

Original Paper

A Practical Study on the Legislation of the Digital Economy in the Hainan Free Trade Port

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Abstract

With the rapid advancement of the digital economy, Hainan Free Trade Port, as a significant pilot area for the country's in-depth reform and opening-up, is currently at a crucial stage of digital transformation. It is confronted with new development opportunities and challenges. This article takes the relevant legislation on the digital economy in the Hainan Free Trade Port as the research theme, and explores its practical significance and academic value in the current development environment. Through the investigation and analysis of the current development situation of the digital economy in the Hainan Free Trade Port, it is found that the region has achieved certain results in aspects such as data resource integration, digital infrastructure construction, and digital industry planning. This article systematically reviews the theoretical foundation of digital economy legislation, draws on the mature international experiences, and proposes targeted legislative suggestions in light of the development characteristics of the Hainan Free Trade Port. Research shows that constructing a systematic and forward-looking legal framework for the digital economy, improving the mechanisms for data security and personal information protection, enhancing the level of digital governance, and at the same time strengthening policy coordination and innovating regulatory models are important ways to promote the rule-of-law construction in the digital economy. This research aims to provide theoretical support and practical references for the legislation of the digital economy in the Hainan Free Trade Port, thus assisting it in building a demonstration zone for digital economic development with international competitiveness.

Keywords

Hainan Free Trade Port, Digital Economy, Legislative Practice, Legal Guarantee, Digital Governance

1. Introduction

1.1 Research Background

The rapid development of the global digital economy, digital technologies are reshaping the economic structure and social governance models at an unprecedented pace. Against this backdrop, the Hainan Free Trade Port, as an important window and testing ground for China's reform and opening up, shoulders the historical mission of exploring institutional innovation and promoting high - quality development. In recent years, through policy innovation and institutional breakthroughs, the Hainan Free Trade Port has gradually established a modern industrial system centered around the digital economy, emerging as a crucial driving force for the regional economic transformation and upgrading. However, the rapid development of the digital economy has also given rise to a series of new issues such as data security, privacy protection, and market regulation. These issues urgently require standardization and guidance through legislative measures.

From a practical perspective, the digital economy of the Hainan Free Trade Port is currently in a period of rapid expansion. Its development not only hinges on technological innovation and industrial integration but also requires a well - established legal framework for protection. According to relevant research, the digital economy plays a remarkable role in promoting regional economic growth. Meanwhile, it can also effectively improve the efficiency of resource allocation and the level of public services. However, at present, there is still a certain degree of lag in the legislation of the digital economy in the Hainan Free Trade Port. A systematic and forward - looking legal framework has not yet been established, making it difficult to meet the needs of the rapid development of the digital economy. This legislative gap may affect the legitimate rights and interests of market entities and impede the sustainable development of the digital economy.

From a theoretical perspective, the legislation on the digital economy is an important part of the modernization of the national governance system and governance capacity. In recent years, the academic community has generally held the view that the development of the digital economy needs to be built on a legal foundation. Only through scientific and reasonable legislation can we achieve effective supervision and standardized guidance for the digital economy. As the international community's attention to the governance of the digital economy continues to grow, how to draw on international experience, integrate it with local realities, and build a digital economy legal system that meets the development needs of the Hainan Free Trade Port has become an urgent and significant issue. The practical research on the legislation of the digital economy in the Hainan Free Trade Port holds significant practical significance and theoretical value. Through in - depth analysis of the current situation and challenges in the development of the digital economy in the Hainan Free Trade Port, and exploration of the theoretical basis and international experience of digital economy legislation, it can provide strong support for improving the legal environment of the Hainan Free Trade Port. Moreover, it can also offer valuable references for other regions in promoting digital economy legislation.

1.2 Significance of the Research

This research focuses on the practical issues in the legislation of the digital economy in the Hainan Free Trade Port. Its aim is to explore the dual value of such legislation in both theoretical innovation and practical application. From a theoretical perspective, as an emerging field, digital economy legislation urgently needs to establish a systematic legal framework to address the governance challenges posed by technological changes. Currently, domestic and foreign scholars' research on digital economy legislation mainly focuses on macro - policies or specific industries. However, the research on legislative practices in the special area of free trade ports is still insufficient. This research, by sorting out the current situation of the digital economy's development and the legislative needs in the Hainan Free Trade Port and integrating relevant theoretical foundations, puts forward targeted legislative approaches. This effort is conducive to enriching the theoretical connotation of the digital economy legal system and promoting the cross - integration of multiple disciplines such as law, economics, and information technology. From a practical perspective, as an important window for China's reform and opening up, the development level of the digital economy in the Hainan Free Trade Port is directly related to the regional economic competitiveness and the degree of internationalization. In recent years, the Hainan Free Trade Port has made remarkable progress in areas such as digital infrastructure construction, cross - border data flow, and the cultivation of digital industries. However, in the face of the rapidly developing digital economy, the existing legal system still has deficiencies in areas such as data security, privacy protection, and platform supervision. As a result, it is difficult for the current legal arrangement to effectively underpin the high - quality development of the digital economy. Therefore, conducting in-depth research on the practical path of digital economy legislation in the Hainan Free Trade Port not only contributes to the improvement of the local legislative system but also provides replicable and promotable experiences for other free trade ports or digital economy pilot areas. This research also focuses on the promoting effect of digital economy legislation on the modernization of regional governance capabilities. It emphasizes enhancing the efficacy of government governance through scientific legislation, promoting the in - depth integration of the digital economy and the real economy, and helping the Hainan Free Trade Port become a global high - ground for digital economy cooperation. In conclusion, this research not only holds significant academic value but also possesses strong practical guiding significance. It makes positive contributions to promoting the theoretical development and practical innovation of digital economy legislation.

1.3 Current Research Status both At Home and Abroad

In recent years, with the rapid development of the digital economy, scholars both at home and abroad have conducted extensive research on the issue of digital economy legislation. In the context of domestic research, scholars generally focus on the necessity and urgency of enacting laws for the digital economy. They believe that the development of the digital economy has presented new challenges to the traditional legal system. As a new form of economic model, the digital economy, characterized by decentralization, cross - boundary integration, and data - driven operations, is exerting

a comprehensive impact on the traditional legal system. First of all, in the field of civil and commercial law, smart contracts enabled by blockchain technology have posed fundamental challenges to the traditional theory of contract law. The automatic execution feature of smart contracts blurs the “expression of intent” element among the essential requirements for the formation of traditional contracts. Moreover, the immutability of smart contracts poses challenges to the application of systems such as contract modification and rescission. Taking DeFi (Decentralized Finance) platforms as an example, their average daily trading volume has exceeded tens of billions of US dollars. However, it is difficult to effectively regulate the relevant disputes by applying the current contract law. Secondly, in the field of intellectual property law, the issue of the copyright ownership of content generated by artificial intelligence has sparked extensive controversy. In 2023, the United States Copyright Office clearly refused to grant copyrights to AI-generated images. Meanwhile, in China, there have been multiple related lawsuits in judicial practice. What makes the situation even more complicated is that the training process of deep learning models may involve the reproduction and use of a vast amount of data. Whether such behavior constitutes fair use still lacks a clear legal definition. According to incomplete statistics, the potential infringement disputes caused by AI copyright issues globally involve an amount of over \$5 billion each year. In the field of financial regulation, the rise of digital currencies has put the traditional financial regulatory framework at the risk of ineffectiveness. The 2022 report of the Bank for International Settlements (BIS) indicates that there are already more than 100 central bank digital currencies (CBDCs) around the world in the stage of research, development, or pilot programs. However, the corresponding regulatory rules are lagging far behind. Although China has clearly prohibited private digital currency transactions, the challenges to capital control posed by cross - border digital currency flows still persist. In the first quarter of 2023, China's regulatory authorities cracked down on illegal cross - border digital currency transactions worth 12 billion yuan. From an international perspective, the digital economy legislation in various countries presents three typical models. The European Union adopts a “strict regulation” model. Its “Digital Markets Act” (DMA) and “Digital Services Act” (DSA) have established the world's strictest regulatory system for digital platforms, imposing “gatekeeper” obligations on large technology companies. Data shows that in the first year of the implementation of this regulation, a total of 2.8 billion euros in fines were imposed on companies such as Meta and Apple. Although this model effectively protects the rights and interests of users, it has also sparked controversies regarding innovation suppression. The United States, on the other hand, adopts the “industry self - regulation” model. It conducts regulations through a combination of state - level legislation such as the California Consumer Privacy Act (CCPA) and industry standards. This model grants significant autonomy to technology companies, yet it also gives rise to the problem of fragmented supervision. A study conducted by Stanford University in 2023 indicated that American technology companies, on average, need to allocate 3 to 5 percent of their annual revenue to meet the diverse compliance requirements across different states. This situation has significantly driven up their operational costs. China has adopted a “prudent and inclusive” legislative

approach. It has successively introduced fundamental laws such as the Cybersecurity Law, the Data Security Law, and the Personal Information Protection Law, thus establishing a “trinity” regulatory framework. It is worth noting that China has taken the lead in the world in the field of artificial intelligence legislation. The Interim Measures for the Administration of Generative Artificial Intelligence Services is the world’s first departmental regulation specifically targeting AIGC. Statistics show that within six months of the implementation of this measure, the content compliance rate of major AI platforms in China increased by 47%. It is particularly important to note that the legislation for the digital economy is not merely about formulating simple rules, but rather represents a fundamental transformation of the legal paradigm. The future legal system may need to incorporate entirely new concepts such as “algorithm transparency” and “digital personality.” This necessitates in-depth interdisciplinary research between the legal community and the technology sector. The recently established “Computational Law” Research Center at Tsinghua University is indeed a valuable attempt at such interdisciplinary exploration. In conclusion, the legislation for the digital economy is a systematic project that requires the joint efforts of legislators, the academic community, and the industrial circle. Only by establishing a legal environment that not only encourages innovation but also regulates development can the digital economy truly become a new engine driving high - quality development. In this process, China is fully capable of transitioning from a rule - follower to a rule - setter, and making due contributions to the establishment of a fair, inclusive, and sustainable global digital economic order.

2. The Current Situation and Challenges of the Digital Economy Development in the Hainan Free Trade Port

2.1 An Overview of the Development of the Digital Economy in the Hainan Free Trade Port

Since Hainan announced the construction of a free trade pilot zone in 2018, the scale of its digital economy has been continuously expanding. In 2022, the added - value of the digital economy accounted for more than 30% of the GDP, demonstrating a strong development momentum and huge growth potential. The policy dividends have provided a powerful driving force for the development of Hainan’s digital economy. The Overall Plan for the Construction of the Hainan Free Trade Port clearly states that great efforts should be made to develop the digital economy and that the establishment of the Hainan National Blockchain Technology and Industrial Innovation Development Base should be supported. In terms of tax incentives, for encouraged industrial enterprises registered and substantially operating in the Hainan Free Trade Port, the enterprise income tax will be levied at a reduced rate of 15%. When it comes to data flow, pilot projects on the security management of cross - border data transmission will be explored to provide institutional guarantees for digital trade. Regarding talent introduction, a more open talent policy will be implemented. These innovative policies have formed a “combined punch,” providing a fertile growth environment for digital economy enterprises. The Hainan Free Trade Port demonstrates distinct characteristics and significant advantages in the layout of its digital industry. Take

Sanya Yazhou Bay Science and Technology City as an example. This area has attracted a cluster of scientific research institutions such as the Institute of Deep - Sea Science and Engineering of the Chinese Academy of Sciences and the Chinese Academy of Agricultural Sciences. It is specifically dedicated to the development of distinctive digital industries, including deep - sea technology, southern breeding seed industry, and satellite remote sensing. In the blockchain field, Hainan Eco-Software Park has attracted more than a hundred blockchain companies, such as Huolian Technology and Thunder Chain, to settle in, thus establishing a comprehensive industrial ecosystem. The game and animation industry has also shown remarkable performance. Leading enterprises like Tencent and NetEase have successively set up branches in Hainan. They take advantage of the local policy benefits to carry out the business of promoting games overseas. In addition, Hainan has also actively planned the development of emerging industries such as digital healthcare and smart tourism, promoting the in - depth integration of the digital economy and the real economy. Infrastructure development has laid a solid foundation for the growth of the digital economy. Hainan is accelerating the construction of international submarine optical cables. Multiple submarine optical cables connecting both domestic and international regions have been successfully built, significantly enhancing its international communication capabilities. Hainan ranks among the top in China in terms of 5G network construction, with the 5G network coverage rate reaching 100% in urban areas of all cities and counties as well as key towns across the province. In the area of data center construction, operators such as China Telecom and China Mobile have built multiple large - scale data centers in Hainan, providing support for industries such as cloud computing and big data. The construction of “Smart Hainan” is being comprehensively advanced, with remarkable achievements in digital applications such as government cloud services and electronic certificates. As a result, the efficiency of government governance has been significantly improved. The exploration of innovative application scenarios showcases the vitality of Hainan’s digital economy. In the field of off - island duty - free shopping, Hainan has innovatively launched digital services such as “purchase and pick up immediately”, which significantly enhance the consumer experience; In the field of cross - border payments, pilot projects for digital RMB are being carried out to support its application in multiple scenarios; In the realm of smart tourism, a comprehensive tourism supervision and service platform will be established to enable the “Explore Hainan with One Mobile Phone” initiative; In the field of smart agriculture, technologies such as satellite remote sensing and the Internet of Things are utilized to enhance the modernization level of tropical agriculture. These innovative practices not only contribute to the local economic and social development but also offer a “Hainan Solution” for the innovation of the digital economy across the country. As the operation of the customs - enclosed area is gradually implemented, institutional innovation in areas such as cross - border data flow and digital trade will be continuously deepened.

2.2 The Strategic Position of the Digital Economy in the Hainan Free Trade Port

As a crucial part of the modern economic system, the digital economy plays a pivotal role in the construction of the Hainan Free Trade Port. It is not merely the core driving force propelling the

regional economic transformation and upgrading; more importantly, it serves as a significant support for achieving high - quality development and establishing a new open - economy system. As a testing ground for China's reform and opening - up, the Hainan Free Trade Port's strategic positioning dictates that the digital economy must serve as the core driving force for its development. Leveraging digital means to enhance the efficiency of resource allocation, optimize the business environment, and promote the integrated development of industries is an inevitable choice for the Hainan Free Trade Port to achieve leap - forward progress. From the perspective of regional economic transformation, the rapid development of the digital economy has injected new vitality into the Hainan Free Trade Port. On the one hand, the digital economy can effectively promote the intelligent transformation of traditional industries, enhance production efficiency and service quality, and thus strengthen the overall competitiveness of the regional economy; On the other hand, the digital economy can also give rise to new business forms and models, such as cross - border e - commerce, digital finance, and smart logistics. These new developments will bring new economic growth points to the Hainan Free Trade Port. These new business forms have not only expanded Hainan's economic boundaries but also enhanced its position in the global value chain.

The development of the digital economy holds significant importance for Hainan Free Trade Port to achieve the new development pattern of "dual circulation." By constructing digital infrastructure and data circulation mechanisms, Hainan can better integrate into both the domestic and international markets, thereby forming an economic pattern featuring internal - external linkage. Meanwhile, the digital economy also offers Hainan Free Trade Port a more flexible space for policy innovation. This enables the port to take the lead in making experiments in areas such as cross - border data flow and digital trade rules, and to explore a path of institutional innovation that suits its own characteristics.

At the national strategic level, the construction of the digital economy in the Hainan Free Trade Port has also been entrusted with significant missions. According to relevant research, the digital economy has become an important indicator for measuring the innovation ability and development level of a region. Therefore, the Hainan Free Trade Port must promote the legislation and institutional construction of the digital economy at a higher standard to ensure the healthy and orderly development of the digital economy. For example, Chinese scholars Pan Qiaohong and Guo Dexiang pointed out that the cross - border flow of credit information data requires a well - developed legal regulatory framework to safeguard data security and market order. This indicates that the development of the digital economy not only relies on technological advancements but also requires institutional guarantees and legal support.

The strategic position of the digital economy in the Hainan Free Trade Port is becoming increasingly prominent. It serves not only as the core engine for promoting high - quality economic development but also as an important means to achieve regional economic transformation and opening - up to the outside world. In the future, the Hainan Free Trade Port should further increase its investment in the digital economy, improve relevant laws and regulations, and strive to create a globally influential digital economy hub.

2.3 The Primary Challenges Currently Being Faced

Although the development of the digital economy in the Hainan Free Trade Port has achieved remarkable results, it still faces numerous challenges during the actual implementation process. From the perspective of the legal system, currently, the legislative framework in the digital economy sector of the Hainan Free Trade Port has not been fully established. The supporting and systematic nature of relevant laws and regulations is insufficient, making it difficult to effectively address the new issues arising from the rapid iteration of digital technologies. For example, there is a lack of clear legal definitions in key areas such as data ownership, privacy protection, and platform liability. This situation results in significant legal risks for enterprises during the process of data utilization and sharing. Chinese scholar Gou Xuezhen pointed out that China's legislation on the digital economy shows a functionalist tendency. However, local legislation still faces issues such as poor coordination and ineffective implementation during the specific implementation process. The cross - domain characteristics of the digital economy also pose higher requirements on the current legal system. How to promote data circulation while ensuring data security has become a difficult problem that urgently needs to be solved. From the perspective of data governance, Hainan Free Trade Port still has significant shortcomings in the integration and sharing of data resources. Despite the government's proactive efforts in promoting data openness and sharing in recent years, the phenomenon of data silos remains severe. Data barriers between different departments and industries impede the effective flow of data elements. Chinese scholar Song Baozhen, believes that in the context of the interaction between the central and local governments, China's legislation on the digital economy needs to be further optimized to meet the complex requirements of data governance. Meanwhile, the mechanisms for data security and privacy protection are still not fully developed. In the face of the ever - increasing risk of data breaches, it is urgent to establish a more comprehensive data governance system. In terms of infrastructure, although certain progress has been made in the construction of digital infrastructure in the Hainan Free Trade Port, there are still issues such as uneven regional development and insufficient technological support capabilities. In some remote areas, network coverage is incomplete, and the construction of new - type infrastructure such as 5G and the Internet of Things lags behind, which restricts the comprehensive expansion of the digital economy. The uneven distribution of computing power resources and the irrational layout of key facilities such as cloud computing and big data centers have undermined the agglomeration effect of the digital industry. These deficiencies in infrastructure have, to a certain extent, hindered the high - quality development of the digital economy. Overall, in the process of the digital economy development in the Hainan Free Trade Port, there are still obvious bottlenecks in aspects such as the legal system, data governance, and infrastructure. It is extremely urgent to break through these bottlenecks through institutional innovation, technological upgrading, and policy guidance so as to achieve the sustainable development of the digital economy.

2.4 Analysis of Typical Cases

The rapid development of Hainan Free Trade Port in the field of the digital economy has given rise to a number of representative enterprises and projects. Among them, the construction projects of digital economy infrastructure represented by the Hainan International Data Port have become an important driving force for promoting the development of the regional digital economy. The construction of this project aims to create a comprehensive data center that integrates data storage, cloud computing, and artificial intelligence. It will provide fundamental support for the digital transformation of the Hainan Free Trade Port. According to relevant research, this kind of projects not only enhance the efficiency of digital resource allocation within the region but also create a favorable industrial ecosystem by attracting high - tech enterprises from both home and abroad to settle in. The Hainan Free Trade Port has also actively introduced blockchain technology and carried out pilot applications in areas such as cross - border trade and supply chain management. For example, the Comprehensive Pilot Zone for Cross - border E - commerce in the Hainan Free Trade Port utilizes blockchain technology to achieve product traceability and make transaction data transparent. This effectively reduces transaction costs and enhances the efficiency of regulatory supervision. This practice demonstrates that blockchain technology boasts remarkable advantages in enhancing the governance capabilities of the digital economy. Meanwhile, the Hainan Free Trade Port has also actively explored digital economy legislation. As Chinese scholar Zhang Zhiming pointed out, the comprehensive legislation on the local digital economy needs to be combined with the local reality and pay attention to the connection between institutional innovation and practical needs. In specific practice, Hainan has provided a legal basis for the development of the digital economy by formulating the Regulations on Promoting the Digital Economy of the Hainan Free Trade Port. This regulation clearly defines the content in aspects such as the market - oriented allocation of data elements, the construction of digital infrastructure, and the guarantee of network security. However, despite achieving certain results, the Hainan Free Trade Port still faces numerous challenges in the field of the digital economy. For example, the issues of data security and privacy protection have become increasingly prominent. Some enterprises have insufficient compliance during the process of data collection and utilization. Chinese scholar Zhu Songyang mentioned that in promoting the legislation of the digital economy, the process should be accelerated to ensure that the legal system keeps pace with the development of the industry. Therefore, in the future, it is necessary to further improve relevant laws and regulations, strengthen the supervision of data usage, and simultaneously enhance cross - departmental collaboration to form a multi - dimensional governance pattern. Overall, the analysis of typical cases in the digital economy field of the Hainan Free Trade Port shows that its development path not only highlights the significance of policy guidance but also reflects the synergistic effect of institutional innovation and technological application. These experiences have provided valuable references for other regions and also laid a solid foundation for the sustained and healthy development of the digital economy in the Hainan Free Trade Port.

3. The Theoretical Foundation and International Experience of Digital Economy Legislation in the Hainan Free Trade Port

3.1 The Theoretical Basis for the Legislation of the Digital Economy

As an important part of the modern legal system, the legislative process for the digital economy draws on a theoretical foundation that involves the cross - integration of multiple disciplines, including law, economics, and management. From a legal perspective, the core of legislation in the digital economy lies in constructing a legal framework that meets the development needs of digital technologies. This framework aims to effectively regulate key areas such as data resources, the platform economy, cyber security, and the protection of personal information. According to the research of Chinese scholar Gou Xuezhen, the legislation of the digital economy in China shows a functionalist tendency. That is to say, it aims to guide and regulate digital economic activities through legal means, so as to safeguard market order and the public interests of society. Meanwhile, Chinese scholars Feng Yujun and Shen Hongyi pointed out that in the process of promoting scientific, democratic, and law - based legislation in the Hainan Free Trade Port, attention should be paid to the systematicness and forward - looking nature of the legal system to cope with the challenges posed by the rapid development of the digital economy. From an economic perspective, the necessity of legislating for the digital economy stems from its profound impact on the efficiency of resource allocation, the vitality of market innovation, and the economic growth model. Chinese scholars Su Bingjie and Xu Yonghong pointed out based on the analysis of big data on the Internet that the popularity structure of the digital economy is closely related to the regional network, and an effective legislative mechanism can promote the coordinated development of the digital economy among regions. Research conducted by Chinese scholars Zheng Bing and Zhao Yanyun further indicates that the development of the digital economy has a significant impact on the regional carbon emission intensity. Consequently, it is necessary to optimize the development path of the digital economy through legislative measures to achieve the goal of green and low - carbon development. From the perspective of management science, legislation on the digital economy is not merely a response to technological changes; rather, it is a drive for the modernization of governance capabilities. Chinese scholars Long Wei and Zhao Zechen believe that after the Hainan Free Trade Port initiates its closed - port operation, it is necessary to improve the governance system and governance capacity by perfecting relevant laws and regulations. This is done in order to address the complex governance issues brought about by the digital economy. Meanwhile, Chinese scholar Zhang Zhiming, has proposed that local comprehensive legislation on the digital economy should emphasize the scientific nature and operability of institutional design to ensure that the implementation effects of the laws are in line with the policy objectives. The theoretical basis for the legislation of the digital economy encompasses multiple dimensions such as law, economics, and management. Its core objective is to achieve the standardized and sustainable development of the digital economy through legal means, thereby providing a solid legal guarantee for the construction of the Hainan Free Trade Port.

3.2 A Comparative Study of International Digital Economy Legislation

Against the backdrop of the rapid development of the digital economy, countries around the world are actively adopting legislative measures to regulate the growth of the digital economy. These legislative efforts are aimed at ensuring data security, fostering technological innovation, and maintaining a well-ordered market environment. The United States, the European Union, and Singapore are significant players in the global digital economy. Their legislative models and institutional designs are highly representative, and they hold great reference value for the digital economy legislation of the Hainan Free Trade Port. The United States has adopted a market-oriented and liberalized approach in digital economy legislation, emphasizing the autonomy of enterprises and their technological innovation capabilities. For example, local and federal-level legislations such as the California Consumer Privacy Act (CCPA) and the Federal Data Protection and Privacy Act (FDPPA) all demonstrate a strong emphasis on individual data rights. These laws promote enterprises to establish a comprehensive data governance system through strict compliance requirements. The United States has also issued policy documents such as the National Artificial Intelligence Initiative Act to strengthen the supervision of key areas and ensure that technological development aligns with national security and the public interest. In contrast, the European Union places a greater emphasis on data sovereignty and privacy protection. Its General Data Protection Regulation (GDPR) has emerged as one of the most influential digital governance frameworks globally. Through strict data processing rules, high-value fine mechanisms, and comprehensive protection of the rights of data subjects, this regulation has established a multi-level digital regulatory system, providing an institutional reference for other countries. Meanwhile, the European Union has also passed the Digital Services Act (DSA) and the Digital Markets Act (DMA) to further strengthen the supervision of the platform economy and prevent market monopolies and the abuse of technology. Singapore, on the other hand, takes "flexible regulation" as its core concept, emphasizing the balance between innovation and risk prevention and control. Singapore's Personal Data Protection Act (PDPA) not only safeguards individuals' privacy but also provides a relatively relaxed operating environment for enterprises, thereby encouraging digital transformation. The Singaporean government promotes cross-departmental collaboration by establishing institutions such as the "Digital Governance Committee" to form an efficient digital governance mechanism. Overall, the international legislation on the digital economy shows a diversified trend. There is the US model centered around market freedom, the EU model with data protection at its core, and the Singapore model characterized by flexibility and high-efficiency. These experiences indicate that when formulating legislation for the digital economy, it is necessary to take into account the national conditions of one's own country, and strike a balance among technological innovation, data security, and fair competition. In this way, it can provide institutional guarantees for the high-quality development of the digital economy in the Hainan Free Trade Port.

3.3 Inspiration from International Experiences for Hainan

Against the backdrop of the rapid development of the digital economy, relatively mature legislative experiences have been established internationally, which provide important references for the digital economy legislation in the Hainan Free Trade Port. In terms of legislative principles, the internationally recognized principles of “technology neutrality” and “minimum intervention” hold significant value for reference. For example, the European Union’s General Data Protection Regulation (GDPR) emphasizes the transparency of data processing and the autonomy of users, which reflects the importance attached to the balance between technological innovation and individual rights; The United States has established a market - oriented legislative concept with appropriate government supervision through laws and regulations such as the Cloud Computing Services Security Act. These principles will assist Hainan in formulating laws related to the digital economy. On one hand, they will ensure data security; on the other hand, they will promote industrial innovation. In terms of the institutional framework, international experience shows that establishing a multi - level and systematic legal system is the key to achieving effective governance. Singapore has established a comprehensive legal system covering multiple fields such as data management, cyber security, and privacy protection through the enactment of the Digital Governance Act and the Cyber Security Act. This has given rise to a model featuring “fundamental legislation + specialized regulations”. This model can provide a template for institutional design in Hainan, enabling it to balance comprehensiveness and flexibility in the legislation of the digital economy. The improvement of the implementation mechanism is also an important part of international experience. Taking the European Union as an example, it has established independent data protection agencies and set up cross - departmental collaboration mechanisms to ensure the effective implementation of laws. Meanwhile, relying on the digital regulatory platform, it can achieve dynamic monitoring and risk early - warning of digital economic activities. This mechanism can provide useful insights for Hainan and promote the establishment of an efficient and collaborative [Here the original text is incomplete. You may want to provide the full text so that I can complete the translation]. Finally, international experience also emphasizes the interactive relationship between legislation and industrial development. For example, South Korea has promoted the construction of digital infrastructure through the “Digital New Deal” and, at the same time, introduced the “AI Ethics Guidelines” as a supporting measure. This has enabled a positive cycle between legal development and industrial progress. This indicates that during the process of digital economy legislation in Hainan, attention should be paid to the connection with industrial policies, and legal means should be employed to guide and regulate the development of the digital economy. International experiences offer multi - faceted references for the legislation of the digital economy in the Hainan Free Trade Port. These include the scientific setting of legislative principles, the systematic construction of institutional frameworks, the optimization of implementation mechanisms, and the coordinated cooperation between laws and industrial development. These experiences not only contribute to enhancing the forward - looking nature and feasibility of Hainan’s digital economy legislation but also lay a solid foundation

for creating a globally competitive digital economy environment.

4. Practical Paths and Optimization Suggestions for the Legislation of the Digital Economy in the Hainan Free Trade Port

4.1 The Establishment of the Legislative System

The overall approach to the legislation of the digital economy in the Hainan Free Trade Port should aim at establishing a globally competitive digital economy institutional system. It should focus on constructing a legal framework that meets the development needs of the digital economy, promoting the in-depth integration of the digital economy and the real economy, safeguarding data security and privacy rights, and facilitating fair competition and market order. In terms of target positioning, it should be clearly stated that the core function of the digital economy legislation for the Hainan Free Trade Port is to provide legal safeguards for the high-quality development of the digital economy. At the same time, it should take into account innovation, forward-looking nature, and operability to ensure that the legislative content can effectively address the practical needs of the digital economy's development. The core content should cover aspects such as data resource management, digital platform supervision, network security protection, rules for cross-border data flow, and support policies for the digital industry, so as to form a systematic and standardized legislative system. In terms of implementation steps, first of all, it is necessary to conduct an in-depth investigation into the current situation of the digital economy development in the Hainan Free Trade Port to clarify the legislative requirements. Public participation and expert deliberation in the legislative process should be strengthened to ensure the democracy and professionalism of legislation. Meanwhile, attention should be paid to the coordination and connection with other relevant laws and regulations to avoid legal conflicts and enhance the overall effectiveness of legislation. It is also necessary to establish a dynamic adjustment mechanism. In accordance with the development trends of the digital economy and policy changes, relevant regulations should be promptly revised and improved to ensure the timeliness and adaptability of legislation. Through the above measures, the legislation on the digital economy in the Hainan Free Trade Port will gradually establish a legal environment that complies with international standards and suits local characteristics, providing strong support for the sustained and healthy development of the digital economy.

4.2 Legislative Practices in Key Areas

In the practice of digital economy legislation in the Hainan Free Trade Port, key areas such as data security, digital platform supervision, and cross-border data flow urgently need to be regulated and guided through systematic legislation. In terms of data security, in line with relevant legal frameworks such as the Data Security Law of the People's Republic of China and the Personal Information Protection Law, and in consideration of the actual needs of the Hainan Free Trade Port, a data security management system with local characteristics should be formulated. For instance, a dedicated data security regulatory body can be established. This body will be responsible for conducting regular

reviews of enterprises that handle sensitive information. Additionally, an emergency response mechanism for data breaches should be set up to guarantee the security of data throughout the entire process of collection, storage, transmission, and utilization. In terms of the supervision of digital platforms, it is necessary to strengthen the legal regulation of the platform economy to prevent the occurrence of market monopolies and unfair competition practices. The healthy development of digital platforms can be promoted through measures such as clarifying the responsibility boundaries of platforms, strengthening the protection of user rights and interests, and improving the requirements for algorithm transparency. In response to the issue of cross - border data flow, as an important window for opening up to the outside world, the Hainan Free Trade Port should actively explore a cross - border data flow system that complies with international rules. We can draw on international advanced experiences, such as the European Union's General Data Protection Regulation (GDPR) and the United States' California Consumer Privacy Act (CCPA). Combining with the actual situation of the Hainan Free Trade Port, a hierarchical and categorized regulatory system for cross - border data flows can be established. This system can not only safeguard national security but also promote the digital economy. In the process of legislation for the digital economy in the Hainan Free Trade Port, core areas such as data security, digital platform supervision, and cross - border data flow should be given significant focus. Through scientific legislation and precise policy implementation, a solid legal guarantee can be provided for the high - quality development of the digital economy.

4.3 Improve the Legislative Guarantee Mechanism

In the practice of digital economy legislation in the Hainan Free Trade Port, a sound legislative guarantee mechanism serves as crucial support for ensuring the effective implementation of laws. The formulation and implementation of supporting policies are key steps in enhancing the implementation effect of legislation. In line with the development characteristics of the Hainan Free Trade Port, highly targeted and operational implementation rules and supporting measures should be introduced. For instance, a data security management system, digital platform regulatory rules, and a compliance framework for cross - border data flows should be established. These supporting policies can not only provide specific operational guidelines for the legislation of the digital economy but also enhance the enforceability and adaptability of the laws, thereby promoting the achievement of the legislative goals. The improvement of the law enforcement supervision system is of great significance for ensuring the effective implementation of legislation. It is necessary to strengthen the standardized management of law enforcement actions in the digital economy field, clarify the division of responsibilities among different departments, and establish a cross - departmental collaborative supervision mechanism to address the new issues and risks emerging in the digital economy. Meanwhile, efforts should be made to strengthen the professional development of the law - enforcement teams. It is necessary to enhance the law - enforcement officers' ability to understand and apply laws and regulations related to the digital economy. This is crucial to guarantee the fairness and authority of the law - enforcement process. The establishment of a social participation mechanism is also a crucial aspect of improving legislative

safeguards. By encouraging enterprises, industry associations, academic institutions, and the general public to actively participate in the legislative process and subsequent implementation evaluations, the scientific nature and democracy of legislation can be enhanced, and the sense of recognition and implementation ability of all sectors of society towards digital economy legislation can be strengthened. For example, various measures can be taken to broaden the channels and forms of public participation in the legislative process, such as establishing information disclosure platforms, conducting public opinion - solicitation campaigns, and setting up third - party evaluation institutions. These actions can make the legislation better meet the actual needs and have a solid social foundation. Through the systematic design of supporting policies, the standardized promotion of law enforcement and supervision, and the diversified expansion of social participation, the implementation effect of digital economy legislation in the Hainan Free Trade Port can be effectively enhanced, providing solid legal protection for the high - quality development of the digital economy.

5. Conclusion

As the construction of the Hainan Free Trade Port continues to advance, the digital economy, being one of its core industries, has put forward higher requirements for the legislative system. Based on the current development status of the digital economy in the Hainan Free Trade Port, it is evident that continuous efforts are required in legislative work across multiple fronts, including perfecting relevant systems, optimizing regulatory mechanisms, and strengthening international cooperation. The long - term goal of digital economy legislation should be further clarified. That is, to construct a forward - looking, systematic and operational legal framework to adapt to the trend of the rapid iteration of digital technologies and the in - depth integration of industries. According to relevant research, the core functions of digital economy legislation lie in regulating market order, safeguarding data security, and promoting technological innovation. Achieving these goals requires the effective allocation and rational utilization of data resources through legislative means. The Hainan Free Trade Port should strengthen experience exchanges with internationally advanced regions, especially in areas such as cross - border data flow, digital service trade, and platform economy supervision. It should draw on mature legislative models and make local adaptations in light of the local actual situation. For example, referring to the international research findings on legal regulation in the development of the digital economy can provide Hainan Free Trade Port with more scientific legislative ideas. Attention should also be paid to the synergistic effect between legislation and policies to ensure that the legal system can effectively support the high - quality development of the digital economy. In specific practice, efforts should be made to strengthen the legal response capabilities regarding emerging business forms. For instance, the novel legal issues arising from the application of technologies such as artificial intelligence and blockchain need to be promptly regulated through legislation. Meanwhile, a dynamic adjustment mechanism should be established to ensure that laws and regulations can be updated in tandem with technological advancements and industrial development. In the future, the legislation on the digital

economy in the Hainan Free Trade Port should also focus on creating a globally influential digital governance hub. Through institutional innovation, it aims to promote the transformation and upgrading of the regional economy and provide Chinese solutions for the governance of the digital economy across the country and even globally.

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