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RESEARCH ON INTEGRATION OF DIGITAL AND REAL ECONOMY FOR NATIONAL ECONOMIC DEVELOPMENT

Digital economy is the main economic form after agricultural economy and industrial economy, and is a new mode of economic and social operation formed by the integration of new generation information technology and real economy, with data resources as the key element [1]. *The deep integration of the digital economy and the real economy is in line with the objective law of the development of the digital economy, and is an inevitable choice to promote the long-term healthy development of the digital economy. At present, the degree of penetration and application of the digital economy to traditional industries in developing countries still has much room for improvement, and if we want the digital economy and the real economy to support each other and further promote the high-quality development of the national economy, the future development of the digital economy should also focus on how to promote the extensive and deep integration of the digital economy and the real economy.*

Keywords: *digital economy, real economy, national economic development, economic growth, deep integration*

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ИССЛЕДОВАНИЕ ИНТЕГРАЦИИ ЦИФРОВОЙ И РЕАЛЬНОЙ ЭКОНОМИКИ ДЛЯ РАЗВИТИЯ НАЦИОНАЛЬНОЙ ЭКОНОМИКИ

Цифровая экономика является основной экономической формой после сельскохозяйственной экономики и промышленной экономики и представляет собой новый способ экономического и социального функционирования, сформированный путем интеграции информационных технологий нового поколения и реальной экономики, с ресурсами данных в качестве ключевого элемента [1]. *Глубокая интеграция цифровой экономики и реальной экономики соответствует объективному закону развития цифровой экономики и является неизбежным выбором для содействия долгосрочному здоровому развитию цифровой экономики. В настоящее время степень проникновения и применения цифровой экономики в традиционных отраслях в развивающихся странах все еще имеет много возможностей для улучшения, и если мы хотим, чтобы цифровая экономика и реальная экономика поддерживали друг друга и способствовали дальнейшему высококачественному развитию национальной экономики, будущее развитие цифровой экономики должно также сосредоточиться на том, как способствовать широкой и глубокой интеграции цифровой экономики и реальной экономики.*

Ключевые слова: *цифровая экономика, реальная экономика, развитие национальной экономики, экономический рост, глубокая интеграция*

In the early stage of digital economy development, the consumer Internet industry grew rapidly, and Internet platform companies expanded rapidly in the fields of e-commerce, social networking and search, and reached the world's leading level in terms of revenue scale, market share and technology research and development. In recent years, the consumer Internet market has gradually transitioned from the early «high-speed growth» stage to the «stable maturity» stage, and the market tends to be stable and saturated. At the same time, along with the penetration of the Internet of Things, sensors, 5G and other cutting-edge technologies and optimization iterations, the digital transformation of manufacturing,

digital twin factory, industrial Internet and other new models and new business models arising from the integration of digital economy and real economy have gradually become the leading direction of digital economy development, and are also the main trends and power sources driving the sustainable growth of digital economy in the future [1].

The current state of integration of digital economy and real economy – the example of China.

China's real economy has grown steadily over the past decade, with an average annual growth rate of 6.3 % in industrial value added from 2012 to 2021, increasing the share of manufacturing value added to nearly 30 % globally. However, the development of the real economy, represented by the manufacturing industry, is still facing the dilemma of «big but not strong», and traditional industries are in a critical stage of transformation and upgrading. The integration and development of big data, cloud computing, artificial intelligence, blockchain and other emerging digital technologies with the real economy can bring many benefits such as improved production efficiency, optimized product quality, improved user experience, lower operating costs and accelerated technological innovation, bringing significant historical opportunities for traditional industries in digitalization, networking and intelligent transformation. The digital economy can bring important transformation opportunities and key technology support for the high-quality development of the real economy. Therefore, major economies around the world have also introduced digital economy development strategies and accelerated the layout of advanced manufacturing fields that are deeply integrated with digital technology [2].

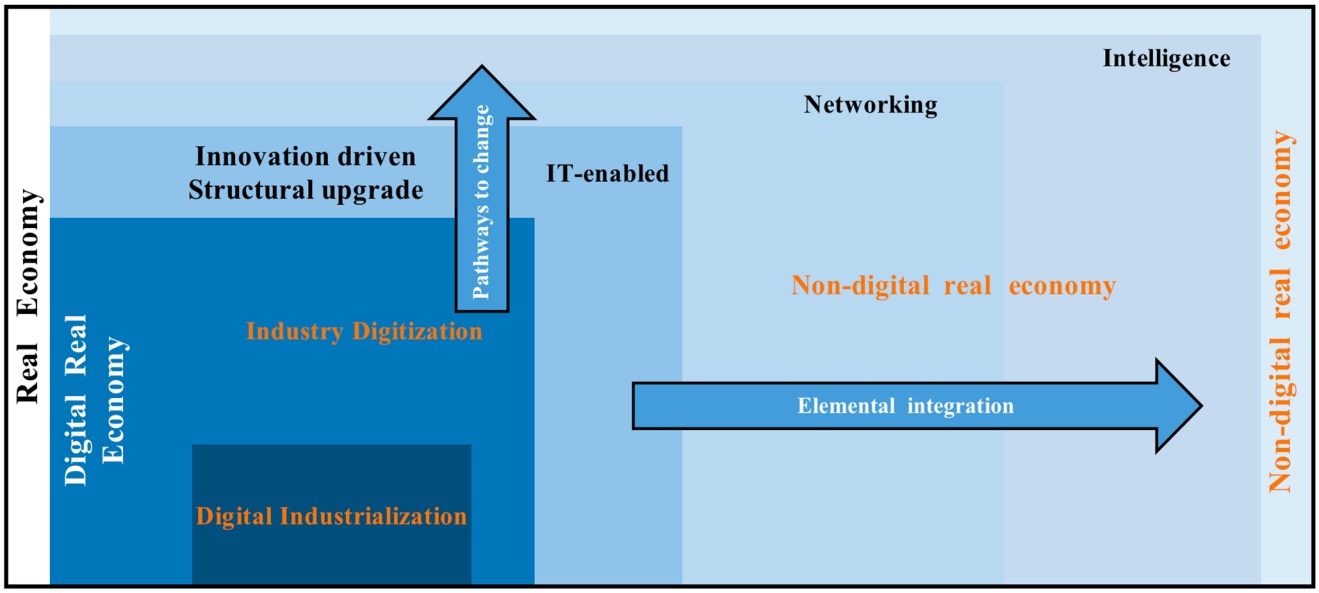

Diagram of the process of integrating the digital economy and the real economy

Suggestions for the integration of digital economy and real economy to promote national economic development

1. Focus on achieving digital core technology independent and controllable

At present, most countries are facing the risk of high-end chips, control systems, industrial software and other core technologies are subject to the control of others, there is a greater risk of industrial security. First, for countries with chip production strength, to be able to early on the chip manufacturing core technology autonomy and controllability. For countries that rely on procurement of chip sources, it is also necessary to realize the autonomous control of the digital technology industry supply chain as early as possible, and effectively build a technical base for the development of the digital economy and the national network information security barrier. Second, countries should increase support for the commercialization and application of superior technologies such as 5G, strengthen their

technological leadership and commercial application advantages, and guarantee the development of the digital economy. Third, they should make forecasts in the field of digital technology, lay out in advance, and focus on segments where disruptive innovations may occur, such as carbon-based chips, quantum computing, quantum communications and next-generation mobile communications, and AI, in an effort to seize the first opportunity in global digital competition.

2. Optimize digital infrastructure and operation mode

Accelerating the digital transformation of industries requires capital investment in traditional industries to achieve a comprehensive digital transformation. Due to the large investment and long return cycle of digital transformation, SMEs face realistic financial constraints for digital transformation. To this end, the external environment such as improving public services, optimizing the layout and operation mode of digital infrastructure should be started to lower the threshold of digital transformation of traditional industries. First, focus on improving the information and digital foundation of traditional industries, pay attention to quasi-public service field investment such as digital common technology, and reduce the implicit cost of digital transformation of SMEs. Second, accelerate the layout and construction of new infrastructure such as 5G, big data center and industrial Internet. Combine the advantages of industries and regional industries to create special industrial Internet platforms according to local conditions and reduce the access costs of customer enterprises.

3. Improve digital talent training and introduction system

The shortage of compound digital talents is becoming an important bottleneck in the process of integration of digital economy and real economy. This requires the strengthening of digital talent training and the introduction of high-level talents to provide lasting internal power to promote the integration of digital and real and high-quality development. First, build and improve the digital talent training system, focus on the goal of improving the digital literacy of all people and digital skills of professionals, optimize and adjust the curriculum and education and training mode comprehensively, and form an organically connected digital talent training system of basic education, higher education, vocational education and skill training. Second, actively communicate with internationally renowned relevant universities, establish a talent introduction system, attract digital technology and industrial talents such as integrated circuits, artificial intelligence and supercomputers to settle down, and focus on the long-term healthy development of the country's digital economy.

4. Build a digital national system to protect data security

The construction of a national system for data circulation is a compound work that requires multiple linkage types, and the construction of a national system for data security in the early stages will provide role support for the subsequent data security construction. First, we will make full use of the resources related to the country's real economy, tap its value-creating potential, and further deepen the integration of the digital economy. Make the digital economy and the real economy promote each other and support each other, and promote the deep integration of the two is an important part of building a modern industrial system and achieving high-quality economic development. Second, to enhance the awareness and ability of traditional enterprises to manage data assets, guide enterprises to collect and store industrial data in accordance with national and industry standards, and actively carry out maturity assessment of enterprise data management capabilities. Third, cultivate professional industrial data service providers, and build a data service-oriented industrial big data trading mechanism.

The integration of digital economy and real economy promotes the healthy and efficient development of national economy. For developing countries, we should start from four aspects: strengthening digital infrastructure to realize independent and controllable digital core technology, optimizing digital infrastructure and operation mode, improving digital talent training and introduction system, and building digital national system. Under the framework of the «One Belt, One Road»

initiative, RCEP and CPTPP and other regional agreements, we should strengthen cooperation and exchange in digital technology and related industries. Make good use of international organizations and platforms such as WTO, G20 and APEC to actively carry out institutional international cooperation and promote the establishment of a mechanism for cross-border data flow, thus further promoting the extensive and deep integration of the digital economy and the real economy [1].

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