

The Impact Mechanism and Promotion Path of Digital Economy on the High-Quality Development of Industrial Chains in Anhui Province

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Abstract: The integration of digital technology and the real economy has become an inevitable trend in today's economic development. This paper aims to explore the impact mechanism and promotion path of the digital economy on the high-quality development of industrial chains in Anhui Province. By analyzing the current situation of digital economy development in Anhui Province, this paper discusses the role of digital technology in promoting the transformation and upgrading of traditional industries, and puts forward some policy suggestions for promoting the high-quality development of industrial chains in Anhui Province.

Keywords: Digital economy, Industrial chain, High-quality development, Anhui Province, Impact mechanism, Promotion path.

1. Introduction

With the rapid development of digital technology, the digital economy has become an important driving force for economic growth. As an important province in the eastern part of China, Anhui Province has actively promoted the integration of digital technology and the real economy, and achieved remarkable results in promoting the high-quality development of industrial chains. This paper will analyze the current situation of digital economy development in Anhui Province, and explore the impact mechanism and promotion path of the digital economy on the high-quality development of industrial chains.

2. Literature Review

The digital economy is a new economic form that emerged with the development of digital technology. Many scholars have studied the impact of the digital economy on economic growth and industrial upgrading. For example, some scholars believe that the digital economy can promote economic growth by improving the efficiency of resource allocation and promoting the innovation of economic subjects (Zhu, 2017). Other scholars have pointed out that the digital economy can promote industrial upgrading by promoting the integration of digital technology and traditional industries (Wang, 2018). However, there are few studies on the impact mechanism and promotion path of the digital economy on the high-quality development of industrial chains in specific regions. This paper attempts to fill this gap by studying the case of Anhui Province.

3. Mechanisms by Which the Digital Economy Enhances the Resilience of the Industrial Chain

3.1. Data Becomes a Key Production Factor to Enhance Chain Resilience

Data has become one of the key factors of production in the

era of digital economy, carrying a wealth of information conducive to the development and growth of industries.

It carries a wealth of information conducive to the development and growth of the industry and is an important medium to enhance the resilience of the industrial chain.

It is an important medium to enhance the resilience of the industrial chain. Firstly, the data factor enables the industrial chain to make timely responses and countermeasures when facing challenges and risks.

First, data elements enable the industrial chain to make timely responses and countermeasures in the face of challenges and risks.

Data elements not only provide enterprises with information on the demand of suppliers upstream and downstream of the industry chain, but also provide enterprises with information on the demand of consumers and other users,

Consumers and other users to improve the efficiency of production and circulation.

It also helps enterprises to adjust production and decision-making in a timely manner in the face of changes and shocks in the external environment, so as to reduce external risks. It can also help enterprises adjust production and decision-making in the face of changes and shocks in the external environment, so as to reduce the impact of external uncertainties on the various links of the industrial chain. Secondly, data elements are conducive to breaking down the dependence on Secondly, data elements are conducive to breaking down the dependence on the division of labour, geography and transaction costs. Secondly, data elements are conducive to breaking down the original boundaries of the industrial chain that depend on the division of labour, geography and transaction costs. The data elements are conducive to breaking down the original boundaries of the industrial chain based on division of labour, geography and transaction costs, and driving the upstream and downstream enterprises of the industrial chain to gather and promote industrial clusters under the leadership of advantageous and key industries.

Thirdly, the digital economy is a powerful tool to promote

the development of industrial clusters. Thirdly, the digital economy reduces the number of enterprises through modern information technology and network communication technology.

Thirdly, the digital economy reduces transaction barriers and frictions through modern information technology and network communication technology, and reduces the number of enterprises in the transaction process. And friction in the transaction process, reducing information costs, time costs and negotiation costs.

The digital economy reduces transaction barriers and frictions through modern information technology and network communication technology, and reduces information, time and negotiation costs in the transaction process. The extensive application of data elements in the logistics industry

Greatly improves intelligent logistics management, reduces logistics costs, and also

Improve economic efficiency by reducing the risk of resource mismatch

3.2. Digital Economy Drives Upgrading of Industrial Structure

The digital economy continues to spawn new industries. The development of the digital economy has deepened the division of labour between information and communications manufacturing and related service industries, and has also given rise to new industries such as intelligent transport and intelligent energy, and new service industries such as online education, Internet medical care, online office and digital governance, accelerating the adjustment of industrial structure. Digital technology and its related industries are also gradually industrialised, and the digital industry is technology-intensive, leading the development of related industries while promoting the transformation and upgrading of related industrial chains, and providing important support for the popularisation and application of the smart manufacturing model.

4. Realisation of Industry Chain Resilience Enhancement Driven By Digital Economy Path

The security and stability of the industrial chain is crucial to the healthy development of the industry, especially the high-quality development of the real economy. Driven by the new round of information revolution, traditional industries have accelerated their digital transformation, and by creating digital platforms, intelligent service systems, etc., they have continued to help key core technology breakthroughs, and have continued to push forward to make up the chain, extend the chain, solidify the chain and strengthen the chain, so as to continuously improve the resilience of the industrial chain.

4.1. Accelerating Digital Transformation and Unlocking the Value of Data

First, continue to increase investment in new infrastructure to facilitate the digital transformation of enterprises. Data elements play an important role in improving the productivity of other elements, optimising the efficiency of resource allocation, and reducing resource inputs, which requires enterprises to continuously invest in digital infrastructure. According to the characteristics of network externalities, the demand generated by network externalities will show explosive growth only when the scale of users exceeds a

critical mass, otherwise it will rapidly decrease or even degrade to zero. Under the effect of network externalities, it is necessary to accumulate a sufficient amount of data in order to play the role of data elements. Therefore, it is necessary to take advantage of China's mega-market, guide more funds into the construction of new infrastructure, improve the scope of application of enterprise digital scenarios, enhance the effective connection between digital technology and various links in the industrial chain, and achieve a dynamic balance between supply and demand. Second, create a good digital ecology. As more and more links of production, circulation, consumption and other economic activities are connected to digital technology, the value of data is becoming more and more prominent. In the era of digitalisation, data has become one of the important and critical factors of production. Therefore, it is necessary to break down the obstacles in the industrial chain that hinder the flow of information, resources, personnel and other factors, break down the "information silos", and promote the digital transformation of traditional industries, so as to create a good digital ecosystem. At the same time, it is necessary to accelerate the deep integration of the innovation chain, talent chain, capital chain and data chain, expand the application scenarios of digital technology, fully explore the value of data, and build a value foundation for enhancing the resilience of the industrial chain. Finally, accelerate the promotion of intelligent manufacturing and improve the level of intelligent manufacturing in the industrial chain. Intelligent manufacturing is an important direction for future industrial development, and plays a key role in improving production efficiency, accelerating industrial co-development, and promoting technological innovation. Therefore, it is necessary to continuously promote the digital and intelligent development of each link in the industrial chain, and provide basic technical support to ensure that the industrial chain can cope with external shocks.

4.2. Strengthening Digital Platforms to Promote Collaborative Governance

Strengthen the digital demonstration platform to create a new digital platform to empower the manufacturing industry chain toughness enhancement. First of all, enterprises should strengthen the construction of platforms for creating digital management, production and sales, and increase the digital application of industrial networks, management software and data systems. The digital platform is the foundation of enterprise digital transformation, and accelerating the establishment of a data trading demonstration platform not only enhances the basic capacity of the industry, but more importantly, accelerates the pace of modernisation of the industrial chain. Second, create a collaborative development and governance model for multiple actors. On the one hand, establish a mechanism for cooperation and contribution of multiple subjects, strengthen the circulation and exchange of information and data between the government and enterprises, and establish and improve the long-term supervision and governance mechanism. On the other hand, actively build a specialised R&D and innovation demonstration platform, and innovate the R&D and design mode of the industrial chain. Specialised

Specialised R&D and innovation demonstration platforms bring together enterprises upstream and downstream of the industry chain, which not only enhances communication and mutual trust between enterprises, alleviates the difficulties of financing for SMEs, such as difficult and expensive financing,

and creates a good environment for promoting the digital transformation of the industry chain.

4.3. Strengthen Basic Research and Independent Innovation, and Increase R&D Investment

One, increase support for basic research. Basic research is the source of scientific and technological innovation, and is the main hand that promotes independent innovation. To this end, we should increase the financial and tax support for basic research, especially in key areas where there may be a "choke point" risk, and through policy support to overcome technical problems in key areas, accelerate the independent innovation of core technologies, and safeguard the security and stability of the industrial chain. Secondly, we should encourage social capital to participate in basic research and development, and improve the efficiency of capital operation. Basic research is a large investment and long cycle, and should make full use of the resource advantages of colleges and universities, enterprises, associations and other parties to jointly attack the key technical problems. Thirdly, in terms of talent cultivation, we should focus on the application of digital technology throughout the education system, and cultivate composite talents who understand both digital technology and business, spanning multiple fields and with strong learning ability, in order to meet the talent demand of basic research.

Second, continue to increase investment in core technology R&D. Key core technology is the industry in the most difficult technology, the highest degree of integration, the most difficult to imitate and the key position of the technology, so we should increase efforts to promote the key core technology research and development. In recent years, China's total R&D expenditure has been rising, the number of patent applications, the number of R&D personnel, etc. ranked first in the world, and the R&D intensity will reach 2.54% in 2022, and the R&D investment in the global ranking has been significantly improved. However, some industrial technologies are still restricted by developed countries and may face the risk of "necking". Therefore, on the one hand, it is necessary to establish a backup chain, co-operate with multiple foreign suppliers, and reduce potential supply chain crises through diversified imports; on the other hand, it is necessary to increase R&D investment in key core technology areas, and enhance the ability of independent innovation.

5. Conclusion

The development of the digital economy has played an important role in promoting the high-quality development of industrial chains in Anhui Province. In the future, Anhui Province should continue to strengthen the construction of digital infrastructure, promote the integration of digital technology and traditional industries, and strengthen the cultivation and introduction of digital economy talents, so as to further promote the high-quality development of industrial chains.

First, the "chain leader system" should be implemented and improved, and enterprises with leadership should be supported in playing a demonstration role to enhance the overall competitiveness of the industrial chain. Among the enterprises upstream and downstream of the industrial chain, the "chain master" is a leading enterprise with competitive advantages that has been gradually formed in long-term competition, and the "chain leader" is generally a state-owned

enterprise with strong public attributes, which assumes social responsibility on the basis of the "chain master" to ensure the overall safety of the industrial chain. The "chain leader" is generally a state-owned enterprise with strong public attributes, which assumes social responsibility on the basis of the "chain leader" to ensure the overall safety of the industry chain. Therefore, it is necessary to give full play to the powerful industry chain driving and leading role of "chain master" enterprises, attract more small and medium-sized enterprises to join the pattern of division of labour, and promote the integrated development of large, medium and small enterprises and internal and external linkage, and it is also necessary to strengthen the whole-chain thinking and systemic outlook of the "chain leader" to maximize the value of the industry chain, and increase the number of small and medium-sized enterprises with the ability to maximize the value of the industry chain. It is also necessary to strengthen the "chain-long" thinking and systemic view, with the goal of maximising the value of the industrial chain, and increase the key common technologies with public attributes, so as to solve the problems of shortage of supply or insufficient quality of common technologies, and continuously extend the industrial chain.

Secondly, focusing on supporting specialised, specialised and new enterprises and cultivating a number of hidden champions. Specialised, fine, special and new enterprises mainly focus on niche areas to do deep and fine, with strong market competitiveness, but also to enhance the resilience of China's industrial chain supply chain is the most important guarantee. Speciality, speciality and new enterprises not only participate in the production of the global industrial chain, but also have important significance to "make up for short boards" and "forge long boards" in China's industry chain resilience. The number of small, medium and micro enterprises in China accounts for more than 99 per cent of the total number of enterprises, absorbing nearly 80 per cent of the total number of people employed, and speciality, speciality and new enterprises are the backbone of small and medium enterprises. Therefore, it is necessary to strengthen support for speciality, speciality and new enterprises by providing preferential policies in the areas of finance, taxation and industrial policy, fostering hidden champions with international competitiveness, and promoting the extension of the industrial chain to the upstream and downstream.

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