthy development of the digital economy in the Yangtze River Economic Belt.**

In the context of the digital age, the use of information digital technology in the new era to accelerate the digital transformation and upgrading of industries in the Yangtze River Economic Belt can promote the rapid and steady development of the digital economy in the Yangtze River Economic Belt. By making full use of new era information and digital technologies such as the Internet, 5G, big data technology, cloud computing and artificial intelligence, it will realize the transformation and upgrading of traditional industries in the Yangtze River Economic Belt to digital industries.

### **3.2. It is conducive to promoting the mutual promotion of the digital economy and the upgrading of the manufacturing industry.**

The digital economy of the Yangtze River Economic Belt is a new form of economic development, an important opportunity to achieve high-quality development of the Yangtze River Economic Belt, and an important driving force for the digital development of the manufacturing sector in the Yangtze River Economic Belt. The manufacturing industry is the industrial pillar of the development of the Yangtze River Economic Belt, and most of the manufacturing industry is concentrated in electronic information technology. Realizing the digitalization of the manufacturing industry can concentrate advantages to build industrial clusters, which is

helpful for the digital integration of resources and the coordinated development of the manufacturing industry and the digital economy.

### **3.3. Conducive to the green, circular and low-carbon development of various regions in the Yangtze River Economic Belt.**

The green and scientific development of industries in the Yangtze River Economic Belt is an important guarantee for realizing the ecological security of the Yangtze River Economic Belt, and the digital economy of the Yangtze River Economic Belt is the key to the green development of the Yangtze River Economic Belt. On the one hand, give full play to the role of digital infrastructure, so that the ecological construction of the Yangtze River Economic Belt can be fully applied and promoted; on the other hand, fully understand the importance of digital construction, and establish a digital construction platform for ecological management in the Yangtze River Economic Belt. Build data to realize the positive interaction of ecological development in the Yangtze River Economic Belt.

### **3.4. Conducive to providing a basis for policy formulation for the development of digital economy in the Yangtze River Economic Belt.**

The formulation and promulgation of relevant digital economy laws and regulations is essential in promoting the development of the digital economy in the Yangtze River Economic Belt. The digital economy of the Yangtze River Economic Belt is developing rapidly, but there are differences in the development of the digital economy between regions. To achieve the rapid and healthy development of the overall digital economy in the Yangtze River Economic Belt, it is necessary to rationally allocate the legislative power and resources of each region, and specifically grant them to the governments of each region. Therefore, it is necessary to conduct in-depth research and analysis on the development of digital economy in various regions to provide supporting evidence for the formulation of relevant policies.

## **4. Dilemma**

### **4.1. Significant differences in the development of digital economy between regions**

Due to the industrial structure, corresponding institutional policies, economic foundation and the endowment of various resources, there are differences in the development of digital economy in the eleven provinces and prefecture-level cities in the Yangtze River Economic Belt. The overall performance is that the development level of the digital economy decreases from downstream to upstream. Among them, the development of digital economy in Shanghai, Jiangsu, Zhejiang and other regions is relatively rapid, far ahead of Yunnan and Guizhou. Shanghai has always been a fertile ground for high-tech industries. In the past few years, the number of high-tech enterprises in Shanghai has been increasing steadily, and the proportion of high-tech enterprises in Shanghai has always ranked first in the country. The "China Regional Innovation Capability Evaluation Report 2021" pointed out that the comprehensive indicators of Jiangsu and Zhejiang are among the top five, and they are the leading regions in my country's innovation capability. Judging from the export volume of high-tech products, Shanghai, Jiangsu and Zhejiang are also showing a trend of steady growth. In Yunnan, Guizhou and other provinces, due to factors such as imperfect industrial ecosystems, relatively weak economic foundations, and poor human resources, there are fewer high-tech enterprises, less investment in scientific and technological innovation, relatively weak scientific and technological innovation research and development, and digital economy. The development is slow, and it has opened a large distance from the first gradient of Shanghai, Jiangsu and Zhejiang.

#### **4.2. A good atmosphere for coordinated regional development has not yet been formed**

Although there are significant differences in the industrial structure of the upper, middle and lower reaches of the Yangtze River Economic Belt, due to historical and institutional reasons, the market structure is mostly divided into regions. The development of various regions has the characteristics of mutual competition and the same nature, and local protectionism is more prominent, which leads to excessive industrial competition. After the outline of the Yangtze River Economic Belt Plan was released, various regions have introduced relevant technological innovation policies and systems, which have vigorously promoted the development of their digital economy. However, there are few coordinated development policies and measures, and a good atmosphere for coordinated development among regions has not been formed. At the same time, due to the relatively loose inter-regional cooperation organizations and the lack of constraints and incentive systems for partners, it is also difficult to implement some of the signed cooperation agreements.

#### **4.3. The construction of new infrastructure still needs to be strengthened**

New infrastructure construction refers to mainly based on technology, represented by 5G, which mainly promotes the development of the digital economy by improving efficiency. The construction of new infrastructure is the core part of the development of the digital economy. The development level of digital infrastructure construction in the Yangtze River Economic Belt shows the trend of downstream regions > midstream regions > upstream regions. Among them, the four provinces of Jiangsu, Zhejiang, Sichuan, and Hunan have a relatively good level of digital infrastructure development, followed by Shanghai, Sichuan, and Anhui, belonging to the second echelon, while other provinces and cities have poor digital infrastructure construction and development. slow. Compared with the whole country, the Internet penetration rate in Yunnan, Guizhou and other provinces and cities is still at a low level.

#### **4.4. The digital transformation process of enterprises is slow**

Digital transformation refers to the use of big data, artificial intelligence, cloud computing and other digital technologies as the core, with innovative new business models. Its essence is the in-depth reform of the industrial structure driven by the new generation of information technology. At present, most enterprises in the Yangtze River Economic Belt have insufficient understanding and awareness of digital transformation, and their management concepts and operating methods are relatively conservative, which hinders the digitalization process in the Yangtze River Economic Belt. Prepared system thinking.

#### **4.5. The progress of digital technology lacks epigenetic momentum**

Since the production of core technology industries such as computer hardware manufacturing and electronic components is mainly concentrated in Guangzhou, Foshan, Shenzhen and other regions, and the core patents are heavily dependent on foreign countries, the production of related technical equipment in some regions of the Yangtze River Economic Belt is restricted. At the same time, talents are the foundation of technological innovation and the core force of digital economy construction. However, except for Shanghai, Jiangsu, and Zhejiang, the number of colleges and universities in most regions is relatively small, and after graduation, many students face a number of objective reasons, such as the low level of local economic development, the lack of digital economic enterprises, and the lack of opportunities to realize self-worth. Factors, most graduates are reluctant to stay in the local. Affected by the siphon effect, some areas of the Yangtze River Economic Belt have certain difficulties in talent introduction, and the lack of talents has restricted the development of the digital economy to a certain extent.

## **5. The digital economy development and promotion path of the Yangtze River Economic Belt**

### **5.1. Reduce the imbalance of development between regions and create integrated collaborative governance**

The construction of the Yangtze River Economic Belt is a systematic project across regions, which requires the full cooperation between regions to achieve final results. In order to narrow the gap in the development of digital economy in eleven provinces and prefecture-level cities in the Yangtze River Economic Belt, we need to integrate and share a large number of advantageous resource elements such as talents, capital, and enterprises that have converged to areas with better digital economy development due to the "siphon effect", it is very important to create an integrated collaborative governance. This can not only strengthen cross-regional collaborative supervision, establish and improve the information exchange system, but also give full play to the advantages of government-enterprise co-governance and supervision, establish mechanisms such as government-enterprise data exchange and sharing, policy guidance and exchange, and effectively protect the legitimate rights and interests of consumers and operators. By establishing a public participation supervision mechanism, making full use of the network media, increasing the exposure of illegal acts in the field of digital economy, and giving play to the supervision role of the public and public opinion.

Due to the differences in the economic development status and direction of different regions, the regions with leading innovation capabilities such as Shanghai, Jiangsu, and Zhejiang need to focus on and support; at the same time, the industrial ecosystems of Yunnan and Guizhou are not perfect and the original economic foundation is relatively weak. , provinces with poor human resources should not be ignored, and should increase investment in their technological innovation, thereby accelerating the development of their digital economy.

### **5.2. Strengthen regional cooperation and sharing, and promote healthy competition among enterprises**

Strengthening regional cooperation is one of the important ways to achieve regional coordinated and win-win development. In order to create healthy competition among enterprises in the Yangtze River Economic Belt, it is possible to build a regionally integrated big data center in the Yangtze River Economic Belt, build a cross-regional basic database and information hub port, integrate data resources and human resources in different regions, and build platform-based data. Share the open mechanism, thereby strengthening the exchange and cooperation and sharing of human resources between enterprises in different regions.

Through the linkage of enterprises, governments, universities, and research institutes, the scientific and technological forces of provinces, municipalities and industrial parks will be integrated to play a role together, carry out innovation activities, and promote the sharing of scientific and technological achievements. For example, the establishment of a university alliance in the Yangtze River Economic Belt region to carry out scientific research cooperation and in-depth communication.

### **5.3. Optimize infrastructure construction to drive the development of digital economy**

The optimization of the infrastructure of the Yangtze River Economic Belt can be divided into two aspects. On the one hand, within the Yangtze River Economic Belt, in addition to Jiangsu, Zhejiang, Shanghai, and Anhui, where the digital infrastructure is in relatively good condition, there are quite a few provinces, counties, and cities whose infrastructure is still at a relatively low level, including the underdeveloped transportation network and the lack of transportation. Conditions need to be improved, etc., which cannot fully meet the needs of enterprise

transformation and development, and limit the development of enterprises and the Yangtze River Economic Belt to a large extent. Therefore, there is an urgent need to transform, design and innovate traditional infrastructure. On the other hand, the Yangtze River Economic Belt should accelerate the construction of new digital infrastructure and establish new digital infrastructure based on digitization, such as large green data centers, industrial Internet, artificial intelligence industrial parks, 5G base stations, etc. With the help of these new infrastructures with public, basic, scale economy and other attributes, it can achieve the effect of optimizing the development environment and provide a basic guarantee for the high-quality development of the digital economy in the Yangtze River Economic Belt.

#### **5.4. Strengthen the guidance of relevant systems and accelerate the transformation and upgrading of enterprises**

Today, the Yangtze River Economic Belt is at an important stage in the development of the digital economy, and the support of the state and government is crucial to the digital transformation and upgrading of enterprises. In order to accelerate the digital transformation of enterprises in the Yangtze River Economic Belt, the government can issue relevant policies and systems to support and guarantee the transformation and development of enterprises from the top-level design level. At present, my country's relevant policies to promote the innovative development of the digital economy have achieved initial results. In the future, the policies implemented by the state can put forward more effective measures around key scientific and technological fields such as the Internet of Things, big data, 5G, blockchain, and independent innovation of information technology, give play to the leading role of system construction, and create more characteristics with digital economy. Industry Base. In addition, due to the heterogeneity of economic development in each region of the Yangtze River Economic Belt, optimization directions should be considered according to different characteristic industries and different future development in different regions, and measures should be taken according to local conditions.

#### **5.5. Consolidate the construction of talent team and consolidate the development foundation**

Talent is the core competitiveness and innovation of digital economy construction. In order to consolidate the talent team building in the Yangtze River Economic Belt, first of all, the government must actively introduce talents, especially high-end scientific and technological innovation talents such as academicians of the Academy of Sciences, national "Outstanding Youth" and "Excellent Youth". The introduction of talents can bring new blood to the digital economy construction of the Yangtze River Economic Belt, break the existing situation, and stimulate the potential and motivation of economic development. However, it is not enough to just introduce talents. The government also needs to retain talents on the basis of the introduction of talents. Improving the talent guarantee system is a very important measure to retain talents. Specifically, for local talents, reasonable entrepreneurial subsidies, financial support, tax reduction and exemption can be given as incentive policies to encourage them to return to their hometowns; for non-local talents, especially qualified high-level talents, in addition to in addition to providing them with support for scientific research and innovation, they can also relieve their worries in many aspects such as housing, education, and medical care. Especially for outstanding local college graduates, more diversified methods can be adopted to attract them to stay in their hometowns for employment and entrepreneurship, meet the diverse job-seeking needs of the majority of college students, create a healthy environment where talents are willing to come and stay, and build the Yangtze River The compound talent team in the economic belt improves the overall quality of talents, thereby providing a steady stream of epigenetic power for the high-quality development of the digital economy in the Yangtze River Economic Belt.

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