

# Literature Review of Digital Trade Rules

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## ABSTRACT

With the acceleration of global digital transformation, digital trade has become an important part of international trade, and has had a far-reaching impact on traditional trade patterns. The purpose of this paper is to make a comprehensive review of the current literature on digital trade rules, so as to reveal the development trend, main contents and its influence on international trade. Firstly, this paper reviews the definition, characteristics and role of digital trade in the global economy, and makes clear the research background and importance of digital trade rules. Then, by combing the relevant literature at home and abroad, the research progress of digital trade rules is summarized. In addition, this paper also analyzes the differences in the positions of different countries and regions in the formulation of digital trade rules, and the impact of these differences on the global digital trade pattern. Finally, this paper discusses the challenges and future development direction of digital trade rules, which provides reference and enlightenment for the follow-up research. Through this literature review, this paper aims to provide a comprehensive and in-depth research perspective for scholars and policy makers in the field of international trade, so as to promote the healthy development of global digital trade.

## KEYWORDS

Digital trade; International trade rules; Data flow

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## 1. INTRODUCTION

With the rapid development of information technology, digital trade, as a new form of international trade, is increasingly becoming an important part of the global economy. The so-called digital trade refers to the transactions of goods and services through the Internet and digital technology, as well as the data flow and the exchange of digital information related to these transactions.

The core of digital trade lies in the application of digital technology, which includes not only traditional e-commerce activities, such as online shopping and electronic payment, but also services and product transactions based on modern information technologies such as cloud computing, big data and artificial intelligence.

### 1.1. The Main Characteristics of Digital Trade

First, the boundaries are blurred: digital trade has broken the traditional geographical boundaries, making transactions seamless on a global scale.

Second, the speed is fast: digital technology improves the transaction efficiency and shortens the transaction cycle.

Third, the cost is low: digital trade reduces the physical transportation and storage costs and reduces the transaction costs.

The fourth is data-driven: digital trade is highly dependent on data, and data has become a new factor of production and a source of competitiveness.

Digital trade contributes greatly to the global economy, which can inject new impetus into traditional industries and promote the development of emerging industries, thus promoting overall economic growth; It can also simplify the trade process, improve the level of trade facilitation, and thus reduce trade barriers; It can also provide more development opportunities for small and medium-sized enterprises and remote areas, which will help achieve inclusive growth.

## **1.2. Research Background and Importance of Digital Trade Rules**

With the rapid development of digital trade, how to formulate fair and effective digital trade rules has become the focus of international attention.

In recent years, with the rise of digital economy, countries are scrambling for the dominance of digital trade, and making digital trade rules has become a new battlefield of international competition. At the same time, the rapid development of digital trade makes the existing legal system difficult to adapt, and the legal supervision is lagging behind, so it is urgent to establish a new rule system.

The formulation and improvement of digital trade rules will help promote international cooperation and coordination and provide guarantee for the healthy development of the global digital economy.

To sum up, the study of digital trade rules is of great significance for understanding and coping with global economic changes, and is helpful to provide theoretical support and policy suggestions for the development of digital economy in China.

## **2. SUMMARY OF THE RESEARCH ON DIGITAL TRADE RULES.**

With the acceleration of the digital transformation of the global economy, digital service trade plays an increasingly important role in international trade. As the foundation and guarantee for the development of digital service trade, digital trade rules are of great significance for promoting global digital service trade.

### **2.1. Research Progress of Digital Trade Rules**

The early digital trade rules mainly focused on the field of e-commerce, such as paperless trade, tariff-free electronic transmission, non-discrimination principle and other e-commerce facilitation clauses (Mia, 2009). With the development of Internet technology, digital trade began to emerge, and regional trade agreements gradually took digital trade rules as an important content. In his research, Mark Wu (2017) found that more than half of the free trade agreements signed by members of the World Trade Organization covered digital trade rules, which also covered a wide range, including market access, tariff exemption for electronic transmission, online certification and non-discrimination criteria. At the same time, the United States and Europe have become two main participants and leaders in the global digital trade rules system, both of which are trying to seize the right to speak in digital trade rules and expand their influence in digital trade. The United States focuses on the liberalization of digital trade, while the European Union focuses on the protection of digital privacy, which leads to the failure of the two camps to reach a cooperative consensus on the protection of personal data privacy, cross-border data flow and data storage localization (Zhang Kun, 2020).

As a digital trading power in the world, there is still a gap between China and other digital trading powers in terms of international digital trade governance and domestic system construction related to digital trade. So, some domestic scholars began to explore the "Chinese template" of digital trade rules. Zhou Nianli et al. (2017) refined the typical features of the "American template" of digital trade rules, and based on this, studied the framework and important concerns of the "Chinese template" of

digital trade rules, and pointed out that it is necessary for China to put forward the proposition of "promoting cross-border e-commerce trade facilitation and liberalization" in order to promote the development of cross-border e-commerce. Strengthen cooperation among countries in the fields of logistics and transportation, financial payment, telecommunications and professional services related to cross-border e-commerce. Li Yang et al. (2016) analyzed the challenges and countermeasures of the "American template" of digital trade rules to China, and suggested that China create its own trade rules and environment, accelerate the establishment and improvement of basic legislation such as Personal Information Law, Telecommunications Law, Credit Management Regulations, Internet Information Service Measures and Digital Signature Law, and enhance the legal protection level of data in China; It is pointed out that the national economic security has nothing to do with the data storage location, but with the data storage technology. Therefore, when implementing supervision, China government can improve the supervision technology, try to classify the data, and reduce the unnecessary obstacles that supervision may cause to trade. Selective data localization reform can make our country go further from the development requirements of high-level digital trade rules in today's international environment.

In 2019, China signed the Regional Comprehensive Economic Partnership Agreement (RCEP), which includes a chapter on digital trade. In 2020, "new" digital trade rules, represented by the Digital Economy Partnership Agreement (DEPA), emerged, aiming at solving key problems in digital trade governance, with strong foresight and progress. Liu Bin and Qu Yijun (2024) analyzed the evolution trend of international digital trade rules, and pointed out that there are three new forming templates in the field of global digital trade governance, namely, the Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP), the United States-Mexico-Canada Agreement (USMCA) and the United States-Japan Digital Trade Agreement (UJDTA). European template represented by EU-Japan Economic Partnership Agreement (EU-Japan EPA) and EU-UK Trade and Cooperation Agreement (EU-UK TCA), and new template represented by Digital Economy Partnership Agreement (DEPA) and Singapore-Australia Digital Economy Agreement (SADEA). The development trend of these three templates will profoundly affect the evolution trend of global digital trade governance, which deserves China's close attention. As a member of RCEP, China formally applied to join DEPA. Zhou Nianli and Yu Meiyue (2022) pointed out that China should focus on and deal with the challenges brought by six rules, such as cross-border flow and localized storage of data, rules related to digital products, facilitation of digital trade, rules related to emerging trends and technologies, data innovation and data disclosure, and small and medium-sized enterprises and data inclusion, so as to rationally and pragmatically improve the level of digital trade governance in China.

In recent years, the three new templates in the United States and Europe have all begun to pay attention to the application of emerging technologies such as artificial intelligence in the field of digital economy and its impact on digital trade. Singapore is at the forefront of the world in incorporating the rules and provisions related to the application of emerging technologies into trade agreements. Singapore has incorporated the rules and provisions related to the application of emerging technologies such as digital identity, financial technology, artificial intelligence and data innovation into "new" agreements such as DEPA and SADEA. China is a digital trading country in the world. However, there is still a gap between China and other digital trading countries in terms of the right to speak in international digital trade governance and the domestic system construction related to digital trade. Liu Bin et al. (2024) pointed out that filling the shortcomings of the system is the basis and guarantee for China to meet the international high-standard digital trade rules.

## **2.2. Empirical Study on the Influence Effect of Digital Trade Rules**

In recent years, due to the update and development of the text database of trade agreements, more and more studies have begun to explore the quantitative empirical analysis of digital trade rules, mainly focusing on the impact of various digital trade rules, in order to provide strong evidence for the formulation and development direction of digital trade rules. For example, Zhou Nianli and Chen

Huanqi (2020) studied the digital trade effect of American digital trade rules under the framework of RTAs. The research shows that the inclusion of American digital trade rules in RTAs signed by both trading parties can significantly promote the development of bilateral digital trade, and the greater the economic development gap between the two trading parties or the lower the overall level of Internet development between the two sides, the greater the promotion effect of American digital trade rules on bilateral digital trade flow; It also analyzes the influence of subdivided American digital trade rules on different industries. Caballero and Santos (2018) use gravity model to find that digital trade rules have a significant positive impact on digital service trade flow. Ge Shunqi and Wang Xiuling (2023) used the multi-period DID model and survival analysis method to find that the signing of digital trade rules can effectively promote the export of digital delivery services.

Some scholars have done research on the subdivision field. Chen Huanqi (2020) made an empirical study on the trade effect of signing "cross-border data free flow" by using the extended gravity model, and found that "cross-border data free flow" has a positive role in promoting digital trade and has departmental heterogeneity. Mao Yanbing and Fang Yating (2023) found that digital trade rules have a significant promotion effect on increasing the added value of ICT products, and they are constantly strengthened with the improvement of the level of commitment to the rules. Peng Yu et al. (2021) constructed the term heterogeneity index, and quantified its depth, and empirically tested the impact of RTA digital trade rules depth on the export of digital services. The results show that it has a significant promotion effect and there is term heterogeneity. Li Donglin and Li Chunding (2024) constructed five kinds of digital trade terms heterogeneity depth indexes, including data-related terms depth, trade promotion terms depth, information security terms depth, organization operation terms depth and total terms depth index, empirically tested the influence of RTA digital trade rules depth on member countries' value-added trade, and analyzed the heterogeneity effect of digital trade terms depth on different types of RTAs and different industries' value-added trade. The article puts forward that in RTA negotiations, we should deepen the construction of digital trade rules, speed up the construction of digital trade rules network system, actively promote the digital transformation of traditional industries such as manufacturing, strengthen the infrastructure and rules construction of digital trade, enhance the governance capacity of digital economy, and build a new pattern of opening up at a higher level.

Frances Sun et al. (2022) revealed that the domestic institutional environment and the level of ICT facilities are two important channels through which digital terms affect trade in services. Qi Junyan et al. (2023) investigated the influence of a country's RTA digital trade rules on the digitalization of its own industry. It is found that reducing the trade cost of intermediate products, improving the technical content of intermediate products and optimizing the digital regulatory environment are important influencing channels, and a more perfect digital infrastructure development environment is conducive to the promotion effect of RTA digital trade rules on industrial digitalization. Cui Riming and others (2024) found that the deepening of digital trade rules in regional trade agreements can promote the increase of domestic added value of exports by reducing trade costs and shortening institutional distance. Peng Yu et al. (2021) found that RTA digital trade rules can effectively promote the export of bilateral digital services only when the quality difference of domestic supervision between the two countries is controlled at a certain level. This shows that for developing countries with relatively low domestic regulatory quality, the participation of high-standard digital trade rules is a process of "step by step" and "learning by doing". Compared with blindly pursuing the signing of "the highest standard" deep rules, it is more important to improve the regulatory governance level of domestic digital trade.

Some scholars do not stick to the impact of digital trade rules on trade itself. Cao Yufu and others (2024) found that digital trade facilitation significantly promoted the upgrading of global value chains in countries along the Belt and Road, and it had a nonlinear increasing effect; Promoting technology spillover and strengthening market competition are important mechanisms for digital trade facilitation to promote the upgrading of global value chains.

### **3. CONCLUSION**

#### **3.1. Literature Review**

By combing the above literature, it is found that the existing research results have discussed the template, comparative analysis and influence effect of digital trade rules, which provides a solid theoretical basis for the future research of digital trade rules. Digital trade has become an important driving force for the new round of economic globalization. International organizations and major economies attach great importance to digital trade rules, but differences between countries and regions are prominent. The developed countries' positions of "American template" and "European template" are the root causes of conflicts between different countries and regions. Different countries and regions have significant differences in the formulation of digital trade rules, which are mainly reflected in the following aspects:

(1) Data flow and protection: Developed countries, such as the United States and the European Union, emphasize the importance of free data flow, think that data is the core asset of digital trade, and advocate reducing barriers to cross-border data flow. However, some developing countries and emerging economies pay more attention to data security and personal privacy protection and tend to implement stricter data localization policies.

(2) Market access and competition: Developed countries tend to promote market access on a global scale and advocate promoting the development of digital trade by lowering tariff and non-tariff barriers. In contrast, some developing countries are worried that the opening of the market may lead domestic enterprises to face the competitive pressure of international giants, so they are more inclined to protect their own markets.

(3) Intellectual property protection: In terms of intellectual property protection, developed countries advocate strengthening intellectual property protection to stimulate innovation and investment. However, developing countries believe that too strict protection of intellectual property rights may hinder technology dissemination and innovation development.

(4) Network security and supervision: Network security is an important issue in digital trade. Developed countries emphasize the importance of network security, but at the same time they also oppose excessive supervision, which may inhibit the development of digital trade. Developing countries seek a balance between strengthening network security supervision and promoting digital trade.

These differences in positions will lead to the imbalance of global digital trade. Developed countries have a comparative advantage in digital trade, but developing countries are in a passive position and will face great trade barriers. It also increases the difficulty of global digital trade policy coordination and affects the stability and effectiveness of the multilateral trading system.

#### **3.2. Challenges and Future Development Direction of Digital Trade Rules**

Under the background of the rapid development of digital trade, digital trade rules are facing many challenges, but also show some future development directions.

First of all, the challenges faced by digital trade rules are mainly reflected in the following aspects: First, the contradiction between data flow and privacy protection. On a global scale, data flow is of great significance for promoting digital trade, but there are differences in laws and regulations on data privacy protection in different countries. How to realize free data flow under the premise of protecting personal privacy has become a major problem. Second, digital trade barriers are increasing. In order to protect domestic industries, some countries adopt restrictive digital trade policies, such as setting obstacles to cross-border data flow and implementing discriminatory treatment for foreign digital enterprises, which is not conducive to the healthy development of global digital trade. The third is the

issue of digital tax collection and management. With the rise of digital trade, the traditional tax system is facing challenges. How to tax multinational digital enterprises and realize tax fairness has become the focus of attention of governments all over the world.

In view of the above challenges, the future development direction of digital trade rules can be summarized as follows:

The first is to promote the formulation and improvement of international digital trade rules. On a global scale, countries should strengthen communication and cooperation and jointly promote the formulation of a set of fair, reasonable and efficient digital trade rules to promote the prosperity of global digital trade. The second is to balance data flow and privacy protection. On the basis of respecting the laws and regulations of various countries, seek the balance between data flow and privacy protection, and promote the establishment of a trust system for cross-border data flow. The third is to reduce digital trade barriers. Through multilateral or bilateral negotiations, eliminate digital trade barriers and create a fair competitive market environment for digital enterprises. The fourth is to innovate the tax collection and management system. Under the background of digital economy, we should reform the traditional tax system, explore a tax collection and management model that adapts to the characteristics of digital trade, and realize tax fairness.

In short, the challenges and opportunities faced by digital trade rules coexist. In the process of meeting the challenges, China should actively participate in the formulation of international digital trade rules and promote the construction of an open, inclusive, inclusive and balanced digital trade system in order to achieve high-quality development of digital trade.

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