

On the Challenges and Countermeasures Faced by the Digital Economy Era

Huizi Li

Southwest Minzu University, Chengdu 610200, China

Abstract: The scale of China's digital economy continues to expand, and the contribution of China's digital economy continues to grow. The role of the digital economy in the national economy is further enhanced. At the same time, the digital economy has become the main driving force for global economic development. In the rapidly developing environment of emerging digital technologies, the digital economy has achieved good development. However, the development of the digital economy still faces many challenges. Firstly, there is a problem of insufficient support from information and communication technology for the industrial digital economy in the process of development. Secondly, the value of data is still in its early stages. The third issue is the long-term existence of the four "no" issues in industrial digitization. Finally, it is difficult for a consumer oriented digital economy to stimulate economic development. Although the digital economy faces various challenges, we need to actively reform and innovate, develop the digital economy, and better serve society, so that people can enjoy the dividends of the digital economy more.

Keywords: Digital economy; Industrial digitization; Digital divide; Digital technology

The digital economy is a new form of economy that uses digital knowledge and information as its core production factors, digital technology as its core driving force, and modern information networks as its main carriers. Taking the deep integration of digital technology and the real economy as the starting point, we will continue to promote the digitalization, networking, and intelligence processes of business and society, accelerate economic development, and reconstruct governance models. The scale of China's digital economy is showing a continuous growth trend, and the contribution of China's digital economy is steadily increasing, further strengthening its economic status. At the same time, the digital economy has become the main driving force for global economic development.

1. The development of digital economy is imperative

The information technology revolution at the end of the 20th century and the beginning of the 21st century triggered the rapid development of digital technologies such as the Internet, big data and cloud computing. With the widespread penetration of digital technology into the fields of production and life, the digital economy has presented many new characteristics in economic operation and development. The development of digital technology has accumulated tremendous energy and nurtured a new round of industrial revolution, which will greatly enhance the productivity of future society. The digital economy has many advantages, such as high operational efficiency, fast innovation speed, large radiation radius, and strong economies of scale. Overall, the digital economy has provided society with more efficient, innovative, and comfortable lifestyles, playing a positive role in promoting economic development and social progress. Meanwhile, the digital economy brings new opportunities for innovation and sustainable development.

2. The challenges faced by the development of the digital economy

While the digital economy brings many opportunities and development potential, it also faces certain challenges. For example, the emergence of the digital divide has deprived some regions and people of the dividends of digital economic development. In addition, the security and privacy issues of the digital economy still need to be better protected. At the same time, the digital economy must also better adapt and respond to uncertainty and risks. The digital economy still faces many challenges.

2.1 The development of the digital economy faces technological challenges

The development of digital economy largely depends on information and communication technology (ICT), including Internet, mobile communication and data communication technology. Information and communication technology plays a crucial role in promoting the development of the digital economy, mainly including the Internet, mobile communication, cloud computing and big data analysis. The lack of information and communication technology (ICT) may be a major challenge. Information and communication technology is not yet sufficient to support the development challenges of industrial digital economy, and technology mismatch is also a key issue in the current process of digital economy development. Some regions may lack adequate infrastructure, such as high-speed Internet connectivity and telecommunications network coverage. This may hinder the development of the digital economy, especially in remote areas or developing countries. At present, information and communication technology is only applicable to the digital economy in the consumer sector to some extent. However, in the digital economy moving from the consumer sector to the production sector, China's technological support architecture is lacking - this missing technology is operational technology. Therefore, in the future, the integration of information and communication technology and operational technology should be used to jointly promote the development of a production-oriented digital economy and assist enterprises in achieving digital transformation.

2.2 Data value is still in the early exploration stage

In the initial stage of data value research, numerous organizations and industries are actively exploring how to more effectively utilize

data to create economic value. In multiple fields such as data ownership, application, pricing, trading, development, and usage, there are numerous urgent problems and challenges, and the standardization, activation, and commercialization system of data has not yet been fully established. With the increasing number of legal provisions on data privacy, organizations have a responsibility to ensure that relevant legal provisions are strictly followed in the process of data value, while also ensuring that user and customer privacy is properly protected. The confidentiality of data has become a core issue, and in order to prevent the risk of malicious attacks and data leakage, organizations must implement corresponding protection measures. From a macro perspective, the lack of unified standards hinders the formation of a unified data market. The imperfect elements in the trading market may hinder the smooth trading and circulation of data elements, and the lack of high-level, separate, and horizontal management systems may also pose significant obstacles to the commercial application of data elements. In addition, the entire process of creating data attributes is complex and difficult to verify, and there has not been significant progress in the mechanism for estimating data benefits and costs.

2.3 The four “no” issues of industrial digitization persist for a long time

The first is “do not want to use”. Because traditional enterprises and Internet companies are restricted by their current operating strategies, inherent thinking patterns, channel conflicts and other factors, they have a certain degree of misunderstanding and prejudice against digital technology. Secondly, many enterprises have invested a large amount of funds in digital transformation application projects, which has led to longer construction cycles and increased conversion costs, while the short-term benefits are relatively low. Once again, it cannot be used. The core technical standards for digital transformation have not yet reached a unified level, and its specific development path is not yet clear. Finally, it is because small and medium-sized enterprises are facing a shortage of funds during their digital transformation process, unable to obtain investment and financing, and lack emerging technology talents.

2.4 Consumer oriented digital economy is difficult to drive the development of industrial oriented digital economy

The current development status is to promote the industrial digital economy, and its logic is to promote a consumer oriented digital economy. For example, as a consumer centric digital economy, WeChat can reduce marginal costs after deployment, but the average cost of the digital economy in the industry is high because the cost of developing solutions for the industry is high, which can also lead to higher marginal costs in the later stages. If we continue to follow the logic of the digital consumer economy in the context of high marginal and high-income costs, it will be difficult to solve. The continuous development of the digital economy has had a significant impact on traditional economic models. For traditional economic professionals, Internet companies, especially the head platform, can occupy the market by operating large subsidies “horse racing enclosure” due to their obvious technical and financial advantages, and can affect the interests of professionals in traditional industries. The digital economy has formed a special digital divide, and participants must have sufficient information resources and advanced digital technologies to survive and develop. These information resources and technologies are mainly concentrated in a few organizations and technological groups, while traditional economic organizations are constrained by many factors, forming obstacles to development. Due to the Metcalfe rule phenomenon in the digital economy, under the influence of network externalities, it is easy for the digital trade field to form a “winner takes all” situation. The market structure tends to monopolize, becoming a common phenomenon in the development of digital platform economy.

3. Suggestions for the Development of Digital Economy

Faced with the challenges encountered in the development of the digital economy, both the government and enterprises should take certain countermeasures.

3.1 Comprehensive improvement of digital literacy and elimination of digital divide

Improving digital literacy is an important foundation for the development of the digital economy and the key to eliminating the digital divide. Efforts should be made to achieve full coverage of information services and enhance the digital skills of the entire population. To comprehensively enhance digital literacy and eliminate the digital divide, comprehensive measures need to be taken, including education, training, policy support, and social advocacy. Introducing digital literacy courses in school education to cultivate students’ digital skills starting from early education. Encourage schools to adopt modern technology and online learning tools to promote digital learning for students. Develop policies to ensure the popularization of digital technology and the Internet, especially in remote areas and low-income groups. Provide digital literacy training for vulnerable groups to bridge the digital divide. Government, educational institutions, industry organizations, and enterprises need to cooperate and work together to address the issue of the digital divide. Comprehensively improving digital literacy and eliminating the digital divide is a long-term and comprehensive effort that requires active participation from the government, educational institutions, enterprises, and all sectors of society. These efforts will help ensure that everyone can fully participate in the digital age and enjoy the opportunities and benefits that digitalization brings.

3.2 Comprehensively strengthen the supervision of Internet platform behavior and create a good development environment

The purpose of strengthening the supervision of Internet platform behaviors in an all-round way is to ensure the healthy and sustainable development of the Internet ecosystem, ensure that the operation of the platform is conducted on the basis of legality, fairness, impartiality and transparency, and protect the rights and interests of users. At present, China’s Internet platform governance model should be built through three ways: establishing self-discipline organizations of online trading platforms, improving the legal and regulatory system, and strengthening industry supervision. Firstly, we need to improve the definition of monopoly in platform enterprises to prevent and curb monopolistic activities in the field of platform economy. By establishing a unified Internet industry access standard, we can avoid vicious

competition caused by excessive competition among platform enterprises, and prevent platform enterprises from abusing market dominance to damage the interests of other competitors. Secondly, clear rules, regulations and guiding principles should be formulated to regulate various operational activities of the Internet platform, including content review, data protection and anti-monopoly regulations. Finally, it is necessary to establish effective regulatory mechanisms to prevent online operators from abusing their dominant market position and protect the legitimate rights and interests of consumers. In particular, we should strictly monitor those individuals who provide subsidies to consumers through venture capital to maintain the source of customers. At the same time, we should strengthen the monitoring of Internet platform compliance, especially those who use digital technology to develop the black ash industry chain.

3.3 Transforming Government Governance Models and Actively Responding to the Digital Wave

With the advent of the digital age, the transformation of government governance has become particularly crucial. The government must change traditional working and management methods in order to keep up with the pace of the times. In the digital age, government governance must break free from the constraints of traditional thinking and institutional mechanisms, and achieve a transformation from a “management oriented” to a “service-oriented” approach. The government should be at the forefront of digital transformation, using advanced technological means and tools to improve office efficiency, provide better online services, and further strengthen data security. The government should promote governance reform by improving the legal system and promoting the construction of e-government, achieving a transition from a “ruling” to a “service-oriented” model. At the same time, a series of policy measures aimed at supporting the growth of the digital economy have been formulated to stimulate innovation, provide entrepreneurial assistance, and attract investment in the digital industry. By establishing a national digital strategic framework, we will promote “Internet plus government”, realize the sharing and utilization of data resources, and promote the construction of e-government. We are actively researching and applying new governance strategies, committed to developing innovative governance tools based on digital technology and digital resources, strengthening institutional and mechanism innovation, and improving the digital management capabilities of government departments and various enterprises and institutions. In the process of promoting national informatization, we should actively build a collaborative governance system of “Internet plus government” and accelerate the construction of smart cities. Firstly, implement organizational reforms. Government management departments should make appropriate adjustments to the original organizational structure and operating methods based on their own functional positioning and the trend of information technology development. For example, due to the problems of multiple levels and slow information dissemination in traditional organizational structures, it is easy to shirk responsibility. Therefore, we should shift towards a flat and distributed organizational model that adapts to the needs of the digital society, in order to achieve rapid information dissemination, clear responsibilities, and improved efficiency. The government should thoroughly reform the management concept, management system and management mode, organically combine the informatization construction with the government functions, improve the application level of e-government, accelerate the development strategy of “Internet plus government”, and promote the transformation of the government from management to service. Secondly, we need to build an efficient collaborative governance system. By using information technology to promote effective communication between management departments, the goal of “up and down” linkage can be achieved, thereby improving administrative efficiency. Finally, it is necessary to build a multi-party governance system that includes government, enterprises, and the public to improve the efficiency of resource allocation. Due to the cross regional and wide-ranging nature of the digital economy, government departments need to build a dynamic and seamless collaborative management mechanism and work platform to quickly respond to and address common problems, thereby improving administrative efficiency. In the era of informatization, it is necessary to strengthen collaboration and cooperation among various departments to form a joint force and promote the modernization of the national governance system and governance capacity.

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