

The Evolution of Digital Trade: Understanding Opportunities and Risks in a Globalized Economy

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As a new manifestation of traditional trade in the era of the digital economy, digital trade relies on the cross-border flow of data and information, while promoting global economic and trade growth, enhancing consumer welfare, and creating a new form of global employment; it is also faced with several problems, such as unbalanced development of the main players, restriction of the cross-border flow of data, big differences in digital privacy protection, too broad a dispute settlement mechanism and imperfect intellectual property rights system. Given the above, we should overcome them one by one by increasing support for weak and small subjects, strengthening coordination and communication in all areas of trade, and emphasizing the construction of intellectual property rules, to build a harmonious, safe, and stable digital trade environment.

Keywords: digital trade, opportunities, challenges, responses

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I. Introduction

Entering the digital era, digital technology has promoted the flourishing development of digital industries, which have formed digital trade through the cross-border flow of data in the process of internationalization. As a new era of trade, digital trade has a different level of influence on the economic and trade rules and business operation modes of the whole world. This paper starts with an introduction to the concept of digital trade, and on this basis, it analyzes in depth the new opportunities for the development of global digital trade and the important

challenges facing digital trade and finally puts forward relevant suggestions for the sustainable and healthy development of global trade.

II. The concept of digital trade and how it differs from electronic commerce

At present, different organizations, institutions, and countries around the world have not reached a consensus on the definition of digital trade, and there are different aspects of the definition and interpretation of a series of concepts such as “digital services”, “ICT services”, “e-commerce” and “digital trade”. The definition and interpretation of a series of concepts such as “digital services”, “ICT services”, “e-commerce”, “digital trade” and so on all have different aspects of emphasis.

A. Different definitions of digital trade

1. United States

In July 2013, the USITC first introduced the concept of digital trade in “Digital Trade in the US and Global Economy,” which is “commerce and trade in products and services offered domestically, internationally, and using fixed-line or wireless digital networks” (USITC, 2013). At this time, a great deal of physical trade and trade that relied on online technology was still excluded from digital trade. In March 2017, the Office of the US Trade Representative (USTR) stated that digital trade includes not only the offering and sale of products and services over the Internet, but also the application of data, services, smart manufacturing, and other platforms that enable global value chains (Lan & Dou, 2019). In March 2019, the Congressional Research Service (CRS) cited the 2017 version of the USITC’s definition and stated that digital trade includes both final products, i.e., traditional goods, and products and services that rely on or facilitate digital trade, i.e., transactions that are supported by digital technology, such as movie products and tools such as cloud data storage and email (Zhang et al., 2021).

2. China

In October 2020, the National Industrial Information Security Development Research Center (CIC) defined digital trade as international trade activities delivered under digital technology scenarios relying on information network services, emphasizing that the subject matter of digital trade is services and data, and that digitized services and products occupy a central position in digital trade in the “China Digital Trade Development Report”. Of course, in Chinese academia, the discussion on digital trade is also very intense, and scholars tend to explain and qualify the concept of digital trade in terms of the characteristics of digital trade, the difference between digital trade in the broader and narrower sense, or the role and status of digital trade.

3. EU and Japan

In November 2017, the European Parliament’s Committee on International Trade (EPCIT) released its Digital Trade Strategy, which clearly states that under the premise of protecting citizens’ privacy and information data, it will establish a sound system of digital trade rules and promote cross-border flow of data. In July 2018, Japan’s Ministry of Economy, Trade and Industry (METI) issued a White Paper on Trade and Commerce, which clearly defines the importance of the development of digital trade in the context of the times, and argues that Digital trade is a commercial activity that provides goods, services and information to consumers through Internet

technology, including cross-border e-commerce, products and services provided through the Internet, and cross-border data transactions between enterprises.

4. International organizations

In 2019, the Organization for Economic Cooperation and Development (OECD), World Trade Organization (WTO), and International Monetary Fund (IMF) jointly issued the Digital Trade Measurement Manual, according to which digital trade includes “all trade through digital ordering and/or digital delivery, in short, digital trade is at the core of trade that is carried out using digital technology itself or relying on digital technology support, and this definition builds the basic framework of digital trade. In 2023, the WTO, OECD, IMF, and United Nations Conference on Trade and Development (UNCTAD) jointly published a new version of the Manual on the Measurement of Digital Trade, which, in comparison to the previous version, completes the existing framework and summarizes the various aspects that may be involved in digital trade.

B. Linkages and differences between digital trade and e-commerce

E-commerce is a pre-state of digital trade, which is a more advanced form of e-commerce development. Initially, the process of using electronic technology to conduct trade was called “e-commerce” (Xiong & Ma, 2021). In 1998, the Second Ministerial Conference of the WTO adopted the Declaration on Global E-Commerce, formally started to discuss the topic of e-commerce, and set up a Work Plan on E-Commerce at the conference, defining e-commerce as “the production, distribution, marketing, sale or delivery of goods or services by electronic means”. This period can be seen as the budding of digital trade. 2019 saw further progress in the negotiation of global digital trade rules at the WTO’s informal ministerial meeting, where 76 members issued a Joint Affirmation on E-Commerce, calling for the establishment of higher-standard rules for e-commerce. Overall, it seems that the WTO does not make a strict distinction between the concepts of e-commerce and digital trade, which are essentially the same but have their focus. E-commerce places more emphasis on the commercial activities of counterparties and their partners in the Internet environment, with the core being the “flow of goods”; digital trade, on the other hand, places more emphasis on digital integration, with the core being the “flow of data and information” (Lei & Nie, 2020).

III. Opportunities arising from digital trade

A. Digital trade will reduce enterprise transaction costs, stimulate technological innovation, improve production efficiency, and stimulate economic vitality through the digitization and networking of trade.

In the field of transmission and distribution of products and services, relying on the intelligent management system supported by digital technology, an intelligent logistics system significantly reduces the cost of intermediate links in the trade (Ma & Chai, 2023), in the field of data and information, digital technology to accelerate the transmission of information and data across the region, across the time and space to control the cost of information at the lowest possible range, the trade activities to achieve networked, digitalized. Under this trend, enterprise transaction costs are reduced, and the price of products and services can be closer to the consumer’s purchase expectations, in the international trade environment, which will make the competitiveness of domestic products relative to imported products decline, in order to enhance competitiveness, the

relevant domestic industries have to focus on technological innovation, by increasing innovation and improving production efficiency to gain an advantage in the market.

B. Digital trade will enhance overall consumer welfare.

First, advances in Internet technology have made it possible for product and service providers to understand consumer demand more accurately, to analyze consumer preferences through big data systems, and provide personalized and customized products and services in this way, and for consumers to reduce search costs and enjoy personalized services more quickly (Liu Hongkui, 2020). Secondly, the use of digital trade for e-commerce platforms has shortened the transaction chain, broadened the channels of choice for transactions, and enabled direct transactions between operators and consumers, so that consumers can obtain more diversified products at lower prices. In addition, according to the USITC forecast, the impact of digital trade profits tends to shift from the retail sector to other productive sectors and household consumption sectors, and its effect on consumption is greater than the effect on GDP (US International Trade Commission, 2014).

C. Digital trade would optimize the allocation of human resources and contribute to increased global employment.

In the early years of digital technology, it often led to an increase in the productivity of enterprises while at the same time replacing more jobs, but nowadays, for every job lost as a result of “digitization”, 2.6 new jobs are created in industries upstream, downstream or in complementary industries (McKinsey Global Institute, 2011). In addition, the use of Internet technology has increased the degree of precise matching between jobs and employees, realizing a two-way choice between enterprises and employees in the establishment of labor relations around the world. In particular, small and medium-sized enterprises, which are in great demand for talent, have provided important support for the creation of a diversified and large number of jobs, accelerating the flow of talent and improving the efficiency of human resource allocation, with a corresponding decline in the number of structural unemployed persons.

D. Digital trade is conducive to breaking down trade barriers and promoting information sharing.

In the traditional trade model, many SMEs find it difficult to participate in global trade activities due to closed information and high costs. With the digitization of trade, previously small and weak SMEs have been able to enter the international market with the help of digital platforms, breaking the situation in which the international market used to be dominated by a small number of large-scale multinational enterprises. Analyzing the agriculture and food sectors, Jouanjean pointed out that before the development of digital trade, small enterprises in both developed and developing economies had been disconnected from global value chains, whereas after the spread of digital trade globally, small enterprises were becoming integrated into global value chains, which were able to transfer information across borders and create competitive advantages for goods (Jouanjean, 2019). After gaining access to the international market, with the help of digital technology, SMEs can grasp the consumption tendency and needs of consumers on a wider scale at a lower cost, and provide matching products and services in accordance with consumers’ needs, thus forming competitiveness and gradually developing and expanding. In the long run, trade barriers are gradually lowered and broken down, and market competition becomes more adequate. In the context of digital trade, the visualization and traceability of the supply chain of

products and services have been enhanced, market transparency has increased, and information exchange and sharing have become richer. Specifically embodied in the following: firstly, the interaction of the main bodies involved in market trade increases, and they are closely connected with each other, so that they can achieve the first sharing of information and resources, and optimize the efficiency of the allocation of production factors. Secondly, producers, sellers, and consumers are closely connected through social media or transaction records, and the likelihood of oversupply or undersupply is greatly reduced.

IV. Challenges for digital trade

A. The level of ICT infrastructure and Internet access varies greatly across regions, countries, and enterprises

Smooth connectivity and access to the Internet and ICT infrastructure are key to expanding the reach of global digital trade and bridging the digital divide. According to the WTO's 2015 ICT Indicators Database, the mobile Internet access rates in developed, developing, and African countries are 86.7%, 39.1%, and 17.4% (World Trade Organization, 2016), respectively, which are much lower than the average level of developing countries. The disparity of digital connectivity technology is not only among countries but also for enterprises, digital skills and ICT infrastructure development have become one of the reasons for the widening gap between large multinational enterprises and SMEs (Sheng & Gao, 2020).

B. The free flow of data across borders has been restricted, and the regulation of the cross-border flow of data is facing a dilemma.

Data is the “new oil” of the digital economy, an important factor of production and a strategic resource, and the development of digital trade and the free flow of data across borders are mutually reinforcing. However, in the face of restrictions on data flows imposed by factors such as digital sovereignty, privacy protection, cyber and national security, new competition in the digital space and a “digital divide” are emerging (Xia & Zhang, 2024). As cross-border data flows and data security are not completely incompatible, how to strike a balance between promoting the free flow of data across borders and safeguarding public and other interests, and how to regulate cross-border flows of data, is an important issue in the reform of the institutional framework of digital trade rules.

C. It is difficult to reach a consensus on digital privacy and protection standards among different countries and industries.

Currently, there are no globally harmonized legal provisions related to data privacy and protection, and the laws and regulations on digital protection among different countries and industries are characterized by industry-specific regulations and national self-regulation (Wolf & Maxwell, 2012). For example, regarding the issue of user information generated in the process of digital trade, the EU attaches great importance to the privacy of users' personal data, placing it on an almost equal footing with the protection of human rights, and thus forming a complete protection system; compared to the US, which believes that user data in digital trade can be processed to erase its identifiability, and that cross-border flow of data and information will have a longer-term value. For example, the EU attaches great importance to the privacy of users' personal data in the process of digital trade, placing it almost on the same level as human rights protection, and thus forming a complete protection system; compared with the EU, the

US believes that user data in digital trade can be processed to erase its identifiability, and that cross-border flow of data and information will generate more long-term value (Shi Minyue, 2023). China implements a top-down, categorized regulatory policy on this issue, strictly restricting and controlling the exit of data on the basis of assessment and categorization. The individuality of standards and norms among countries, international organizations, and sectors leads to confusion and incompatibility in digital privacy protection in digital trade, while digital industry-intensive enterprises are subject to heavy restrictions and blockades in trade. Gaps in data protection policies result in increased trade costs as well as reduced trade openness.

D. There is a lack of dispute settlement mechanisms applicable to the products and services that characterize SMEs.

The current WTO dispute settlement mechanism is mainly oriented towards large-scale state-owned or multinational enterprises and involves the behavior of countries and governments. In practice, the subject matter of digital trade to small and medium-sized enterprises of the intellectual creation of low-value, small profit margins of products and services, trade disputes, and disputes between small and medium-sized enterprises and consumers (Qian, 2023). If the existing WTO dispute settlement mechanism is used to deal with such disputes, it is not conducive to the development of the WTO organization and the operation of SMEs in terms of efficiency and cost.

E. The intellectual property protection system in digital trade needs to be improved.

The increasing digitization of international trade cannot be separated from the protection of the intellectual property rights system. With the development of Internet technology, network live broadcasting, community group purchasing, and other digitalized new forms of business appeared, all kinds of intellectual property rights infringement behaviors are also endless, and present decentralization, short time, difficult to obtain evidence and other characteristics. In the context of digitalization, products and services exist in digital form, and can be reproduced and disseminated beyond time and space by virtue of various forms of transactions, and do not require any cost, the whole process is very rapid and hidden (Sun, 2020), how to balance intellectual property rights protection and the promotion of trade digitization is one of the goals of the development of digital trade, and the realization of this goal also puts forward a higher demand on the ability of the dispute resolver.

V. Recommendations for the development of global digital trade

A. Investment in ICT infrastructure development in developing and underdeveloped countries.

Entering the smart era, ICT infrastructure, such as artificial intelligence, big data, 5G, and so on, will be the cornerstone of a smart world, and weak facilities in developing and underdeveloped countries put them in conflict with the trade needs of developed countries. International organizations such as the World Trade Organization and the World Bank can invest in ICT infrastructure construction in developing countries and underdeveloped countries from both technical and policy perspectives. In terms of technology, technology can help promote the simultaneous advancement of digital-intensive services and digital technology (Xiong et al., 2021). In terms of policy, supportive policies should be formulated for the comprehensive promotion of digital infrastructure construction and cooperation, and policies could be used to

guide consultations among international economic organizations for the joint construction of large-scale digital platforms.

B. To develop and deepen cooperation on regulatory harmonization in various areas of digital trade and to promote the establishment of harmonized rules on digital trade.

With the digital economy as the background, digital technology as the carrier, digital platforms as the medium, and relying on modern information and network technology, the healthy development of digital trade cannot be separated from the full cooperation of all parties (Li et al., 2016). In the field of cross-border free flow of data, the general dilemma of cross-border data flow rules should be coordinated under the framework of international economic and trade agreements, and a basic framework for data protection should be reached under the framework of the WTO, so as to realize the coordination of cross-border data flow rules (Tan, 2022). In the field of data privacy and protection, a cooperative framework for data collection, exchange, and regulation can be jointly established by princesses such as international organizations and governmental organizations, with the participation of private subjects such as network service providers and the assistance of third-party subjects such as academic institutions, to safeguard data security and privacy. In the field of dispute resolution mechanisms, on the one hand, governments should encourage small and medium-sized enterprises to independently set up relevant third-party dispute resolution service organizations to promote rapid and efficient settlement of trade disputes internally; on the other hand, digital trade service platforms can uniformly set up a dispute resolution mechanism applicable to their platforms, and make clear the dispute resolution procedures, which is not only conducive to the strengthening of the supervision and management of enterprises but also improves the consumers' trust in trust level of e-commerce. In the area of digital payments, restrictions on the free flow of funds and financial data across borders could be lifted to facilitate the unified verification and authorization of payments by banks and credit card companies (McKinsey & Company, 2010).

C. In the area of intellectual property protection, the scope of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) should be expanded to promote the integration of widely recognized intellectual property laws into digital trade.

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) does not have provisions on intellectual property protection specifically for digital trade, but its spirit of keeping abreast of the times and some principled expressions provide space for the establishment of digital trade-related rules under the framework of TRIPS, and attempts can be made to incorporate the World Intellectual Property Organization Copyright Treaty (WCT) and the World Intellectual Property Performances and Phonograms Treaty (WPPT) into the agreement to expand the scope of their intellectual property protection (Zhou et al., 2018). In addition, in the face of intellectual property challenges in digital trade, intellectual property protection in the process of trade digitization can be implemented by strengthening international cooperation, enhancing the coordination of legal systems, raising the awareness of enterprises and consumers, and utilizing the experience of successful cases to balance the rights and obligations of Internet service providers and digital trade service platforms (Sharafanov & Bai, 2018).

VI. Conclusions

By sorting out the definitions of digital trade by different countries, international organizations, and scholars, this paper provides support for a better understanding of digital trade in theory and practice. Digital trade is a product of the times, and under the current background of economic globalization, understanding the opportunities of digital trade plays an important guiding role in promoting global trade exchanges and development. At the same time, cognition and analysis of the challenges facing the further development of digital trade are also indispensable parts of ensuring that the development of digital trade continues steadily. Understanding the opportunities and risks, it is necessary to analyze how to grasp the opportunities and cope with the risks. This paper concludes with some policy recommendations on the main problems of digital trade, hoping to contribute to the vigorous development of global digital trade. Last but not least, promoting the formation of an open and inclusive multilateral trading system and sharing the future of digital trade in the future is in line with the core interests of most countries in the world, and is the ultimate goal and optimal choice for the development of digital trade.

References

- Jouanjean, M.A. (2019) Digital Opportunities for Trade in the Agriculture and Food Sector, *OECD Food, Agriculture and Fisheries Papers*, 122. Available online: <https://www.oecd-ilibrary.org/docserver/91c40e07-en.pdf?expires=1715947415&id=id&accname=guest&checksum=124A5A716B7E8BE490C022E6779920E0>
- Lan, Qingxin and Dou, Kai (2019) Evolution of the connotation of digital trade in the US, Europe and Japan, development trend and China's strategy. *International Trade*, 6:48-54. Available online: <https://link.cnki.net/doi/10.14114/j.cnki.itrade.20190730.002>
- Lei, Hui and Nie, Lijuan (2020) Development status and China's countermeasures in the construction of digital trade rules. *Foreign Economic and Trade Practice*, 3: 46-4
- Li, Yang, Chen, Huanqi, and Zhou, Nianli (2016) Challenges and responses to China's "American template" of digital trade rules. *International Trade*, 10: 24-27. Available online: <https://link.cnki.net/doi/10.14114/j.cnki.itrade.2016.10.006>
- Liu, Hongkui (2020) Economic effects and promotion strategies of digital trade development. *Reform*, 3: 40-52. Available online: <https://link.cnki.net/urlid/50.1012.F.20200314.1008.002>
- Ma, Shuzhong and Chai, Yuxi (2023) Digital trade cost and its decomposition: connotation and extension – Another discussion on the saving path of transaction cost in the era of digital economy. *Reform and Strategy*, 5: 18-33. Available online: <https://link.cnki.net/doi/10.16331/j.cnki.issn1002-736x.2023.05.002>
- McKinsey & Company (2010) *Global Financial Inclusion: Achieving Full Financial Inclusion at the Intersection of Social Benefit and Economic Sustainability*. Available online: [global_financial_inclusion.pdf](https://www.mckinsey.com/global_financial_inclusion.pdf) (mckinsey.com)
- McKinsey Global Institute (2011) *Internet Matters: The Net's Sweeping Impact on Growth, Jobs and Prosperity*. Available online: <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/internet-matters>
- Qian, Yan (2023) Improvement of intellectual property rights system to escort the digital transformation and upgrading of trade. *China Trade News*, 6. Available online: <https://link.cnki.net/doi/10.28113/n.cnki.ncmyb.2023.000450>

- Sharafanov, Ivan and Bai, Shuqiang (2018) Research on the co-operation mechanism of trade in digital products under the WTO perspective – based on the study of the current situation of the development of digital trade and barriers. *International Trade Issues*, 2: 149-163. Available online: <https://link.cnki.net/doi/10.13510/j.cnki.jit.2018.02.018>
- Sheng, Bing and Gao, Jiang (2020) Beyond traditional trade: the connotation, characteristics and impact of digital trade. *Foreign Social Sciences*, 4: 18-32.
- Shi, Minyue (2023) Differentiated development of global digital trade rules and China's response in the era of digital economy. *Journal of China University of Petroleum* (Social Science Edition), 6: 92-99. Available online: <https://link.cnki.net/doi/10.13216/j.cnki.upcjess.2023.06.0012>
- Sun, Jie (2020) From digital economy to digital trade: connotation, characteristics, rules and impact. *International Economic and Trade Exploration*, 5: 87-98. Available online: <https://link.cnki.net/doi/10.13687/j.cnki.gjjmts.2020.05.006>
- Tan, Guanfu (2022) International legal regulation of cross-border data flow in digital trade. *Comparative Law Studies*, 3: 169-185. Available online: <https://link.cnki.net/urlid/11.3171.d.20220601.1042.002>
- US International Trade Commission (2014) *Digital Trade in the US and Global Economies, Part 2*. Available online: https://www.usitc.gov/secretary/fed_reg_notices/332/332_540_notice07302013sgl_1.pdf
- USITC (2013) *Digital Trade in the US and Global Economies, Part 1. Industry and Economic Analysis*. Available online: <http://www.usitc.gov/publications/332/pub4415.pdf>
- Wolf, Christopher & Maxwell, Winston (2012) So Close, Yet So Far Apart: The EU and US Visions of a New Privacy Framework, *Antitrust*, 26(3), Summer 2012. Available online: <https://www.iaai.it/sites/default/files/iaip2029.pdf>
- World Trade Organization (2016) *World Trade Report 2016: Levelling the Trading Field for SMEs*. Available online: https://www.wto.org/english/res_e/booksp_e/wtr16-1_e.pdf
- Xia, Jiechang and Zhang Yajun (2024) Regulatory Dilemmas and Optimisation Paths of Cross-border Data Flows in Digital Trade. *Economic Journal*, 4: 39-46. Available online: <https://link.cnki.net/doi/10.16528/j.cnki.22-1054/f.202404039>
- Xiong, Hongru, Ma Yuan, and Chen Hongna (2021) Digital trade rules: key issues, practical challenges and construction strategies. *Reform*, 1: 65-73. Available online: <https://link.cnki.net/urlid/50.1012.f.20210108.0820.002>
- Xiong, Lichun and Ma, Shuzhong (2021) From traditional trade costs to digital trade costs: connotation, characteristics and impact. *Journal of Shanghai Business School*, 5: 3-13. Available online: <https://link.cnki.net/doi/10.19941/j.cnki.CN31-1957/F.2021.05.001>
- Zhang, Zhengrong, Yang Jindong, and Gu Guoda (2021) Conceptual dimensions, international rules and business models of digital trade. *The Economist*, 4: 61-69. Available online: <https://link.cnki.net/doi/10.16158/j.cnki.51-1312/f.2021.04.008>
- Zhou, Nianli, Li, Yuhao, and Liu, Dong (2018) Exploring the development trend of multilateral digital trade regulation - based on the latest proposals of major WTO members. *Asia-Pacific Economy*, 2: 46-54. <https://link.cnki.net/doi/10.16407/j.cnki.1000-6052.2018.02.006>