China-ASEAN Bilateral Digital Trade under the RCEP
Digital Trade Framework: Current situations, Challenges, and Responses

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Abstract: The Regional Comprehensive Economic Partnership (RCEP) address the increasing need for digital trade cooperation between China and ASEAN, reflecting their growing demands in this area. However, China and ASEAN face challenges in their digital economic and trade collaboration, including the "digital divide," power struggles over sovereignty, governance of data localization, etc. The paper analyzes the current state and future direction of global digital trade development, interprets the digital trade rules within RCEP and analyze their implications for China-ASEAN bilateral trade, then examines the three key aspects of China-ASEAN digital trade development and four major challenges faced by China-ASEAN digital trade within the framework of RCEP, eventually proposes countermeasures and recommendations to enhance China-ASEAN digital trade from four key perspectives.

Keywords: RCEP; Digital trade; Numerical regulations; Bilateral trade.

1. Introduction

The digital market in Southeast Asia has become the fourth largest globally[1], emphasizing the growing importance of the Asia-Pacific - Indo-Pacific region in the global digital economy[2]. China has become a global leader in various sectors, positioning itself as one of the world's leading developing countries in terms of the digital economy. Additionally, it is expected that ASEAN will become one of the top five digital economies globally by 2025. Since 2020, China and ASEAN have emerged as each other's largest trading partners for three consecutive years and their cooperation in the realm of digital trade is becoming more frequent. However, as the increasing integration of data elements and digital technology in the value chain has become an undeniable trend in global trade[3], an escalating competition between China and ASEAN around issues such as digital tariffs, intellectual property protection, and the unrestricted flow of cross-border data should not be ignored.

On November 15, 2020, China and ASEAN signed RCEP, establishing the world's largest and most diverse free trade zone, representing a significant advancement in global economic cooperation [4]. Compared to numerous other trade agreements, RCEP agreement stands out as the most comprehensive and high-level multilateral framework for e-commerce rules in the Asia-Pacific region. The compilation of digital trade regulations provides a comprehensive and systematic resource to assist China and the Association of ASEAN in adapting to the ever-changing global digital trade landscape.

Despite the potential benefits of RCEP digital trade rules in facilitating extensive and comprehensive cooperation in the digital economy, the digital trade relationship between China and ASEAN encounters numerous challenges due to practical factors, including the existence of international digital trade rules with higher standards, persistent interference from external forces, and the presence of a "digital divide" between China and ASEAN countries. Therefore, it is necessary to deeply study the characteristics, value and limitations behind the RCEP digital trade regulations, analyze the main digital trade difficulties faced by China and ASEAN, and offer suggestions for the sound development of China-ASEAN bilateral digital trade.

2. The Significance of Digital Trade Rules in the RCEP for China-ASEAN Bilateral Digital Trade

2.1. The Digital Trade rules within RCEP aim to establish a secure and transparent business environment for digital trade between China and ASEAN.

RCEP places significant emphasis on ensuring the security and transparency of information and data. The agreement represents the first international agreement among major East Asian nations and aims to establish a secure and transparent digital trade environment for China-ASEAN bilateral digital trade.

In terms of information and data security, the RCEP has repeatedly stressed the protection rules of consumer rights and personal information in different chapters, and is committed to maintaining network security and the circulation of private data. The organization is dedicated to maintaining network security and protecting the flow of private data by implementing information and other security measures. RCEP mandates that Contracting Parties establish measures to protect personal information in line with the standards, principles, guidelines, and recommendations of relevant international organizations. This includes developing a legal framework for protecting personal information and disseminating policies and procedures through various channels, including the Internet. The goal is to maximize the protection of personal information exchanged between the parties.

The digital trade regulations of RCEP highlight the
importance of information disclosure in relation to transparency. This not only protects the rights of governments, traders, and other stakeholders to access information but also maintains a fair competition framework within the digital trade market. By using these frameworks, each Party effectively implements the transparency List and ensures a high level of predictability, consistency, and transparency in digital trade procedures and practices.

RCEP explicitly requires government data to be open, in a machine-readable and retrievable format, and available in various information formats. The level of openness of public sector data can have different economic value and help decision-makers make informed and objective decisions based on factual information. The value of data is determined by factors such as accessibility, machine readability, cost, and the ability to reuse and redistribute the data. The objective is to create fair business opportunities that enable cross-border transactions for companies.

2.2. The digital trade rules established by the RCEP aim to enhance and facilitate bilateral digital trade between China and ASEAN countries.

RCEP effectively addresses the need for governance and cooperation standards in the emerging rules of digital trade between China and ASEAN, particularly in their context. The document includes provisions for trade facilitation measures for certified operators (Article 3.14), investment facilitation (Article 10.17), promotion of paperless trade (Article 12.5), establishment of a framework for domestic electronic transactions (RCEP article 12.10), and regulations on electronic authentication and signatures (Article 12.6).

According to DEPA, technology interoperability and digital trade rules are crucial[5]. The digital trade rules of RCEP share similar characteristics. Currently, many countries are promoting the development of a globally interoperable e-commerce system to enhance trade facilitation in the digital economy era, alongside the push for paperless trade[6]. The digital trade rules of RCEP are designed to meet the current demands of the global economy. These rules highlight the significance of collaboration among member parties in creating secure websites and electronic information systems that are accessible to all stakeholders and contain public information. The rules also aim to create accessible and efficient entry channels, simplify approval processes, and greatly reduce trade transaction costs. In the context of information technology application, there is a need to streamline customs procedures in order to reduce time and labor costs. It is recommended to allow express goods to electronically submit comprehensive information for an entire batch of goods, when possible and appropriate.

The digital trade rules of the RCEP prioritize the interoperability of regulations related to digital trade. This includes ensuring that trade management documents, procedures, technical standards, regulations, approvals, and licensing rules are in electronic format and have legal validity. The RCEP also encourages the disclosure of electronic trade documents when paperless trade management is used. It is crucial for nations to collaborate globally to ensure that electronic trade documents are legally recognized with the same validity as paper-based documents. This recognition should also include interoperable electronic authentication and electronic signatures.

2.3. The Digital Trade rules of RCEP will promote the expansion of China-ASEAN digital trade in a comprehensive and inclusive manner.

RCEP has achieved consensus on regulations pertaining to digital trade in a more inclusive manner. It is recommended to expand the applicability of relevant provisions and establish flexible special provisions and additional provisions tailored to different countries. On the other hand, it is necessary to remove certain restrictive measures and include more encouraging clauses that give parties the flexibility to impose exceptional restrictions. This will help alleviate the burden of uniform standards.

The agreement plays a significant role in global collaboration on digital technologies in the economic and trade sector. As an illustration, RCEP has established the most extensive intellectual property chapter among its member states thus far. This chapter includes 83 articles, transitional arrangements, and two annexes specifically focused on technical assistance. Intellectual Property Rights (IPR) are governed by the TRIPS Agreement, which sets forth a comprehensive framework for the protection of IPR. This agreement establishes a significantly elevated level of obligations in terms of the breadth and depth of IPR protection, surpassing any previous standards[7]. The intellectual property rights within RCEP strike a harmonious balance between unity and compromise[8]. They include both non-binding provisions and comprehensive mandatory regulations. In order to better achieve the Sustainable Development Goals of digital inclusion, RCEP typically provides special international assistance or exemption from some obligations or a buffer period for the least developed countries in its member countries, especially Brunei Darussalam, Cambodia, Laos and Myanmar, where appropriate, so that they can participate more fully in the agreement, accept the terms of the agreement and fulfill their obligations. More effective integration of the benefits arising from this Agreement.

2.4. The digital trade rules established by RCEP play a significant role in facilitating regulatory cooperation between China and ASEAN countries regarding cross-border data flows

Enhanced data flow plays a crucial role in facilitating cross-border e-commerce and the implementation of a data management framework that governs regional integration holds significant importance in promoting international data flow, protection, and sharing[9]. Before RCEP was proposed, the field of cross-border data flow was primarily dominated by the European Union and the United States, who took the initiative in advancing agreements such as the Comprehensive and Progressive Agreement for CPTPP and USMCA. The implementation of RCEP has challenged the dominance of rule hegemony and established regulations for global cross-border data flow. This allows developing countries to tailor their own regulatory schemes for cross-border data flow that align with their specific requirements [10]. Additionally, it provides a favorable transition period for these countries to gradually adapt to the demands of the rapidly evolving digital economy [11].

From a data localization standpoint, the execution of data
localization predominantly depends on local storage and cross-border review[12]. China has implemented strict regulations on cross-border data transfer in recent years. The introduction of the Network Security Law in 2016 established the "local storage, exit assessment" system, while the issuance of the "Personal Information and Important Data Exit Security Assessment Measures" in 2017 mandated a comprehensive security assessment for cross-border data flows. The introduction of RCEP has undoubtedly influenced China's stance, which attributed to the fact that RCEP permits participating countries to enforce data localization measures for legitimate public policy and security concerns, as well as for regulatory or prudential reasons.

From the perspective of data flow objectives, RCEP adheres to the "principle + exception" framework. In principle, the cross-border transfer of financial services data and the cross-border flow of data should be limited to the purpose of facilitating daily operations or conducting business activities through electronic or other means, in order to facilitate the transfer and processing of information[13]. The cross-border flow of data, with the exception of security concerns, is not governed by regulators under this clause. This exemption significantly mitigates the potential risks associated with cross-border data transfer. The ASEAN countries face a significant disparity between the development of the Internet infrastructure and the growth of the digital economy. As a result, these countries exhibit varying degrees of preference for domestic data flows, with limited openness. The absence of unified governance objectives for data flows significantly impedes the transmission of cross-border data within the region, resulting in increased costs for enterprises.

RCEP aims to address the fragmented state of cross-border data flow governance among member countries of ASEAN, establish a data flow certification agreement between China and ASEAN, implement a "cross-border data flow white list" mechanism to promote standardized, free, and secure cross-border data flow between the two parties[14]. This initiative is expected to bring about positive outcomes in terms of data governance and facilitate smoother data exchange between China and ASEAN.

3. Development Characteristics of China-ASEAN Digital Trade under the RCEP Digital Framework

3.1. The volume of bilateral digital trade between China and ASEAN countries has been steadily increasing.

The global digital trade has reached unprecedented heights due to the emergence of the industrial revolution and a new era of technological advancements. According to the World Trade Organization, global digital service trade is projected to reach 3.82 trillion in 2022, a 3.9% increase from the previous year. This accounts for 53.7% of global service trade. From 2020 to 2022, global cross-border data flows increased by 120.6%, and digital services trade increased by 36.9%. The Asia-Pacific region accounts for 53.6% of the global cross-border e-commerce market, making it one of the largest markets in the world. China and ASEAN have a significant presence in this market, with Southeast Asia being recognized as one of the world's fastest-growing regions for e-commerce.

![Figure 1. Retail e-commerce sales in Southeast Asia, 2020-2025](image)

Data source: eMarketer
China and ASEAN, as the world's two largest economies, have significant potential in the field of digital trade. China's digital economy is projected to reach 50.2 trillion yuan by 2022, making it the second largest digital economy in the world. According to the General Administration of Customs in China, the total value of cross-border e-commerce imports in 2022 was 527.8 billion yuan, while cross-border B2B e-commerce exports reached 4.5 trillion yuan, showing a year-on-year growth of 8.2%. The digital economy of Southeast Asia has shown resilience during the global macroeconomic downturn and is expected to reach a value of $194 billion by 2022, representing a significant growth of 90% compared to 2019 figures. According to eMarketer, the top 10 fastest growing markets for global e-commerce in 2022 include five ASEAN countries: the Philippines, Malaysia, Thailand, Vietnam, and Indonesia.

![Figure 2. Retail e-commerce sales in China, 2016-2022 (unit: millions of US dollars)](image)

Data source: Statista; Statista DMO

![Figure 3. Top 10 countries for retail e-commerce sales growth in 2022 (compared to 2021 growth unit: %)](image)

Data source: eMarketer

With the ongoing implementation of RCEP policy, the bilateral digital trade between China and ASEAN is steadily unlocking its potential. Both parties have experienced positive spillover and demonstration effects, although they are at different stages of development. In 2022, amidst the COVID-19 epidemic, trade between China and ASEAN experienced substantial growth. The total value of China's imports and exports with ASEAN reached 6.52 trillion yuan, showing a significant 15% increase from the previous year (2021). Additionally, there was a significant 7.5% increase in imports and exports among the other 14 member states of RCEP.

According to the "China E-commerce Report 2022" published by the Ministry of Commerce in 2023, China's exports to ASEAN countries reached 3.79 trillion yuan, accounting for 15.5% of the total exports in 2021. This figure represents a 1% increase compared to the previous year. The National Industrial Information Security Development Research Center predicts that the digital economy of the China-ASEAN region will reach a value of $9.58 trillion by 2025. The report highlights the continued attractiveness of the ASEAN market as a destination for Chinese exports. In 2022, Malaysia ranked second, Singapore ranked third, Vietnam ranked fifth, Thailand ranked seventh, and the Philippines ranked eighth among China's top ten countries for cross-border e-commerce exports.

3.2. China-ASEAN bilateral cooperation in the digital economic and trade sectors has experienced significant deepening.

In the digital economy, China and ASEAN have actively promoted information exchange and collaboration in areas such as digital inclusion, digital governance, network security, and data security. This has been accomplished through
collaborative planning, cooperative development, and other joint measures. As a result, bilateral trade between China and ASEAN has consistently reached new heights.

The China-ASEAN Silk Road E-commerce Forum was first launched in 2023, and the China-ASEAN E-commerce Cooperation Development Index rose to 116.3 in 2022. China and ASEAN have signed several programmatic documents, including the China-ASEAN Strategic Partnership Vision 2030, the Action Plan on the Implementation of China-ASEAN Digital Economy Partnership (2021-2025), and the China-ASEAN Initiative on Strengthening E-commerce Cooperation. These agreements aim to enhance the connectivity of digital economy and trade policies between the two sides. It will establish a strong foundation for comprehensive, multidimensional, and deep-level digital cooperation between the two parties. By the end of 2022, China had signed bilateral e-commerce memorandums with Vietnam, Cambodia, Singapore, Thailand, Laos, and the Philippines. These agreements aimed to promote capacity building, exchange experiences, and deepen cooperation in the field of "silk e-commerce".

<table>
<thead>
<tr>
<th>Time</th>
<th>Signatory country</th>
<th>Title</th>
<th>main content</th>
</tr>
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<tbody>
<tr>
<td>2017.05</td>
<td>China, Cambodia</td>
<td>Memorandum of Understanding on E-commerce Cooperation between the Ministry of Commerce of the People's Republic of China and the Ministry of Industry and Trade of the Socialist Republic of Vietnam</td>
<td>enhance the degree and level of bilateral trade facilitation through e-commerce.</td>
</tr>
<tr>
<td>2017.11</td>
<td>China, Cambodia</td>
<td>Memorandum of Understanding between the Ministry of Commerce of China and the Ministry of Commerce of Cambodia on E-commerce Cooperation</td>
<td>strengthen e-commerce cooperation, jointly improve the level of trade facilitation and cooperation, and further promote the sustained and steady development of bilateral trade.</td>
</tr>
<tr>
<td>2018.05</td>
<td>China, Indonesia</td>
<td>Joint Statement between the Government of the People's Republic of China and the Government of the Republic of Indonesia</td>
<td>Support cooperation in emerging areas such as e-commerce and the Internet economy.</td>
</tr>
<tr>
<td>2018.08</td>
<td>China, Malaysia</td>
<td>Joint Statement between the Government of the People's Republic of China and the Government of Malaysia</td>
<td>Actively expand cooperation in the fields of e-commerce, Internet economy and technology, and launch a memorandum of understanding on bilateral cross-border e-commerce cooperation.</td>
</tr>
<tr>
<td>2018.11</td>
<td>China, Singapore</td>
<td>Protocol on the Upgrading of Free Trade</td>
<td>Chapter XII, Electronic Commerce, aims to promote the use and cooperation of electronic commerce between Contracting Parties.</td>
</tr>
<tr>
<td>2020.11</td>
<td>China, 10 ASEAN countries, Japan, South Korea, New Zealand</td>
<td>Regional Comprehensive Economic Partnership</td>
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Table 1. E-commerce related documents signed by China and ASEAN countries

Through government-enterprise cooperation and planned assistance advocated by RCEP, the two sides will work towards narrowing the "digital divide" and establishing an open and mutually beneficial international cooperation pattern in the digital field. Both parties will establish the E-commerce Exchange Center within the China-ASEAN Digital Economy Industrial Park, focusing on digital expertise. Additionally, China will implement the China-ASEAN Digital Talent Training Plan. Chinese local governments have improved digital infrastructure development for ASEAN, promoted digital connectivity, and implemented advanced demonstration application scenarios in Thailand, Laos, and other participating countries. In the realm of industrial digital transformation, the cross-border e-commerce digital intelligent service platform allows Chinese enterprises to expand globally with minimal barriers. China's top high-tech companies and industry associations support the digitalization of industries in ASEAN through talent export, investment, and technical assistance.

It is clear that China and ASEAN are to create a globally competitive Asian digital economy market and achieve sustainable development in the Asian economic ecosystem through continuous improvement in comprehensive economic and trade collaboration in various areas of the digital economy.

3.3. China-ASEAN digital trade exhibits a high degree of complementarity.

China and ASEAN have a strong complementarity in the development of the digital economy [15], which can serve as the basis for cross-border e-commerce cooperation between the two regions[16]. China's digital economy is rapidly developing, benefiting from mature conditions such as capital and technology. On the other hand, ASEAN is experiencing accelerated digital economic growth, with significant demands for capital and technology.

Currently, China's "demographic dividend" is diminishing, labor costs are increasing, and the low-end industrial chain is shifting to Southeast Asian countries. China is currently experiencing a "talent dividend" and is leading the world in technological innovation in emerging fields such as digital manufacturing, digital payment, and digital trade. ASEAN has a huge population of digital economy consumption potential, a long demographic dividend period, and a strong core ability to drive future consumer goods, manufacturing, and digital economy, making it one of the most attractive digital economy investment markets in the world. ASEAN has introduced a series of preferential policies to attract investment, and some internal countries enjoy the General System of preferences (GSP) of Western countries, which has also continuously attracted a large number of low-end
manufacturing industries to Southeast Asian countries.

Firstly, it is noteworthy that China and ASEAN have been increasingly engaged in the import and export of a diverse range of commodities. China's demand for ASEAN's agricultural products and rare mineral resources is on the rise, while ASEAN greatly imports China's industrial raw materials and various mechanical and electrical products. Secondly, it is evident from Table 2-4 that China has consistently recognized ASEAN as a significant investment destination, with a continuous growth in its direct investments in ASEAN countries. Chinese enterprises demonstrate a strong interest in investing in ASEAN fintech, retail, and business automation sectors. Moreover, they persistently export digital solutions that combine "Chinese experience technology" with local demand to cater to the needs of local users. In order to drive the advancement of the digital industry in Southeast Asia, it is crucial to enhance the core competitiveness of the enterprise's technology. Additionally, the two parties will enhance their collaboration in the field of digital infrastructure, specifically focusing on the development of communication networks, the Internet, satellite navigation, and big data. Furthermore, they will exchange knowledge and experiences in the field of smart countries.

![Figure 4](image.png)

**Figure 4.** Stock of China's direct investment in major RCEP member countries (unit: US $10,000)

Source: National Bureau of Statistic

4. The Main Difficulties of China-ASEAN Digital Trade under RCEP digital Trade Rules

4.1. China and ASEAN are susceptible to the impact of sovereign power dynamics in the realm of digital trade.

The involvement of external factors will impact the advancement of digital trade collaboration between China and ASEAN. Under the Obama, Trump, and Biden administrations, the United States has significantly broadened its imposition of sanctions on China across various crucial economic sectors. This expansion includes the exercise of "long-arm jurisdiction" over China in areas such as trade, science and technology, investment, finance, and other related domains. According to statistical data, the Sino-US trade frictions have resulted in a decline in China's share of total US trade from approximately 16.30% in 2017 to around 12.9% in 2022. Consequently, China has now dropped to the third position as a trading partner of the United States. It is projected that in 2021, the ASEAN countries will experience a 3 percentage point increase in their share of total US trade imports (Chen Wenling, 2023). This increase is expected to be primarily attributed to a decline of nearly 4 percentage points in China's share. In the year 2022, Vietnam, Singapore, Thailand, and Malaysia have emerged as prominent trading partners of the United States, ranking among the top 20 nations in terms of trade.

In the forthcoming era, the rivalry among global powers will center around factors such as digital prowess, technological supremacy, computational capabilities, and leadership in digital governance [17]. The focal point of the global digital gaming industry is consistently transitioning towards Southeast Asia. In pursuit of their geostrategic objectives, developed countries from outside the region, notably the United States, have initiated the "Indo-Pacific Strategy" with the aim of intervening in the regional development process of East Asia. This strategy seeks to supplant ASEAN's role as the guiding force, establish dominance in the realm of digital trade regulations, and impede China's strategic objective of reclaiming leadership in
the Indo-Pacific region[18]. The United States is actively increasing its economic and political influence in the realm of ASEAN digital economy cooperation. The US has implemented various strategic plans to achieve this goal, such as the US-ASEAN Smart Cities Partnership, the US-ASEAN Connectivity Action Digital Economy Series Program, and the Digital Connectivity and Cybersecurity Partnership. These initiatives aim to encourage ASEAN countries to adopt the digital economy regulations established by the United States. At present, there is a growing intensity in the competition between standard construction and international regulations within the digital domain. This has resulted in a fragmented and "governance deficit" situation in global digital trade [19]. The emergence of bilateral digital trade has the potential to create a reciprocal relationship between international division of labor and profit distribution [20]. Based on the aforementioned scenario, it is evident that China and ASEAN nations are actively pursuing consensus with other countries in the realm of digital trade, while simultaneously vying for strategic autonomy in the digital era. This pursuit is likely to result in geopolitical conflicts and pose a threat to the successful implementation of RCEP.

4.2. The parties involved in RCEP will be subjected to more stringent international regulations governing digital trade.

RCEP not only protects countries with lower levels of digitalization but also encourages advanced economies to support the development of digital industrial chains and promote industry transformation through digitalization. However, the objective of achieving digital inclusion will impact the alignment of policies, coordination of regulations, and institutional connectivity between countries like China and Singapore and developed nations in the realm of digital trade.

Currently, there is a significant "governance deficit" and fragmentation in global digital trade[21]. The recent introduction of the "American template" of digital trade rules, as seen in the United States-Mexico-Canada Agreement, exemplifies this trend[22]. The RCEP imposes more extensive restrictions compared to the "American model" and "European model," but it lacks specific clauses aimed at regulating international digital trade[23]. The current provisions of RCEP do not fully meet the long-term and comprehensive needs of the dynamic digital economy, lacking foresight in its development. The comparison in Table 3-1 reveals that RCEP lacks provisions and explicit regulations on various matters, such as "non-discriminatory treatment of digital products" and "Internet interconnection cost allocation" in comparison to other international free trade agreements that have more stringent requirements. In the commercial sector, parties of RCEP impose data restrictions to safeguard their security interests or achieve public policy goals. These exception clauses lack functionality and freedom. In contrast to agreements such as CPTPP and DEPA, RCEP does not meet the same high standards and requirements, reflecting that the "East Asia template" still has inherent flaws that need to be addressed in future development.

| Table 2. Comparison of key digital trade rules of RCEP, CPTPP, and DEPA |
|---------------------------------|------------------|------------------|------------------|
| Field                          | RCEP             | CPTPP            | DEPA             |
| Digital taxation               | Section 12.11 "Customs Duties" | Article 14.3 "Customs Duties" | Article 3.2: Customs duties |
| Facilitation of cross-border e-commerce | Section 12.2: Trade facilitation | Article 14.6 "Electronic authentication and electronic signatures; Article 14.9 Paperless trade; Article 14.13 "Location of calculated Installations" | Chapter 2: Business and Trade facilitation |
| Data (facility) localization   | Rule 12.14 "Location of calculated installation" | Article 14.13 "Location of calculated Installations" | Article 4.4: Location of computing facilities |
| Digital intellectual property protection | — | Article 14.17 "Source Code" | DEPA and CPTPP have higher requirements for data flow control than RCEP, with fewer exceptions. |
| digital identity               | — | — | Article 7.1: Digital identity |

Sources: RCEP, CPTPP, DEPA documents

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4.3. The legislation and regulation of China, ASEAN and its internal countries have different effects on the role of the agreement

Within the ASEAN jurisdiction, countries such as Cambodia, Indonesia, Malaysia, Singapore, Laos, Myanmar, Vietnam, Thailand, and the Philippines have established comprehensive e-commerce and related legislation, achieving legal equivalence in terms of their functions. At the same time, Brunei still does not have e-commerce legislation, and the Philippine government has not yet completed a legal recognition system for electronic signatures, which has hindered the expansion of trade networks for businesses engaged in e-commerce to transact within or outside its borders. Laos, Cambodia, Vietnam, and the Philippines have not widely adopted digital identity systems. The absence of such systems for remote online business access has resulted in a significant lag in the convenience of digital payment methods, web registration, and authorization processes compared to other countries.

Although ASEAN as a whole has made clear plans for digital management and regulation, from the ASEAN Personal Data Protection Framework to the ASEAN Digital Master Plan 2025 to the ASEAN Data Management Framework, the development of digital regulatory frameworks is uneven among the ten ASEAN countries, and the focus of digital regional regulation is different within countries. For example, Singapore, the Philippines, and other countries that prioritized cross-border data governance early on focused primarily on personal data protection. On the other hand, Vietnam, Myanmar, Cambodia, and other countries that began digital infrastructure construction later focused on network sovereignty and localization protection. Meanwhile, Laos, Brunei, and other countries that are currently building network infrastructure or have a small market size can only manage to keep up to a limited extent.

On average, ASEAN's regulation of cybersecurity and non-personal data safeguards is good, but the level of regulatory framework for personal data is very poor. In terms of the establishment of regulatory agencies, a small number of countries continue to expand the field of digital trade, and the classification of regulatory agencies is more detailed. However, many countries still have a general approach to digital regulation, and even avoid addressing the issue altogether, which increases the difficulty of achieving digital regulatory interoperability.

4.4. There are obvious differences between China and ASEAN regarding the governance rules of data localization.

Currently, China has implemented strict regulations on the transfer of data. The country and enacted relevant domestic laws such as the Cybersecurity Law, Regulations on the Security Protection of Critical Information Infrastructure (Draft for Comment), and Measures for the Management of Security. These laws impose stringent requirements for the localization of data collected and generated by operators of critical information infrastructure. For certain entities, such as those engaged in international business, the Chinese government has implemented requirements for localized storage and security assessment. For personal information, China has made it clear that personal information should be stored in China, but it does not completely prohibit the transmission of personal information overseas, but needs to determine whether it is within the limits of local storage requirements and pass the security assessment of the national network information department.

China's approach to data and information protection emphasizes "data sovereignty" in contrast to the United States' promotion of free data flow and the European Union's prohibition of data localization. Therefore, unless the aforementioned legislation and reality are amended, China will encounter inevitable obstacles in the negotiation of cross-border data flow and data localization with ASEAN[24].

ASEAN, like the EU, fully protects the principle of data flow. This means principle, is, it does not require localized storage storage, does require adherence to requires local jurisdiction. However, regulations on data flow within ASEAN vary significantly based on national conditions. It is still necessary to carefully compare the relevant regulations of different exporting countries and continue to build a more comprehensive data compliance system. For instance, Singapore adheres to the provisions of CPTPP, which do not impose limitations on data localization measures, despite having strict restrictions on cross-border transmission. Singapore recognizes and respects the regulatory requirements of its members regarding data flow. Indonesia's Personal Data Protection Act (PDPA) mandates that operators of public electronic systems must store their electronic systems and data locally, thereby dividing the subject of data collection.

5. Countermeasures and Recommendations for Enhancing Bilateral Digital Trade Between China and ASEAN

5.1. From a strategic docking standpoint, China and ASEAN have achieved cooperation and consensus on the top-level design of digital trade

The digital trade construction project continues to encounter significant challenges, especially in the areas of top-level design. China and ASEAN have primarily focused on their individual construction efforts, lacking a comprehensive approach to collaboration. In order to improve the overall design, it is crucial for China and ASEAN countries to strengthen consultation and cooperation, building on existing dialogues and established mechanisms. Additionally, proactive efforts should be made to involve partner countries in the formulation of policies for digital trade opening, promoting a two-way approach to openness. This will ultimately improve the strategic compatibility and foresight of both parties in future digital trade planning.

The light view of varying levels powers influence among different economies in realm field of digital trade, frequently arise in policy discussions, resulting in disparities in unequal discourse rights limited cooperation. Docking. In the context of dialogue, it is imperative for both parties to uphold an attitude of respect and equality, while consistently adhering to the principle of seeking common ground while acknowledging differences. Despite their divergent origins and objectives, it is imperative for China and ASEAN
countries to strive for equilibrium amidst their disagreements in order to establish a cohesive, harmonious, secure, and equitable bilateral digital economic and trade relationship.

5.2. From the perspective of building China and ASEAN in the global digital value chain, the industrial alliance serves as a crucial starting point.

The digital economy will create a more competitive environment for industries such as manufacturing, infrastructure, digital platforms, digital services, and cross-border logistics. It is necessary for enterprises in China and ASEAN to strengthen the exchange and cooperation of knowledge, experience, and technology. This will enable the transformation and upgrading of traditional businesses through digital technologies such as artificial intelligence, big data, and blockchain. By embracing digitalization as the driving force, these enterprises can accelerate their integration into the global digital value chain with a more open and inclusive attitude.

In order to meet the digital development needs of micro, small, and medium-sized enterprises, China and ASEAN can adopt the "government + market + society" three-wheel drive model as a crucial approach to support the international expansion of domestic enterprises and the introduction of capital, technology, and other essential elements. The government should create supportive policies to help businesses enhance their market competitiveness and adapt to the rapidly changing digital trade environment. Secondly, it is crucial for the government and society to actively participate in resource sharing and provide timely feedback on policy information and market conditions to other members of RCEP. This collaborative effort aims to foster the development of a clustered digital industrial chain. Finally, it is imperative to direct the market towards the consolidation of enterprises through the regulation and guidance of capital, technology, talents, projects, and other essential elements. Additionally, there is a need to actively cultivate and establish a comprehensive knowledge system that caters to the foreign trade requirements of enterprises, such as the provisions of RCEP, rules governing cross-border e-commerce, and procedures for applying for certificates of origin.

The enterprise side also drives the expansion of the digital industry and effectively optimizes and integrates the allocation of production factors in the digital economy. China and ASEAN are committed to further enhancing their collaboration in the digital sector, particularly in the realm of industrial chain cooperation. Their common goal is to promote innovation and facilitate the integration of digital technologies in different areas of production, supply, and transactions. Both parties also strive to promote environmental sustainability, low-carbon practices, and inclusivity in the digital industry. China and ASEAN have the potential to create a regional digital economic ecosystem based on the idea of the "digital Silk Road". This initiative aims to promote digital innovation, enhance the competitiveness, and strengthen the sustainable development capacity of industries in both regions.

5.3. Bridging the "digital divide" between China and ASEAN, as well as within ASEAN, by means of enhancing Digital Infrastructure Connectivity.

There are significant differences in public policies and infrastructure supply between China and ASEAN. The interconnection of emerging digital infrastructure is crucial for bridging the "digital divide" between the two sides and within them.

It is recommended that government departments can establish transnational funds or foreign financial assistance programs to support the development of digital infrastructure in less developed regions of other member countries. The prompt acquisition of cross-border e-commerce data is crucial for the primary constituents of digital commerce. China and ASEAN have the potential to establish a standardized smart cross-border logistics supervision center. This center would oversee the exchange of crucial information within the realm of cross-border logistics transportation. This includes cargo flow data, warehouse management details, transportation mode specifics, and cargo source matching information.

Meanwhile, government departments can enhance collaboration between advanced technology enterprises and social capital. This can be achieved by using tax policies and providing grants, either directly or indirectly, to encourage the involvement of social capital, advanced technology enterprises, and the government in local infrastructure development. It is crucial for the nation to prioritize reducing market entry barriers. This can be accomplished by establishing technological and investment standards for developing digital infrastructure. Additionally, it is necessary to promote innovation in the development of investment and financing channels, while also ensuring a favorable and secure investment environment.

5.4. Build a digital trade innovation system between China and ASEAN from the digital Free Trade area.

The China-ASEAN Free Trade Area has been actively involved in negotiations and collaboration on various issues, such as cross-border data flow, consumer protection, and digital intellectual property. In the realm of digital international governance, it is essential for China and ASEAN to first establish a foundational legal framework for data security management in the region. This should be followed by the establishment of an effective dialogue and coordination mechanism for data governance, and ultimately, the promotion of comprehensive development and utilization of data. Encourage leading areas to gradually establish classification and grading standards for different types of digital trade, with a focus on cross-border data flow. This will facilitate exploration of other digital issues and allow successful experiences to be applied in other areas.

In the realm of digital regulation, it is crucial to establish a universally accepted standard that all stakeholders can agree upon. This can be achieved by implementing innovative methods of supervision within the free trade area, such as digital enablement, prioritizing services, and auxiliary supervision. It is essential to improve cooperation between law enforcement and justice sectors. This can be achieved by establishing a dedicated smart regulatory center and creating a collaborative joint mechanism that spans across departments, regions, and international boundaries.
Ultimately, these measures aim to improve the efficiency of digital services. Advancing the objective of building trust in digital governance. All regions should maximize the functions of digital trade experimental fields, gradually expanding openness from advantageous areas to other areas and from major functional areas to other functional areas. This will promote mutual learning in digital governance, seize opportunities in the "digital Silk Road," and collaborate in building a bilateral digital trade innovation and creation system.

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