

# Analysis of the Current Status of China's Digital Trade and Exploration of Countermeasures

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## Abstract

As the development of digital trade becomes increasingly prominent in China, The current status, main problems and countermeasures are analyzed in this paper. This article will begin by looking at the potential advantages of China's digital trade: market size, policy support, technological development infrastructure and industry innovation. The second part focuses on some of the problems within digital trade development, for example the less developed cross-border payment system, insufficient intellectual property protection, lagging regulation and data security concerns. In response to the challenges mentioned above, this paper proposes countermeasures in six aspects: Strengthening the legal and regulatory framework for digital trade; Developing cross-border payment facilitation; Promoting the digital transformation of small and medium-sized enterprises; Enhancing data security and privacy protection; Taking an active part in international rules formulation; Shifting policy towards emerging technologies research and development. In conclusion, this article was created to provide some theoretical guidance and policy suggestions for China digital trade sustainable development continue to improve the global digital economy position.



Full Text Article



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**Keywords:** Digital Trade, Policy Support, Intellectual Property

## Introduction

As the global information technology develops in leaps and bounds, the digital economy is now a top spirit that boosts economic transformation across the globe. Digital trade is one of the most important pillars of the digital economy and has a deep impact on international commerce [1]. Digital trade encompasses the cross-border flow of goods, services and data enabled by e-commerce platforms, digital payment systems and information technologies. China has made significant strides over the previous few years in terms of digital infrastructure, growth of e-commerce, and the innovation of cross-border payment systems. As a result, its scale of digital trade has grown rapidly

and become more and more integrated into the global market. On the other hand, there are still many problems in relation to the data security, oversea management supervision, technology standards and human resources for cross-border e-commerce development within mainland China. However, these challenges have also created bottlenecks that hold back the continued development of China digital trade.

In terms of policy, the Chinese government has placed significant emphasis on the development of digital trade. The favorable condition of the digital trade growth was influencing national policy support and international cooperation since Belt and Road Initiative is introduced. Concrete Resources for the Development of Digital Trade The publication of policy documents such as the 14th Five-Year Plan for Digital Economy Development have given digital trade a major incorporeal boost by granting it strategic guidance and support. In addition, China has engaged in the creation of international digital trade rules which emphasize cross-border e-commerce and data flow facilitation. These policy approaches help to reinforce China in the global digital trade race.

The purpose of this study was to analyze the development status, existing problems, and related strategies of digital trade in China. First, it reviews the overall development process and current situation of China digital trade regarding general characteristics as well as growth trends. Secondly, it examines the key challenges preventing digital trade from progressing and what is behind them. Last but not least, this study suggests that it will provide targeted improvement measures for reference for the sustainable and healthy development of China digital trade [2].

## **The Connotation of Digital Trade**

Digital Trade in the Digital Economy: Digital trade is an essential component of the digital economy, encompassing the production, distribution, and consumption of goods and services enabled by information and communication technologies [3]. Unlike traditional trade, digital trade significantly alters transaction methods, trade objects, and industry frameworks by harnessing digital technologies. It can be understood through three key aspects:

First, the broadening of trade participants. Digital trade transcends traditional business models, enabling individual entrepreneurs, small and medium-sized enterprises (SMEs), and even consumers to participate in global trade. This shift fosters a “disintermediation” approach to transactions.

Second, the digitization of trade goods. Digital trade includes not only tangible products but also intangible assets such as software, data, and digital content. This expansion creates new opportunities within the digital economy but also raises challenges for intellectual property protection and regulatory systems.

Third, the move towards paperless and automated trading. Technologies like cloud computing and blockchain facilitate smooth online operations, streamlining everything from order creation to payments, logistics, and after-sales services. This transformation improves efficiency and reduces the cost of cross-border transactions [4].

Moreover, data is pivotal in digital trade. It supports businesses in analyzing consumer behavior and market trends, helping them better meet demand. In conclusion, digital trade represents more

than just changes in transaction methods—it leads to profound transformations in global supply chains, industries, and consumption patterns.

### **Characteristics of Digital Trade**

Digital trade refers to cross-border transactions of goods and services enabled by e-commerce and digital technologies, with data and information serving as its foundation [5]. It extends beyond the online exchange of physical products and services to include data flows, the digital management of intellectual property, online service delivery, and the supporting digital infrastructure. Digital trade represents a significant development in modern trade models, primarily manifested in the following aspects:

**Digitization of Transaction:** Digital trade is conducted through the internet and electronic platforms, eliminating the need for physical contact and breaking the limitations of time and space. The application of technologies such as online payments, smart contracts, and block-chain further reduces transaction costs and enhances efficiency. The digitization of transaction methods involves several detailed features: E-commerce platforms provide an efficient transaction environment, encompassing functions such as product display, information inquiry, and user reviews, enabling direct interaction and transactions between consumers and producers globally. Digital payment methods (such as credit cards, third-party payment platforms, and cryptocurrencies) have replaced traditional cash payments and bank transfers, streamlining cross-border payment processes. The digitization of transaction methods also extends to the transformation of logistics and supply chains. Through the Internet of Things (IoT) and big data, businesses can track the status of goods in real-time, optimize inventory management, and make precise predictions and decisions based on data analysis. Additionally, the internet enables both parties in trade to instantly share and receive large volumes of data, such as product specifications, logistics status, and order information, significantly reducing the time cost of information transmission.

**Diversification of Trade Objects:** This reflects the deep integration of digitization and information technologies into economic activities, broadening the types and forms of goods and services in traditional trade. Compared to traditional trade, digital trade is not limited to the circulation of tangible goods but also includes a wide range of intangible assets and virtual products. For example, typical intangible products include software, e-books, online music, videos, and applications, which can be transmitted instantly over the internet, overcoming the physical limitations of traditional goods transportation. Services such as online education, telemedicine, data storage, and cloud computing have also become cross-border offerings, providing convenient choices for consumers. Digital financial assets and virtual goods, such as non-fungible tokens (NFTs), are gaining popularity due to their uniqueness and traceability, giving rise to new markets for digital art, virtual real estate, and more. Services in the sharing economy, and ride-sharing (e.g., Uber), are also part of digital trade. Many traditional services have expanded across borders through digital forms, including consulting, training, and design. Businesses are no longer limited by physical offices; instead, they leverage the internet and digital platforms to expand globally. The diversification of cross-border service offerings has injected new vitality into digital trade.

**Driving Force of Emerging Technologies:** This refers to the profound transformation of digital trade's processes, efficiency, and models due to rapid advancements in information technology.

Emerging technologies have not only improved various stages of traditional trade but have also created entirely new business models, enriching the connotation of digital trade. Technologies such as artificial intelligence, big data, the Internet of Things (IoT), and blockchain provide substantial support to digital trade. These technologies optimize supply chain management and logistics, while also enhancing various aspects such as the execution of smart contracts and the storage and transmission of data. For instance, big data technology enables businesses to process and analyze massive amounts of consumer data, market trends, and user behavior preferences swiftly, allowing them to develop more accurate marketing strategies. Artificial intelligence-driven recommendation algorithms on e-commerce platforms offer personalized suggestions to users, increasing engagement and conversion rates. Blockchain technology, with its decentralized, tamper-proof, and traceable features, has great potential in areas like cross-border payments, supply chain management, and intellectual property protection. Cloud computing provides businesses with flexible IT infrastructure and computing resources, allowing small and medium-sized enterprises (SMEs) and cross-border e-commerce businesses to enter the digital trade market without bearing high equipment and server costs. With IoT technology, and the connection of devices/sensors you will now be able to monitor and manage goods, warehousing, and transportation in real-time. 5G networks offer a technological backbone for the globalization of digital trade, enabling low-latency and high-bandwidth data connections. VR and AR are some of the emerging technologies enabling new experiences in digital trade.

**Data as a Core Element:** In digital trade, data functions as both a transactional medium and a key resource. Its cross-border flow is central to digital trade but introduces challenges like privacy protection, data security, and sovereignty. For example, cross-border e-commerce businesses use consumer behavior and market data to predict sales trends, optimize supply chains, and minimize risks related to inventory and sales. E-commerce platforms analyze search histories and location data to provide personalized recommendations, improving product visibility and boosting conversion rates. Real-time tracking systems help businesses monitor goods in transit, addressing delays or risks promptly to ensure on-time delivery. The "just-in-time manufacturing" model uses data on individual customer needs to produce tailored goods, reducing inventory costs and increasing production efficiency.

**Changes in Policies and Regulations:** The growth of digital trade has prompted major adaptations in international trade policy and regulation. This exposes updated standards: for data flow, digital privacy and cybersecurity, as well as the free trade vs data sovereignty separation [6], [7], [8]. Cross-border data transfers represent a significant portion of digital trade, but in order to facilitate these efforts, they also risk exposing privacy and security. As a result, governments and regions passed regulations to protect data security and guarantee compliance. For instance, the EU had enacted a strict privacy standard-driven General Data Protection Regulation (GDPR), which requires companies dealing in data of EU Residents to meet significant control thresholds. Not only does this framework provide the governing use of cross-border data but also provides precedence to protect consumer rights of privacy. Likewise, China's Data Security Law and Personal Information Protection Law require compliance in minute detail from domestic and foreign parties with ever more stringent requirements on the manner data can be transferred outside of the boundaries of China. Such regulations are designed to be data secure while permitting its free flow, and they provide a reliable foundation for ongoing digital trade expansion. At the same time, the frenzied

pace of digital trade has posed its own unique challenges from a taxation and regulatory perspective. In response, various countries have developed creative tax policies and customs regulations. In this respect, dedicated cross-border e-commerce frameworks have been created to expand efficiency and enhance governance. And in some countries, specialized mechanisms for reporting online violations of intellectual property have been developed. These create systems to track down websites damaging digital products whilst bolstering law enforcement.

## **The Current State of Digital Trade in China**

Digital trade in China has developed rapidly over the past few years and become an important engine to drive economic development and industrial transformation. China has become the global leader in this category by market size. The latest statistics show that total value of digital trade across the country has continuously risen, alongside cross-border e-commerce and digital service exports, in 2023. Alibaba, JD. Meanwhile, these twelve giants like Alibaba, JD. ☆. In addition, Chinese companies have achieved great market share in Southeast Asia and other regions through cross-border e-commerce platforms.

The second one is regarding to policy support that the Chinese government has provided through actively promoting the development of digital trade. The fourteenth five-year plan to develop the digital economy sets out specific objectives for promoting high-quality development in this field, noting the urgency of boosting exports of digital products and services while enhancing competitiveness globally. In addition, China has announced many cities as comprehensive pilot areas for cross-border e-commerce. The E-BTAs give specific policy incentives, such as tax relief and easier customs processing procedures, on the premise that there should be more participation of small- and medium-sized enterprises (SMEs) in international trade. This has created an environment resulting in the unprecedented growth of digital trade and a rapid bringing together of domestic and global markets as well.

Additionally, China has one of the best technology infrastructures in the world that contributes a lot to China's digital trade development. Sophisticated logistics networks, top-of-the-line 5G connectivity and smart payments all create a solid springboard for growth. Some examples include logistics providers like SF Express and Cainiao express, who are actively using big data and artificial intelligence to optimize operations — this led to shortened cross-border delivery times (as much as 1/1000) from a week down to only six or four hours. Likewise, the widespread adoption of international payment platforms such as Alipay and WeChat Pay will further help to facilitate global transactions. The penetration of these technologies and their deployment at scale has now confirmed China as the undeniable leader in digital trade.

The development of China has shown an important feature in the digital trade industry, that is innovation. Chinese companies have become world leaders in digital technology such as artificial intelligence, blockchain and cloud computing systems. These are being rapidly adopted in cross-border e-commerce, supply chain and digital finance sectors. Live-streaming sales and short-video marketing, for example, have seen impressive returns domestically in the cross-border e-commerce field and are spreading internationally. Such innovations create further prospects for growth, while raising the quantity and quality of digital trade itself.

China's digital trade is booming, but it still has some major obstacles to overcome. The same applies to the uncertainties that exist internationally concerning various regulations, as well as data security challenges. The diversity of cross-border data flow policies in various countries, together with the increasing rigor of domestic data privacy laws, has exacerbated compliance pressures on overseas businesses for Chinese companies. What is more, the rapid growth of digital trade has seen a renewed emphasis placed on intellectual property protection. This delicate equation between promoting technological innovation and protecting rights remains a great challenge that needs to be urgently addressed.

## Challenges in the Development of China's Digital Trade

Although digital trade in China has grown rapidly, with its market size and technological advancements setting a global benchmark, significant challenges remain. One key issue is the lack of comprehensive policies and regulations [9]. As digital trade continues to expand, the need for robust legal frameworks to address data flows, privacy concerns, and cross-border e-commerce is becoming more pressing. However, China's current legal infrastructure is still developing in some areas. Some regulations are outdated and fail to keep pace with technological progress, leaving gaps in addressing the complexities of digital trade. For example, while the Data Security Law and the Personal Information Protection Law offer some direction on cross-border data flows, companies are faced with varying compliance requirements across regions. This disparity adds substantial management costs and operational challenges for businesses.

The second bottleneck is that the cross-border payment and settlement systems are not developed enough yet, thus resulting in the shut-in of China's digital trade to go global. Payment Solutions Alipay and WeChat Pay are used widely in China — however, they remain scarce internationally. China financial market opening & settlements — Some countries either forbid the Chinese payment systems or require local one, which will shorten cross-border utilization. Inflated exchange rate variability and expensive transaction fee further complicate matter; furthermore, the compliance complexity brings great risks and costs to businesses which make it inconvenient & unsustainable for digital trade.

Another major challenge for digital trade is insufficient protection of intellectual property. On the other hand, in recent decades with most key digital goods easily replicable and freely available on the Internet, including counterfeit goods among e-commerce imports, piracy contents, or violations of brand indications are common activities posing significant copyright infringement risks [10]. While China is stepping up the creation and protection of intellectual property, including regulatory measures "blacklists" already introduced in the electronic commerce sector, many disputes are still unsolved in global markets. Not only will harm the international image of Chinese enterprises, but also cut some way for limiting innovative digital products to enter the international market.

Additionally, the variation of digitalization practices within small and medium sizes enterprises (SMEs) are detrimental to the competitiveness of SMEs in China with respect to participating in digital trade. Although the Chinese government has launched a series of supportive policies, a large number of SMEs are still struggling with funding, technology and talent due to the high costs that digital transformation entails. The gap in international market development capabilities for SMEs is

larger, whereby they lack fundamental competencies in data analytics capabilities, Cross border marketing knowledge and Supply chain management processes among others. On the contrary, SMEs in developed countries are relatively more digitalized than those in China, which brings great pressure for Chinese SMEs to compete globally.

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Lastly, international differences in regulations impede cross-border flow of trade digitally. Countries have pursued increasingly different policies and standards on issues of cross-border e-commerce and data flows, among other things, making it difficult to turn efforts into coherent international regimes as the global digital economy has scaled up [11]. Such fragmentation forces Chinese companies to maneuver a patchwork of inconsistent, dynamic regulations that include tariffs, data protection law, and tax regulations—each risk added upon another further raising operational uncertainty. Furthermore, as China-U. In the wake of U.S. trade tensions, some have gone so far as to impose barriers on Chinese digital companies, which only adds to the unpredictability and challenges such firms face in international markets.

## **Recommendations for China's Digital Trade Development**

In view of the new situation and challenges facing China digital trade development, we offer policy recommendations to boost its high-quality and sustainable development:

Roadmap to the regulation of digital trade policies In order to solve the problems like cross-border data flow, privacy protection and compliance in cross-border e-commerce, China should speed up the formulation and improvement of relevant laws [12]. To adhere more closely to the international norms, guidelines for cross-border data flows should be developed that strike a balance between data security and privacy protection objectives on the one hand and cost-effective, state-of-the-art facilitation of compliance procedures required by business activity on the other hand. In addition, the E-Commerce Law and Intellectual Property Protection Law should be tightened up to discourage infringement and counterfeit goods in cross-border e-commerce so as to create a sound and competitive market environment for digital trade.

A system of data security standards should be built with Chinese characteristics which would take into consideration various needs for data privacy protections from different countries. To strengthen the supervision and administration powers of cross-border data flows, which threaten individual security, the Government may establish one or several specialized regulatory organizations responsible for defending the consumers' personal data. Simultaneously, businesses ought to be incentivized to utilize higher levels of data encryption and storage technologies so that

they have a strong defense against data breaches and cyberattacks, increasing the confidence of consumers for digital trade. In addition, data security awareness should be improved to enable consumers to correctly understand and advocate policy for data privacy protection.

Both international cooperation and active engagement in the elaboration of global rules for digital trade need to be reinforced as well. Given the rapidly growing international competition among digital economies, China should actively participate in multilateral negotiations on digital trade to create global rules—especially for multilateral arrangements such as the Digital Economy Partnership Agreement (DEPA). Working together with major economies, China can seek cooperative mechanisms on cross-border flows of data, protection of intellectual property rights and taxation which would lower institutional costs in digital trade and provide a more predictable policy environment for Chinese firms to open up new market frontiers. In addition, with regard to technological blockades under the China-US trade friction situation, the influence of global digital trade for such physical commodity should tend to dedicate further efforts in independent innovation and less dependent on external technology.

Finally, we should strengthen the investment of emerging technologies in research, development and application to stimulate upgrading of digital trade industry chain. Technological innovation strongly influences the development of digital trade. This means, for example, that more R&D investment should be made in AI, Blockchain, cloud computing and 5G in core areas of digital trade including data analytics, intelligent logistics and cross-border payments to upgrade trade efficiency through technology improvements. But for example, by encouraging the implementation of blockchain technology in supply chains we would have a more open and safe trade information system. Therefore, promoting intelligent logistics research and enterprise will boost the efficiency of logistics as well as their quality, meeting globalization demands with ease.

## Conclusion

China's digital trade, as a participant in the world digital economy, has developed rapidly in recent years and is gradually becoming an important engine for promoting China's high-quality economic development. But this rapid development is also accompanied by a lot of challenges and problems within digital trade. An overview of China digital trade status: Based on the analysis above, this paper first reviews the current state of China's digital trade including advantages (such as large-scale market size, ample policy support, advanced technological foundation and proactive innovation in key industries) as well as problems needing to be solved (such as cross-border payments, intellectual property protection in e-commerce and absence of relevant regulations). Based on the comprehensive analysis of these issues, this paper puts forward relevant countermeasures from enhancing the policy and regulatory system to promoting cross-border payments, accelerating the digital transformation of small and medium-sized enterprises, strengthening data security and personal privacy protection, taking an active part in making international rules as well as increasing investment in research and development of cutting-edge technologies. Such measures will facilitate China digital trade not only overcoming existing bottlenecks but also becoming more global competitive by inserting itself more into an integral part of the international trade system.



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