

Innovative Paths of Digital Technology Empowering High-Quality Development of International Trade in the New Era

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Abstract: With the in-depth advancement of the new round of scientific and technological revolution, digital technology is becoming the core driving force promoting the high-quality development of trade. Integrating it into the whole process of international trade can effectively reduce transaction costs, improve resource allocation efficiency, and enhance market adaptability. Based on this, this paper will explore the innovative paths of digital technology empowering the high-quality development of international trade against the background of the new era, so as to provide a theoretical reference for promoting the transformation of international trade from scale expansion to quality and efficiency improvement.

Keywords: Digital technology; New era; International trade; Digital economy; Competitiveness

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1. Introduction

Since the advent of the new era, the global digital economy has surged vigorously. Digital technologies such as big data, artificial intelligence, blockchain and the Internet of Things are iterating at an accelerated pace, profoundly reshaping the landscape of global trade and driving international trade toward digitalization. As indicated in the Global Digital Trade Development Report 2025, digital trade boasts remarkable growth advantages. As shown in **Figure 1**, the global export volume of digitally delivered trade reached 4.64 trillion US dollars in 2024, with an average annual growth rate of 9.7%; the export volume of digitally ordered trade stood at 2.62 trillion US dollars. This trend is steering the international trade landscape toward greater diversification. Against this backdrop, conducting systematic research on the innovative paths for digital technologies to empower the high-quality development of international trade is not only an inevitable requirement to follow the global digital economy trend and respond to profound changes in the international trade pattern, but also a practical necessity for advancing the high-quality development of China's international trade and fostering a new open economic system at a higher level.

2024 Global Digital Trade Export Scale and Growth Rate Analysis

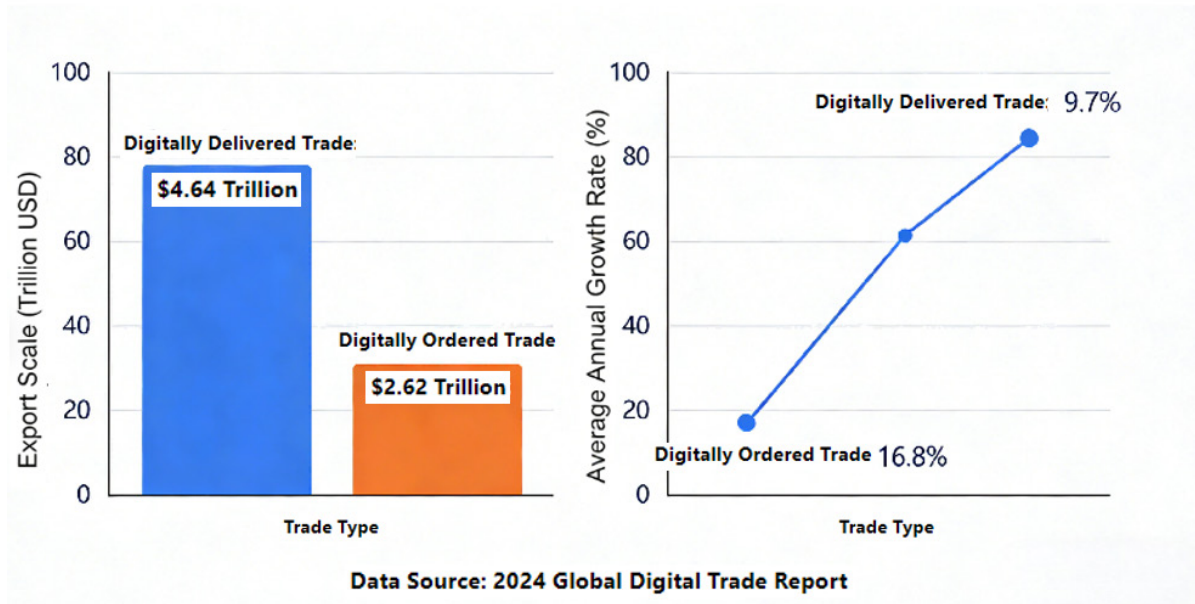


Figure 1. Comparison of global digital trade export scale and growth rate in 2024.

2. Significance of digital technology empowering high-quality development of international trade in the new era

2.1. Enhance the competitiveness of international trade and build an open trade environment

At present, global trade competition is becoming increasingly fierce, and the digital economy has become the core field of global trade competition. As a major trading country in the world, to realize the transformation from a major trading country to a trading power, China must rely on the empowerment of digital technology to improve trade competitiveness and promote the high-quality development of an open economy ^[1]. The application capability of digital technology directly determines the level of a country's trade competitiveness. It can break the inherent form of traditional international trade, empower the optimization and upgrading of China's trade structure, promote the transformation of trade to technology-intensive and knowledge-intensive directions, and enhance the competitiveness of China's trade products in the global market. Meanwhile, in the context of the new era, international trade is developing in a digital direction, rendering the emergence of a variety of new models and new business forms. This can promote China's trade entities to take the initiative to transform, thereby fostering a number of digital trade enterprises with core competitiveness, improving the global operation and innovation capabilities of China's trade entities, promoting the transformation of China's trade entities from passive participation in global trade to active leadership of global trade, and enhancing competitiveness as a whole ^[2].

2.2. Broaden the scope of international trade and promote the in-depth development of foreign trade

Digital technology has the advantage of immediacy, which can break the constraints of geographical space, build a new pattern of foreign trade, and promote the deeper and broader development of foreign trade.

Digital technology can effectively build a global trade network, eliminate communication barriers caused by geographical distance in traditional trade, reduce logistics costs and time costs, enable trade entities in different countries and regions to connect conveniently and cooperate efficiently, promote the extension of international trade from developed countries to developing countries and from coastal areas to inland areas, and achieve full coverage of global trade ^[3]. Most importantly, the digital economy is the most important emerging economic form in the contemporary era, and international trade rules must be adjusted to keep pace with the digital economy. By relying on the empowerment of digital technology, China can better integrate into the global digital trade system, participate in the formulation of global digital trade rules, enhance China's voice and influence in the global trade pattern, and expand the scope of international trade.

2.3. Reconstruct the international trade pattern and realize the coordinated development of the global economy

The rapid iteration and wide application of digital technology have profoundly changed the development mode, competition pattern and governance system of global trade, promoting global trade to enter a new stage of digitalization, intelligence and globalization ^[4]. With the help of digital technology, Chinese small, medium and micro enterprises can break the monopoly of developed countries on global trade, efficiently integrate global resources, thus deeply participate in all links of global trade, improve the overall efficiency and benefit of global trade, and promote the diversification of the global trade pattern.

At the same time, relying on the advantages of digital technology, various trade entities can cross geographical restrictions to achieve precise docking and efficient cooperation, promote the in-depth integration of the global industrial chain, supply chain and value chain, build closer global economic ties, and promote the recovery and sustainable development of the global economy ^[5].

3. Problems existing in the development of China's international trade in the new era

3.1. Lagging trade structure

For a long time, China's international trade structure has been dominated by low-end products, still focusing on labor-intensive and resource-intensive products. Such products are often low in technological content, added value and core competitiveness, highly dependent on resources and labor, weak in risk resistance, and vulnerable to external shocks such as global market fluctuations and trade protectionism ^[6]. The export proportion of high-end products such as high-end manufacturing products, digital products and high-tech service products is relatively low. China lacks core technologies and well-known brands with global influence, making it difficult to occupy a dominant position in the global high-end trade market. From the perspective of trade business form structure, although new trade forms such as digital trade, cross-border e-commerce and service trade in China have developed rapidly, they are restricted by factors such as digital infrastructure, data governance system and high-end talents, with immature development models and obvious gaps compared with developed countries ^[7].

3.2. Insufficient level of international trade opening up

Affected by factors such as opening-up policies and development time, the development and opening-up level of domestic foreign trade in the new era is in the initial stage. On the one hand, the opening degree of some service trade fields in China is relatively limited, and the market access rules in cross-border service trade,

digital trade and other fields still need to be optimized, affecting the expansion of the breadth and depth of trade opening ^[8]. On the other hand, the docking with international high-standard economic and trade rules is insufficient, and the institutional systems in cross-border data flow, intellectual property protection, trade facilitation, market supervision and other aspects are not perfect, resulting in China's relatively passive position in global trade governance and rule docking.

3.3. Lack of international trade competitiveness

Although China is a major global trading country, it is not a trading power. There is still an obvious gap in trade competitiveness compared with developed countries, including core technologies, well-known brands, high-end talents, etc., as follows:

- (1) The innovation capacity of some Chinese trade enterprises is insufficient, lacking independent R&D capacity and core technology reserves, and highly dependent on foreign technologies, making it difficult to achieve continuous innovation in trade products and trade models, thus affecting the improvement of China's trade competitiveness ^[9];
- (2) The cultivation of digital economy talents in China is relatively slow, especially the gap in compound digital talents is widening, and practitioners lack digital application capabilities, international literacy and innovation capabilities, thus affecting technological innovation, model innovation and rule application of Chinese trade enterprises;
- (3) China's trade lacks enterprises and products with global core competitiveness, and most trade enterprises are in the middle and low-end links of the global industrial chain and supply chain with limited profit space, making it difficult to resist the impact of global market fluctuations and trade competition ^[10].

4. Innovative paths of digital technology empowering high-quality development of international trade in the new era

4.1. Deepen the construction of digital infrastructure and consolidate the hardware foundation for digital empowerment

To improve the effectiveness of digital technology in the development of international trade, China should increase investment in the construction of digital technology infrastructure, use more diverse and efficient digital technologies to continuously improve the construction layout and upgrade the construction level, so as to consolidate the hardware foundation for digital technology to empower the high-quality development of international trade ^[11].

China should ensure the construction of new digital infrastructure such as 5G, big data centers, the Internet of Things and industrial Internet, use high-speed and stable communication facilities to guarantee communication efficiency and data transmission speed in international trade, ensure that all trade entities can equally access digital technology resources, and promote the coordinated regional development of China's international trade.

On top of that, actively promote the docking of digital infrastructure with trading partner countries, build a cross-border digital transmission network, improve the efficiency, security and stability of cross-border data transmission, solve the problem of unsmooth cross-border data circulation, and provide guarantee for the development of new trade forms such as digital trade and cross-border e-commerce ^[12].

Finally, China should focus on the digital transformation needs of international trade, focus on promoting

the construction of digital infrastructure in cross-border logistics, cross-border settlement, trade supervision and other fields, and improve the adaptability of digital infrastructure to international trade scenarios; at the same time, keep up with the development trend of digital technology, upgrade digital equipment related to international trade, promote the transformation of digital infrastructure to intelligence, high efficiency and greening, and improve the carrying capacity and service efficiency of digital infrastructure.

4.2. Promote the digital transformation of the whole trade process and improve trade efficiency and quality

In international trade, enterprises should give full play to the advantages of digital technology to promote the digitalization, intelligence and convenience of foreign trade processes, and achieve the dual improvement of trade efficiency and quality. At present, China's international trade digital transformation is still limited to some links, and the level of full-process digitalization is not high. The in-depth integration of digital technology with all trade links can effectively change this dilemma^[13]. In the transaction matching link, relying on digital technologies such as big data and artificial intelligence, an intelligent cross-border trade matching platform should be built to integrate global trade resources, realize the precise docking of trade entities, reduce the information acquisition cost and communication cost of trade entities, and improve transaction matching efficiency. In the contract signing link, digital means such as electronic contracts and blockchain evidence storage can be relied on to realize the full-process digitalization of contract signing, filing and evidence storage, improve the convenience, security and standardization of contract signing, and reduce the risk of contract performance.

In the cross-border settlement link, relying on digital technologies such as blockchain and digital currency, we should innovate cross-border settlement models, simplify settlement processes, reduce settlement costs, improve settlement efficiency, and solve the problems of long cross-border settlement cycles, high handling fees and high risks^[14]. In the logistics and customs clearance link, artificial intelligence, blockchain and other technologies can be used to realize the full visualization of cargo transportation, improve transportation efficiency and reduce transportation risks. At the same time, the in-depth integration of digital technology and customs supervision can build an intelligent cross-border logistics and customs clearance system, realize real-time tracking of logistics information and online handling of customs clearance processes, improve logistics and customs clearance efficiency, reduce logistics costs, promote the quality and efficiency improvement of cross-border logistics, and drive the high-quality development of international trade.

4.3. Actively explore international trade markets relying on the development of digital economy

The innovative iteration of digital technology provides a new path for the high-quality development of China's international trade, which can not only improve the long-term stability of foreign trade, but also enhance the competitiveness and influence of domestic products in the international market. Under the traditional international trade model, some Chinese enterprises are affected by factors such as geographical space, information asymmetry and single channels, facing problems such as limited market coverage, high development costs and insufficient precision, making it difficult to adapt to the digital and diversified development of global trade in the new era^[15].

In the context of the new era, relying on technologies such as artificial intelligence, big data and the Internet of Things, enterprises can integrate global trade market information, accurately analyze and judge

global market demand, consumption preferences, market trends, etc., help trade entities accurately grasp global market dynamics, clarify market demand orientation, and thus realize foreign trade with high efficiency. At the same time, under the role of digital economy, digital cross-border service trade and full-link cross-border supply chain system are continuously optimized and improved, which brings opportunities for small and medium-sized enterprises to explore international markets. It can provide them with integrated comprehensive services of the whole industrial chain and supply chain, promote more small and medium-sized enterprises to actively integrate into the international trade market, improve the pertinence and effectiveness of market development, and inject new growth momentum into the high-quality development of international trade.

4.4. Accelerate the construction of digital industry and enhance the core competitiveness of international trade

As the core carrier of digital technology R&D, application and transformation, the development level of digital industry directly determines the empowerment capability and effect of digital technology. As shown in **Figure 2**, China should focus on meeting the demands of digital transformation in international trade by prioritizing the development of core digital industries such as big data, artificial intelligence, blockchain, the Internet of Things, and cloud computing. This will enhance the R&D and application capabilities of key digital technologies, thereby supporting the digital transformation of domestic industries and enabling enterprises to boost their competitiveness in international trade significantly. Moreover, promote the in-depth integration of digital industry with traditional trade-related industries, cultivate new industrial forms such as digital trade, cross-border e-commerce and digital services, enrich the connotation of digital industry, and promote the coordinated development of digital industry and international trade. Lastly, give full play to the application value of digital technologies such as blockchain and cloud computing in various industries, improve the layout of digital industry development, narrow the gap in digital industry development between regions, and ensure that the achievements of digital industry development can fully serve the high-quality development of national international trade.

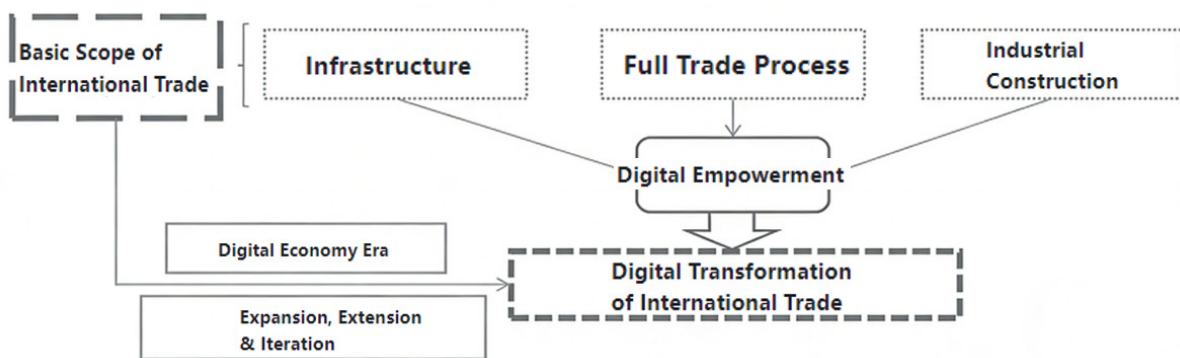


Figure 2. Schematic diagram of the driving path and formation logic of the digital transformation of international trade.

5. Conclusion

Digital technology is the core driving force for promoting the high-quality development of international trade in the new era. Through key paths such as deepening the construction of digital infrastructure, promoting the digital transformation of the whole trade process, actively exploring international trade markets, and

accelerating the construction of digital industry, China can be helped to build a new system of open economy at a higher level and promote the high-quality development of international trade.

Disclosure statement

The authors declare no conflict of interest.

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