

Study on Cross-Border E-Commerce Development Against the Background of Digital Economy

Yazhao DONG¹

School of Foreign Languages, Wuhan Business University, China

ORCID ID: Yazhao Dong <https://orcid.org/0009-0005-0586-0805>

Abstract. At present the world has entered the era of digital economy, digital technologies have already penetrated in people's daily life and business's activities. With the development of global economic integration and information technology, cross-border e-commerce industry has developed rapidly and has become a new form of China's foreign trade. And at the same time cross-border e-commerce, as one of the digital manifestations of international trade, has been deeply impacted by digital technologies. This paper reviews of the present development status of China's cross-border e-commerce in the era of digital economy, and also elaborates some of the characteristics of cross-border e-commerce in China. Given the present international political and economic situation the paper also points out the problems and challenges faced by China's cross-border e-commerce. In an attempt to address those problems this paper proposes suggestions and countermeasures from such perspectives as technological innovation, legal legislation, government supervision.

Keywords. Digital economy, cross-border e-commerce, digitization, development

1. Introduction

Digital economy has been developing with strong momentum unprecedented, and it has not only become a new driving force of economic growth, but also an important driver for transforming and upgrading of traditional industries, more importantly digital economy is a dispensable part in building modern economic system [1]. However, in the face of the complex international environment and fierce industry competition, China's cross-border e-commerce industry has confronted with huge uncertainties and risks within the industry, such as logistics digitalization, brand building, professional talents cultivation, risk prevention, and so on. Those problems and challenges greatly restrain the integrity between cross-border e-commerce and digital economy and sustainable development of cross-border e-commerce in the long run. Therefore, China's cross-border e-commerce should find a suitable development path, implement new development concepts, and adopt new development models to achieving high-quality development.

¹ Corresponding Author: 546837423@qq.com.

1.1 Related work

Digital economy has become a new basis for promoting global economic growth, it not only promotes economic transformation of countries around the world, but also influences the development of the global trade pattern and economic growth. Li Yong and Jiang Rui (2023) explored development mechanism and path of the digital economy on the basis of digital infrastructure, digital technology, and digital ecology. Wang Jun, Liu Xiaofeng (2023) measured digital economy development level based on provincial-level regional indicators from 2013 to 2020, and the research indicated that the development of China's digital economy showed an upward trend, and the research also found that China's digital economy could promote China's economic growth through consumption expansion effect. Shang Juan and Wang Zhenmeng (2023) through empirical tests concluded that digital economy could directly or indirectly promote the development of green economy by improving scientific and technological innovation. Zhang Bo (2024) argued that simplified electronic approval, procedures, and the transformation of the government to a service-oriented government, construction of a digital cloud platform would promote the innovation and development of high-quality development of cross-border e-commerce[2]

2. Development Status of China's Cross-border E-commerce Against the Background of Digital Economy

2.1 Cross-border e-commerce market is constantly expanding

Seeing from the whole world, global e-commerce retail sales in 2021, 2022, and 2023 respectively reached \$4.988 trillion, \$5.311 trillion, and \$5.784 trillion, and it is predicted that global e-commerce retailing will reach \$7.467 trillion in 2026. The rapid growth of global e-commerce has laid the foundation for the expansion of China's cross-border e-commerce exports. With the deepening of digital economy cross-border e-commerce industry has ushered in major development opportunity and has become an important pillar for external circulation of the dual circulation pattern, its transaction scale has shown a year-on-year growth trend [3]. In 2020 China's total cross-border e-commerce exports totaled 1.12 trillion yuan, and in 2021 it reached 1.44 trillion yuan, with 1.55 trillion yuan in 2022 and 1.83 trillion yuan in 2023. In 2023, China's total cross-border e-commerce exports increased by 19.6% year-on-year, an increase of 7.9 percentage points from 2022. All in all, cross-border e-commerce has become a new format and a new driving force for the development of China's foreign trade [4].

2.2 Cross-border e-commerce has entered the stage of industrial digitization

At present, cross-border e-commerce has ushered in the stage of industrial digitization, which is manifested in digital transformation of commodity information flow, logistics and capital flow based on a new generation of digital technology. On the other hand, the complex business models require the use of a variety of digital technologies so as to effectively improve and guarantee logistics efficiency and payment security of cross-border e-commerce. The digitization of the e-commerce industry has promoted the operation efficiency of the cross-border e-commerce ecosystem. In a way the

competition within the industry is concentrating on the digitization level of cross-border e-commerce operation [5]. In the context of the rapid development of the global digital economy, cross-border e-commerce industry must leverage digital technologies, take advantage of the potential of digital elements and integrate them into cross-border e-commerce value chain.

2.3 The policy environment for cross-border e-commerce has improved

Since the beginning of China's cross-border e-commerce the central government and government authorities have issued various supporting policies facilitating its development. Those policies reflect the country's great intention in continuously promoting cross-border e-commerce industry. Initial period (2004-2007): China's policymakers began to pay attention to the development of cross-border e-commerce, and formulated some basic policies to regulate and promote the development of the industry. For example, as early as in 2005, the General Office of the State Council issued the Several Opinions on Accelerating the Development of E-commerce, which clarified the direction for future development of cross-border e-commerce [6]. Policy development period (2008-2012): Policies have been gradually improved. For example, in 2011, the National Development and Reform Commission together with other five departments issued the Guidelines on the Establishment of National E-commerce Demonstration Cities. Policy outbreak period (2013-present): Policy support at the national level has been increasing, especially in 2019 and 2020, the Government Work Report of the State Council proposed to reform and improve the support policies for new business formats such as cross-border e-commerce, and accelerate the development of new business formats such as cross-border e-commerce. For example, in 2015, China started setting up cross-border e-commerce comprehensive pilot zones in batches to promote innovation in systems, management and services, forming an institutional framework for following policies and incentives [7].

3. Problems and challenges faced by China's cross-border e-commerce against the background of digital economy

3.1 Diversification and complexity of international trade

With the increase of regional trade cooperation and further development of global value chains multinational trade partnerships are on the rise. In addition to inter-country trade, multinational corporations, and regional trade organizations, person to person, and other non-state subjects are also involved. As a result, the trade bodies are becoming more and more diversified, which has become a prominent feature of current international trade pattern. In addition to bilateral trade relations, various forms of regional trade agreements, multilateral trade agreements, all those multilevel trade partnerships have made the operation, coordination, policy and management of cross-border e-commerce trade more complex and uncertain. What's more factors such as trade protectionism, heightened geopolitical tensions, and global supply chains shortage have also brought unprecedented uncertainties and challenges to cross-border e-commerce industry [8].

3.2 Data security and privacy protection are challenges faced by cross-border e-commerce in the current digital era

Data security and privacy protection are great challenges faced by cross-border e-commerce especially in digital economy era. With the development of Internet technology, data flows between people, countries, regions have become unprecedentedly frequent, which has raised a series of security and privacy issues, especially in the case of cross-border information flow of personal information and business data. In cross-border e-commerce, personal data may be illegally obtained, leaked or abused in the process of transmission, resulting in personal privacy violation. To make things worse there are great differences in laws and regulations for data protection in different countries and regions combined with diversification and complexity of international trade, making data security and privacy protection even more severe [9].

3.3 Supervision and governance system is imperfect

Compared with conventional trade, cross-border e-commerce has a low entry threshold and a fast transaction, which increases the difficulty of cross-border e-commerce supervision, and traditional international trade supervision methods and means can no longer meet the regulatory requirements of cross-border e-commerce. Meanwhile, cross-border e-commerce covers various business activities such as marketing, transactions, payments, and logistics service, which require joint supervision by many departments and links. However, government departments such as the customs, market supervision and other departments have not yet established an effective coordination mechanism, and there is a lack of effective communication between the supervision authorities, which lead to low inefficiency and unsatisfying supervision effect [10].

4. Suggestions and Countermeasures

4.1 Promote digital technology innovation and application

In-depth integration of e-commerce industries and digital technologies should be further developed, and e-commerce digitization should focus on the whole process of its value chain, for example the production, logistics, marketing, transaction, after sale service, etc [11]. Driven by the development of artificial intelligence technology, China's AI industry has deep interaction with electronic terminals, and a large number of AI products have emerged, for example intelligent customer management system, smart retailing, which have greatly improved the operation, management efficiency of cross-border e-commerce's and its service level. In the future cross-border e-commerce digitization must be completed through digital information construction by emerging technologies [12]. In addition, it is necessary to strengthen the application of digital smart cloud platform scenarios, which is conducive to promoting the coordinated development of all aspects of cross-border e-commerce industry.

4.2 Establish cross-border e-commerce policy system

Due to the diversification and complexity of cross-border e-commerce it is difficult to formulate unified rules and standards, many problems such as refund disputes, transportation disputes, logistics disputes, and infringement of intellectual property rights etc., which have posed negative effects. Therefore, on the one hand government authorities should intensify legislation and policy innovation to ensure fair competition in the market. On the other hand, policy mechanisms should be set up to protect the legitimate rights and interests of consumers, and to protect intellectual property rights and effectively protect consumers' personal information preventing personal information abuse and violation [13]. In addition, policy makers should strengthen digital economy governance by using digital technologies so as to create favorable environment for the healthy and long-term development of cross-border e-commerce.

4.3 Strengthen government supervision and promote multilateral international cooperation

First of all, government supervision should start with improving relevant laws and regulations. It is necessary to advance data legislation, refine the standard rules for data security and personal information protection, improve the formulation and regulatory framework for the protection of intellectual property rights in emerging business forms, and strengthen national security system building. Then actively promote the conclusion of relevant international trade agreements, promote international cooperation in cross-border e-commerce global value chains, and promote the formation of an international environment conducive to the sustainable development of cross-border e-commerce [14]. Regional cross-border e-commerce cooperation mechanism with relevant countries in areas such as customs clearance facilitation, online consumer protection, tariffs, cybersecurity, computer facilities, and dispute resolution should also be paid attention to.

5. Discussion and Limitation

In the era of digital economy, cross-border e-commerce should size the opportunities brought by digital technology, and accelerate the integration of digital technology and all links of cross-border e-commerce, innovate cross-border transaction models by using the advantages of digital technology. This paper proposes a series of suggestions and countermeasures for the development of cross-border e-commerce under in the era of digital economy, with hope of providing a new approach of promoting coupled development of the digital economy and cross-border e-commerce. However, this paper only studies the challenges and problems faced by cross-border e-commerce from a macro perspective, and the corresponding suggestions and countermeasures are also limited to a macro level. In future, in-depth research such as impact mechanism of the digital economy on cross-border e-commerce could be conducted.

Acknowledgments

This research is supported by “Project 2024 of the 14th Five-Year Plan for National Business Education”. And this study is part of the research findings of Research on Integration of Industry and Education in Cross-border E-commerce Industrial College Against the Background of Digital Economy. Project Grant NO.: SKKT-22027.

References

- [1] Ren B.P, He H.C. Empowerment of Digital Economy to High-quality Development: Theoretical Logic, Path Choices and Policy Orientation. *Finance & Economics*. 2022, 61-75.
- [2] Zhang P. High-quality Development of China's Cross-border Ecommerce in The Era of Digital Economy. *Northern Economy and Trade*, 2024(02), 121- 124.
- [3] Meng T, Wang C. J, Fan P.Hui. Research on High-Quality Development of Cross-Border E-Commerce from the Perspective of Digital Economy. *International Trade*, 2022, (10):60-67. DOI: 10.14114/j.cnki.itrade.2022.10.011
- [4] Li R. Research on the high-quality development path of China's cross-border e-commerce in the era of digital economy. *International Trade*, 2024(12):52-55. 12-0052-04. DOI: 10.16834/j.cnki.issn1009-5292.2024.12.006
- [5] Zhang X.Y, Jin L.L, Li M.W. Research on the dilemma and countermeasures of China's cross-border e-commerce development under the background of digital economy. *Journal of Commercial Economics*, 2023, (12): 14-17. DOI: 10.19905/j.cnki.syjj1982.2023.12.011
- [6] Meng Y. Research on Development Trend of Cross-Border E-Commerce Under the Background of Digital Economy. *Business Observation*, 2024 (15): 113-116.DOI10.3969/j.issn.2096-0808.2024.15.021
- [7] Wei H, Tu Y. Characteristics, Problems and Policy Suggestions for the Development of China's Cross-Border E-Commerce Retail Imports. *Intertrade*, 2023 (04): 31-39. DOI: 10.14114/j.cnki.itrade.2023.04.006
- [8] Zhang B. Research on the development status and countermeasures of cross-border e-commerce enterprises in the context of the new era. *Electric Business*, 2024(14):102-105. DOI: 10.14097/j.cnki.5392/2024.14.010
- [9] Hu T.H. Research on the challenges and countermeasures faced by China's cross-border e-commerce enterprises in the context of digital economy. *E-Business*, 2024(09): 56-58. DOI: 10.14013/j.cnki.scxdh.2024.09.003
- [10] OONAN C, PLEKHANOVA V. Digital services tax: lessons from the section 301 investigation [J]. *British tax review*, 2021(1): 83-115.
- [11] Seyed Mojtaba Hosseini Bamakan, Saeed Banaeian Far. 2024. Distributed and trustworthy Digital Twin platform based on blockchain and Web3 technologies. *Cyber Security and Applications*. <https://doi.org/10.1016/j.csa.2024.100064>
- [12] Górski, T. Smart Contract Design Pattern for Processing Logically Coherent Transaction Types. *Appl. Sci*. 2024, 14, 2224. <https://doi.org/10.3390/app14062224>
- [13] MILOJKO A. Impact of digitalization on economic growth, productivity and employment [J]. *Economic Themes*, 2020,58(4):431-457.
- [14] UJICA L, JOVOVIC M, BACKOVIC T, et al. Is digital economy a good smartian to developing countries? [J]. *Sustainability*,2022,14(14):8471.