

To Push Forward the Integrated Reform in An All-Round Way and Focus on Building A Strong Province in The Digital Economy

-- Take Dalian as an Example

Xiaohan Bian

School of Management, Dalian University of Finance and Economics, Dalian Liaoning, 116000, China

Abstract: This paper, taking Dalian as a case study, delves into the strategic pathways and practical strategies for comprehensively advancing integrated reform and jointly striving to build a digital economy powerhouse province. It first analyzes the significance of the digital economy as a new engine for global economic growth, along with Dalian's foundational advantages and potential challenges in its digital transformation journey. Subsequently, from various dimensions such as policy guidance, technological innovation, industrial upgrading, and business environment optimization, the paper elaborates on how Dalian is leveraging integrated reform measures, including enhancing cross-departmental collaboration, promoting open sharing of data resources, and constructing a digital economy ecosystem, to accelerate the deep integration of digital technologies with the real economy, thereby promoting industrial structural optimization and upgrading, and enhancing regional competitiveness. The paper also emphasizes Dalian's key initiatives in nurturing and attracting talents, strengthening infrastructure support, and advancing smart city and digital government construction during its pursuit of becoming a digital economy powerhouse, and how these initiatives provide strong momentum for the high-quality development of Dalian's, and by extension, its province's, digital economy. Through case studies and practical summaries, this paper offers a series of replicable and scalable experiences and models, providing valuable insights for other regions to advance their own digital economy integration reforms.

Keywords: Digital Economy; Integrated Reform; Dalian; Industrial Upgrading; Smart City; Digital Economy Powerhouse Province.

1. Research Background and Significance

Driven by the tide of globalization and informatization, digital economy has become an important engine to promote economic and social development. As an important port city and opening frontier in Northeast China, Dalian is facing the urgent need of transformation and upgrading. With the accelerated layout of "new infrastructure" and the in-depth implementation of "digital China" strategy, comprehensively promoting the integration reform and accelerating the development of digital economy have become the key path for Dalian to achieve high-quality development.

At present, the digital economy is booming around the world, which not only reshapes the economic growth model, but also profoundly changes people's lifestyles. Dalian has a solid industrial base, rich scientific and technological resources and superior geographical location, and has good conditions for developing digital economy. Through in-depth analysis of the current situation, challenges and opportunities of digital economy development in Dalian, this paper puts forward some strategic suggestions for comprehensively promoting the integration reform, aiming at providing a reference for the development path of digital economy in Dalian and even similar cities. This will not only help to promote the high-quality development of Dalian's economy and enhance its competitiveness in the region and even the whole country, but also provide useful reference for the construction of digital economy in other regions and jointly promote the prosperity and development of China's digital economy.

As an important strategy to promote regional economic development, integration reform has rich and far-reaching connotations. In the practice of Dalian, the integration reform aims to realize the deep integration and common development of economy, society, culture and other fields by integrating resources, optimizing layout and strengthening coordination. Specifically, by signing agreements or treaties, the integration reform removes the policy and institutional obstacles that hinder economic integration, and promotes the free flow of goods, services, capital, technology, talents and other elements between regions, thus accelerating the development of economic trade.

Its characteristics are mainly reflected in the following aspects: first, it breaks through geographical restrictions and forms a cross-regional and cross-industry integration pattern. For example, Dalian actively participates in transoceanic and transcontinental cooperation in regional economic integration and builds a free trade zone; Second, pay attention to the integration and optimal allocation of resources, and realize the efficient use of resources through policy guidance and market mechanism; The third is to emphasize coordinated development, promote the interaction and cooperation between the government, enterprises, society and other multi-subjects in the reform, and form a joint force; Fourth, pay attention to innovation drive, and enhance the core competitiveness of regional economy through technological innovation and management innovation; Fifth, adhere to the people-oriented principle, pay attention to people's livelihood and welfare, and ensure that the reform results benefit the broad masses of the people.

In the construction of a strong digital economy province in

Dalian, integration reform is not only an important starting point to promote the deep integration of digital economy and real economy, but also the only way to achieve high-quality development. By deepening the reform of integration, Dalian will continuously enhance the innovation ability of digital economy, optimize the layout of digital industry, improve the digital economy ecosystem, and lay a solid foundation for building a strong digital economy province.

2. Research Content and Methods

This study focuses on the strategic goal of "comprehensively promoting integrated reform and building a strong province in the digital economy". Taking Dalian as a specific case, it deeply analyzes its practical path, effectiveness challenges, and future directions in the process of digital transformation. The research content mainly includes the following aspects: firstly, to sort out the current development status of the digital economy in Dalian, including industrial foundation, technological innovation, policy environment, etc; The second is to analyze the key role of integrated reform in promoting the development of digital economy in Dalian, involving institutional and mechanism innovation, resource allocation optimization, and industrial chain coordination; The third is to explore the opportunities and challenges faced by Dalian in building a strong digital economy province, such as technological innovation bottlenecks, talent shortages, data security, and other issues; The fourth is to propose targeted countermeasures and suggestions, aiming to promote the high-quality development of the digital economy in Dalian and even the whole province through measures such as deepening reform, strengthening innovation driven development, and optimizing the business environment.

In terms of research methods, this study will adopt a literature review method to extensively collect domestic and foreign literature on digital economy, integrated reform and other related fields, and summarize and organize them; At the same time, combined with field research methods, we will go deep into the front lines of digital economy enterprises, government departments, and other sectors in Dalian to obtain first-hand information; In addition, case analysis method will be used to extract replicable and promotable experience and practices through the analysis of specific cases. Through the above methods, we strive to comprehensively and deeply reveal the internal logic and practical strategies of Dalian in promoting integrated reform and building a strong digital economy province.

3. The Relationship between Integrated Reform and the Development of Digital Economy

There is a close and profound internal connection between integrated reform and the development of digital economy. Integrated reform aims to promote the efficient allocation and flow of resources through the comprehensive optimization of policies, systems and mechanisms, and achieve coordinated and sustainable development of the economy and society. In this process, the development of the digital economy has become an important engine to promote the deepening of reform.

With its unique advantages, such as the widespread application of technologies such as big data, cloud computing, the Internet of Things, and blockchain, the digital economy

provides strong technical support and innovation power for integrated reform. Through the empowerment of digital technology, traditional industries have been transformed and upgraded, and emerging formats have emerged continuously, injecting new vitality into economic growth. At the same time, the development of the digital economy has also promoted the sharing and opening of information resources, lowered the market access threshold, and improved market transparency, providing a strong guarantee for the construction of the market system in the integrated reform.

In the process of comprehensively promoting integrated reform and focusing on building a strong province of digital economy in Dalian, we should make full use of the advantages of the digital economy, promote the modernization of the government governance system and governance capabilities, and promote the coordinated development of urban and rural areas, regions, industries and other aspects. By deepening integrated reform, we can break the institutional and mechanism barriers that restrict the development of the digital economy, stimulate market vitality and social creativity, and lay a solid foundation for the high-quality development of the digital economy in Dalian. Therefore, integrated reform and the development of the digital economy complement and promote each other, jointly promoting the overall progress of Dalian's economy and society

4. Analysis of the Current Status of Digital Economy Development in Dalian

As an important city in Northeast China, Dalian has achieved remarkable results in the development of digital economy in recent years and has gradually built a new economic system with digital economy as the core. The development of digital economy in Dalian started early. Since the construction of Dalian Software Park in 1998, the software industry has risen rapidly and become an important pillar of the city's economy. At present, Dalian has formed a digital economy industry cluster dominated by software and information technology services and electronic information manufacturing, with an industrial scale of more than 100 billion yuan, bringing together many Fortune 500 companies and their branches including Accenture, IBM, and HP.

In terms of digital economy infrastructure construction, Dalian actively promotes the construction of computing power infrastructure, builds a city computing power network, and improves the supply and application level of computing power. At the same time, new generation information technologies such as big data, cloud computing, artificial intelligence, and the Internet of Things have been widely used in Dalian, providing strong technical support for the development of digital economy.

In addition, Dalian also pays attention to the deep integration of digital economy and traditional industries, and promotes the transformation of traditional industries such as manufacturing, agriculture, and services to digitalization and intelligence through the implementation of intelligent, high-end, and service-oriented transformation projects. In the fields of smart cities, smart transportation, smart healthcare, smart education, etc., Dalian has also made significant progress, improving the level of intelligence in urban management and public services.

In summary, the development of Dalian's digital economy

is booming and has become an important engine for promoting high-quality development of the urban economy. In the future, Dalian will continue to deepen integrated reforms, focus on building a strong province in the digital economy, and inject new vitality into economic and social development.

5. Advantages and Challenges of Dalian City in the Development of Digital Economy

Dalian has significant advantages in the development of the digital economy. Firstly, it has a strong industrial foundation and is one of the first national software industry bases in China, with over 3000 software enterprises and an industrial cluster size exceeding 100 billion yuan, possessing a strong industrial agglomeration effect. Secondly, the infrastructure is perfect. New digital infrastructures such as 5G base stations, green big data centers, and industrial Internet are relatively complete. The network quality ranks first in the country, providing a solid support for the development of the digital economy. Furthermore, Dalian has abundant scientific and educational resources, with many universities offering majors in big data, artificial intelligence, and other related fields, providing a continuous supply of talent and research support for the development of the digital economy. In addition, Dalian has also introduced a series of policy measures to support the development of the digital economy, such as the "14th Five Year Plan for the Development of Dalian's Digital Economy", which has created a favorable policy environment for the development of the digital economy.

However, the development of digital economy in Dalian also faces many challenges. One is the insufficient supply of traditional production factors, such as limited resources such as land and labor, which hinders the rapid development of the digital economy. Secondly, there is a lack of innovation vitality in enterprises. Many enterprises have shortcomings in technological innovation and digital transformation, and urgently need to stimulate the vitality of new production factors. Thirdly, the issues of data security and privacy protection are becoming increasingly prominent. With the rapid development of the digital economy, risks such as data leakage and privacy infringement have also increased. How to ensure data security has become an urgent problem to be solved. The fourth is the increasing pressure of regional competition. With the intensification of digital economy competition nationwide, Dalian needs to further enhance its competitiveness in order to occupy a favorable position in the wave of digital economy.

In summary, Dalian has many advantages and also faces many challenges in the development of the digital economy. In the future, Dalian should continue to leverage its own advantages, actively respond to challenges, comprehensively promote integrated reforms, and work together to build a strong province in the digital economy.

6. Policies and Measures for the Integration Reform of Dalian City

In the process of comprehensively promoting integrated reform, Dalian has formulated and implemented a series of innovative policies and measures aimed at promoting the vigorous development of the digital economy and building an important support point for a strong province in the digital

economy.

Firstly, guided by the "Action Plan for Improving the Quality of the Business Environment in Dalian in 2024", the Dalian Municipal Government has introduced 23 specific measures in 60 areas, focusing on policies, factors, rule of law, services, and supervision. These measures aim to optimize the business environment, provide more convenient and efficient services for digital economy enterprises, and stimulate market vitality and creativity.

Secondly, Dalian actively promotes the "Internet plus government service" model and accelerates the construction of the city's integrated online government service platform. By integrating system resources and optimizing workflow, we have achieved "one-stop service" for government affairs, greatly improving the efficiency of government services and providing a more convenient government service experience for digital economy enterprises.

In addition, Dalian also focuses on strengthening scientific and technological research and development innovation, as well as talent introduction and training. By implementing major scientific and technological projects, strengthening the cultivation of innovative entities, and creating entrepreneurial incubation carriers, the city's scientific and technological innovation capabilities and core competitiveness are continuously enhanced. At the same time, we will deepen the implementation of the "Xinglian Talent Plan" to attract high-level talents and young students to stay and start businesses, providing strong talent support for the development of the digital economy. Dalian has had a profound impact on the development of the digital economy in the process of comprehensively promoting integrated reform. Firstly, the integrated reform has promoted the upgrading and integration of computing infrastructure by optimizing resource allocation, providing solid support for the digital economy. Dalian actively integrates into the national "East Calculation, West Calculation" strategic layout, establishes a "think tank" for computing power planning, promotes the construction of public computing power service platforms, achieves cross domain scheduling and efficient utilization of computing power resources, and lays a solid foundation for the high-quality development of the digital economy.

Secondly, the integration reform has accelerated the process of digital industrialization and industrial digitization. Dalian encourages local enterprises to actively layout key areas such as artificial intelligence, connected vehicles, and big data, relying on local computing resources to research and develop new technologies, develop new products, and create new business models. At the same time, we accelerated the digital transformation of traditional industries. By creating digital workshops, intelligent factories and industrial Internet platforms, we realized the reconstruction and upgrading of the traditional industrial chain and improved the overall economic competitiveness.

In addition, the integrated reform has also promoted the market-oriented allocation of data elements and stimulated the innovation vitality of the data industry. Dalian has actively explored data collection, company establishment, and operation models, forming the "Dalian Model" for the development of the data industry, promoting the efficient utilization and value release of data resources, and injecting new impetus into the development of the digital economy.

In summary, the in-depth practice of integrated reform in Dalian has not only optimized the development environment of the digital economy, but also accelerated the innovative

development of the digital economy, laying a solid foundation for Dalian to build a strong province in the digital economy.

In summary, Dalian has established a solid foundation for building a strong province in the digital economy by formulating and implementing a series of innovative policies and measures to comprehensively promote integrated reform.

7. The Strategic Path of Building a Strong Province in the Digital Economy Through Concerted Efforts

(1) Strengthening the construction of digital economy infrastructure

In the grand blueprint of building a strong province in the digital economy, strengthening the construction of digital economic infrastructure is the primary and key link. As a leading demonstration zone, Dalian should take the lead in accelerating the construction of an efficient, secure, and ubiquitous digital infrastructure system. This includes comprehensively enhancing the capabilities of information and communication networks, promoting the construction of new infrastructure such as 5G, the Internet of Things, and big data centers, and achieving full coverage of urban and rural areas and full penetration of industries. At the same time, we will strengthen the optimization of data center layout and green intensive development, enhance data storage, computing, and processing capabilities, and provide solid computing power support for the development of the digital economy. In addition, it is also necessary to accelerate the construction of industrial Internet, Internet of Vehicles and other integrated infrastructure, promote the digital transformation and intelligent upgrading of traditional industries, and lay a solid foundation for building a strong province of digital economy. Through the above measures, Dalian will build a modern infrastructure network that meets the requirements of the digital economy era, injecting strong impetus into the development of the digital economy and promoting high-quality economic and social development to a new level.

(2) Optimize the ecological environment of the digital economy

In the journey of building a strong province in the digital economy, optimizing the ecological environment of the digital economy is an indispensable key link. Dalian should focus on building an open, collaborative, and innovative digital economy ecosystem to provide fertile soil for the development of the digital economy. Specifically, it is necessary to strengthen the construction of digital infrastructure, including 5G networks, data centers, cloud computing platforms, etc., to ensure high-speed and smooth information transmission and provide solid support for the digital economy. At the same time, we will deepen the reform of "streamlining administration, delegating powers, and improving services", simplify the approval process, lower the market access threshold, stimulate the vitality of market entities, and attract more digital economy enterprises and projects to settle in Dalian.

In addition, it is necessary to strengthen the deep integration of government, industry, academia, research and application, promote the connection between technological innovation and industrial application, and build a technology innovation system with enterprises as the main body, market as the guide, and deep integration of industry, academia and

research. By organizing events such as the Digital Economy Forum and Innovation Competition, we aim to build a platform for communication and cooperation, gather high-quality innovation resources from both domestic and international sources, and inject strong momentum into the development of the digital economy. At the same time, we will focus on cultivating and introducing high-end talents in the field of digital economy, improve talent incentive mechanisms, and inject sustained vitality into the digital economy ecological environment.

Through the above measures, Dalian will continuously optimize the digital economy ecological environment, lay a solid foundation for high-quality development of the digital economy, and accelerate its progress towards becoming a strong province in the digital economy.

(3) Enhance the innovation capability of digital economy

In the journey of building a strong province in the digital economy, enhancing the innovation capability of the digital economy is the core driving force. Dalian should focus on building an open and collaborative innovation ecosystem, strengthen the dominant position of enterprises in technological innovation, and promote the deep integration of industry, academia, and research. Specifically, we should increase investment in digital technology research and development, encourage enterprises to establish research and development centers, attract top talents and teams from home and abroad to settle down, and form a group of internationally competitive digital technology innovation highlands. At the same time, we will promote cross-border integration and innovation, deepen the integration of the digital economy and the real economy, especially in the fields of intelligent manufacturing, smart cities, e-commerce, etc., to stimulate new formats and models, and broaden the digital economy

8. Empirical Study on the Construction of Dalian as a Strong Digital Economy Province

(1) Case Study on the Development of Digital Economy in Dalian City

In the process of comprehensively promoting integrated reform and building a strong province in the digital economy, Dalian has become a model for the development of the digital economy with its unique industrial foundation and resource endowment. In recent years, Dalian has seized the opportunity of digital economy development, fully leveraging the first mover advantage of software and information technology services, and achieved rapid growth of the digital economy through innovation driven development.

With Dalian High tech Zone and Jinpu New Area as the core, Dalian has established a "dual wheel drive" development model for software and information technology services, as well as integrated circuit manufacturing. Through the introduction and cultivation of leading enterprises, such as Xinhua Technology Co., Ltd. and Dalian Yaming Auto Parts Co., Ltd., Dalian has made remarkable achievements in intelligent manufacturing, industrial Internet, big data, cloud computing and other fields. These enterprises not only enhance their core competitiveness, but also drive the coordinated development of upstream and downstream enterprises in the industrial chain.

In addition, Dalian actively promotes the digital transformation of traditional industries. For example, CRRC Dalian has utilized digital twin technology to build a

domestically leading flexible production line that integrates lean, digital, and automation, achieving dual improvements in production efficiency and product quality. Through the wide application of "5G+Industrial Internet", Dalian has also made remarkable achievements in digital transformation in traditional industries such as shipbuilding, automobile and parts, bearings, etc.

In summary, Dalian has built a solid foundation for the construction of a strong digital economy province through policy guidance, innovation drive, and industrial synergy, providing valuable experience for other regions to learn from. In the future, Dalian will continue to deepen its integration reform, promote the deep integration of digital economy and real economy, and inject new momentum into achieving high-quality development.

(2) Evaluation of the Effectiveness of Dalian's Digital Economy Strong Province Construction

Dalian has achieved significant results in comprehensively promoting integrated reform and building a strong province in the digital economy. In recent years, Dalian has actively implemented the strategic deployment of the country and Liaoning Province on the development of the digital economy, led by innovation, accelerated the layout of new digital infrastructure, and promoted the coordinated development of digital industrialization and industrial digitization.

Firstly, the core industries of Dalian's digital economy have achieved rapid growth. In 2021, the added value of the core digital economy industry in Dalian reached 58.48 billion yuan, a year-on-year increase of 13.7%, accounting for 7.5% of the regional GDP, demonstrating a strong growth momentum. This achievement not only injects new momentum into economic growth, but also promotes the optimization and upgrading of industrial structure.

Secondly, Dalian maintains a leading position in the fields of software and information technology services. After more than 20 years of development, Dalian High tech Zone and Lushun South Road Software Industry Belt have become core industrial clusters, bringing together more than 3000 software enterprises and an industrial cluster size exceeding 100 billion yuan. These enterprises not only occupy an important position in the domestic market, but also actively expand into international markets, serving customers in multiple countries and regions such as Northeast Asia, North America, and Europe.

In addition, Dalian has made significant progress in the field of electronic information manufacturing. Around leading industries such as integrated circuits and new electronic components,

9. Strategic Suggestions for the Future Development of Dalian's Digital Economy

(1) Policy support and guidance

To comprehensively promote the integration reform of digital economy in Dalian and build a strong province in digital economy, policy support and guidance are crucial. Firstly, it is necessary to strengthen top-level design, introduce a series of forward-looking and systematic digital economy policies, clarify development goals, key tasks, and safeguard measures. By formulating the 'Dalian Digital Economy Development Strategic Plan', strategic guidance is provided for the long-term development of the digital economy.

Secondly, increase fiscal investment and tax incentives in key areas of the digital economy, and support innovation and industrial application of digital technology. Establish a special fund to focus on supporting the research and application of cutting-edge technologies such as artificial intelligence, big data, cloud computing, and blockchain, encouraging enterprises to increase their R&D investment and enhance their independent innovation capabilities.

At the same time, optimizing the business environment, simplifying the approval process, and providing more convenient and efficient services for digital economy enterprises. Strengthen intellectual property protection, crack down on infringement, safeguard the legitimate rights and interests of digital economy enterprises, and stimulate market vitality and creativity.

In addition, strengthen policy promotion and interpretation, improve policy awareness and implementation. By organizing events such as digital economy forums and policy lectures, building a communication platform between government and enterprises, promoting the deep integration of policies and industries, and forming a strong force to promote the development of the digital economy.

In summary, policy support and guidance are important guarantees for comprehensively promoting the integration reform of the digital economy in Dalian and building a strong province in the digital economy. Only by continuously improving the policy system and increasing policy support can we provide strong support for the vigorous development of the digital economy.

(2) Industrial synergy and innovation driven

In the future development of the digital economy in Dalian, industrial synergy and innovation drive are the core engines. Firstly, we should deepen the collaborative cooperation between industries and build a modern industrial system led by the digital economy. Through policy guidance and market mechanisms, promote the deep integration of information technology with manufacturing and service industries, and form a development pattern of cross-border integration, co creation and sharing. Promote the digital transformation of traditional industries, optimize production processes using technologies such as big data, cloud computing, and artificial intelligence, enhance product added value, and achieve industrial upgrading.

At the same time, we will strengthen the innovation driven development strategy and increase support for technological innovation in the field of digital economy. Encourage enterprises to increase research and development investment, establish a technology innovation system that closely integrates industry, academia, research, and application, and accelerate the transformation of scientific and technological achievements into practical productivity. Focus on tackling key core technologies, break through a number of bottleneck problems, and enhance the modernization level of industrial and supply chains. In addition, creating an open and inclusive innovation ecosystem, attracting high-end talents and innovative resources from home and abroad, and providing continuous intellectual support for the development of the digital economy.

In summary, Dalian should focus on industrial synergy, strengthen innovation drive, take the digital economy as the guide, promote industrial structure optimization and upgrading, and contribute to building a strong province in the digital economy.

(3) Talent cultivation and introduction

In promoting the construction of a strong digital economy province in Dalian, talent cultivation and introduction are key links. Firstly, a multi-level and systematic talent cultivation system for the digital economy should be established, and cooperation with universities and vocational colleges should be strengthened to offer majors related to the digital economy.

10. Conclusion

In depth exploration of the comprehensive promotion of integrated reform in building a strong province in the digital economy, and systematic analysis of Dalian's practice and effectiveness in policy support, infrastructure construction, industrial transformation and upgrading, talent cultivation, and innovation ecology construction in the field of digital economy, not only lays a solid foundation for the vigorous development of the digital economy, improves the carrying capacity and service level of the digital economy, but also promotes the revitalization of traditional industries under digital empowerment. At the same time, Dalian attaches great importance to the construction of talent teams, and has provided solid talent support for the development of the digital economy through measures such as optimizing talent introduction policies and strengthening school enterprise cooperation. In summary, Dalian has built an open and collaborative innovation ecosystem, promoted the deep integration of industry, academia, research and application,

injected strong impetus into the sustainable and healthy development of the digital economy, effectively promoted the rapid development of the digital economy in the process of comprehensively promoting integrated reform, and provided valuable experience and demonstration samples for building a strong digital economy province.

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