

# Analysis on the Internal Mechanism and Implementation Path of Digital Economy to Promote the Development of High Quality Industry

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**Keywords:** Digital Economy, High-quality Industrial Development, The Mechanism, Implementation of the Path.

**Abstract:** At present, the digital economy is expanding from the consumption field to the production field, and the integrated development has given birth to a series of new business forms and new models, which has become an important economic growth point. The internal mechanism of digital economy boosting high-quality industrial development is mainly as follows: data elements stimulate new driving forces for industrial development; digital economy promotes industrial optimization and upgrading and technological innovation; digital economy reduces transaction costs and improves the efficiency of resource allocation. Based on the internal mechanism, this paper starts from the reality of the development of digital economy, and puts forward the main implementation path of digital economy to promote the high-quality development of industry.

## 1 INTRODUCTION

Digital economy is a new economic form following agricultural economy and industrial economy. It takes data resources as an important factor of production, modern information network as the main carrier, information and communication technology integration application and total factor digital transformation as an important driving force. At present, the digital economy, as a new economic growth point, is accelerating the integration with the real economy, giving birth to a series of new business forms and new models, which plays an important role in promoting the high-quality development of the industry. It is of great significance for promoting the transformation and upgrading of the real economy, promoting the high-quality development of the industry, and enhancing the national competitiveness to study the internal mechanism of the digital economy to boost the high-quality development of the industry and find the corresponding implementation path.

## 2 THE REALISTIC REPRESENTATION OF THE DIGITAL ECONOMY BOOSTING THE HIGH-QUALITY DEVELOPMENT OF THE INDUSTRY

### 2.1 Digital Economy Has Become a New Economic Growth Point

With the support of industrial policies and the application of advanced information technology, the digital economy system has been growing steadily. In the past two decades, the scale of China's digital economy has grown exponentially, from US \$43 billion in 1996 to \$5.5 trillion in 2019, and the output value of the digital economy has increased by more than 120 times. Especially in recent years, with the rapid layout and development of the Internet of Things, big data and 5G technologies, the scale of China's digital economy has shown steady growth. As can be seen from Table 1, both the scale of industrial digitalization and the scale of digital industrialization are growing at an accelerating pace. In 2019, the scale of digital industry exceeded \$1

trillion for the first time, becoming an important part of national economic growth. The digital economy promotes the growth of national economy, which is not only reflected in the industrialization process of digital information, but also reflected in the driving effect of digitalization on the transformation and upgrading of industrial structure. According to IDC, China's digital economy will reach \$8.5 trillion in 2021, accounting for about 55 percent of GDP.

Table 1 : China's Industrial Digitization and Digital Industrialization Scale from 2014 to 2019 (\$100 million)

	2014	2015	2016	2017	2018	2019
Digital scale of industry	18431	21360	26810	32416	38367	44336
Digital industrialization scale	6494	7368	8011	9486	9887	10929

Data source: China Academy of Information and Communications Technology

## 2.2 Accelerating the Integration of the Digital Economy with the Real Economy

In recent years, the rapid development of digital information technology and its popularization and application in various industries have improved the operation and management efficiency of enterprises, expanded the new ecological operation mode, and accelerated the process of digital development of enterprises. The integration of digital economy and real economy has achieved certain results in different industries. As shown in Table 2, the degree of integration of digital economy in China's three major industries has maintained a steady growth in recent years, with the highest degree of integration with the tertiary industry, followed by the secondary industry and the lowest degree of integration with the primary industry. This is consistent with the current growth trend of GDP of various industries in China. On the one hand, the digital economy accelerates the application of new technology in the industry, constantly innovates the development mode of modern service industry, promotes the development of manufacturing industry towards intellectualization, and speeds up the development level of modern agriculture. On the other hand, the integration of digital economy and real economy has broken the original information and technical barriers, optimized the traditional industries in an all-round, multi-angle and whole chain, extended the

industrial chain, and realized the transformation and optimization of the industrial structure.

Table 2: The degree of integration of digital economy among China's three major industries from 2016 to 2019

	2016	2017	2018	2019
The first industry	6.2%	6.5%	7.3%	8.2%
The second industry	16.8%	17.2%	18.3%	19.5%
The third industry	29.6%	32.6%	35.9%	37.8%

Source: China Academy of Information and Communications Technology

## 2.3 The Digital Economy Has Spawned New Forms and Models of Business

In recent years, the continuous improvement and development of digital technology and the increasing maturity of basic industries have powerfully promoted the process of industrial digitalization to advance further. In terms of industrial structure, the integration of digital economy with agriculture, manufacturing and service industry has accelerated, eliminating many traditional and backward industries and industrial models and giving birth to a large number of new industries and new models. In the field of smart agriculture, by applying Internet of Things technology, audio and video technology, 3S technology to traditional agriculture, visual remote diagnosis, remote control and disaster warning can be realized in agriculture. In the field of intelligent manufacturing, large manufacturing enterprises rely on artificial intelligence and big data analysis technology to achieve fully automated production of workshop processes, from labor-intensive to technology-intensive. In the field of smart home, many home furnishing manufacturers will include home butler, voice assistant and other services into the scope of the new generation of decoration design, to explore a more humanized and comfortable development model. In the field of intelligent medical care, more and more medical products that assist health management and disease prediction liberate doctors from the busy consultation and return, and contribute to the development of the new medical industry.

### **3 RESEARCH ON THE MECHANISM OF DIGITAL ECONOMY BOOSTING HIGH-QUALITY INDUSTRIAL DEVELOPMENT**

Digital economy mechanism to promote the development of industry, high quality performance for the data elements in the digital economy to stimulate new momentum of industrial development, digital information platform can reduce the transaction costs, improve the efficiency of the allocation of resources, the digital economy to promote industrial upgrading and technological innovation, and promote the development of high quality of industry.

#### **3.1 Digital Economy -- Data Elements Stimulate New Driving Forces for Industrial Development -- Promoting High-quality Industrial Development**

With the advancement of industrial digitization, data and information elements are playing an increasingly important role in enterprise governance and business decision-making. In October 2019, the Fourth Plenary Session of the 19th CPC Central Committee identified "data" as a factor of production for the first time. As the core factor of production of the digital economy, data has become an important driving force for the transformation of the digital economy. Different from traditional production factors such as capital, land and labor, data factor stimulates new driving forces of the industry with their strong sharing, expansion and high efficiency, thus promoting high-quality development of the industry. Specifically shown in: (1) sharing: in the era of digital economy, enterprises through access to the information technology platform stored in the massive data resources, on the one hand, can eliminate industry barriers and reduce the enterprise risk caused by information uncertainty; On the other hand, the resource docking brought by data sharing can concentrate the advantages of all parties, realize the optimization of innovation subjects within the industry and the integration of innovation and development between industries, and stimulate new driving forces of the industry. (2) expansion: the input of data elements, can help enterprises from the budget, financing, procurement, production, pricing, sales and other

production and operation links to expand the existing information channels, in the fierce market competition to seek high-quality development. (3) High efficiency: Compared with capital and human resources in the industrial era, digital resources can greatly improve the efficiency of resource use by virtue of powerful computer network and big data analysis carrier. In the process of promoting industrial development, higher spillover effect can be generated and more kinetic energy can be released.

#### **3.2 Digital Economy -- Reduces Transaction Costs, Improve the Efficiency of Resource Allocation -- Promote High-quality Industrial Development**

Digital economy, with the help of Internet, cloud computing and big data technology, can deal with the activities of various links in the complex industrial chain, greatly improving the efficiency of operation and management and reducing the probability of errors. Based on the information technology platform, the activities of production factors related to enterprises, such as searching, purchasing, transportation, tracking, storage and use, are all carried out in a unified information platform. On the one hand, information asymmetry is reduced and transaction costs such as information cost, negotiation cost and time cost are reduced. On the other hand, it improves the efficiency of business and data processing, which is conducive to the reasonable formulation of industrial policies by government departments and the rapid strategic decisions by enterprise management to promote the high-quality development of the industry. In addition, the high efficiency brought by the digital economy can reduce the redundancy of industry assets, clarify the relevant business activities of the industrial chain, integrate the existing resources, extend the industrial chain, and achieve the improvement of the efficiency of resource allocation.

#### **3.3 Digital Economy -- Promoting Industrial Optimization and Upgrading and Technological Innovation -- Promoting High-quality Industrial Development**

The emergence of digital economy cannot be separated from the support of information technology,

but the development of digital economy also promotes the iterative upgrading of information technology and the continuous generation of new technologies. The rapid development of 5G network, big data analysis and artificial intelligence technology has pushed the industry toward intelligent and digital development. Currently facing the profit level is low in many industries, lack of momentum from the macroscopic level, is due to the vague management pattern, the unreasonable industrial structure is difficult to meet the increasingly sophisticated consumer market, traditional enterprise needs to upgrade the industrial structure, and the development of the digital economy to upgrade industrial structure has brought the new technology, new application, new platform and a new direction. First, network communication and data sharing in the digital economy strengthen the connection between different industries and promote the development of the "sharing economy". Second, the new combination of production factors in the digital economy brings more profit growth points for enterprises and promotes the optimization and upgrading of industrial structure. Thirdly, the retrospective feedback mechanism of user experience under the digital economy can accurately locate the market demand, adjust the industrial structure according to the personalized and diversified needs of users, and release more value signals to users and the market.

From the micro level, the growth of corporate profits mainly comes from the improvement of efficiency, which cannot be achieved without technological innovation. New technology is an important driving force to promote high-quality industrial development, and is also the vitality of enterprise development. The digital economy is based on the continuous improvement of information technology, and at the same time, it is constantly expanding new industrial development models and giving birth to new technologies.

## **4 THE IMPLEMENTATION PATH OF DIGITAL ECONOMY TO BOOST THE HIGH-QUALITY DEVELOPMENT OF CHINA'S INDUSTRIES**

### **4.1 Improve Digital Infrastructure and Consolidate the Foundation for High-quality Industrial Development**

In order to ensure the stable and orderly development of high-quality industries driven by the new drivers of the digital economy, we must strengthen the infrastructure on which the digital economy depends. First, speed up the construction of 5G base stations and Internet of Things engineering facilities, optimize the national network layout, and improve network transmission efficiency; We will coordinate the establishment of cloud computing and big data sharing service platforms, promote the integration, optimization and technological upgrading of existing data platforms, and realize the interconnection and data sharing of the whole industrial chain as soon as possible. Second, to speed up the construction of a new generation of digital economy comprehensive information service system, the enterprise budget management, business management, product management, quality management and performance management into the unified digital information service platform, help the layout of the whole industrial chain, improve the intelligent level of the whole industry operation. Finally, we should accelerate the establishment of unified data management standards, strengthen the security protection of economic data, and promote the safe and orderly integration of various industrial resources in different fields.

### **4.2 Accelerate Technological Innovation and Tap the High-value End of the Industrial Chain**

The rapid development of digital information field drives the transformative development of digital economy. At present, with the help of intelligent digital platform, the digital economy is accelerating the integration with the real economy. However, limited by the core technology breakthroughs in key areas, China has failed to realize the comprehensive

extension of the industrial chain, and the level of digital industrialization is still low. Through technological innovation, accelerating the breakthrough of core technologies such as cloud computing, big data and artificial intelligence, and promoting the integrated development of blockchain and other core technologies, the industrial chain can be extended and developed toward the high value end. In addition, from the enterprise level, innovation drives development, and technological innovation is the vitality of enterprise development. Technological innovation based on digital platform is helpful for enterprises to tap the diversified demands of the market and find new and high-value profit growth points. As the basic unit of the industry, the innovation and growth of enterprises can drive the optimization and upgrading of the relevant industrial structure, and then promote the high-quality development of the industry.

#### **4.3 Deepening the Integration of the Digital Economy and the Real Economy, and Improving the Industrial Structure**

At present, the tertiary industry with a higher degree of integration between digital economy and real economy accounts for more than half of China's GDP, and has spawned a series of new business forms such as smart finance, smart home, and smart medical care, indicating that the integration of digital economy and real economy has a positive impact on the optimization of industrial structure and the high-quality development of the industry. To promote the deep integration of digital economy and real economy, first of all, it is necessary to formulate digital priority development strategy, give full play to the diffusion effect of digital economy on economic development, especially in the low degree of integration of the first and second industries, we should vigorously promote the development of smart agriculture and intelligent manufacturing, accelerate the upgrading of traditional industrial structure. In addition, different regions should make corresponding development strategies according to their own actual development conditions, timely eliminate backward and inefficient infrastructure and development mode, establish information, digital and intelligent industrial mode, and accelerate industrial digital transformation.

#### **4.4 Cultivating Innovative Talents for the Digital Economy and Unleashing the Vitality of Industrial Development**

Digital economy under the background of optimization and upgrading of industrial structure is dependent on the technological progress and scientific and technological innovation, in the Internet of things, big data, and the digital economy related fields such as artificial intelligence, technology upgrading needs a lot of research and development of innovative talents, and in terms of digital information management platform, digital management also requires a lot of application management personnel. In addition, the digital economy constantly promotes the development of new industries, which puts forward deeper requirements for human resources. Cultivating innovative digital economy talents, on the one hand, we should promote the education reform under the era of digital economy, and focus on training scientific and technological research and development personnel and application management personnel to adapt to the digital economy. On the other hand, it is necessary to strengthen personnel and technical exchanges in various regions, industries and fields, strengthen technical training for enterprises, expand talent training channels, and strive to cultivate compound talents suitable for the digital economy industry, so as to release vitality for promoting high-quality development of the industry.

## **5 CONCLUSION**

With the accelerated deployment of 5G networks and breakthroughs in big data, cloud computing, artificial intelligence and other technologies, China has entered the fast lane of digital economy development. As a new factor of production, data injects new impetus into the transformation and development of traditional industries, and speeds up the upgrading and optimization of traditional industries. The deepening integration of the digital economy and the real economy has promoted the emergence of new technologies, new industries and new models. It has become an important path to improve the modern economic system and achieve high-quality industrial development. In addition, the digital economy boosts the high-quality development of the industry. It is also necessary to further improve the construction of digital

infrastructure, strengthen the security protection of economic data, accelerate technological innovation, and cultivate more innovative digital economy talents.

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