Research on Countermeasures to Accelerate the Development of Digital Economy—Taking Suzhou City of China as an Example

2021, Vol.2 No.2
© Economics & Management Review 2021
DOI: 10.37420/j.emr.2021.009
https://masonpublish.org

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Abstract

The advent of the era of big data provides a new opportunity for the development of digital economy. Based on the experience of the rapid development of digital economy in European countries and the actual situation of Suzhou, China, this paper takes the internal mechanism innovation of the deep integration of new generation digital technology such as artificial intelligence and economy as the entry point, and puts forward countermeasures and suggestions in order to promote the high-quality development of digital economy in Suzhou.

Keywords

Digital economy; E-commerce; Digital RMB; Artificial intelligence; Smart city

Introduction

The digital economy has gradually become an important driving force for economic development. Compared with traditional economy, digital economy is more sustainable and inclusive. It is foreseeable that the digital economy will become the engine of economic development in the future. In this context, Suzhou has taken effective measures to promote the development of the digital economy. This article combines examples of the development of the digital economy, which is of great significance to the research on the development of Suzhou's digital economy.

Current Situation of Digital Economy

The "G20 Digital Economy Development and Cooperation Initiative" is the first digital economy policy document in China that is promoting a new round of technological revolution and industrial transformation, and it is also an important symbol of the digital economy. The World Trade Organization (WTO) has also conducted in-depth research and close tracking of the development of the digital economy. The digital economy

has become a new hot spot for global response to the COVID-19 and reversing the economic slowdown.

According to statistics from the OECD, the contribution of the digital economy to the GDP of major developed countries in the world has reached about 50%, and it will continue to grow in the future. For example, the scale of the digital economy in the United States has exceeded $10 trillion; the digital economy in the United Kingdom accounts for 58.6% of the national GDP; and in Japan it is 46.4%. Countries have focused on the innovation of core digital technologies. The United States maintains the world's leading position in core technologies such as artificial intelligence, quantum computing, and chips, and has formed and consolidated technical barriers through patents and other means; The UK's digital economy strategy is mainly focused on building cloud platforms with the Internet at the core; Australia is vigorously developing Internet communication technology.

Xi Jinping has proposed that the whole of China should actively promote the integration of the Internet, big data, artificial intelligence and the real economy, foster new economic growth points, and promote the upgrading and optimization of traditional industries. Data is confirmed as the seventh factor of production after labor, capital, land, knowledge, technology and management, which reflects the changes of the factors of production with the characteristics of the times.

Since 2017, the growth rate of the Suzhou digital economy Index has been ahead of the growth rate of the total industrial output value and the total manufacturing output value, and has become an important force in promoting the economic development of Suzhou. The innovation and integration of the digital economy has enabled Suzhou to radiate new vitality after experiencing the test of the epidemic, and also injected new impetus into the sustainable development of the economy, ensuring that the people can enjoy the dividends brought about by the development of the digital economy.

The Role of Digital Economy Development in Suzhou, China

With the support of Internet technology, digital economy is the economic activity that promotes the optimization of economic structure and improves the efficiency of economic operation by taking digital application and information technology as the elements and the Internet and the Internet of Things as the carrier. Therefore, it is suggested that the Suzhou government vigorously support the development of digital economy, so as to realize its function as soon as possible (Wang, 2020). For Suzhou, the development of digital economy can play an important role in economic construction.

Mining the Value of Data Information and Promoting Management Efficiency

The large amount of information storage and fast calculation speed are the advantages of the digital economy's operational capabilities, as well as the essential difference between the digital economy and other economic development models. This means that Suzhou has more resources and more potential in the process of economic development. The improvement of management efficiency can provide guarantee for Suzhou's economic development.

Digital Economy has Become a New Impetus for Suzhou's Economic Development Driven by Innovation

In 2019, the scale of Suzhou's digital economy exceeded 200 billion yuan, and industrial digitization became the main engine of the development of the digital economy. The characteristics of the digital economy: digitization, networking, and intelligence. At present, in the field of consumption, the digital economy is developing rapidly, but in the field of production, technology and resource input are still insufficient, and the substantial changes in core links such as innovative design and manufacturing are still far from developed countries. The economic benefits created by Microsoft, Google, Apple and Amazon in the United States are as high as trillions of dollars each year. The real economy is mainly in the fields of agriculture, manufacturing, and service industries. When the Internet, cloud computing, big data, artificial intelligence and traditional industries achieve proper integration, then the transformation and upgrading of the real economy will succeed, and new economic formats will be derived. Data is the core production factor that drives the growth of the digital economy. Promote data collection, utilization, and sharing, vigorously improve the digital level of traditional industries, deepen the in-depth integration of digital and intelligent technologies with manufacturing and service industries, and realize the double development of industrial digitalization and digital industrialization. Only focusing on "digital industrialization, industry digitization, governance digitization, and life digitization" to accelerate the development of the digital economy industry. The government cannot replace the market. The market is the decisive factor in the allocation of resources. The key is to create an environment conducive to the development of the digital economy and establish a digital industry ecosystem with a "negative list" thinking.

A Case Study of Suzhou's Acceleration of the Development of the Digital Economy—Fresh Food Industry

New Retail Model: Hema Fresh

Hema promotes sales through the combination of fresh food supermarkets and e-commerce. Under the comprehensive marketing model of catering assistance and logistics guarantee, it has realized the perfect combination of online and offline through digital operation from scene positioning to service reconstruction. In 2018, Alibaba released the new retail operating system "ReXOS". This system is based on Hema Fresh's business practice including a complete set of system solutions including stores, APP, warehousing logistics, and catering management, which can achieve seamless online and offline connections. The launch of the AI-driven smart cash register ReXPOS can greatly improve efficiency, with an average of 24 seconds for scanning and payment of 4 items. Hema Fresh self-service cashier accounts for 73%, and the cashier efficiency is 4 times the industry average (Huang, 2020).

The Local Unicorn Enterprise Cultivated by Suzhou City: Shihang Fresh

Shihang Fresh was established in August 2014. Users can book and place orders through the APP. The self-pickup of the intelligent freezer in the community solves the problem of office workers' difficulty in buying vegetables. During the epidemic, it was difficult to find a smart refrigerator in a community. As a lead-

ing company in the new retail of fresh food industry in Suzhou, Shihang Fresh has achieved zero inventory through the "Purchase by Sales" model. With the community micro-vegetable market as its focus, it has built a direct bridge between the production base of agricultural products and consumers. In the meantime, it is supplemented by digital intensive cold chain distribution. In the past six years, Shihang Fresh has stationed in 3281 community sites, serving more than 2.81 million households! Currently, Shihang Fresh has completed 4 rounds of financing, totaling 764 million yuan, with a compound annual growth rate of over 200%.

The competition of fresh food e-commerce is essentially about the technology. From placing orders to receiving goods, it involves the integrated management of information flow, storage flow, distribution flow, and product control flow, as well as the combination of human and material resources. The most accurate information transmission, the least storage inventory, the most efficient distribution and logistics, the best quality control, so as to reduce the cost of fresh electricity business, and ultimately gain profits. Li Man (2017) pointed out that there are four special contradictions in the fresh agricultural product supply chain: the credit problem between consumer and producer, the cost problem of separating consumption place from production place, the contradiction between supply and demand in the dislocation of consumption time and supply time and marketing contradiction between consumption mode and supply mode. Aiming at multi-level needs to build a diversified fresh agricultural product supply chain system, concentrate efforts to break through the optimization bottleneck of the fresh agricultural product supply chain, and build the infrastructure of the fresh agricultural product supply chain through division of labor and cooperation, so as to gradually promote the optimized development of the fresh agricultural product supply chain (Li, 2017). Realize market differentiation, cultivate core competitiveness, encourage B2B, O2O, B2C and other channel model innovations, realize supply chain integration, create a favorable external environment and policy support system, and promote the healthy development of fresh food e-commerce supply chain (Lu, 2021). Bai Shizhen (2018) constructed a consumer demand function under the influence of the price reference effect. Research shows that the wholesale prices, contract parameters, and reference prices of fresh products have varying degrees of influence on the pricing and revenue of fresh food e-commerce. The contract increases the overall profit of the fresh food e-commerce supply chain and achieves a win-win situation for supply chain members (Bai, Xie, Wu & Yan, 2018). To make a profit for the fresh electricity business, the following two aspects must be achieved: First, to realize the conversion and derivation of traffic. By buying fresh products to attract traffic, and then to attract the purchase of high value-added and high-profit products, expand marketing; Second, to achieve cross-border cooperation in the fresh food industry. Through the joint sales of fresh products and other products, it will expand its own visibility and reputation, promote online and offline interaction, and the development of digital agriculture. In addition, Suzhou's regional culture and local products can also be integrated into sales. The development of the digital economy brings unlimited possibilities for cross-industry in the future.

According to the "China Internet Development Report 2019", e-commerce live streaming is a new model of the digital economy, and the direct driving force for its development is the evolution of social production relations. Secondly, this also caters to people's new consumption habits and marketing needs during the epidemic, and at the same time brings new opportunities for the development of the fresh food industry. The benefit chain of live broadcast of agricultural products generally involves three parties: producers, consumers, and middlemen. Among them, middlemen, including anchors, platforms, logistics and service providers, are the most important part of the marketing process. By optimizing the construction of e-commerce platforms, standardizing the qualifications of anchors to carry goods, controlling the quality of agricultural products,

safeguarding consumer rights and interests, avoiding negative phenomena such as scalping, buying comments, creating false data, and damaging consumer rights (Fu, 2021).

Countermeasures and Suggestions to Accelerate the Development of Digital Economy in Suzhou

Facing the Characteristic Nuclear Carving Industry, Cultivating Digital Craftsmen with Handicrafts and Digital Skills

With the development of history, some pure manual skills have gradually been forgotten. Although a large number of assembly line products currently limit the development of manual skills, the spirit of craftsmanship still needs to be inherited and carried forward by future generations. For example, Suzhou Peach Blossom Wooden Carving, Zhoushan Nuclear Carvings, Zhenhu Embroidery, and Xiangshan Craftsman have all been preserved and disseminated by digital economy. The Suzhou online education center platform has opened up relevant elective courses and appreciation courses, which have a subtle effect on the next generation. In the post-epidemic era, the inheritance of traditional culture and the spread of national spirit are also very necessary.

In addition, "digital artisans" are obviously different from the industrial artisans in the past. They need to work hard, keep improving, and master the concept of digital technology and team innovation, so as to effectively guarantee the integration and innovation of traditional industries and the Internet, and promote industrial transformation and upgrading as well as the development of digital economy. First, direct delivery of "digital craftsmen". Through the integration of university talent training and the development of the digital economy, the number of applied majors and enrollment of vocational technical universities will be increased. Second, take advantage of the training of "digital craftsmen." Carry out school-enterprise cooperation, with the help of enterprises, industry associations, and the government, to train "digital craftsmen" in a targeted manner. Third, the self-growth "digital craftsman". On the one hand, hiring domestic and foreign experts to give on-site or online lectures, sending employees to scientific research institutes for short-term training, and holding labor skill competitions, etc., to promote the rapid growth of corporate "digital craftsmen". On the other hand, through the Internet and new media, the craftsmanship spirit and skills are vigorously promoted to get rid of the limitations of the traditional "one-to-one mentoring system", thereby attracting workers, young people and amateurs to conduct self-study and self-growth. Finally, "digital craftsmen" talents are put into the database. The establishment of the database facilitates the management of a large number of artisan talents. In addition, it pays attention to the reserve of talent echelon, and conducts skill competitions in a timely manner to provide a platform for the growth of "digital artisan" talents and increase reputation.

Take the Opportunity of the Inclusion of the PBOC's Digital RMB Pilot Program to Accelerate the Building of a Technology and Financial Center

As a substitute for banknotes, digital currency can save the manpower and material resources consumed in the printing, storage, and transportation of banknotes, and it is more environmentally friendly. In the payment process, digital currency is securely transmitted through the blockchain in the form of data, but its actual

function is the same as that of paper currency. In real life, Alipay and WeChat Pay are also digital electronic payments, but they do not have the legal compensation of digital currency.

The trial operation of digital currency will usher in new development opportunities for Suzhou: (1) Digital currency supports offline use, and the usage scenarios are more convenient. It is mainly concentrated in closed pilots in small-scale scenarios such as retail, transportation card recharge, and catering. (2) Expand existing resources, create more scenarios, and accumulate experience in using digital currency. All government agencies and institutions in Suzhou use the government procurement network for procurement. On the existing platforms, digital currency payments are gradually introduced to increase the usage scenarios of enterprises and institutions and accumulate experience in the use of digital currencies. (3) The macroeconomic regulation has become more precise and efficient. Digital currency is electronic data that can be collected, created, accounted and circulated anytime and anywhere. The application analysis and processing feedback based on big data at each time point can provide more accurate research and judgment for the formulation and adjustment of monetary policy, and accelerate the development of Suzhou as a technology and financial center. (4) The public health crisis (COVID-19) catalyzed the reform of the international settlement system, weakened the central position of the USD, and brought new opportunities for the internationalization of the RMB. Cash payments increase the risk of infection from the epidemic, prompt the world to accelerate the development of digital currencies, and also increase the determination to use digital currencies in the international settlement system. A digital service export base came into being in Suzhou. As the first country to launch a digital currency test, technological innovation, pioneering experiments, and accumulated experience support the digital RMB to move internationally. Iran reduced the USD and switched to other currencies in merchandise trade and bilateral currency settlement, and at the same time listed the RMB as the main foreign exchange currency. This is the beginning of the internationalization of the RMB.

Accelerate the Deep Integration of Digital Economy and Artificial Intelligence

Data Empowerment, that is, insights into the market with data thinking, optimize operations with data methods, drive organizations with data flywheels, and realize value-added with data assets. In 2020, the author entered iFLYTEK Co., Ltd. and Suzhou Jianguan IOT Technology Co., Ltd to conduct investigations, and put forward the following suggestions from “building two platforms and deepening three applications”.

(1) Building a Platform for Transforming Scientific and Technological Achievements

In 2019, the number of patent applications in Suzhou reached 162,984, of which 43,418 were for invention patents; 81,145 were granted for patents, of which 8,339 were granted for invention patents. At the end of the year, there were 63,000 valid invention patents in Suzhou, an increase of 11% over the previous year. Universities have scientific research projects and enterprises have funds, but the two lack close links. Under this circumstance, we will build a platform for the transformation of scientific and technological achievements to provide cross-temporal docking for both parties. Research in universities should focus on far-reaching results, while research in enterprises should emphasize practical results and focus on the market. The company’s basic research is centered on business purposes, close to practicality, and understand customer needs and industry problems. The cooperation between the two should be loosely coupled, not strongly coupled, insight into the market development direction, shorten the commercialization time, and obtain better business

opportunities. In addition, it is necessary to train technical economic people, explore the management model of the three-party shareholding platform for the transformation of scientific and technological achievements, universities and enterprises, and enhance the effectiveness, continuity and compatibility of the transformation of scientific and technological achievements.

(2) Build Suzhou Data Center Platform

At present, big data has become a national strategy. To build a data center platform in Suzhou, first, we must do a good job of serving users and make data service decisions; second, we must solve the critical project, further deepen the "one network connection", and actively improve the "fragmentation of government information management" ", promote data integration, open sharing and business collaboration; third, improve supervision, form a closed loop and effective governance; fourth, improve data mechanisms, create an accelerator system based on artificial intelligence, and complete the planning and layout of edge computing nodes. We will jointly build, share, use and govern it, explore the information technology innovation scenarios, and actively carry out pilot trials of artificial intelligence and smart cities.

(3) Deepen the Application of Smart Cities

At the end of 2019, Suzhou had 4,177,400 vehicles, an increase of 6.8% from 3,910,600 in 2018. Road traffic congestion is a major obstacle that restricts urban development. In order to release the traffic capacity of intersections, build a traffic signal timing center, realize online synchronous monitoring, positioning, and deployment of police force, and alleviate road congestion. Hefei traffic police uses intelligent voice system and intelligent image recognition technology from iFLYTEK, and relies on super brain platform optimized the signal timing of 756 intersections, and the queue length was reduced by 11.3% on average.

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(4) Deepen the Application in Amart Industry

HKUST iFLYTEK has launched a series of products based on workshop application scenarios. The purpose is to solve equipment operation and maintenance and quality problems, and provide protection for intelligent manufacturing systems. Among them, "industrial stethoscope" and "acoustic camera" can be called "industrial doctors". To detect industrial equipment failures and product quality control. Nowadays, large-scale industrial equipment is used. When machinery and equipment break down, how to accurately locate, provide early warning, and quickly repair? This requires the help of acoustic cameras. In the process of NVH detection, the acoustic camera can display the noise-producing parts of the car in real time and intuitively. In 2019, Suzhou achieved an output value of 180.01 billion yuan for emerging industries in the manufacturing industry. The output of new energy vehicles increased by 17.5% over the previous year and the output of optical instruments increased by 55%. In 2019, 5 provincial-level smart factories and 182 provincial-level smart workshops were added. The digital economy brings new opportunities for the development and growth of advanced manufacturing. With the advancement of technology, data storage and production costs are reduced, and circulation is accelerated, and data will become more precious. Jack Ma once said, "Whoever has the ability to process data, share data, and generate data can push the era of manufacturing to the era of creation."

(5) Deepen the Application of Smart Education

"Artificial Intelligence + Education" products such as personalized learning manuals and iFLYTEK intelligent learning machines have gradually entered the field of vision. The Lu'an smart school construction project uses artificial intelligence and big data as core technologies to realize data verifiable, thereby reducing burdens and increasing efficiency, and improving teaching quality and education balance. The construction of 124 rural smart primary and secondary schools accounted for 16% of the construction of 773 smart schools in Lu'an. With the emergence and development of 5G, a certification system for industry-education-integrated enterprises has been established, and a combination of "finance + land + credit" combined preferential policies will be given to certified industry-education-integrated enterprises. Higher vocational colleges gain development momentum by matching the location characteristics and needs of the region where they are located, and create an innovative system that integrates technology, education, industry, and finance.

Exploring the Digital Economy Supervision System and Constructing a Digital Economy Performance Evaluation System

Through the above analysis, we can see that although Suzhou's digital economy has achieved good results, there are still deficiencies in supervision and performance evaluation. Therefore, it is recommended that Suzhou strengthen the exploration of the digital economy supervision system and build a digital economy performance evaluation system. The specific measures are as follows:

(1) Explore the Construction of an Inclusive and Innovative Regulatory System

Establish the governance concept of inclusive sharing, create a good network security environment, establish a sound digital economy legal system, improve digital service capabilities, and explore the implementation of "inclusive period" management, diversified linkage and online supervision models. At the same time, strengthen the foresight of laws and regulations and the fairness of market competition, improve the coor-

dination of supervisory entities, enhance the innovation of governance methods and the system of security guarantees, and improve the quality of the people.

(2) Build a Performance Evaluation System for the Digital Economy Development

Ren Baoping (2018) believes that it is necessary to consider the performance evaluation of high-quality economic development in terms of economic growth rate, economic sustainability, economic structure, and quality of innovation results (Ren & Wen, 2018). This article makes a brief introduction from the five categories contained in the evaluation system. The first type of infrastructure includes the construction of network infrastructure and the popular rate of digital networks. The second type of digital industrialization covers the proportion of R&D in the core industry of the digital economy in operating income, and the proportion of the added value of the core industry in the digital economy in GDP. The third type of industry digitization includes the proportion of enterprise informatization investment in operating income and the penetration rate of enterprises using informatization for manufacturing management. The fourth type of new business model includes the proportion of online retail sales to the total retail sales of consumer goods, and the number of online payment and mobile payment services per capita by banking institutions. The fifth type, from the two dimensions of population and industry, forms the spatial development mode of "Strengthen the core, Diversify the center", selects the industrial path suitable for the development of the region, cultivates multi-core industries, drives the agglomeration development of industries radiating the surrounding areas, and improves economic performance (Zhou et al., 2020). According to the annual change and development trend, the evaluation content should be appropriately supplemented or deletions, so as to continuously improve the evaluation index system for the comprehensive development of digital economy, in order to better serve the digital economy.

Conclusion

In summary, in the context of the rapid development of science and technology, the digital economy has become an important driving force for urban economic development. Facing the complicated international environment, the Suzhou municipal government must clarify thinking, vigorously develop the digital economy, and improve network governance and supervision measures in accordance with changes in the situation. Give full play to the functions of the digital economy, implement the tasks of "Six Stability" and "Six Guarantees", build a new development pattern of "double cycle", and promote the steady and long-term development of the "super train" of Suzhou's high-quality development.

Funding

This study was supported with funding from Suzhou Social Science Research "Research on Countermeasures for Accelerating Development of Digital Economy in Suzhou" [No. Y2020LX086].

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