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Exploring the Path of Coordinated Development of Regional Digital Economy and Industry

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ABSTRACT

In the era of digital economy, regional industrial collaborative development has become an important path to enhance regional comprehensive competitiveness and achieve high-quality economic development. With the development of digital technology, the demand for digital technology in regional resource sharing, industrial linkage and economic structure optimization is increasing. Digital technology, with its powerful information integration and technology driving capabilities, provides an important driving force for regional industrial collaborative development. At present, regional industrial development faces bottlenecks such as low efficiency of traditional resource allocation and insufficient collaboration of industrial chains, and urgently needs transformation. Starting from the inherent connection between digital economy and regional economic collaborative development, this paper analyzes the innovations of regional industrial collaborative development driven by digital economy, such as resource allocation efficiency, driving force of multi-industry linkage, inclusiveness of economic development, and flexibility of dynamic adjustment and optimization. It also proposes paths such as building collaborative platforms, optimizing digital infrastructure, promoting industrial transformation and developing sharing economic mechanisms, aiming to provide theoretical support and practical guidance for regional industries to achieve sustainable collaborative development.

KEYWORDS

Digital economy; Regional industry; Coordinated development

1. INTRODUCTION

The rapid rise of the digital economy has brought new development opportunities for the coordinated development of regional industries. The application of digital technologies such as big data, cloud computing and artificial intelligence has enhanced the depth and breadth of regional industrial collaboration. Digital technology can break down information barriers between regions, not only improving the transparency of industrial activities between different regions, but also facilitating the flow of information, laying a solid foundation for the coordinated development of regional industries [1]. At the same time, the essence of the digital economy lies in optimizing resource allocation and value reconstruction. In the past regional industrial development, there was an uneven distribution of resources, and the traditional allocation method could not fully tap the potential of resources. However, the use of digital technology can accurately match demand and supply, greatly improving the efficiency of resource utilization. Using digital economic technology, different regions can realize the dynamic flow of resources, thereby achieving complementary advantages and resource sharing on a larger scale, injecting momentum into the sustainable development of regional industries.

In addition, the digital economy has also brought about innovations in the collaborative development model. In the traditional regional industrial collaborative development, geographical proximity is

often the main condition, while the digital economy, due to its virtualization and decentralization characteristics, breaks through geographical limitations and provides possibilities for regional collaboration in a wider range.

Through the empowerment of the digital economy, not only can the efficient connection of industrial activities be achieved, but also the flexibility and adaptability of regional collaboration can be improved, making the collaborative development of regional industries more resilient. Therefore, driven by the digital economy, regional industrial collaborative development is not only a simple resource sharing and information exchange, but also an efficient, flexible and intelligent economic development model. Exploring the internal logic and implementation path of regional industrial collaborative development in the digital economy era has important theoretical and practical significance for the high-quality development of regional economic collaboration.

2. INNOVATIVE FEATURES OF DIGITAL ECONOMY DRIVING COORDINATED DEVELOPMENT OF REGIONAL INDUSTRIES

2.1. Efficiency of Cross-Regional Resource Allocation

In the digital economy era, the efficiency of regional industrial resource allocation has been significantly improved. Traditional industrial resource allocation is restricted by geographical location and logistics conditions, while the application of digital technology has broken these limitations. First, through technologies such as big data, artificial intelligence and cloud computing, the supply and demand information of regional resources can be captured in real time and analyzed to achieve precise matching [2]. Second, the application of digital technology makes the flow of resources more flexible and faster. Whether it is labor, capital or means of production, they can be efficiently allocated between regions. Third, the application of digital technology has further enhanced the dynamic adjustment ability of industrial resources, making regional industrial cooperation smoother, thereby maximizing the utilization efficiency of resources and promoting balanced development among regions.

2.2. The Driving Force of Multi-Industry Linkage Development

The digital economy not only integrates resources within the region, but also promotes deep collaboration among multiple industries through digital technology empowerment and digital platform linkage. Relying on digital technology between industries can effectively eliminate communication barriers and significantly improve collaboration efficiency. For example, agriculture, manufacturing and logistics industries can achieve real-time data sharing and collaboration through digital platforms, further promoting the optimization and upgrading of the industrial chain within the region.

The coordinated development of multiple industries has also spawned new business models and expanded new economic growth points, such as the integration of "Internet + Industry". The multi-industry collaboration between regions not only improves economic efficiency, but also creates more value-added opportunities and employment space, and enhances the endogenous driving force of regional industries.

2.3. Inclusiveness of Regional Industrial Development

The inclusiveness of the digital economy not only provides greater possibilities for the coordinated development of regional industries, but also improves the inclusiveness of regional industrial development. On the one hand, compared with the traditional economic model, the digital economic model has lowered the participation threshold of regional industrial cooperation to a certain extent. Both small and medium-sized economic entities and marginal areas can participate in regional

industrial collaboration. Some underdeveloped regions can also use digital economic technology to gain access to the market, inject vitality into the coordinated development of regional industries, and promote coordinated and balanced development among regions. On the other hand, the inclusiveness of regional industrial development is reflected in the sharing of synergistic benefits. Through digital technology, economic entities among regions can not only further strengthen their synergistic relationship, but also achieve mutual benefit in synergistic cooperation, thereby obtaining better economic benefits.

2.4. Flexibility for Dynamic Adjustment and Optimization

With the rapid changes in the global economic environment, flexibility has become an important symbol of regional industrial collaborative development. The digital economy can dynamically adjust regional economic activities through real-time monitoring and data analysis. On the one hand, when market demand changes, the use of digital technology can quickly adjust the supply and demand relationship to ensure the efficiency of resource flow between regions. On the other hand, the predictive ability of digital technology can also provide forward-looking adjustment suggestions for regional industrial collaborative development, helping all participants to optimize development strategies in a timely manner, so as to better adapt to environmental changes.

3. THE PATH TO REALIZING COORDINATED DEVELOPMENT OF REGIONAL INDUSTRIES DRIVEN BY DIGITAL ECONOMY

The rise of the digital economy has provided a new impetus for the development of regional industries. Through the innovation and application of digital technology, the coordinated development of regional industries has not only been greatly improved in terms of efficiency and resource allocation, but also achieved remarkable results in terms of industrial upgrading, market development, and cooperation mechanisms. With the increasing interaction between industries in different regions, the digital economy has become an important force in promoting the coordinated development of regional industries. In order to achieve efficient and coordinated development of regional industries, it is necessary to comprehensively promote the deep integration of the digital economy and regional industries through efforts such as building digital platforms, promoting the intelligent transformation of industries, optimizing infrastructure construction, and innovating sharing economic models.

3.1. Build a Digital Economy Platform for Regional Collaboration

Technical support and data interconnection model of cross-regional digital economic platform. Cross-regional digital economic platform is one of the infrastructures for realizing regional industrial coordinated development. The development of digital economy depends on the rapid development of information technology, especially the application of cloud computing, big data, artificial intelligence and other technologies, which provide technical support for regional economic activities. By establishing a cross-regional digital economic platform, each region can achieve optimal resource allocation and data information interconnection, break the restrictions of region and industry, and enable enterprises and markets in each region to interact efficiently [3]. With the support of digital technology, different regions can quickly share key data information such as production data, market demand, and supply chain information, providing accurate decision-making support for regional industrial coordinated development. In addition, the interconnection of data information enables regions to grasp market dynamics and demand changes in real time, improve resource allocation efficiency, and ensure that regional industrial activities can respond to market changes more flexibly.

Collaboration mechanism and innovative services of digital economic platform. In addition to the support of digital technology, the collaboration mechanism and innovative services of digital economic platform are also important factors in promoting the coordinated development of regional

industries. The construction of digital economic platform should focus on promoting cross-regional resource sharing and collaborative development and establish a collaboration mechanism so that economies in different regions can conduct business cooperation and industrial collaboration on the same platform. For example, establishing a cross-regional supply chain collaboration mechanism, on which enterprises in various regions can share raw materials, products, technology and other resources, can not only improve the efficiency of collaboration, but also reduce operating costs. Digital economic platform is not only a platform for information transmission and resource matching, but also can provide personalized innovative services. According to the economic characteristics of different regions, digital economic platform can provide professional market analysis, data support, logistics collaboration and other value-added services according to demand, so as to promote the better integration of regional economy into the domestic and even global industrial chain.

3.2. Promote the Digitalization and Intelligent Transformation of Regional Industries

Industrial layout is the focus of regional economic digital transformation. The digital economy provides new opportunities for regional economic industrial transformation. The digital transformation of regional industries is not only a necessary condition for improving economic synergy, but also a necessary path for local enterprises to improve their competitiveness and innovation capabilities. Each region should upgrade and transform industries with digital transformation potential and optimize industrial layout based on its own resource endowment, industrial foundation and market demand. In the process of upgrading and transformation, it is necessary to pay attention to the digital transformation and upgrading of traditional industries such as manufacturing, agriculture, and logistics. For example, the manufacturing industry uses the Internet to realize the digital upgrading of intelligent manufacturing and production lines, improve production efficiency and product quality; through precision agricultural technology, increase production and resource utilization; and the logistics industry uses smart logistics technology to optimize logistics routes and reduce transportation costs [4]. Each region should carry out industrial layout according to its own economic development characteristics and industrial structure, and provide technical support and policy guarantees for the digital transformation of key industries.

Digital technology helps regional industrial chains to achieve deep coordination. The coordination of industrial chains is one of the core elements of regional industrial coordinated development. The development of the digital economy, especially the application of digital technology, has provided a strong impetus for the deep coordination of industrial chains. With the help of technologies such as big data, cloud computing, and artificial intelligence, the industrial chains between regional economies can be more closely connected, and the digital and intelligent transformation can be achieved in the entire process from raw material supply to product manufacturing and sales. The empowerment of digital technology enables the industrial chains between regions to exchange information in real time and allocate resources accurately through the digital economic platform, reducing the time cost and communication cost of information transmission. The coordination of industrial chains includes not only cooperation within the same industry, but also cross-industry coordination. For example, the manufacturing industry, logistics industry, and service industry can achieve data sharing and optimal resource allocation through digital platforms, thereby improving the efficiency and innovation capabilities of the entire industrial chain. Digital technology can also help regional industries effectively cope with market uncertainty and volatility. Through real-time monitoring and analysis of industrial chain data, each region can flexibly adjust production plans and supply chain management to ensure the stable operation of the industrial chain and maximize efficiency.

3.3. Optimizing Regional Digital Infrastructure Construction

Strengthen the coordination of digital infrastructure such as communications and logistics between regions. The rapid development of the digital economy cannot be separated from the support of

infrastructure, especially infrastructure in the fields of digital communications and logistics. All regions need to strengthen the coordination of infrastructure and promote the flow of digital services and resources. This requires not only infrastructure construction, but also coordination among regions in terms of technical standards and equipment compatibility [5]. On the one hand, by strengthening the construction of communications and logistics facilities between regions, industrial activities between regions can be smoother. The construction of communications infrastructure not only improves the efficiency of information flow, but also speeds up the transmission speed of data; the digital transformation of logistics infrastructure not only reduces logistics costs, but also enhances the logistics collaboration capabilities between different regions. On the other hand, the promotion of intelligent management helps to strengthen infrastructure construction. With the support of digital technology, infrastructure between regions can be managed intelligently, which can not only improve the efficiency of resource utilization, but also effectively respond to changes in market demand and emergencies.

Build an efficient information flow, capital flow, and logistics integrated system. Building an efficient information flow, capital flow, and logistics integrated system between regions is the key to achieving regional industrial coordinated development. The efficient integration and circulation of information flow, capital flow, and logistics play an important role in improving the overall operational efficiency of the regional economy. Through the digital economic platform, the various elements of the regional economy can realize intelligent and efficient flow, forming a coordinated mechanism of information flow, capital flow, and logistics. The efficient flow of information flow can quickly obtain market dynamics and resource needs for the development of regional economies and support the efficiency of inter-regional decision-making; optimizing capital flow further improves the convenience of inter-regional investment and financing activities, and promotes the flow and allocation of capital in different regions; the integration of logistics will effectively reduce transportation costs between regions and promote efficient allocation of resources. By establishing an integrated information flow, capital flow, and logistics integrated system, regional economies can develop more efficiently and enhance the comprehensive benefits of coordinated development between regions.

3.4. Develop Regional Sharing Economy and Cooperation Mechanisms

Incentive mechanism and operation mode of regional sharing economy. The sharing economy provides an innovative cooperation model for the coordinated development of regional industries. Through resource sharing, platform cooperation and other means, economies in different regions can use idle resources in other regions to improve economic development efficiency [6]. The advantage of the sharing economy is that it promotes cross-regional economic cooperation through the optimal allocation of resources. The regional sharing economy needs to formulate a reasonable incentive mechanism to mobilize the active participation of all parties and ensure that resources can flow efficiently. The incentive mechanism includes not only the distribution of economic benefits, but also support in terms of preferential policies to ensure the sustainability and fairness of the sharing economy.

Innovative practices of cross-regional resource sharing in the digital economy. In the era of digital economy, cross-regional resource sharing practices have achieved remarkable results, such as logistics sharing platforms, e-commerce platforms, and production capacity sharing platforms. The successful practices of these platforms show that digital technology can not only help regions share resources, but also promote innovative cooperation among all parties and expand cooperation areas. Cross-regional resource sharing will provide more cooperation opportunities for regional industries and promote win-win results for all regions. This sharing economy model not only optimizes resource allocation, but also enhances the overall competitiveness of each region.

4. CONCLUSION

As an important force driving the coordinated development of regional industries, the digital economy promotes economic interaction and coordinated development among regions through technological innovation and optimized resource allocation. By building a cross-regional digital economic platform, promoting the intelligent transformation of industries, optimizing digital infrastructure and innovating shared economic models, each region can achieve efficient flow of information, funds and resources, and enhance the overall synergy of regional industrial development. In the future, with the continuous development of the digital economy, the paths of regional industrial coordinated development will become more diversified. Therefore, each region should accelerate the pace of digital transformation, build a closer collaborative network, and achieve sustainable growth of cross-regional industries.

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