




Research article

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ACCURATELY COGNISING THE DIGITAL ECONOMY AND FACILITATING ITS HEALTHY AND SUSTAINABLE DEVELOPMENT IN CHINA

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Abstract

There is no doubt that the digital economy has brought much convenience to our work and life, improving productivity and optimising social service and government efficiency. However, there are also quite a few problems in the development of the digital economy, such as fake and even malicious information flooding the internet and new media, counterfeit e-commerce, and the shocks to the economy and society brought about by the extensively advanced development of internet technologies and fintech. People lack an understanding of the digital economy, leading to criminal offences and economic offences. This paper presents an accurate review of the development of the digital economy and its extensive effects on social economic growth. It begins with the introduction of the digital economy, with a profound influence on human productivity and people's lives, plus an essential literature review. It explains the research materials and methods, as well as the structure of the article. It then explores the development law of the digital economy and interprets the essence of the accurate cognition of the digital economy. Further, it traces the impact of the digital economy on society and emphasises the normalisation of the development of the digital economy. This is followed by a deep assessment of the service efficiency of the digital economy and building a new area for attracting investment. It examines the importance of the information transmission mechanism in avoiding the overlapping of digital isolated islands. The paper concludes with the premise of precisely defining the development stage of the digital economy so as to stimulate the iterative innovation of social economic development.

Keywords: digital economy, digital credit, cognition, iterative innovation, sustainable development

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ЦИФРОВАЯ ЭКОНОМИКА И СОДЕЙСТВИЕ ЕЕ УСТОЙЧИВОМУ РАЗВИТИЮ В КИТАЕ

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Аннотация

Цифровая экономика принесла много удобства в нашу работу и жизнь, повысив производительность и оптимизировав социальное обслуживание и эффективность государственного управления. Однако в развитии цифровой экономики также существует немало проблем, таких как недостоверная информация, заполняющая Интернет и новые медиа, поддельная электронная коммерция и потрясения для экономики и общества, вызванные широким развитием интернет-технологий и финтеха. Людям не хватает знаний в области цифровой экономики, что приводит к уголовным преступлениям и экономическим правонарушениям. В данной статье авторами представлен подробный обзор развития цифровой экономики и ее обширного влияния на социально-экономический рост, начиная с внедрения цифровой экономики, оказывающей глубокое влияние на производительность труда и жизнь людей, а также с обзора необходимой литературы. В нем объясняются материалы и методы исследования, а также структура статьи. Затем в статье исследуется закон развития цифровой экономики и раскрывается суть точного познания цифровой экономики. Кроме того, прослеживается влияние цифровой экономики на общество и подчеркивается нормализация развития цифровой экономики. За этим следует глубокая оценка эффективности обслуживания цифровой экономики и создание новой области для привлечения инвестиций. В статье также рассматривается важность механизма передачи информации для предотвращения дублирования цифровых изолированных островов. Статья завершается предпосылкой точного определения стадии развития цифровой экономики таким образом, чтобы стимулировать инновации для достижения социально-экономического развития.

Ключевые слова: цифровая экономика, цифровой кредит, познание, итеративные инновации, устойчивое развитие

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1. Introduction

Digital technology has been integrated into our time and has become the most visible presence in our daily lives. Nowadays, virtual reality (VR) scene technology, man-machine dialogue, artificial intelligence (AI), image and graphic processing, big data, and other technologies emerged one after another and have been applied to every aspect of our lives. Digital technology has enriched and delighted people's lives, improved the efficiency of social communication, reduced the transaction costs of business, expanded the mobility of goods, enhanced the vitality of economy, society, and science and technology, and promoted the iterative innovation of economy and society. Particularly in the current time, digital technologies have been used in epidemic prevention and containment. Clearly, people enjoy the convenience of digital technologies and services, but they are also troubled by the potential risk of personal information leakage (Chen, 2022), which calls for more attention to personal privacy information protection.

In recent years, the world has been fighting against the COVID-19 pandemic, and the application of digital economy technologies and services has played a big role. During the worst period of the COVID-19 surge in China in the first quarter of 2020, digital technology and its services supported the fundamental operation of grassroots communities and the resumption of related industries. This was an important factor for preventing social disorder and even unrest from happening in China's grassroots communities, compared to that of the United States and European countries (Wang and Wang, 2020). It is certain that the normal and healthy operation of Chinese society amid the epidemic is the achievement of the Communist Party of China (CPC) and the Chinese government in their efforts to modernise the country's governance system and capacity, and it is also the reward of all Chinese people's willingness to shoulder responsibility and their activities of dedication. Undoubtedly, digitisation has also clearly played a huge positive role in the fight against COVID-19.

The digital transformation of the world economy is an irresistible trend; the production and living systems of the human race are going digital, network, and intelligent at an accelerated pace (Zhang et al., 2019). The emergence of new forms of business has continuously had a profound impact on the global landscape of scientific and technological innovation, industrial ecological patterns, and economic trends, and Sina Finance has recommended adopting multiple measures to build a digital economic ecosystem¹. We have seen the good side of the digital economy, but it also has downsides. For example, some people think the underlying technologies of the digital economy are not original in China, our digital economy is mainly focused on the application level, and so-called deep development has not formed the overall strength (Zhao and Yang, 2019). The competition of e-commerce platforms and other business models is overheating, taxi-hailing platforms burn money for grabbing passengers, the Eggshell lease apartment platform runs away, and the development of the platform economy is chaotic, which affects the credibility of the digital economy and disturbs the market order (Wang, Y., 2018). Today, there is less and less room for business model innovation in China; it is becoming increasingly urgent and necessary to integrate digital technologies into the real economy (Li and Huang, 2019). This requires, above all, an improvement in society's perception of the digital economy.

Further, intelligent manufacturing has not become the main carrier of the digital economy. The problem of data monopoly and data security is becoming tough day by day. A large number of people have no awareness of data security, do not seem to care about personal information leakage, and have weak legal consciousness (Feng, 2018). The violation of personal information and privacy rights occurs from time to time in China. The most serious situation is that e-commerce platforms are rife with false advertisements, frequently inducing and cheating customers. Of course, efforts have to be made offline to fight counterfeits on e-commerce platforms (Xin, 2015). Some new media and we-media are fully flooded with false and malicious information, which negatively affects people's normal lives, disturbs people's judgment, and disturbs society (Ji, 2018). Certainly, legislation is needed to purify the network environment.

¹ Sina.Finance, 2022. Taking multiple measures to create a new ecosystem for the digital economy. URL: https://finance.sina.cn/2022-04-28/detail-imcwiwst4571581.d.html?share_token=6b79a6e6-2b1c-4c26-ba55-c8eb805203ad

Besides these, in some cities in China, industry digitisation and digital industrialization might have gone too far, although digital transformation remains difficult for a large number of small and medium-sized enterprises (SMEs) (Wang, and He, 2019). There are also problems with the digitisation service. AI customer service is making the customer experience worse in some service areas. E-government has brought new inconveniences to residents and businesses (Chang and Wen, 2019). In the era of the digital economy, data is a production factor, and it is extremely important for co-sharing data. However, there are many data isolated islands in the real economy and society; even within an enterprise, there are data isolated islands as well (Liu, 2018), which has been seriously weakening the productivity of the digital economy and the efficiency of the whole economy and society. At present, affected by the Ukrainian crisis and the ongoing epidemic, the security of the global supply chain has been facing challenges, and international trade and global logistics are not smooth. Today, we need more accurate service support from the digital economy to ensure the security of the supply chain and stabilise international trade and logistics.

The majority of ordinary people who use applications such as WeChat and TikTok every day can only partially feel the surface characteristics of the digital economy. People are caught in the wave of digital technology development and less actively participate in the innovative use of digital technology and digital economic activities. Therefore, they tend to think that the digital economy is overly professional and esoteric; some technical terms such as AI, blockchain, and metaverse are all overly abstract and abstruse, making people hesitate to attempt further understanding of the digital economy (Cao, Huang, 2019). Given that digital economy is used by the whole society, its inclusiveness, openness, and profound connotations need to be further understood and grasped by various social subjects.

Facing the rapid development of new technologies and continuous social development, we have to strengthen the awareness of the whole society on digital economy, so as to let people understand the changing society, and thus we could then vigorously stimulate the new kinetic energy of digital economy, furtherly people can feel and even touch the essence of the digital economy not only experience the feeling of appearance of the convenience and efficiency of digital services, thus people could make full use of its advantages and avoid its shortcomings. For example, digital education or online teaching has become more and more popular in universities, high schools, and primary schools because of the rapid spread and outbreaks of the Covid-19 epidemic across the world. In the last three years, some students have a high degree of self-control, but others have not. Online teaching has left some students behind; this has provided materials for studying the digital economy (Lv, 2019). All these efforts will contribute to the healthy and sustainable development of the digital economy itself, and create the fundamental basis for promoting economic and social iterative innovation.

2. Materials and Methods

This research adopts the methods of normative analysis, historical analysis, and horizontal comparative analysis to study the digital economy and its impacts on society and economic growth. The research materials include the existing literatures on digital economy, roughly statistics reports on digital economy, and all kinds of summaries and outlooks of digital economy. The article is organised into four sections. This section is the research materials and methods explanation; the previous section is the introduction, plus an essential literature review. The main third section is the research results and discussions, it outlines the cognition of the development process of the digital economy, with an inductive address of the healthy, scientific, and sustainable development of the digital economy; it analyses the profound impact of the digital economy on social and economic lives, with a description of the normative development of the digital economy. This is followed by tackling the issue of fully leveraging the service efficiency of digital technology to create a new highland for attracting investment; and then the rest examines the importance of information transmission mechanisms in the digital economy and discusses prevention against the repeated emergence of “digital isolated islands”. The fourth section presents the conclusion with a precise definition of the development stage of the digital economy, followed by constructive comments for promoting the iterative innovation of economic and social development.

3. Results and Discussion

3.1. Digital economy has its own development law; a correct cognition is helpful to its healthy and sustained development

The Fifth Plenary Session of the 19th National Congress of the Communist Party of China specifically proposed that during the 14th Five-year Plan, China must seize new development opportunities for the digital economy and promote new drivers of economic growth, which has brought about unprecedented opportunities for the whole society to embrace the digital economy and facilitate economic transformation and upgrading. In the information era, with the popularity of the mobile internet, the digital economy has penetrated almost every corner of our earth, such as mobile payment, mobile phone navigation, WeChat, news feeding, TikTok live streaming, live shopping, online ride-hailing, and food delivery apps, and Alibaba, JD.com, and Pinduoduo and other online shopping platforms. These are certainly the contents of the digital economy but not the whole of the digital economy; these components cannot fully reflect the profound connotation of the digital economy. Obviously, ordinary people's understanding of the digital economy remains only at the level of mobile phone applications (apps)²; they lack a thinking of the inclusiveness and openness connotation of the digital economy, and most of them are even less sure about the development trend of the digital economy.

The digital economy actually refers to a new economy or knowledge economy. The “G20 Initiative of Digital Economy Development and Cooperation” adopted by the G20 Hangzhou Summit in 2016 defined digital economy as follows: “Digital economy refers to a series of economic activities that use digital knowledge and information as key production factors, modern information networks as an important carrier, and effective use of information and communication technologies as an important driving force for efficiency improvement and economic structure optimisation.”³ Given that the digital economy is defined as “a series of economic activities”, there are factors of production in the digital economy. In the past, traditional factors of economic production mainly included capital, technology, labour, land, and institutions, but in today's new economic era, information and data in digital form are all factors of production (Li, 2019), and are even more important factors of production. Nowadays, traditional factors of production may also appear digital.

In the new economy era, the digital economy is an inevitable growth point, but at the beginning, it was mainly the competition object of venture capital funds and the popular topic of technology celebrities. It was not familiar to the public, let alone widely accepted, although people are deeply caught in all kinds of apps (Xu and Liang, 2017). The digital economy, as known to the general public, is nothing more than smartphones, the internet, e-commerce services, TIK-TOK live streaming, WeChat, and so on. It was not until after the outbreak of the COVID-19 and the game of precise organisation for national epidemic containment that the full concept of the digital economy became clear to us, and since then, the digital economy has entered the vision and life of ordinary people. During the fight against COVID-19 in the first and second quarters of 2020, the digital economy was nonofficially and officially called a “non-contact economy”⁴. This definition was quite vivid and fits the characteristics of economic development, people's livelihood, and social linkage during the fight against COVID-19 and the period of quarantine, but its essence was still the digital economy, and then the term “digital economy” was quickly accepted by society once again.

The appearance and development of the new economy has attracted the attention of economic science, which mainly studies social and economic phenomena, and has promoted the development of economic science, as the return of economic science then further serves the development of the new economy. Each step in the growth of the digital economy has attracted industry input and academic

2 XINHUANET, 2018-03-28, From narrowing the “gap” to reaping the “dividend”, quoted from Zhejiang Online. URL: https://china.zjol.com.cn/201803/t20180328_6902044.shtml.

3 See “G20 Digital Economy Development and Cooperation Initiative”, September 20, 2019. URL: http://www.g20chn.org/hywj/dncgwj/201609/t20160920_3474.html, January 28, 2021.

4 See Liu Yao's “Technology Adds Fuel to the ‘Contactless Economy’ and Heats It Up”, April 16, 2020. URL: http://www.xinhuanet.com/fortune/2020-04/16/c_1125861801.htm

attention, facilitating the local expansion of economic science with Chinese socialist characteristics. In addition, some well-known universities and research institutions have begun to actively develop and establish the disciplines of digital economy, aiming to systematically study digital economy and take the lead in developing digital economy theories so as to offer digital economy courses and teach digital economy knowledge. The School of Economics at Zhejiang University previously proposed to create three new disciplines of new economy, new trade, and new finance, and Zhejiang University has now gone a step further by proposing to create three digital economy disciplines: digital economy, digital trade, and digital finance. These moves also represent a new trend in economics teaching and research institutions. In this new era of development, the popularity of the digital economy has become apparent. Along with the input of theory and industry, this will help strengthen the whole society's understanding of the digital economy and more directly promote the iterative upgrading and innovative development of the economy and society.

The digital economy is broadly inclusive and open. It covers digital trade, digital finance, digital services, and digital industries. It also includes digital investment, digital investment attraction, digital governance, and digital government affairs, as well as digital education (or online teaching). Nowadays, technologies and services of the digital economy are manifested as the internet, e-commerce, the internet of things, and blockchain, as well as mobile payment and digital currency, which support its operation and development. The National Development and Reform Commission is also vigorously supporting the development of the digital economy. However, unlike the digital trade promoted by the Ministry of Commerce and the digital finance promoted by the People's Bank of China and the China Banking and Insurance Regulatory Commission, it is not easy for people to grasp the essence of the digital economy. Suzhou was chosen as the first city where the Central Bank of China experimented with a digital currency pilot. The National Development and Reform Commission and the Ministry of Industry and Information Technology focus on the industrial internet and the digitisation of physical manufacturing. All these show that the digital economy encompasses many points that can be particularly challenging to force forward.

Everyone can name one, two, or three figures of the new technologies and services of the digital economy, including the popular health code, travel code, non-contact economy, and quarantine economy, plus mobile payment, online shopping, etc., all of which consist of the digital economy. However, it is not easy to fully and accurately define the "digital economy". Although the digital economy was defined at the G20 Hangzhou Summit, there are still differences in understanding, which also shows that the digital economy itself is highly inclusive. By the end of 2017, Zhejiang Province and Hangzhou Municipality put forward the "No. 1 Project of Digital Economy" and the slogan "digital industrialisation, industrial digitisation"⁵. This slogan has since become the direction path for developing the new driving forces of the digital economy.

However, there is still some concern about the definition and development of the digital economy. People tend to hold back for fear that the digital economy will undermine the development of industry. Now, it seems that this fear is actually due to a lack of understanding of the digital economy. Only by paying attention to the publicity of the digital economy, enhancing the digital culture, strengthening the whole society's cognition of the digital economy, and increasing the use of digital technologies and services in all sectors can we continuously promote the iterative innovation of our economy and society.

3.2. Correctly understanding the impact of the digital economy on society and standardising its development

There is no doubt that digital technologies and services brought about by the development of the internet, computer science, and electronic communications, the field of digital technologies and services is a constant source of new knowledge, technologies, and ideas, and it is the most innovative sector of the economy. Digital technologies and services have profoundly influenced and changed our ways of

5 See anonymity's "Zhejiang Province Has Done These Things This Year to Implement the No.1 Project of Digital Economy", December 24, 2018. URL: https://www.sohu.com/a/284159572_100089098

production and lives. Nowadays, without leaving home, people can use mobile phones or computers on the internet to complete financial management, transfer and stock investment, teach and shop online, authenticate payment through facial recognition, chat online, and enjoy games and entertainment (Shi, Wang and Wang, 2019). All these have greatly reduced the transaction costs for producers and consumers, improved the efficiency of production and consumption, and finally made it possible to produce and consume multi-variety, small-batch, personalised, and customised services. The digital economy has also given new meaning to economies of scale. For example, the traditional economic law of diminishing returns of economies of scale has been rewritten in light of the new economic ecology, as the digital economy now gives a new idea of increasing returns to scale.

The advantages of the digital economy have been recognised through the test of the containment of COVID-19. For example, during the quarantine phase, people purchased food and daily necessities through various mobile phone apps, and obtained food through convenient delivery services. These platforms were also the first gateway for communities to prevent and control COVID-19 transmission, allowing people to achieve “non-contact shopping” in their daily economic lives. Another example is the health code, which matches the local level of epidemic prevention and control and is convenient for infection tracing (Du, 2020). The health code is a simple and convenient personal digital health pass that has ensured the public’s attendance and communication, and guaranteed orderly production and supply of goods; thus, attention should be paid to preventing personal information leakage from the code. The use of these digital technologies is undoubtedly one of the most important and indispensable supports for China’s success in the containment of COVID-19 and in restoring economic growth.

Naturally, while the digital economy has brought about great changes in the service industry, essential regulation and normalisation are needed. Nowadays, in addition to the booming of e-commerce and logistics, various kinds of food delivery apps, online ride-hailing services, road navigation, online conferences, online trade fairs, online medical care, online classes, and so on are all flourishing. As WeChat Pay and Alipay continue to facilitate our lives on these platforms, they have increasingly become leading players in the development of technologies and finance in China. However, they are also suspected of monopolisation. As a matter of fact, the Ant Financial Services Group, which originated from Alibaba, may potentially disrupt the order and balance of China’s financial industry ecosystem through its natural or artificial monopoly of its super-large platform⁶. Ant Financial’s services lean too heavily on informal credit consumer finance, such as Huabei (Ant Credit Pay) and Jiebei (Ant Credit Loan), and have not undertaken more of its responsibility of providing inclusive financial services for micro, small, and medium-sized enterprises. In other words, Ant Financial Services Group has not taken on enough responsibilities for supporting SMEs.

The anti-monopoly and anti-unfair competition campaign against the platform economy was officially launched in China. The Ant Financial Services Group has been under joint investigation and supervision by four official departments, including the Banking and Insurance Regulatory Commission and the China Securities Regulatory Commission. This shows that the government is aware of the seriousness of the problem and strengthens the regulation on and intervention of platform economies. If the government lacks an understanding of the digital economy, and the society does not have a fair atmosphere of digital culture, the intervention and supervision of the platform economy will frankly be a kind of destruction to its development, which would be very bad for the development of the digital economy. To adapt to the management and service of the development of the internet and digital economy, governments at all levels have set up big data bureaus to optimise effective regulation on the digital economy. However, if effective scientific management services are to be achieved, the government has to strengthen its own understanding of the digital economy and enrich its own digital literacy.

The digital economy is derived from the development of computer science and information technology, and new technologies and knowledge are constantly emerging in this field. The digital economy

⁶ See Cheng Dan and Sun Lulu’s “Four Departments Including China Securities Regulatory Commission Jointly Interviewed Yun Ma et al., and Central Bank and China Banking and Insurance Regulatory Commission Issued Blockbuster Documents on the Same Day”, November 2, 2020. URL: <https://baijiahao.baidu.com/s?id=1682300896276317864&wfr=spider&for=pc>

is generally classified as a fictitious economy. Digital finance and digital trade are more representatives of the fictitious economy. However, we should see that the development of new technologies is not only fictitious but also real, and the carrier of the virtual economy is more real. In stark contrast to fictitious and real economy, the development of digital technologies and digital economy itself has indeed created many physical manufacturing industries, such as semiconductor industry, display screen manufacturing, touch screen manufacturing, audio and video equipment, software manufacturing, and VR scene creation. As a result of digital industrialisation, various new commercial forms, service forms, and online trade fairs created by digital economy have also been clearly classified as real economy. All of this digital economy is part of the main content of our production and lives. At the macro level, the digital economy is itself a resource of innovation elements; at the micro level, the digital economy itself includes the products, industries, and activities of technological innovation. Industrial digitisation and digital industrialisation are both new driving forces for the iterative upgrading and innovative development of the economy and society.

3.3. Highly recognising the service efficiency of the digital economy and building a new highland to attract investment

The development and application of digital technologies have significantly improved the efficiency of social governance, investment attraction, and government services. The digital economy makes investment attraction and social governance more precise and efficient, provides a good environment for economic and social iterative innovation, and greatly improves the quality of coordinated regional economic growth. With the development of technology and the investment of government and substantive departments, the efficient and accurate transformation of digital investment, digital governance, and digital government affairs has become the norm. The digital economy enables the reform of local government affairs, the simplification of administrative services and project approval, and the “no more than one visit for one item” reform, all of which have improved the efficiency of government affairs and the effectiveness of government institutions. However, digital government affairs reform and the “no more than one visit for one item” reform should also strictly prevent and eliminate possible disadvantages, such as dehumanisation and inflexible online work, due to the requirement that all affairs be limited to online registration and online processing. We should also be wary of potentially isolating the elderly and some socially vulnerable people from digital technology and the economy.

The improvement of the service efficiency of digital government affairs and digital governance undoubtedly reflects the enhancement of soft environment power for investment attraction, poverty alleviation, and fundamental public services in a region, which means the improvement of regional innovation capability (Wen, Yan and Cheng, 2019). Therefore, it is necessary to legally regulate digital resources and digital technologies, give policy support to vulnerable members who do not know how to use digital resources, and allow the inclusiveness and openness of the new economy to play roles in all social and economic sectors. The digital economy should be better at serving investment, attracting investment, alleviating poverty, and ensuring an equal supply of fundamental public services, which would create a new area for attracting investment and supporting high-quality growth and sustainable development in China.

The rapid development of digital technologies has greatly improved the level and efficiency of economic services. The more attention paid by regions, departments, and industries to digital technologies, the more they can achieve leapfrog development. Integrating the digital economy into an environment for the emergence of talents and establishing a team for accurately attracting investment are the basis and premise for using the digital economy to create the right industrial chain for investment attraction. Having a well-qualified municipal official team that pays attention to the development of the digital economy can help achieve local economic development for corner overtaking. In this respect, the investment attraction team of the Hefei municipal government in Anhui Province has a high reference value. Hefei introduced BOE in 2007, Changxin semiconductor in 2011, and NIO new energy vehicle in 2019. Nowadays, JAC, Elantra, FAW, and Changan Auto have all settled their new energy vehicle projects in

Hefei. Shanghai Volkswagen's largest new energy vehicle project has also chosen to settle in Hefei. Hefei has become the world's largest flat-panel display production base—the storage industry base of 186 integrated circuit enterprises—and the “China Sound Valley” led by iFLYTEK. New energy vehicles, flat-panel displays, or iFLYTEK products are all the content of the digital economy or are closely related to the digital economy⁷. Due to the effective investment attraction, Hefei's city status has continuously improved, and its economic growth rate has ranked top among all the provincial capital cities in China for many years since the entry of the 2000s (Wang, Z., 2018). With the guarantee of a talent team, Hefei has been very successful under the “two-wheel driven” of scientific/technological innovation and institutional innovation in recent years, and has achieved remarkable attainments in fundamental research, applied research, and industrial transformation of scientific and technological achievements.

Of course, the main players of innovation are enterprises, and the digital transformation of enterprises will bring more direct power to economic and social iterative innovation. However, we must acknowledge that many enterprises have failed in their digital transformation. A McKinsey research report showed that the failure rate of the digital transformation of enterprises around the world was as high as 80%. Even for industries with leading digital technologies, such as the high-tech industry, media industry, and telecommunications industry, the successful ratio of digital transformation did not exceed 26%. For traditional industries, such as oil, natural gas, automobile, infrastructure, and pharmacy, the successful ratio of digital transformation was only 4%–11%.⁸ The main reasons for the low successful ratio of digital transformation of enterprises are the lack of managers' proficiency in digital technologies, the lack of digital ability of enterprise employees, the lack of a continuous learning environment, and the lack of an open technologies proficiency in digital technologies. This situation must be changed, and an effective change can be achieved by strengthening the awareness education of the digital economy for all members of society and allowing enterprises to form a digital cultural atmosphere. This is the key to improving the success rate of enterprises' digital transformation.

Notably, the digital economy has to rely on the principle of “economy first, digital second”. The development of digital technology and the progress of digital services should serve as the overall content of economic and social development. We cannot drive digitisation for digital's sake. Digital industrialisation and industrial digitisation are reasonably and naturally mutual promotion directions, but these should be carried out around the construction of the industrial internet and the informatisation of the manufacturing and service industries, so as to improve the efficiency of the real economy of the manufacturing sector and optimise the service quality and level of the service industry. The development of the digital economy must not fall into a hollow development situation in which there might be only digital improvements without industries, or a situation of digital bubbles.

To attract investment and boom economic development, data must be refined. Figures and data are information and resources that are valuable in their own right. Data can provide important basic information liquidity for production, life, and effective social governance, thus creating multiple benefits (Du, Q., 2019). Real and reliable data can support precise and scientific decision-making, while rough and false data will bring about mistakes in economic development policy decision-making, leading to hidden dangers and potential risks sowed on the road of economic and social development, and even causing irreparable economic losses and huge social costs. Therefore, we must be careful when dealing with data processing and application in the digital economy.

3.4. Attaching importance to the information transmission mechanism, avoiding the overlapping of digital isolated islands

The greatest resource in the digital economy is data information. The application “TouTiao” conveys the concept of “information creates value” in a very eye-catching way on its home page interface. This statement can be understood as a neutral marketing and business behaviour. Only accurate and true

⁷ Hefei, an investment bank masquerading as a city. Originally published by Outlook Think Tank on April 27, 2021, reproduced by SOHU on April 28, 2021. URL: https://www.sohu.com/a/486196251_118927

⁸ See anonymity's “McKinsey: the Failure Rate of Enterprise Digital Transformation is as High as 80%”, January 24, 2021. URL: <https://page.om.qq.com/page/Oajhkw98mfuCCcS4LFIkmKg0>

information has intrinsic value. If the information is false, or even malicious fraud, it has no value in itself, nor can it create any value; instead, it brings only a negative impact to society (Shen, 2018). Further, the bureaucratic structures in China formed by long-term economic and social development have resulted in a resource monopoly and market segmentation among different departments and even different regions. Indeed, data and information resources in the era of the digital economy are no exceptions, as information monopoly and data segmentation are common. We often see many “digital isolated islands” in the development of the digital economy, which affect scientific and rational policy decision-making, bury potential digital risks on the road of economic development, and are not conducive to economic and social iterative innovation.

For example, some internet small loan companies and fund companies under the guise of inclusive finance have almost become synonymous with frauds in China. Some of the dodgy internet small loan companies and fund companies wear the bright coat of science and technology finance to illegally solicit deposits at high interest rates and illegally lend money. They use deceptive means similar to pyramid sales to solicit funds from people’s pension money and hard-earned money, and then go on a spending spree, which eventually leads to regular money account collapse and thunder explosion, resulting in serious social stability problems. Starting in the second half of 2016, a large number of fund companies and internet micro loan companies collapsed in Hangzhou, and the local finance office and local police stations have become territories for maintaining stability. It took three years for Hangzhou to calm down the crisis of internet finance companies’ cracks. In the spring and summer of 2022, the disappearance of rural bank deposits in Henan Province was another more serious event that reminded the Chinese government and society to strengthen the regulation of the digital economy and digital finance.

In addition, some small- and medium-sized, long-term rental apartment platforms have stopped serving one after another due to capital chain cracks. Sixteen medium- and small-sized long-term rental apartment app platforms, including Wole APT, Hi-Ki APT, Sancaijia, and Detaining International, have stopped their services due to capital problems that extend shocks to society⁹. Some unscrupulous long-term rental apartment platforms even have run away with money, making people become greatly disappointed with the so-called digital economy companies that operate platforms attracting liquidities. Relevant government departments have raised their vigilance and strengthened supervision and regulation on rental apartment platforms. Such incidents have had a great negative impact on people’s lives, brought great losses to the economy and society, and taught us a profound lesson. We should keep the alarm bell ringing.

Fund companies and internet small loans crashed, long-term rental apartment platforms ran away with money, and the Eggshell apartment platform went bankrupt; these warn us that there are great credit risks in the actual operation of the digital economy. Therefore, it is extremely important and urgent to strengthen the construction of digital credit (Han et al., 2019). In the era of the digital economy, digital credit is an important part of the construction of a social credit system. The construction of digital credit requires the intervention of legislation and accurate cognition, scientific standardisation and reasonable supervision of the government. Of course, the government must first be honest and do a good job in administrative integrity, so as to create a good atmosphere for the construction of digital credit and make the construction of social credit systems more confident. Only with good government integrity could we bring about a good atmosphere for digital credit construction that would increase our confidence enough for social integrity construction.

The long-term development of the manufacturing sector has prompted it to produce and accumulate more data than other industries, but we seldom make use of the data, mainly because most of us have no access to those data. For example, the automobile industry has been developing for more than 100 years, and companies such as Ford have accumulated a large amount of industrial data, but most of the data are owned by the companies themselves and cannot be accessed by the outside world, let

⁹ There have been several explosion incidents of the long rental apartment platforms in China’s domestic market, how about the new situation in Nanning? Here comes the series of reports. Published by Tencent, April 25, 2020. URL: <https://new.qq.com/rain/a/20200825A0AJYR00>

alone shared with peers. Accordingly, there are many such phenomena of artificially splitting of the data by departments, units, and industries, which are still popular in the era of digital economy, resulting on the one hand in the rapid and vigorous development of digital economy, and on the other hand, many artificially “digital isolated islands”¹⁰, great waste, and even monopoly of information and data, which weaken our productivity.

Further, much of the developed and accumulated data has not been fully used for economic and social development decision-making. Alibaba’s e-commerce has a large amount of first-hand data on consumers, borrowers, manufacturers, and suppliers, but it also does not share it with the outside world. In the era of the digital economy, this “digital isolated island” phenomenon is far from being a single isolated case. In fact, many organisations specialising in databases are reluctant to share their data with outsiders. For example, the databases that are widely used in economic research include the China Industrial database, China Rural Household Survey database, China Economic database, and China Population database, which are primarily accessed through purchase. These data platforms themselves are independent, charge for access, and do not share their information with others.

Of course, the resources of humanity, material, and capital have been invested in developing the database. Data is knowledge and should enjoy intellectual property rights protection; this is of benefit to digital innovation (He, 2018). However, if the databases cannot be shared after being established, the data will not play a more comprehensive role in economic policy decision-making. This situation needs the attention of policy decision-making departments, economic researchers, officials of the law, and public management. We need an anti-monopoly and counter-unfair competition role played through scientific and reasonable system design that can prevent further formation and the continuous emergence of “digital isolated islands”, thus improving the liquidity of data resources and reducing the use and transaction cost of data resources.

4. Conclusions: Precisely defining the development stage of the digital economy and stimulating iterative innovation of social economic growth

Since the 1990s, scientific, and technological progress and financial innovation have tremendously accelerated the progress of the world economy, and global emerging economies have grown much more rapidly. However, the frequency of global economic crises and economic fluctuations has increased significantly, and the crisis has become increasingly serious.

Reviewing the crises and fluctuations of the global economy in the past 40 years, some patterns are obvious. In 1997, Asian countries were hit hard by the Asian financial crisis. At that time, American economist Paul Krugman claimed that the “Four Asian Tigers” were “paper tigers”. In 2004, the economy of Argentina, once a developed economy in South America, was completely defeated by the South American financial crisis and has not fully recovered from the recession until today. In 2008, the global economic crisis cast a shadow over the sustainable growth of the global economy, and European sovereign debt crisis countries failed to really lift themselves out of the shadow of economic recession for more than 10 years. Another round of sluggish global economic growth starting in 2016, combined with the global pandemic of COVID-19 since the end of 2019, has caused the world economy to suffer a serious recession.

An analysis of the triggers of each global economic crisis clearly reveals that there are technological and financial factors driving each of these events. In fact, excessive innovation in science, technology, and finance, which is far from the requirements of the current level of development, will lead to economic and social shocks. It is clear that the digital economy has such potential security problems (Wang, L., 2019). Behind every economic crisis is the shadow of overusing scientific, technological, and financial means to affect the economy, which is the reason for the frequent outbreak of economic crises today. Many scholars around the world have paid attention to and studied the phenomenon of excessive innovation in science, technology, and finance impacting the social economy and bringing about eco-

¹⁰ See anonymity’s “How to Break the “Data Isolated Islands” in the 5G Era, Suggests by Zhang Jindong”, March 4, 2019. <http://finance.sina.com.cn/roll/2019-03-04/doc-ihxncvf9726216.shtml>

conomic crises and shocks (Ireland, 1995; Duca, 2000), which is also an issue that China has to deal with in the new development stage so as to promote the healthy and sustainable development of the digital economy.

We should strengthen the cognition of the digital economy in the whole society through education, make full use of multimedia network teaching (Wang, Shi and Wang, 2021), create a strong digital cultural atmosphere, and form a consensus of the whole society on the reasonable development of the digital economy. Laws and regulations for the development of the digital economy should be formulated scientifically and strictly in line with the national requirements for further building a market-oriented, legalised, and international business environment. By means of marketisation, legalisation, and openness, efforts should be made to prevent and resolve the “digital isolated island” and potential economic risks in the development of the digital economy, so as to escort the optimistic development of the digital economy. We should strengthen the construction of iterative credit, encourage information and data sharing among different data centres and platforms, and promote iterative innovation to attain healthy and sustainable development of China’s economy and society.

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