

Market-Oriented Development Path of Hainan's Shipping Services under the Background of the Free Trade Port

Xinyi Ma^{1,2}, Yadong Chen^{2*}, Zaifang Kuang², Zejun Chen²

¹Key Laboratory of Philosophy and Social Science in Hainan Province of Hainan Free Trade Port International Shipping Development and Property Digitization, Hainan Vocational University of Science and Technology, Haikou, 571126, China

²Haikou Marine Geological Survey Center, China Geological Survey, Haikou 571127, China;

*Corresponding author: chenyardong6688@126.com

Abstract: In the context of the Hainan Free Trade Port construction, the market-oriented development of Hainan's shipping services has become an important path to promote its high-quality economic development. With the gradual implementation of the Free Trade Port policies, Hainan's shipping services face both opportunities and challenges, especially in the marketization process where there are still many bottlenecks. This paper analyzes the basic structure of Hainan's shipping services market, its development bottlenecks, and the impact of Free Trade Port policies, exploring feasible paths for the market-oriented development of shipping services. It proposes specific paths in constructing a market competition mechanism, promoting industry intelligence and digital transformation, optimizing port and shipping infrastructure, and deepening international cooperation. The paper also analyzes the collaborative role of government and market entities, funding support and risk prevention mechanisms, and talent cultivation as implementation paths, aiming to provide theoretical support and practical guidance for Hainan's shipping service market reform. Finally, the paper summarizes the achievements and challenges in the market-oriented development of Hainan's shipping services, and points out future research directions in deepening reforms, enhancing international competitiveness, and strengthening green development.

Keywords: Hainan shipping services; market-oriented development; Free Trade Port policies; competition mechanism; digital transformation; international cooperation

Introduction

The construction of the Hainan Free Trade Port is a major initiative of China's deepening reform and opening-up, especially having a profound impact on the market-oriented development of Hainan's shipping services. As a fundamental industry in Hainan, shipping plays a key role in facilitating logistics, trade, and economic functions. However, the marketization process faces challenges in policy, market, and technology that hinder efficient operation and international competitiveness. Therefore, exploring the paths for the market-oriented development of Hainan's shipping services under the Free Trade Port background holds significant theoretical and practical importance. This paper, by analyzing the current status and bottlenecks of the marketization of Hainan's shipping services, and combining the advantages of Free Trade Port policies, proposes development paths that aim to advance the marketization of Hainan's shipping services through policy support, infrastructure construction, and intelligent transformation, enhancing its global competitiveness.

1. Analysis of the Current Situation of Market-Oriented Development of Hainan's Shipping Services

1.1 Basic Structure and Participants in Hainan's Shipping Services Market

The basic structure of Hainan's shipping services market includes multiple links, such as port operation, shipping companies, logistics service providers, and various government agencies. As the only tropical island province in China, the shipping industry occupies an important position in Hainan's economic development. The key market participants include large state-owned shipping companies,

private enterprises, foreign shipping companies, and port management agencies.

Among them, port operators are critical participants in the market. Major ports in Hainan, such as Haikou Port, Sanya Port, and Yangpu Port, serve as connections for Hainan's shipping with domestic and international markets. The construction of port infrastructure directly affects the efficiency and marketization of shipping services. Shipping companies are the core players in the service chain, primarily responsible for vessel dispatch, route arrangement, and cargo transportation. Logistics service providers play intermediary roles in warehousing, sorting, and distribution, offering auxiliary support for shipping services.^[1]

Moreover, the government, as a policy maker and regulator, plays an indispensable role. It takes on various functions, including infrastructure construction, market access, industry standards, and safety regulation. With the advancement of Free Trade Port policies, Hainan's shipping service market is gradually moving towards greater openness, and the diversification of market entities has made the shipping service system more complex and internationalized.

1.2 Current Marketization Status and Development Bottlenecks of Hainan's Shipping Services

Although the marketization of Hainan's shipping services has made progress under the push of Free Trade Port policies, it still faces numerous bottlenecks. Firstly, the market competition mechanism is underdeveloped, with the traditional market structure still being dominated by state-owned enterprises, and the participation of private and foreign companies is relatively low. Most shipping companies still rely on traditional business models, lack innovation, and have inefficient market competition strategies. Secondly, the infrastructure of shipping services is lagging, especially in some remote areas where port facilities are weak. The capacity of ports, navigational capabilities, and the level of digitalization still cannot meet the growing market demand, which limits the improvement of shipping service efficiency. Thirdly, there is a shortage of talent. Despite Hainan's rich shipping resources, there is still a significant gap in high-end shipping management, technological research and development, and smart shipping talent. This talent shortage limits the innovative development of Hainan's shipping services and hinders the marketization and internationalization process.

Finally, policy support and the market environment still face uncertainties. Although Free Trade Port policies are being gradually implemented, challenges exist in policy details, execution capabilities, and market operation, which affect the marketization of shipping services.^[2]

1.3 Impact of Free Trade Port Policies on the Market-Oriented Development of Hainan's Shipping Services

The implementation of Free Trade Port policies provides significant policy support and development opportunities for the market-oriented development of Hainan's shipping services. The policies simplify administrative approval, relax market access, and strengthen international cooperation, which significantly enhances the openness of Hainan's shipping services market. Specifically, the Free Trade Port policies are reflected in several aspects:

Firstly, the policy relaxation has promoted the diversification of market participants. By easing the entry barriers for foreign and private enterprises into the Hainan shipping market, it has stimulated the involvement of more market players. The entry of foreign shipping companies and international logistics enterprises has accelerated the internationalization of Hainan's shipping services.

Secondly, Free Trade Port policies have supported port management system reforms and optimized port layout, providing strong guarantees for the market-oriented development of Hainan's shipping services. Policy support has led to the expansion and modernization of Hainan's port facilities, thus providing more efficient infrastructure for shipping services.

Lastly, Free Trade Port policies have fostered the coordinated development of shipping services with related industries. By promoting deep integration between shipping, logistics, finance, and technology, the policies have accelerated the development of emerging fields such as intelligent shipping, green shipping, and financial innovation. Government support for intelligent shipping technologies has driven the growth of digital shipping services and smart ports, providing technological support for market-oriented shipping services.

However, despite the positive role that Free Trade Port policies play in the market-oriented development of Hainan's shipping services, there are still challenges in their implementation, such as local policy discrepancies, imperfect market rules, and alignment with international standards, which

continue to affect the effectiveness of these policies and the marketization process of shipping services.

2. Path Selection for the Market-Oriented Development of Hainan's Shipping Services

2.1 Constructing the Basic Framework for a Market-Oriented Competition Mechanism

Constructing a market-oriented competition mechanism is one of the core tasks for advancing the marketization of Hainan's shipping services. Currently, Hainan's shipping market is mainly dominated by state-owned shipping companies, with low participation from private and foreign enterprises, resulting in insufficient market competition. Therefore, to promote the construction of a market-oriented competition mechanism, the government should focus on market access, competitive fairness, and policy transparency.

Relaxing market access is the foundation for building a competitive mechanism. While Hainan's Free Trade Port policies have somewhat relaxed the entry barriers for foreign capital, administrative barriers and industry access restrictions still exist. The government should further simplify approval processes, reduce administrative intervention, and encourage private and foreign enterprises to participate, thus forming a diversified competitive landscape.^[3]

Ensuring competitive fairness is an essential component of the market-oriented mechanism. The government should improve the competition rules in the shipping market, ensure that market entities compete in a fair and transparent environment, combat unfair competition practices, and enhance market norms and transparency. Regulatory agencies should strengthen market oversight to prevent monopolies, price manipulation, and other practices that hinder the healthy development of the market.

Policy transparency and stability are key to ensuring the long-term effectiveness of market competition. The government should maintain policy continuity and stability, avoiding frequent policy adjustments that could affect market entities' investment decisions and operational planning. At the same time, policy transparency should be further improved to ensure that market participants clearly understand policy directions and implementation details, thereby boosting market confidence.

2.2 Promoting the Intelligent and Digital Transformation of the Shipping Service Industry

The intelligent and digital transformation is a key path to enhancing the marketization level of Hainan's shipping services and promoting the high-quality development of the industry. With the global shipping industry increasingly embracing intelligent and digital trends, Hainan's shipping industry should keep pace with the times and fully leverage modern information technology to drive industry transformation and upgrading.

The application of intelligent shipping technology is the trend for future shipping service development. By introducing automation ships, unmanned driving technologies, and intelligent port systems, the efficiency and safety of shipping services can be significantly improved. Hainan should support the research and application of intelligent ships through policy support and technological innovation, and accelerate the construction of smart ports. This will enable ports to automate operations in cargo loading and unloading, ship scheduling, and waterway management, reducing operational costs and improving service quality.

The integration of big data and Internet of Things (IoT) technologies is an important path for advancing digital transformation. Hainan's ports and shipping companies can monitor shipping conditions, cargo transportation progress, and port equipment operations in real time, providing data support for refined management of shipping services. Big data analysis can also help shipping companies optimize route selection, reduce empty sailing rates, and improve the efficiency of shipping resource utilization. Furthermore, with the help of big data technology, Hainan's shipping services can achieve innovations in accurately predicting market demand and enhancing customer service.^[4]

2.3 Optimizing Port and Shipping Infrastructure Construction

Port and shipping infrastructure are the pillars of the market-oriented development of shipping services. To advance marketization, Hainan must increase investment in port infrastructure construction, optimize port layout and management models, and enhance the comprehensive competitiveness of ports. Upgrading port infrastructure is the fundamental guarantee for the market-oriented development of Hainan's shipping market. Compared to international advanced levels, Hainan's port facilities still lag,

especially in terms of throughput capacity, equipment modernization, and intelligence. To enhance port competitiveness, it is essential to invest more in port infrastructure, optimize equipment configurations, and promote smart upgrades, thus improving the port's loading/unloading capabilities and logistics aggregation functions.

Optimizing port logistics systems is also a significant development direction. Hainan should utilize information technology to optimize internal port logistics systems, improving the efficiency and management level of cargo import/export. By strengthening the integration of container terminals, cargo warehousing, and logistics distribution, an efficient supply chain management system can be formed, enhancing customs clearance efficiency, reducing cargo dwell time at ports, and lowering logistics costs. Optimizing the regional layout of ports is a key factor in improving port competitiveness. Hainan's unique geographical position presents opportunities to develop multiple regional hub ports. Accordingly, based on Hainan's economic development characteristics and market demand, port resources should be reasonably allocated, existing port resources integrated, and redundant construction avoided. This will promote inter-port cooperation and enhance the overall competitiveness of the port cluster, forming an organic shipping service network.

2.4 Deepening International Cooperation and Market Expansion Strategies

With the advancement of globalization, the marketization of Hainan's shipping services should not only focus on expanding domestic markets but also actively explore international markets to promote the international development of Hainan's shipping services.^[5]

Strengthening international shipping cooperation is an important way to enhance the market-oriented competitiveness of Hainan's shipping services. Hainan should actively engage in cooperation with international shipping organizations and shipping alliances, deepen shipping cooperation with countries along the "Belt and Road" initiative, and build an international shipping cooperation platform. Through collaboration with ports and shipping companies from other countries, resource sharing can expand the coverage and global competitiveness of Hainan's shipping services. Hainan can also increase its international influence by signing shipping agreements, bilateral treaties, and other arrangements. Optimizing market expansion strategies is key to the internationalization process. Hainan's shipping services should develop differentiated market expansion strategies based on the demand characteristics of different countries and regions. For countries along the "Belt and Road" route, Hainan can offer diversified shipping services such as cross-border e-commerce logistics, maritime logistics, and multimodal transport, creating a variety of shipping service products. At the same time, Hainan should focus on expanding international financial markets and promoting the development of shipping financial services, providing diverse financing tools and financial support for international markets.

Enhancing the global supply chain competitiveness is also an important direction for the internationalization of Hainan's shipping services. Hainan should strengthen collaboration with international shipping companies, logistics enterprises, trade companies, and others to improve supply chain management services, enhancing cargo transportation efficiency and safety. By optimizing various stages in the shipping service chain, overall service levels and market competitiveness can be improved, further consolidating Hainan's position as an international shipping hub.

3. Implementation Path for the Market-Oriented Development of Hainan's Shipping Services

3.1 Collaborative Role of the Government and Market Entities

In the process of marketizing Hainan's shipping services, the collaborative role between the government and market entities is crucial. As the policy guide and regulator, the government should provide clear policy support and guarantees to market entities, particularly in market access and policy enforcement. This can be achieved by simplifying administrative approvals, relaxing market access, and encouraging private enterprises and foreign shipping companies to participate. Meanwhile, the government should coordinate policies to ensure synergy across different sectors, promoting the development of market entities in a fair competitive environment.

Market entities, under the government's guidance, should play a greater role in innovation and autonomy. Shipping companies, port operators, and logistics service providers should continuously innovate and enhance competitiveness according to market demand. Enterprises must undergo transformations in technology, management, and service models, driving the intelligent and digital

transformation to improve market responsiveness and service quality. The government and market entities need to strengthen information sharing and collaboration, optimizing resource allocation and achieving efficient development of Hainan's shipping services.

3.2 Multi-Level Financial Support and Risk Prevention Mechanisms

The marketization of shipping services requires multi-level financial support and effective risk prevention mechanisms. The government should establish a diversified funding support system, including direct financial support and attracting more social capital through policy bank loans and capital market financing. The government may also set up special shipping funds to focus on supporting innovative projects such as smart shipping and green shipping, encouraging private and foreign capital to participate in the construction and development of Hainan's shipping market.^[6]

To address market fluctuations and unpredictable risks in the shipping industry, Hainan should also establish a comprehensive risk prevention mechanism. This can be achieved by guiding shipping companies to cooperate with financial institutions to launch insurance products and risk management tools tailored to the shipping industry, alleviating operational pressure on shipping companies. Furthermore, the government should set up risk compensation funds to help shipping companies cope with sudden risks, such as natural disasters or significant market fluctuations, ensuring the sustainable development of shipping services.

3.3 Enhancing Talent Training and Management Levels

The market-oriented development of shipping services relies on high-quality talent and refined management. Hainan should strengthen the cultivation of professionals in shipping, especially in areas such as smart shipping, logistics management, and shipping finance. Through cooperation between universities and vocational education institutions, shipping-related professional courses should be offered to cultivate technical and management talents that meet market demand. At the same time, Hainan can collaborate with internationally renowned shipping enterprises and technology companies to improve educational quality and curriculum design, further enhancing the practical and innovative abilities of talents.

Shipping companies, during their transformation and upgrading process, should also focus on the introduction and training of management talents. Hainan's shipping enterprises should prioritize building internal management systems, improving the professional abilities and decision-making skills of management personnel. The government can support management reforms within shipping companies, promote advanced management concepts and corporate cultures, and enhance the overall operational efficiency and market responsiveness of shipping services.

3.4 Supervision and Evaluation Mechanisms in the Marketization Reform Process

The smooth progress of the marketization reform of shipping services requires effective supervision and evaluation mechanisms. The government should strengthen the supervision of market behaviors to ensure fair competition among market entities and prevent unfair competition, price manipulation, and other harmful practices. Additionally, the government needs to enhance supervision over shipping safety and environmental protection, ensuring that social responsibility and environmental protection are not neglected during the marketization process.^[7]

Regular evaluation of reform outcomes is an important method for ensuring the efficiency of Hainan's shipping service marketization process. The government should establish a scientific evaluation system and regularly assess the outcomes of the marketization reform, especially in terms of market entity activity, service efficiency, and infrastructure development progress. Through evaluation, the government can adjust policies and optimize reform measures in a timely manner, ensuring the relevance and effectiveness of the reforms.

Moreover, participation from all sectors of society helps improve the transparency and fairness of the marketization reform. The government can increase transparency and public participation by publicly soliciting opinions, holding hearings, and other methods, ensuring that reform measures are effectively implemented and supported by society.

Through the implementation of these paths, the marketization of Hainan's shipping services will gradually progress. Close cooperation between the government and market entities, financial support and

risk prevention, talent training and management improvement, and sound supervision and evaluation mechanisms will provide strong guarantees and support for the marketization of Hainan's shipping services.

Conclusion

Under the context of the Hainan Free Trade Port (FTP) construction, the market-oriented development of Hainan's shipping services has become a key driver for promoting high-quality economic growth. Although the FTP policies present opportunities, the marketization process still faces challenges in terms of policy, market, and technology. This paper, through analyzing the basic structure, bottlenecks, and the impact of FTP policies on Hainan's shipping services market, explores feasible paths for market-oriented development, including building competitive mechanisms, promoting intelligent transformation, optimizing infrastructure, and deepening international cooperation. The study highlights that the collaborative role of the government and market entities, financial support, risk prevention, and talent training are important components of the implementation paths. Future research should focus on the enhancement of international competitiveness, green shipping, and smart shipping to provide sustained support for the marketization of Hainan's shipping services.

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References

- [1] Li Maosheng. *Research on the Technological Innovation Path of Smart International Ecological Shipping Center in Hainan FTP* [J]. *South China Sea Journal*, 2023, 9(06):22-33.
- [2] Yin Wenwei. *Research on the Impact Mechanism and Effects of China's Free Trade Zones on Port and Shipping Services* [D]. Shanghai Maritime University, 2023.
- [3] He Ziyang, Lu Xuan. *Construction and Development of Hainan's International Shipping Hub under the FTP Context* [J]. *Science and Technology Entrepreneurship Monthly*, 2021, 34(09):86-92.
- [4] Liu Haiyu, Shen Tingting. *Discussion on the International Ship Registration in Hainan Free Trade Port* [J]. *China Maritime*, 2021, (07):40-42.
- [5] Long Wei, Zhang Zhifan, Shi Jun. *How Should Hainan Shipping Precisely "Play the Game" under the FTP "Big Strategy"?* [N]. *China Water Transport News*, 2021-07-04(001).
- [6] Zeng Jin, Li Li. *Discussion on the Improvement of Hainan's Shipping Industry under the Background of Free Trade Port Construction* [J]. *Pearl River Water Transport*, 2021, (07):3-4.
- [7] Harrison M, Hong W, Lam S, et al. *The promise of China's free trade zones—the case of Hainan* [J]. *Asian Education and Development Studies*, 2020, 9(3): 297-308.