

Comparison and Inspiration of Digital Trade Promotion Policies

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Abstract: As a new mode of trade, digital trade plays an important role in promoting economic growth, promoting industrial upgrading and improving the quality and level of employment. China's digital trade volume ranks the first in the world, but in terms of the quality of digital trade, it is still at a low level. Based on the analysis of the development level and connotation of digital trade, this paper makes a comparative analysis of the digital trade promotion policies of various countries, focuses on the analysis of the digital trade promotion measures of the United States, the European Union, Japan and the United Kingdom, and puts forward corresponding countermeasures and Suggestions in combination with the challenges faced by the development of digital trade in China.

Keywords: digital trade; promoting policies; revelation

1. Connotation and Characteristics of Digital Trade

At present, cutting-edge digital technologies, such as big data, Internet and artificial intelligence, are rapidly penetrating into all fields of society, promoting the global economy to enter the digital economy era. The development of digital economy gave birth to digital trade, expanded its breadth and depth, and made it a new international trade model and a new field of competition and development among countries. Against the background of the great development of digital trade, various countries have issued many policies to promote its development.

1.1. The Connotation of Digital Trade

In the *Work Programme on Electronic Commerce* formulated by WTO in 1998, "electronic commerce" was defined as: "producing, distributing, marketing, selling or delivering goods and services electronically." In the new FTA negotiations and the proposals of the members, the US and Brazil believed that the former concept of "e-commerce" should be abandoned and the concept of "digital trade" should be updated because the traditional e-commerce only refers to the trade in goods or services through the Internet, which covers a narrow scope, while the concept of "digital trade" can more clearly cover all relevant areas of trade through electronic means. Weber (2010) thought that digital trade refers to the activity of transmitting goods through information technology means such as Internet with digital products or digital

services as the core. The United States International Trade Commission (USITC) defined digital trade in the *Digital Trade United States and the Global Economy* (Second Report) in 2013 as domestic and international trade in which goods and services are transacted through network transmission, and Internet technology and Internet-based technology play an important role in the ordering, production, or delivery of goods and services. Ma Shuzhong believed that digital trade is a trade activity that uses modern information network technology as a carrier to realize the informatization transformation of traditional trade methods, promote the transformation of consumer Internet to industrial Internet, and realize intelligence through information technology [1].

Combined with relevant literature, the connotation of digital trade is defined in this paper as a commercial activity based on Internet and using information technology to realize the digital transformation of goods or services and promote the efficient exchange of digital knowledge and information.

1.2. The Characteristics of Digital Trade

Compared with traditional trade, digital trade has four characteristics of virtualization, high efficiency, sharing and data as its core elements, which provide favorable conditions for the development of digital economy. First of all, virtualization means that the production factors are virtualized data, and the transaction process is carried out on the virtualized digital platform, which reduces the cost of on-site inspection and inquiry for the traded products and trading platforms, thus consumers or producers can save money and increase the purchase or sales volume. Secondly, high efficiency refers to that both parties to a transaction on a data platform can handle business in a centralized way, and the basic information such as the classification and integration of production factors, product characteristics and prices with data as the carrier can be clear at a glance, and comparative analysis can also be carried out through a digital trading platform to provide relatively complete information for both parties. Thirdly, the sharing of data-based products and platforms and the low entry threshold for digital trade can stimulate the enthusiasm of small, medium and micro-sized enterprises to participate. Finally, as a factor of production and a source of value, data are combined and flowed in various ways

to form tens of thousands of different digital products, which greatly enriches the types and quantities of digital products, so that relevant technicians can also process them in specific markets through convenient data processing platforms and provide targeted digital resources.

1.3. Comparison of the Development Status of Digital Trade in Major Countries

Digital trade is growing rapidly around the world. Due to the great differences in the development history and infrastructure of digital economy in different countries, the measures to develop local digital trade and promote the export of digital trade vary in different regions. From the perspective of development environment, the favorable infrastructure conditions, convenient Internet technology, mature economic system and high national income in the United States and Europe have all provided a solid foundation for the development of digital trade. At the technical level, the United States and Europe have the pioneer advantage in digital trade research and rule making based on their advanced technical level, and took the lead in proposing "American template" and "European template" [2]. From the perspective of market potential, the new-style developing countries have a tendency to catch up. China, India, Brazil and other countries gradually attach importance to and develop digital trade from the national strategic level.

The United States is a major provider of digital services, and its economy depends on its advantages in information technology. Its digital economy accounts for 69% of US GDP, and its export of information and communication technology services (including digital products) reaches 439 billion US dollars. The United States and China account for 90% of the market value of the 70 largest digital platforms in the world, with the Europe accounting for only 4%. In the global "data value chain", the EU is a major consumer of digital services.

2. Foreign Experience in Promoting the Development of Digital Trade

2.1. The United States: Leading the Formulation of International Digital Trade Rules as a Network Power

The developed Internet technology has provided the United States with an absolute advantage in technical support for the formulation of international rules. Since 1998, the United States has continuously made innovations in the formulation of digital trade policies.

From the federal government to the National Telecommunications and Information Administration of the Federal Communications Commission, the diversification of policy issuing agencies has accelerated the process of improving the domestic digital trade policies in the United States, as shown in Table 1. The basic logic of U.S. promotion policy is to build digital infrastructure from the strategic level, encourage the government to use digital technology to improve efficiency, improve the national digital literacy, and formulate international rules to lead digital trade.

Among all the effective international trade agreements signed by the United States, the digital trade rules are defined in the most detailed terms in the US-South Korea FTA, which stipulates that consumers can freely access the Internet, prohibits barriers to cross-border data flow and highly recognizes the importance of cross-border data flow. After removing the barriers of cross-border data circulation, the free international flow of data, which is a new factor of production, will further strengthen the leadership of the United States in formulating rules.

Although the United States withdrew from the TPP, CPTPP led by Japan inherited the digital trade rules of the United States in the TPP that except for financial services and government procurement, it prohibited cross-border data flow restrictions and data localization requirements, made the disclosure of source code a condition for entering a country's market, and ensured the progress of network cooperation, which effectively protected the data security of large-scale digital enterprises in the United States. The United States follows the principle of reciprocity in international cross-border data flow.

To sum up, the United States, based on its strong technological advantages, has taken the pioneer advantage in digital trade, aiming at seizing the opportunities of digital economy development, establishing the leading position of the United States in digital trade on a global scale, and bringing digital trade into the rules system led by the United States. Through the formulation of leadership rules, it advocates "digital trade liberalization" [3], avoids digital trade protectionism from the perspective of the United States, strengthens the advantages of the United States in digital trade and even traditional trade, and strengthens its own leading power.

Table 1. Time, organization and related measures of digital trade policies in the United States

Policies	Time	Organizations	Measures	Objectives
<i>The Emerging Digital Economy</i>	In 1998	US Department of Commerce	Enhancing the strategic positioning of the digital economy and taking the digital economy as an important way to promote the economy	To improve the positioning of the digital economy, the development of digital infrastructure from a strategic level
<i>Open Government Directive</i>	In 2009	United States Federal Government	Populace-oriented feedback mechanism with government transparency	To apply digital technology to the working mechanism of the government and further enhance the positioning of the digital economy

<i>Digital Literacy Action</i>	In 2015	NTIA National Telecommunication Industry Association of the Federal Communications Commission	Establishing a unified digital literacy platform to promote relevant knowledge and share relevant resources	To further improve the national digital literacy, and gradually apply digital technology to civic education, medical related aspects
<i>National Cyber Strategy</i>	In 2018	United States Federal Government	Stimulating innovation; Investing in next-generation infrastructure in partnership with the private sector; Promoting the free flow of cross-border data, etc	To commercialize data as a factor of production, stimulate digital trade innovation and lead the development of digital trade rules

Source: Collated by the author

2.2. EU: Launching Digital Europe Plan to Promote Digital Trade

The starting point of EU's policy in the field of digital trade lies in the purpose of EU's establishment and its highly regional characteristics. As the EU countries have relatively superior digital economy infrastructure, the proportion of the digital economy in the GDP of the major EU countries is continuously increasing after a long period of development on this basis, for example, the total digital economy in Germany and France accounts for 61.4% and 40.3% of the GDP of their own countries. The trend of catching up can be seen from the

promotion of policy release density in Europe, as shown in Table 2 below.

In 2018, the European Union launched the *Digital Europe Plan* to give priority support to five major areas related to digital trade, and planned to invest 9.2 billion euros in the popularization of Internet security, computer technology and artificial intelligence. The EU, composed of many developed countries, has a high degree of internal policy uniformity. It not only clarifies and improves relevant policies at home and promotes the development of digital trade among its member countries, but also has a certain voice abroad.

Table 2. Digital Europe plan

Fields	Time	Budget (100 million euros)	Measures	Objectives
Supercomputer	January 2018	27	Strengthening the data processing capability of high-performance computers; Improving the application level of supercomputers in the public domain	To further improve the construction of digital infrastructure in Europe and ensure the effective operation of digital technology
Artificial intelligence	April 2018	25	Improving the utilization rate of artificial intelligence products by administrative departments and enterprises; Improving the security of accessing data	To strengthen digital trade cooperation among European countries
Network security and trust	June 2018	20	Member states jointly purchase advanced cybersecurity equipment, make full use of European knowledge, capabilities and skills in cybersecurity, and strengthen the capacity of member states and the private sector to bring about a high level of common security across Europe	To further enhance the integration features of Europe's digital economy and enhance the level of common security
Advanced digital technology	June 2018	7	Providing training for students, entrepreneurs and employees	To improve digital literacy of microcosmic subjects
Ensuring the wide use of digital technology in the economy and society	August 2018	13	Ensuring the use of state-of-the-art digital technology in the public sector and the public domain; establishing a network of digital centers; paying close attention to the development process of the digital economy, and continuously follow up the	To accelerate the pace of innovation in Europe's digital economy and lead the world's digital trade rulemaking with European standards

			measures conducive to the development of the digital economy in Europe
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Data source: Collated by the author

2.3. Japan: Rising to the National Strategic Level to Promote the Development of Digital Trade

Japan has raised the development of digital trade to a strategic height. Japan, as the third largest digital trade country in the world after the United States and China, has more than 40% of GDP driven by digital economy, and has the largest cross-border e-commerce export market and the third largest e-commerce market in the world. Since 2001, the digital "three-step" strategy represents the development direction of Japan's industrial revolution. In 2001, Japan promulgated the *e-Japan* strategy, which was based on Japan's network facilities at that time and accelerated the development of information technology infrastructure with a strategy-oriented approach. After a period of development, Japan promulgated the *U-Japan* strategy in 2004, aiming to provide a people-oriented Internet trading and communication environment and give birth to the next generation of technological revolution. In 2010, Japan proposed an updated and iterative *i-Japan* strategy, targeting the digital economy in the public sector, implementing e-government, telemedicine, network teaching, etc. Since 2013, Japan's digital economy development strategy has changed from infrastructure to data application, aiming to create new value based on data through data reorganization and application. See Table 3 below.

Table 3. Main reform measures of Japanese government to promote data application

Time	Organizations	Measures	Objectives
December 2013	IT Integrated Strategy Division	Formulating <i>Centralized Action Plan for Regulatory System Reform</i>	To make a clear plan for the development of digital trade
June 2018	Ministry of Internal Affairs/ Ministry of Economy	Publishing <i>Guidelines for Identification of Information Trust Function</i>	To clarify the operation mechanism of the data platform and the property ownership of the data
June 2019	IT Integrated Strategy Division	Formulating <i>New IT Policy Outline in the Digital Age</i>	To run the data as a factor of production, reorganize the data and create new value.

Data source: Collated by the author

2.4. UK: Enhancing Its Core Competitiveness at the Micro Level

In order to develop domestic digital trade, the UK mainly activates the enthusiasm of digital product providers and promotes the core competitiveness of domestic digital trade by protecting the rights of digital product providers and providing development and protection systems for participants.

First of all, the UK attaches great importance to the copyright of the creators of digital products on the Internet. As shown in Table 4 below, in 2009, it officially launched the "Digital Britain" program and promulgated the *Digital Economy Act*, which consists of 48 bills, including music, television, public services and other 11 bills, of which nearly 30% are used to protect the copyright of digital product authors from infringement. Strict third-party supervision and dispute resolution mechanisms have reduced the worries of digital product creators and laid a solid institutional and legal foundation for the development of digital trade.

Table 4. "Digital Economy Act" Strategy of the UK

Time	Measures	Objectives
June 2009	Promoting the digitalization process	To increase the target network speed from 2Mbit/s to 10Mbit/s in most cities
	Further improving the digital infrastructure	To ensure full coverage of the 3G network and promote competition in the mobile service market
	Protecting intellectual property rights and cracking down on infringement	To encourage digital content providers to use micro-payment and other charging methods for users and crack down on piracy in accordance with the law
	Improving the quality of digital public services	The government provides financial support to relevant institutions to improve the quality of digital news
	Planning digital technology research and training market	To ensure the quality of digital talents by incorporating digital ability into school curriculum
	Establishing a digital security framework at the national level	To ensure information security through online linkage between enterprises and government
	Improving the level of e-government	To set up "government cloud service" project involving the UK

Data source: Collated by the author

Secondly, it provides convenient institutional guarantee for the main body of digital economy—people, from producers and middlemen of digital products to

consumers of digital economy. As shown in Table 5 below, in the *UK Digital Economy Strategy 2015-2018* issued in 2015, the challenges and opportunities faced by the UK since the development of digital economy were pointed out, and five 21 goals that the UK should achieve in the digital economy were identified, all of which are related to individuals or individuals on the platform of digital economy.

In the UK, "people" is regarded as the core factor in

developing the digital economy in China, which avoids the reduction of factor prices caused by institutional defects, guarantees the rights of participants in the digital economy, and continuously "manufactures" new production factors with data as the main body. In this way, the new production factors represented by data gradually replace the traditional production factors and become abundant endowment, thus increasing the core competitiveness of Britain in the digital age.

Table 5. UK digital economy strategy 2015-2018

Time	Introduced by	Strategic goals	Measures	Effect
At the beginning of 2015	The UK government	To encourage enterprises to carry out digital innovation	Ensuring that businesses with digital innovations have access to investment; Helping traditional enterprises obtain digital transformation advice, etc.	Business in the digital economy has amounted to approximately 69 billion pounds
		To build a user-centered digital society	Encouraging digital enterprises to consider users' needs at every stage of product development; Helping enterprises to develop products that are characterized by users' surrounding environment and services, etc.	Individual participation in the digital economy has increased significantly, and London has been rated as the best city for European telecommunications companies to settle down
		To help digital innovators	Developing a safe and credible trading platform that can simplify the trading process; Improving the security and availability of data resources, etc.	The level of e-government ranks eighth in the world, and the process of government affairs handling has been significantly simplified
		To promote the development of infrastructure and ecosystem	Encouraging the digital industry to explore the market; Supporting start-up enterprises to expand their scale; Carrying out international cooperation, etc.	Britain's wireless technology and software development technology are leading the world
		To ensure the sustainability of the innovation and development of the digital economy	Cooperating with institutions of higher learning to encourage interdisciplinary research; Ensuring the implementation of laws and regulations related to numbers, etc.	The vitality of digital technology innovation in the UK has increased significantly

Data source: Collated by the author according to the *UK Digital Economy Strategy 2015-2018*

3. Challenges Faced by China in Developing Digital Trade

3.1. The United States, Europe and Japan Seek in-Depth Cooperation in Digital Trade and Deepen the Digital Trade Gap

As the three most advanced regions in digital economy and digital trade technology in the world, the United States, Europe and Japan gradually formed their own "circle of friends" due to their consistent basic interests in digital trade, and they held a meeting of trade ministers in 2019 to discuss the improvement of the international digital trade environment with data security as the main direction.

In fact, the essence of the digital trade rules advocated

by the United States, Europe and Japan is to lead the construction of global digital trade rules through their own powerful digital infrastructure, so as to safeguard their respective interests in digital trade. Data is a new factor of production and a source of value. The dispersed data still has privacy and protection value. If it is reorganized and optimized, customized and forecasted, its value will increase exponentially. Digital economy in developing countries started late. The Huawei Global Connectivity Index GCI measures the ICT (information and communication technology) infrastructure level of 79 countries. According to the GCI score, the United States ranks the first and China ranks the 26th in the world, indicating that developed countries such as the United States have the advantage in the development of

digital infrastructure and digital technology, while China has a certain digital divide as a latecomer.

3.2. With Great Conceptual Differences, Countries have a Wide Range of Appeals for China's Digital Trade.

Due to the late start of the digital economy, China has strict restrictions on cross-border data flows and requires mandatory localization of data, so it has great conceptual differences with developed countries.

Although the United States, Europe and Japan have some differences in some specific areas of digital trade, such as differences in personal privacy and data protection methods between the United States and Europe, their overall interests in digital trade tend to be consistent, and they jointly advocate opening the global market, promoting digital trade liberalization and free data flow. The United States, as the largest developed country in the world, has great influence in the digital field. Its main appeals to China in the digital field are:

Free flow of information, in particular, restrictions on the localization of information requirements, allowing enterprises and consumers to conduct free cross-border information flow, strict restrictions on the behavior of external websites through the virtual network [4].

Intellectual property protection and digital security. Strengthen the protection of digital intellectual property rights through legislation, and prohibit illegal activities such as piracy, reprinting, and selling personal data and information.

Is the software source code open or not? In the proposal of WTO e-commerce negotiation, the United States requires that the transfer or disclosure of software source code to local government agencies or local enterprises should not be used as a condition for foreign enterprises to enter the local market. The relevant rules in USMCA are also inherited in the US-Japan trade agreement UJDTA. Although China did not make any comment on the issue of source code protection in its proposal, the relevant provisions of the *National Security Act* and the *Network Security Law* require the establishment of a national security review and supervision system, and require the disclosure of source code when reviewing information technology products provided by foreign enterprises.

3.3. The Lag of the Law Hinders the Healthy Development of the Digital Economy

Digital trade, as the data of new production factors, can create more value through its exploration and utilization, but its development cannot be separated from the protection of advanced legal system. In China, the legislation on data is lagging behind, and there is a big controversy on data property rights. Who is responsible for the owning and management of data is still an urgent problem to be solved. In China, the *Cyber Security Law* was promulgated in 2016, the *E-commerce Law* in 2018 and the *Foreign Investment Law* in 2019, which are used to define the standardized use of data. However, it is still necessary to make detailed regulations on data property rights, various rights of data subjects (privacy rights,

forgetting rights, etc.) and the supervisory power of the host government. In addition, due to the lack of practicality in terms of personal information protection in the current regulations, it needs to be clarified through more detailed judicial interpretation of administrative regulations [5]. Therefore, all localities should be encouraged to explore specific legislative practices.

4. Enlightenment

4.1. Improving the Level of Awareness of Digital Trade

Digital technology has profoundly changed the form of international trade, making digital trade a new way of international trade and a new growth point of global economy, so people need to improve their cognitive level of this new thing. For a long time, the digital trade of physical goods in China is at the leading level in the world, with the largest e-commerce retail network. Although the core of the concept definition of "e-commerce" in China's E-commerce Law is still the trade in goods, it should be noted that the trade in digital products and services, digital knowledge and information is in a rapid growth stage, and the scope of E-commerce discussed by WTO is far greater than people's understanding of the definition of E-commerce. Therefore, it is necessary to update the concept of iterative e-commerce as soon as possible, so as to be in line with international standards, to facilitate the formulation of corresponding digital trade negotiation rules, the statistics of digital trade development index, recognize the development stage of digital trade in China, and formulate targeted digital economy development strategies.

4.2. Upgrading the Development of Digital Trade to the National Strategic Level

Looking at the development experience of the developed countries with digital economy in the world, it is a common practice for all countries to promote the development of digital economy to the national strategic position. President Xi Jinping emphasized: "We must accelerate the digitalization and intelligence of traditional industries and enlarge and strengthen the digital economy." The *Digital Europe* plan launched by the European Union extends the timeline to 2027, and the digital economy plan promulgated by Japan has completed the leap-forward transformation of the digital economy from infrastructure construction to people-orientation in just 20 years. Therefore, China must attach great importance to the development of digital economy strategically, and implement the "Digital China" strategy put forward in the report of the 19th National Congress, especially for small and medium-sized cities, rural areas and remote areas where the network infrastructure has not been fully established, so as to speed up the construction and narrow the digital gap between urban and rural areas.

4.3. Actively Participating in the Formulation of Global Digital Trade Rules

On January 25, 2019, the informal ministerial meeting

on e-commerce was held in Davos, Switzerland, and 76 members of WTO signed the *Joint Statement on Electronic Commerce*. Developed countries such as the United States, Europe and Japan put forward digital trade rules that represent their respective interests, with the advantages of foregoers. It is suggested that China implement the three-step strategy to explore the establishment of digital trade rules. First, China should make full use of the advantages of domestic free trade experimental zone and other policies, in which the data can be explored for club products. Second, after obtaining the successful experience, China should expand it to the digital trade cooperation of countries along the route of the belt and road initiative. Finally, China should cooperate with the United States to reach international rules commonly accepted by digital trade. Implementing the three-step strategy to explore the formulation of digital trade rules can reach consensus with the vast number of developing countries and the European Union, which is more conducive to launching the negotiation game with the United States and getting the initiative on the premise of uniting most members.

4.4. Improving Relevant Laws and Regulations and Conducting Hierarchical Management of Data

Effective legislation should be made to protect personal information and intellectual property rights in the field of digital trade, so as to ensure that the digital economy operates under the legal framework and safeguard the legitimate interests of the trading subjects. At the same time, it is necessary to formulate specific laws and regulations of cross-border electronic commerce and actively approach to the WTO e-commerce negotiations, actively publicize the newly formulated legal provisions, and improve the transparency of domestic policies related to digital trade. Finally, the practices of hierarchical data management in the United States, Europe and Japan can be used for

reference, such as prohibiting the free flow of data related to national security, personal privacy and business secrets of enterprises, allowing the data flow needed by e-commerce enterprises and Internet companies, and setting up digital trade databases and digital trade exception clauses to protect data sovereignty, so as to improve the relevant laws and regulations on data information and enhance the digital literacy of citizens.

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