

The Path of Integrated Development between Digital Economy and Real Economy

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Abstract: *With the continuous advancement of digital technology, the colossal scale effects and immeasurable digital dividends brought about by the digital economy are undeniable. Simultaneously, the real economy remains the lifeline of our country's economic growth. The integrated development of the digital economy and the real economy is an indispensable direction as our country strides towards a modern industrial system. This integrated development is the essential path to enhance the national comprehensive strength in the current era. Although the prospects are promising, there are still numerous problems and challenges. Therefore, it is imperative that we ground ourselves in reality and contemplate the possibilities of integrated development from multiple dimensions, thus achieving horizontal integration and vertical deep integration between the two.*

Keywords: *Digital Economy, Real Economy, Integrated Development*

1. Introduction

In today's era of information explosion, the development of internet technology is integrating with various industry chains at an exponential rate. This integration not only liberates workers involved in repetitive, meaningless labor at the base level, but also significantly reduces transaction costs and enhances resource allocation efficiency. With the ubiquitous permeation and widespread application of information technology in all aspects of human life, the digital economy has emerged and evolved, ushering in a new wave of digitization. It is foreseeable that if the vision of universal interconnection and industrial intelligence becomes a reality, it will successfully optimize industrial structure, reshape productivity and efficiency, and may even bridge the digital divide and ameliorate the current situation of wealth disparity, thus constructing a new economic paradigm under the digital economy. Consequently, whoever seizes the development opportunity of the digital economy will be able to lead the trend of the times and, to a certain extent, change the existing international situation and pattern.

2. Existing Problems

In recent years, precise positioning of digital economic development strategies has led to continual adjustments and reforms in political systems and industrial structures, all in line with China's new economic development trends. However, some issues still persist in the integration of the real economy and the digital economy.

Firstly, China's cutting-edge digital technology needs enhancement, particularly in core technologies such as semiconductors and other electronic devices where glaring weaknesses are present. Moreover, China's capacity for independent innovation and research development has room for further growth. The level of digital technology largely determines the upper limit of industrial intelligence. Only by upgrading digital technology can the potential for digital economy to empower the real economy be realized.

Secondly, the integrated development of the real economy and the digital economy in China is not sufficient, with regional disparities evident. Although the overall level of integrated development between the real economy and the digital economy in our country has been continuously improving, particularly with the emergence of new economic development models such as the live-stream sales led by major influencers like Li Jiaqi, which fuse physical businesses with live-streaming, injecting new-age vitality into numerous physical businesses on the brink of closure, effectively revitalizing them and expanding the scale of China's digital economy. However, based on various data, as the

primary industry, agriculture has a low digital penetration rate. Although the COVID-19 pandemic has amplified the demand for digital transformation in the service industry, its digital penetration rate still lags behind that of developed countries, suggesting significant room for development.

Finally, China's current digital economic ecosystem is not well-developed. Since our country proposed to vigorously develop the digital economy, a large number of digital service industries have emerged in a short time. Due to the lack of appropriate industry standards in the early stage of construction, these platforms vary in quality. This has led to phenomena that harm consumer rights, such as data leakage and misuse of big data, and even some infringement issues have not been properly handled. This has gradually led to a more aggressive online environment, which to some extent has stifled the enthusiasm for online development of enterprises, hindering the healthy and effective operation of China's economy.

3. Intrinsic Logic Analysis of Digital Economy and Real Economy Development

(A) Theoretical Analysis of Digital Economy Development

The digital economy, a principal economic form succeeding the agricultural and industrial economies, is an economic model based on digital technology and innovation. Gradually, it has become a significant component of today's economy. Firstly, the new wave of technological and industrial revolutions is burgeoning, propelling continuous transformation and breakthroughs in the digital economy. As a core area determining a nation's comprehensive strength, the sophistication of digital technology determines the extent of high-quality development of our country's digital economy, which further dictates our international standing and discourse power. Moreover, the government's forward-looking policies on the construction of digital infrastructure have, to a certain extent, fostered the prosperity of our digital economy. Therefore, the strategic development policies of the nation and the ecological protection system crafted for it serve as a protective convoy for the robust development of the digital economy. Secondly, the emerging digital economy, which is fundamentally informational, is developed on the basis of the platform economy. With the capabilities of digital technology in information transmission and processing, the platform economy grows in tandem with it. The innovative capacity and development momentum of the platform economy provide a reserve for the subsequent development of digital technology. As the main driving force of the platform economy is technology, the shift to fine-tuned operations of major platforms indirectly stimulates the rapid development of the digital economy. By leveraging the scale effect of digital technology and the characteristics of scope economy, the digital economy reorganizes production factors, effectively expanding our country's market. If we can achieve the integrated development of the real economy and the digital economy, it will transform the economic development model, promote effective integration of resources, and facilitate the modernization and digitization of our country's economy at a deeper level.^[1]

Hence, how to permeate the economic development model under the trend of the digital economy and stimulate new developments and vigor in a whole industry will be the key to the thriving development of our economy.

(B) Logical Analysis of the Integrated Development of Digital Economy and Real Economy

The digital economy leads the transformation of industries and production lines mainly through two methods. The first is digital industrialization, i.e., the products and services brought by digital technology that can directly contribute to the digital economy. However, it is limited by the upper limit of digital technology development breakthroughs. The other is industrial digitization, which is simply the digital transformation and reform of traditional industries. Traditional industries use digital products to further improve production efficiency and reduce production and management costs, thereby enhancing the overall informatization level of the industry. The essence of industrial digitization is the integrated development of the digital economy and the real economy, and it is also an effective means to prevent the complete virtualization and bubbleization of the digital economy.^[2]

In the current post-pandemic era, the real economy has not fully recovered, but the digital economy has flourished during the three years of the COVID-19 pandemic, creating a multitude of possibilities for economic development. Especially since the rise of platforms like Taobao and Douyin, the trend of the Internet suppressing the real economy has intensified. Fundamentally, however, the objective existence of people determines the necessity of the real economy for physical consumption. In other words, no matter how much the digital economy develops, even if it creates a completely online

shopping and consumption system, it cannot fundamentally replace the existence of the real economy. If the development of the digital economy is not based on the real economy, then no matter how promising the prospects, it will be a castle in the air, which will eventually vanish after the real economy realizes self-innovation. Furthermore, considering the actual situation, with the continuous increase in operating costs of our country's physical economy, the further decline in average profits, and the gradually imbalanced economic structure, the predicament of the physical economy's development urgently needs to be broken. Hence, since the digital economy cannot exist detached from reality, and the combination of the physical economy and the digital economy has shown some success, the rapidly developing digital economy has, in fact, paved the way for the urgently needed innovation in the physical economy's development. Only by achieving an organic combination and deep integrated development of the two, can the digital economy genuinely become the main engine for inclusive economic growth and provide a strong, effective impetus for the digital transformation of the physical economy.^[3]

4. Concrete Pathways for the Integration of the Digital Economy and the Physical Economy

The integrated development of the digital economy and the physical economy should primarily focus on three aspects: the fusion at the level of production technology, the integration across industrial chains and regions, and the unification within the sales realm. Innovation and development should focus on these three dimensions, which will directly transform the current economic form of our country, revolutionize the operation mode and underlying logic of the physical economy, and spur the birth of more new economies and businesses with digital features.

(1) Integration at the Production Technology Level

Technology is the primary driving force for the transformation of economic development. Therefore, successfully integrating digital technologies such as big data and artificial intelligence into production technology, digitally empowering products, can create an insurmountable vertical gap in homogenous products, thereby directly enhancing the competitiveness of the products. Moreover, it can directly pinpoint the needs of target user groups through cloud computing and industrial internet, especially in today's era of information explosion.

Why is it that the widely popular Douyin has over 500 million active users while Taobao seems to be gradually cooling off? When a viral phenomenon suddenly stalls, it means that the problem has been exposed. Only by embracing new-age technology and changing development concepts can we continue to harness the flow of users. The once-popular Taobao was about people searching for information, i.e., individuals subjectively choosing what they currently need. Now, Douyin is about information finding people, attracting interested crowds through big data, subtly influenced by undercover video advertising, directly twisting people's demand orientation, thereby accelerating the comprehensive transformation and upgrade of the physical economy's development model from "supply creates demand" to "demand guides supply".^[4]

Whether it's to improve user stickiness and quality or to enhance a product's enterprise's vitality, the fundamental solution is to thoroughly integrate digital technology into production technology.

Simultaneously, the application of digital technology to production will largely solve the "bottleneck" problems caused by production conditions. On the one hand, the virtual nature of digital technology will address the constraints of existing space, innovatively upgrade to a certain extent, not only avoid the issue of insufficient liquidity but also inject new vitality into production through innovation, promoting the development of intelligent, advanced, and informatized production, thus further revitalizing the development trend of physical enterprises and painting an eye-catching prospect for the new era of data. On the other hand, the use of digital technology will make production technology advanced and informatized, or avoid "bottleneck" production conditions from multiple dimensions.

Through the core technology of digital, the existing base industrial model of meaningless repetitive labor will be successfully reshaped, redundant production processes will be completely avoided, thereby streamlining and refining the production chain, greatly improving production efficiency, and maximizing benefits through scale effects and diffusion effects. Therefore, the integrated development of the physical economy and the digital economy at the production technology level is the inevitable choice to enhance the core competitiveness of our country's industry and other industries.

(2) Regional Integration of Industrial Chains

The convergence of the digital economy with the physical economy within the manufacturing regions of industrial chains should, foremostly, achieve digitalization of the industrial chains, further

progressing towards advanced and refined developments. By permeating next-generation digital technologies into every link of the physical industries, the establishment of a comprehensive digital system for the physical industrial chain not only accomplishes a perfect closed-loop of upstream and downstream data flow, but also integrates and transforms traditional industries in the physical economy, fully unleashing digital dividends. This alteration will revise the current organizational structure of the physical industrial chains, maximally achieving a resurgence of physical industries. Moreover, through the use of digital technologies to analyze and study systemic issues currently existing within the industrial chains, the digitalized logic and mindset can be applied for deeper adjustments and improvements. Such advancements can accurately identify and address the long-standing "pathological" issues that have had negative impacts, eliminating fundamentally the potential "alienation" in the physical economy, and further extending the development space of the physical industries based on the original foundation. This process will enhance the overall informatization level of the physical industries and ensure the streamlined nature of the industrial chains through digital technology. Additionally, the introduction of digital technology has changed the current pattern of production factors, adding data as a new element to the traditional factors. The data element, influenced by digital technology, can comprehensively reshape the core competitiveness of the physical industries. On one hand, the data element can effectively resolve the spatial constraints of the physical industries. Through the formation of a more balanced production structure with grid-like, discrete production units, the aggregation in non-physical space not only significantly reduces the construction costs of related upstream and downstream physical industrial chains but also drives the transformation and upgrading of other non-local related industries, injecting new vitality into the small and medium component supply chains. If this is perfectly and organically combined with traditional production factors and fully exploits the advantages of digitalization, it will disrupt the existing technological paradigm, achieving a "1+1>2" effect, and thus leading to a qualitative breakthrough in the physical industries. On the other hand, in the long run, the integration of the digital economy with the physical economy in the industrial chain regions should particularly focus on the manufacturing sector. Currently, our country is still in the industrialization stage, needing to advance new industrialization and build intelligent digital industrial clusters based on digital technology. This should primarily grasp the digitalization and intelligentization of the industrial chains, and while promoting comprehensive transformation and upgrading of the industries, it should also improve the ecological development of industrial integration under digital conditions. This is the path ahead in building a modern industrial system.^[5]

(3) Fusion in the Sales Domain

The fusion of the digital economy and physical economy at the level of the sales domain will directly alter the shopping experience of consumers, subsequently changing the consumption patterns of the general public. This, in turn, can to a certain extent, stimulate the transformation and upgrade of consumption, thereby promoting the high-quality growth of our country's economy.

Empowering the physical industry through digitization can solve many predicaments faced by physical enterprises in the sales domain. For instance, the cost of renting a shopfront is too high, yet the footfall is insufficient to cover the utility expenses, or perhaps the store lacks sufficient service personnel, making it difficult to provide a one-on-one service model to consumers, and so on. The application of big data in the physical industry will not only push store products directly to a broader online audience, but some basic services can also be reasonably resolved through the application of artificial intelligence technologies. Furthermore, the fusion of the two in the sales domain has also given birth to new economic forms such as the platform economy and e-commerce economy, keeping their momentum, and the pandemic in recent years has further boosted the explosive growth of live-streaming sales. In this context, people's current consumption patterns have expanded from offline to online, and there is a trend towards fully online consumption, gradually shifting from "trying on in physical stores" to "purchasing in online flagship stores". Through live-streaming and other e-commerce formats adopted by influencers with huge traffic, the consumer market has been significantly expanded. Particularly in recent years, well-known influencers like Li Jiaqi during the Double Eleven shopping festival, using multi-platform traffic for live-streaming sales, have fully stimulated the public's consumption capacity, generating revenue of over 20 billion, further liberating people's demand for digital products and services, which to some extent has alleviated the economic downturn caused by the pandemic in our country. Additionally, from a sales perspective, many influencers are not real people, but virtual hosts synthesized through digital technology. Thus, they can utilize big data in advance to gather the group demands and preferences of consumer users. When explaining the functional characteristics of specific products, they can also perform specific warm-up acts or interact with their direct consumers, answer doubts, and even though the responses might seem slightly rigid, the efficiency is significantly enhanced. Therefore, exploring more possibilities of digital technology and the physical industry in the sales domain is undoubtedly seizing the dividends of the information age, fully releasing group demands, and promoting the upgrade and development of our country's macroeconomic quality.^[6]

In addition to this, major live-streaming platforms fully apply a variety of digital technologies, granting consumers a convenient and novel shopping experience. This not only expands the sales channels but also provides many positive brands with the opportunity to reinforce stereotypes and maximize benefits, continuously injecting fresh vitality into the healthy and stable development of our country's economy.

5. Policy Recommendations

Indeed, if we aspire to comprehensively stimulate the steady improvement and full-scale development of China's economic operation efficiency under the current circumstances, it is imperative to first achieve the integrated development of the real economy and the digital economy in all respects. Simultaneously, alongside lateral expansion and integration, we must also facilitate a deeper level of vertical integration between the two.

Firstly, the acceleration of digital infrastructure construction is vital to provide technical support for the growth of the digital economy. On the one hand, we need to create a new type of digital infrastructure led by information technology to promote digital synergy, expedite the digital penetration of the industrial value chain, enhance the efficiency of social resource allocation, coordinate data resource integration, sharing, and development, and further strengthen the institutional guarantee for the materialization of the digital economy. On the other hand, it's also crucial to advance the layout of digital internet construction for the three major industries, to reform traditional industries with an intelligence-led approach, speed up the digital transformation of existing public infrastructure, and improve the level of industrial digital infrastructure.

Secondly, we need to perfect the digital governance system in market competition, create diversified digital industrial chains, and demand the establishment of a high-standard digital trading market for compliant digital trade. Particularly, given the presence of certain vulnerabilities in the current digital market environment, where infringements of intellectual property rights and plagiarisms of others' scientific research achievements often occur, and the fluidity of data causes considerable difficulty in market supervision, it's even more necessary to create a favorable online consumer environment, regulate market competition order, and prevent issues like "data migration" and "data leakage". Concurrently, we must expedite the digital transformation and upgrade of diverse enterprises, adhere to demand orientation, reconstruct product value chains, fully unleash digital dividends, and make the digital era of real enterprises more prosperous.

Finally, policy-wise, we need to guide enterprises towards digital transformation and provide certain preferential policies. Under the premise of integrated planning, governments at all levels should actively promote the construction of Digital China and allocate related research and development, transformation subsidies, establish key digital units and enterprises, fully mobilize the initiative and enthusiasm of enterprises, and ensure the healthy and efficient digitalization of real enterprises. Moreover, our country's industrial modernization development still needs the deep integration of our digital economy and real economy. Therefore, the development concept of "people-centric" also needs to be implemented. Hence, we need to focus more on the digital upgrade of basic social services enterprises like "online education" and "online medical care", enabling more people to enjoy the fruits of convenience and efficiency, thereby genuinely enhancing people's sense of happiness and fulfillment.

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