

Research on Digital Economy's High Quality Development Restrictive Factors and Realization Route

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ABSTRACT

Digital economy, a new economy form with information technology innovation, based on internal power information network as main carrier, is booming in global scope. Now digital economy's total amount continues growing to become an important economy style, but its development quality needs to be optimized; such as its overall scale is expanding, but there are still big differences in regional development. The global digital economy is booming, but there are still loopholes in security and privacy protection. The factors that restrict digital economy high quality development mainly include weak digital foundation, imbalanced industrial integration, shortage of talents and top-level design coordination. Therefore, to promote digital economy high-quality development, it is necessary to accelerate digital infrastructure's construction, optimize industrial structure, promote digital transformation and upgrading, strengthen ability to govern digital economy to optimize its development environment.

Keywords: Digital economy, High quality development, Realization route.

1. INTRODUCTION

Information economy and network economy has given rise to digital economy. In the 1990s, "Father of digital economy" named Don Tapscott put forward digital economy concept and he described digital economy in monographs as a fundamental new economy "with interactive multimedia, information superhighway and Internet driven by human intelligence". [1] Digital economy as a new economic form, with digital knowledge and information as important production factors, has been becoming intrinsic motivation for information technology innovation, based on information network main carrier, through digital technology and real economy's combination in order to improve traditional industry digital level, which make intelligent to boost economy development and governance model optimization. At present, digital economy has important functions with individual enterprises, enterprise groups and national policies. By connecting other enterprises and consumer groups, enterprises generate a large amount of data information and give feedback so as

to improve and optimize production and realize value. At the intermediate level, digital economy takes advantage of technological progress to cluster industries and form competitive and cooperative relations to promote optimization and upgrading within industry and play a driving role in the economy. At macro level, state vigorously promotes policy innovation to provide a good environment for digital economy development and gives play to regulatory role on digital economy development by market.

In recent years, data traffic generated by Internet has grown rapidly around the world, new information technology has also made breakthroughs and innovations, and its integration with real economy has deepened, which caused data to become an important production factor. Driven by the new scientific and technological revolution, global digital economy has achieved remarkable results and also become an important driving force for high-quality economic development. Therefore, a systematic study about digital economy is of great theoretical significance

and practical value for promoting high-quality economic development.

2. DIGITAL ECONOMY'S DEVELOPMENT STATUS

With information technology's rapid development, digital technology is constantly integrated with real economy showing a new development trend. Digital economy's total volume continues to grow, but its development quality needs to be improved. Digital economy's overall scale is expanding, but there are great differences between regions, global digital economy booms, there are still gaps in security and privacy protection.

2.1 Economic Aggregate Continues To Grow and Global Digital Economy's Improving Quality Development

From digital economy's development in recent years, it has shown a dynamic development trend with economic scale expanding, output value increasing. However, an in-depth analysis on digital economy shows that explosive growth mainly benefits from social progress and resources environment's improvement, while industrial structure and economic development efficiency contribute little to digital economy. " In terms of structure, software industry and Internet industry account for a large proportion in digital economy, and the proportion is increasing year by year, while traditional industry, such as agriculture and other industries account for a small proportion,"[2] which shows that there is a certain imbalance in digital economy. Although overall scale is increasing, development efficiency still needs to be further improved.

2.2 Overall Scale Continues To Expand, and Regional Development Varies Greatly

On the whole, digital economy shows a continuous expansion trend, but there is still regional development imbalance. The regions with strong material foundation and good economic development environment will have better digital economy, and digital economy will have strong advantages. Meanwhile, digitalization level is relatively balanced, and contribution to digital economy from social development, resource transformation, economic structure and efficiency improvement are relatively balanced. In digital

economy's underdeveloped areas, due to overall economic development's limitation, digital economy's development quality has obviously declined with low digital level and unbalanced development, and radiation effect on the surrounding areas is minimal.

2.3 Development and Prosperity and Loopholes in Security or Privacy Protection

In the era of digital economy, information networks and databases are becoming more and more dominant. Consumers and enterprises are using Internet more and more frequently. When consumers conduct transactions online, especially cross-border transactions, data protection systems provide opportunities for criminals. In addition, there are also electronic payment and mobile payment property safety such as all kinds of consumers' information through a complicated network channel transmission. Although the data seems to pieces, but putting them together will become a "transparent" individuals and organizations, which may even be malicious use of crime. Therefore, it is still important to pay attention to cyber security and privacy issues to ensure healthy and orderly economic development.

3. CONSTRAINTS ON DIGITAL ECONOMY'S HIGH-QUALITY DEVELOPMENT

At present, digital economy still faces challenges such as weak digital infrastructure, imbalanced industrial integration, technical personnel's shortage, insufficient overall coordination of top-level design, which restrict digital economy's high-quality development.

3.1 Digital Infrastructure's Supporting Capacity Being Weak

Real economy is digital economy's foundation, and manufacturing is key to real economy. At present, there are still many problems in digital development in manufacturing enterprises. "Most enterprises are limited by imperfect digital infrastructure or unbalanced digital infrastructure, and there is resistance to enterprise networking and intelligence".[3] On the one hand, most of high-end industrial sensors, industrial control systems, critical software and other industry areas are limited by network facilities, there is not enough infrastructure to support. On the other hand,

although big data analysis, cloud computing, Internet of Things, simulation analysis, industrial software and other terms have been mentioned and hotly discussed, these technologies' research efforts are not enough, and manpower and related resources' investment are not enough, so they do not occupy absolute competitive advantages.

3.2 Unbalanced Industrial Integration and Shortage of Technical Personnel

At present, "digital economy and real economy integration more focused on technical level and local areas, more dependent on digital technology's application and consumer market's scale advantage, and it is still weak at industrial level and digital economy essence level. Digital economy as a new economic form, whose huge potential efficiency is far from released".[4] At the same time, there is a huge talent gap in field of digital economy, and more digital technical talents tend to developed regions. Therefore, the shortage and uneven distribution in technical talents will lead to regional economic differences. Areas with better regional economic development can attract more high-tech talents further widening regional economic development differences.

3.3 Insufficient Overall Planning and Coordination in Digital Economy

As an accelerator and strategic place for economic development, digital economy is conducive to high-quality economic development by planning and proposing scale targets for overall arrangements in digital governance, smart city, digital industrialization and industrial digitalization. However, due to lack of overall coordination and division of labor, its development path and measures are homogenized. Most of them focus on large projects' planning, without planning and design of subdivision projects making lack of work focus and breakthrough direction, lack of characteristic and personalized. At the same time, information data and network security issues are not well considered, insufficient systematic regulatory system and legal norms restrict digital economy's sustainable and healthy development.

4. WAYS TO PROMOTE DIGITAL ECONOMY'S HIGH-QUALITY DEVELOPMENT

Digital economy has become a new driving force to promote social and economic development.

While facing many development bottlenecks, how to implement and promote digital economy is also the focus. In the new situation, it is necessary accurately to grasp development trend, clearly define development priorities, strengthen overall planning, promote digital economy's high-quality development.

4.1 Speeding up Digital Infrastructure's Construction To Lay a Solid Foundation for Its Development

4.1.1 Coordinating Digital Infrastructure

It should be more "Active to develop efficient and collaborative integrated infrastructure to build regional data centers and multi-level digital infrastructure construction with overall layout".[5] Also there is more care to explore digital economy's regional coordinated development mode, strengthen inter-regional industrial docking and industrial transfer, jointly build regional digital economy industry chain, establish distinctive digital economy industrial clusters, and drive all regions to enjoy the dividends brought by digital economy.

4.2 Promoting New Digital Infrastructure

Strengthening information resources integration's depth to open information channels and make economic and social development new breakthrough in digital economy development, it is useful to accelerate big data, 5G technology, artificial intelligence, etc. and promote digital technology, actively explore information communication in field of digital technology in various industries and basic industries construction to realize information resources' opening and sharing, and constantly reduce its use and operation costs, creating favorable conditions for digital industries.

4.2.1 Upgrading Digital Infrastructure System

"Optimizing system layout and accelerate a new type of digital infrastructure system's optimization and upgrading based on Internet, with digital information at its core and integrated infrastructure as a breakthrough".[6] Building more secure and efficient network platform to give priority to digital information technology industry, which improve digital technology research and development and encourage big data industrial parks' construction and digital economy's soft power.

4.3 Optimizing Industrial Structure To Promote Real Economy's Digital Transformation and Upgrading

With information technology's widespread application, digital information has become a key production factor to promote real economy's development. Promoting digital economy and real economy's integrated development and digital transformation upgrading are an important trend in current economic development. It should be "more important to promote real economy's digitalization to apply Internet technology in real economy all-round to rove social productivity and release digital economy's multiplier effect on economic development".[7]

4.3.1 Promoting Digital Economy's Breakthroughs and Innovations in Core Technologies

In digital economy's development, industrial core technology plays a key role. It is necessary to encourage and support key industrial technology's research so as to promote industrial structure's optimization and upgrading and achieve innovative development. playing to big data, such as artificial intelligence as well as Internet drive effect to promote information resources' gathering and sharing to speed up entrepreneurship 's innovation as key point, guiding society to form a good creative atmosphere and create a new engine for economic development to realize industry upgrading.

4.3.2 Strengthening Digital Economy's Talent's Training

It is necessary to increase urgently majors and disciplines related to digital economy to cultivate digital economy professionals and reform talent training programs to encourage school-enterprise cooperation mode focusing on cultivating high-quality composite digital economy talents. At the same time, it must be paid more attention to improve incentive policies for talents in digital economy and increase talent introduction's intensity to absorb high-quality technical talents in the digital economy by increasing financial support for R&D and innovative talents, creating a gathering ground for talents in digital economy to promote high-quality economic development.

4.3.3 Promoting Integrated Digital Economy and Real Economy's Development

On the one hand, integrating information technology into real economy to make efficient use of digital infrastructure and build a digital start-up hub for real economy to create a modern industrial system, developing emerging industries and high-end manufacturing to drive real economy new growth. On the other hand, digital development can provide new development space for real economy and improve real economy's competitiveness by promoting industrial structure's optimization and upgrading to foster a new development model to accelerate high-quality economic development.

4.4 Strengthening Digital Economy Governance Capacity To Optimize Development Environment

With digital economy and traditional industries' continuous combination, digital economy has not only brought convenience and efficient to people's lives, but also brought great challenges to data security. It is digital economy's governance goal to promote data security, data openness, data advantage sharing. It is also digital economy governance' inevitable choice to use big data to optimize its construction and development.

4.4.1 Improving Information Data Resource Management

Data is a key element in digital economy security, so protecting data security is an important part in digital economy governance. It is necessary to establish multi-level linkage and basic information database to classify and process information data according to different industries and different fields, in order to facilitate efficient retrieval of information data and build information data resource database with scientific classification and clear classification. At the same time, it is useful to explore to establish relevant data resources security protection mechanism to ensure information data resource library achieving information data resources' orderly management.

4.4.2 Building a Secure Data Supervision System

Strengthening information data's security supervision and establishing a safe data supervision system are escorts for digital economy's rapid and

sound development. Through using big data and technical innovation with unified information data standardization process, can they improve information data's structural and consistency to advance information and confidential data encryption technology research, such as optimizing information data resources flow's sharing, information openness safety regulation and effective manner, formulate reasonable practical risk prevention strategy, gradually establishing a more secure and reliable data supervision system.

4.4.3 *Creating a Sound Environment for Digital Economy*

A good digital economy environment cannot be separated from strong laws and regulations. It is necessary to "strengthen legislative work in digital economy-related industries and establish legal norms and institutional systems to protect market security and personal privacy security".[8] At the same time, it is necessary to strengthen policy coordination, share experience in governance on digital economy, formulate common rules for digital economy, and enhance digital economy's governance capacity. All members of society should work together to maintain a good environment for digital economy to enhance security awareness, and jointly create a new environment for digital economy.

5. CONCLUSION

In the background of digital economy era, in order to promote digital economy's high-quality development, it is important to grasp digital economy's relevant theories and recognize digital economy's current development status to analyze its development laws and grasp development trend. At present, digital economy's development will enter a new state, digital economy's level and development requirements are also constantly improving, but development process will also face some challenges, according to problems encountered in development, it should continue to optimize in order to promote digital economy's high-quality development

AUTHORS' CONTRIBUTIONS

Junfeng Xu is responsible for experimental design and contributed to revising and editing; Zijie Zhai, and Wenjing Ma wrote the manuscript.

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