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The factors affecting the dalian international shipping center construction

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ABSTRACT

This article based on the analysis of the major characteristics of today's international shipping center and developing pattern of the world's leading shipping center, along with factors such as location, hinterland economy development, points out the developing mode of Dalian international shipping center, brings out the direction of its construction, and then analyzes the elements that influence its formation and development at home and abroad. Revolving around the effective factors, the paper makes a further research on the status quo, diagnoses the ongoing major problems, and puts forward the priorities of their developments. Last but not the least, with reference to the success of international shipping centers at home and abroad, based on the priority development of influential elements, the paper presents corresponding countermeasures and suggestions aimed at ongoing problems, so as to promote the progress of Dalian international shipping center construction.

KEYWORDS

Dalian shipping center; Factors; Priority; Countermeasures.



INTRODUCTION OF INTERNATIONAL SHIPPING CENTER

The developing mode of the world's international shipping centers

There are three main basic models of the world's international shipping center^[1]. First, it is the center mode of the shipping comprehensive service. The main parts of this model are market trading and ship service, this model is more special, which is relied on long history tradition and cultural conditions. London international shipping center is the only one in the world. London charter market occupies center position in the global charter market. It can't be matched with other international shipping center in providing shipping information and judgment.

Second, it is the center mode in the hinterland. The main part of this model is cargo distribution service in hinterland which is the hinterland international shipping center, such as Rotterdam and New York. This model requires good location conditions and powerful economic supporting in hinterland. Rotterdam is the undisputed international shipping center, which is the largest port in throughput in the world by market system, the legal system and the perfect environment. New York is the gathering place of big exporters. New York has been constructing an international shipping center because of the developed of economic center, insurance, and financial industries.

Third, it is the mode of transit center. The main part of this model is transit, namely the transformation of the international shipping center, such as Hong Kong, Singapore. Hong Kong and Singapore make up for the weaknesses in their own small market by the perfect market system and the free port policy. They have been constructing one of the best container hub ports and the most dazzling international shipping center by establishing flight dense and throughput, as well as the related industry, shipping service.

The development mode of Dalian international shipping center

By considering the location, development of hinterland economy and the main characteristics of today's international shipping center, Dalian should be constructed as an international shipping center combined by traditional and modern in the information technology and logistics in the future. The development mode of Dalian international shipping center is given priority to the development hinterland, the complementary transit, to be a regional international shipping center which is combined by hinterland and transformation, it's an international shipping center belongs the second generation which has the function of cargo distribution and processing value-added, adopted a policy of bonded port, the processing trade center, financial center^[2].

THE FACTORS INFLUENCING CONSTRUCTION OF DALIAN INTERNATIONAL SHIPPING CENTER

The situation of hinterland economy

The northeast hinterland economy

The hinterland economy of Dalian port (northeast three provinces and eastern Inner Mongolia region) is given priority to with heavy industry and agriculture, forestry, source structure of primary products occupy a larger proportion. Steel production accounted for a quarter, metallurgical equipment and mining equipment of the 1/3 and 1/2, oil production accounts for more than half of the country, at the same time, the northeast region is the production base of agricultural and sideline products, timber production accounts for nearly half across the country, which is one of the important commodity grain base in China. Northeast economic zone formed with heavy industry as the main body structure for a long time, which kept the growth was slow in container box supply, the proportion of the country dropped from 7.9% to 3.58% since 1991 to 2004.

The existing problems in the development of the northeast hinterland economy

The northeast economic development speed is slow and in a low level of export-oriented economic. The GDP of the three provinces in northeast China was 74% of Jiangsu, Zhejiang and Shanghai in 1980; it reduced to 69% in 1990 and further reduced to 49% in 2002. In foreign trade, import and export commodities in the three provinces of northeast gross of \$48.02 billion, \$357.1 billion in Guangdong province. The speed of Hinterland economy was slowing, foreign trade volume was relatively low. The severe economic situation of Northeastern hinterland has become one of the main factors of construction of Dalian regional international shipping center.

The industrial structure is unreasonable. The proportion of three industries in northeast China in 2003 was 12.5:50.4:37.1, the 3rd industry structure of the Yangtze river delta area is 5.1:54.6:40.3, The three industrial added value ratio of Pearl River delta region was 4.1:52.4:43.5. The industrial structure of the northeast economic hinterland result in unreasonable of Dalian port supply structure. According to the traffic statistics of Dalian port, which was mainly the raw product such as oil, grain, steel ore, the total value of imports and exports accounted for about 60% of the total shipping and about 30% of the total cost of the foreign trade and exports, which was lack of high added value, good quality, complete varieties of commodities.

Transport system

The situation of transportation system of Dalian port

The highway freight of Dalian to inland areas is higher than other ports because of the distance from the northeast inland, therefore Dalian port must reduce the gap with neighboring port road transportation cost by railway transportation mode, enhance the charm of Dalian port for deep source^[3]. The container throughput of intermodal transportation of Dalian

port as table 1, it had been kept in the first place for six years. Dalian port has been constructing intermodal transportation system covered the major cities in northeast china, expanded the sea and land to the hinterland, extended the function of the port.

As soon as possible with the increase of the container throughput of intermodal transportation, it's necessary to improve infrastructure construction of Shenyang, Changchun, Harbin and other major hinterland city. Dalian port will construct inland center stations, extend port function, and provide integrated logistics services to our customers by operation with China railway.

Table1. The container throughput of intermodal transportation of Dalian port

Year (X)	Units : ten thousands TEU						
	1998	1999	2000	2001	2002	2003	2004
Throughput (y)	1.3	2.1	4.4	6.8	8.2	19.2	18.2

Problems of Dalian port transportation system

Inland hub is one of the important factors which restrict the development of the intermodal transportation system. The hardware facilities of inland transit don't meet the needs of customers. There are widespread weaknesses of small areas, facilities are old, the function is not complete, and ability is insufficient, low efficiency in the inland port of Shenyang, Changchun, Harbin. The Dalian port is evident locational disadvantage. Due to the freight of road set trailer is lower than railway, compared with is apart from the other port hinterland. Therefore to set up the transportation system with business competitiveness to connect the whole northeast inland will directly restrict the fate of the construction of Dalian international shipping center^[4].

Although the international container import and export is mainly concentrated in Dalian port, such as the throughput of foreign trade container is 1.437 million TEU in Dalian port in 2003, accounted for 93.3% of the whole northeast economic zone volume of foreign trade, but by analysis of route layout at the end of 2004, Dalian opened 70 lines including 61 international lines, 10 ocean lines, 51 short-sea lines^[5]. Mostly short-sea lines flights to Japan and South Korea, Japanese 18, Korea 11, 70% of the volume flows to Japan and South Korea, while the main ocean into Europe and the United States seriously insufficient, this means Dalian port plays the role of feeding port of Japanese and Korea. According to table 2. There isn't enough support to construct regional international shipping center by this distribution of lines.

Table 2. Main port open lines (the end of October 2004)

Port\lines	International Ocean lines	International Short-sea lines	Foreign trade Feeder lines	Domestic trade lines	Density (month)
Dalian	9	44	6	9	321
Tianjin	14	62	4	14	394
Qingdao	38	45	4	1	700
Shanghai	67	50	8	38	1700
Shenzhen	100	23	10	16	1541

Problems of Dalian port soft environment

Policies and regulations are not perfect

Some execution of the regulations are not transparent, there are conflicting places between the regulations of the departments. And the company which is applying for customs clearance is at loose ends. The process of Dalian Port cargo import and export has just began to implement "early declaration, physical release" clearance mode, and its accompanying rules is still not perfect, it makes early declaration a lower rate, the policies and regulations which is needed to build the international shipping center in Northeast Asia are still not formed by all the ports sector. In shipping agent, freight forwarding and other fields has yet to form a recognized code of conduct. Dalian has not enjoyed the most critical policy similar to the construction of Freeport international shipping center.

Port needs to improve the overall service

Overall, the Dalian Port services is unsatisfactory, and there is a gap to the shipping center, which is one of the reasons for the low transfer volume. In addition, port agency services business entities are still state-owned enterprises. There is a gap between the single ownership structure, operation principle, management style, management method with the market economy request. Because of the operating mechanism is not active, the various aspects of the initiative has not been fully mobilized.

Port industry

Dalian has a comparative advantage in the shipbuilding and petrochemical industries, but it failed to play cluster effects as to drive development of related industries. Currently, Dalian Petrochemical industry deep processing capacity is

low, and it has a lower association with industry afterward. And Dalian Petrochemical industry is currently only two isolated refineries, there is no large-scale specialized petrochemical industrial park, its downstream products is less, especially small fine chemical products, it cannot form a complete industrial chain to achieve the petrochemical industry gathering effect. From a global perspective, the rate of fine chemical products is more than 65% in the United States and Japan, and the rate of the fine chemical products are as high as 90% in Swiss, while the chemical rate was 30.1% in Dalian.

The construction of port information technology

The construction of port information technology is irregularity. The level of port information technology doesn't follow the needs of business development, which is resulted in a decline in efficiency of customs clearance, restricted the promotion of entire port information level. Such as import and export business hasn't fully networked with customs, commodity inspection, and tax departments, customers can't share cargo dynamic, berths, storage yard, equipment, containers, and other information, cargo documents handling, declarations, trial, tax, verification, inspection, release and clearance of all aspects of import and export trade is still not fully electronic operated. At the same time, the coverage of the province and the northeast for the logistics public information platform is little^[6].

PRIORITY FACTORS WHICH IS AFFECTING THE CONSTRUCTION OF DALIAN INTERNATIONAL SHIPPING CENTER

Selecting the factors index system

On the basis of a preliminary analysis of a variety of factors which is impacting the construction of Dalian International Shipping Center, through expert advice, discussion, and multi-level analysis the factors which is impacting the construction of Dalian International Shipping Center. Preliminary selecting the evaluation system which references to the research results for the construction of the domestic and international shipping center. Finally, using expert investigation method, and on the basis of survey questionnaire to solicit opinions of a large number of experts and scholars, the original index is modified. It summarized the index system of the factors which is impacting the construction of Dalian International Shipping Center, and sorted^[7].

Calculation of factors priority

Calculation ideas of determine of factors priority were calculating the degree of importance for the first grade and the second grade index, which is the weight. And then multiplied the two weights to get a second grade index portfolio weights, and use it as the priority factor in the final score, and finally comparing the various indicators of the second layer, selecting the priority development factors according to the scores in descending order to construct Dalian International shipping Center.

TABLE 3: Weight values of every index

First grade index	Weights	Second grade index	Weights	Combining weights
Hinterland economy	0.26	Total economy	0.37	0.10
		Export-oriented economy	0.30	0.08
		Industry Structure	0.33	0.08
		Transit container volume	0.1	0.02
Establish core port	0.20	Route expansion	0.3	0.06
		Foreign trade cargo throughput growth	0.6	0.12
		Inland Construction & Rail transport	0.86	0.17
transport system	0.20	Within Extension	0.14	0.03
		Customs clearance services	0.36	0.05
Port soft environment	0.14	Policies and Regulations	0.26	0.04
		Bonded Harbor	0.17	0.02
		Related shipping service system	0.21	0.03
		Port Industry concentration degree	0.3	0.018
Port Industry	0.06	Harbor Industrial Layout	0.3	0.018
		Port industrial scale	0.4	0.024
		Port construction scale	0.54	0.06
Port own building	0.11	Port management level	0.46	0.05
		Efficient exchange of information between departments	0.5	0.015
Information technology	0.03	Information system	0.5	0.015

After questionnaire statistics and calculations by experts, we get the right combination of indicators at all levels, as Table 4. Indicators from Table 3, it should give priority to the development of hinterland economy. The establishment of the core ports, collection and distribution system construction, port soft environment, the construction of the port itself, the port industry and information technology is in sequence. If we don't consider the hinterland economy which is losing control of Dalian, establishing the core ports, building the collection and distribution system is currently priority problems in Dalian, and port facilities is not the most primary issue currently. We should not focus a lot on building the port itself, but should be turned to the more critical issues.

COUNTERMEASURES AND SUGGESTIONS

Promote rapid and healthy development of hinterland

Adjustment of industrial structure circumfuse for international logistics create volume

Northeast economy should focus to improve port international logistics volume to adjust the industrial structure, consider how to use raw materials and advantages of large equipment manufacturing industry in northeast, adjustment of industrial structure of northeast to a secondary industry with high added value and suitable for packing up^[8]. To extend and widen the chain of auto, equipment manufacturing, high-tech and other emerging industries, accelerate the concentration of industry and services, formed the scale and overall driving effect. To revitalize the equipment manufacturing industry, as a strategic focus of improving manufacturing level, strengthening base construction and reconstruction of modern equipment manufacturing, development of new industry clusters.

Expand the scale of export-oriented economic development

To develop the export oriented type industrial, full using two resources, and two markets, with the advantage of export processing zone, bonded zone, development inflow and outflow, and ends outside of industry, construction of a number of an export-oriented enterprise and export products base, makes export oriented type industrial became the main body near the port, drive material, and the finished product of inflow or outflow, thus fast generated shipping supply volume, especially the container supply volume, support the construction of Dalian international shipping center.

Accelerate the pace of improving the transportation system

Promoting the development of sea-rail combined transport

Cities such as Dalian and Shenyang, Tongliao, signed a strategic agreement to jointly invest construction of inland port, Dalian port as the implementation of the main body in the reconstruction of inland port of Dalian. At the same time, Dalian port and railway in northeast railway comprehensive cooperation on business, construction of Harbin and other inland hubs. The construction of inland port will effectively integrate the interior resources, achieved goods be concentrated access, make Dalian of port function extends to inland port. Benefit of scale for the Dalian port rail-sea transportation has not been fully reflected, still stay in between the major cities in the Mainland's external trade exports operation "five sets".

Additional Ocean routes

Dalian now has a total of 12 lines, and the gap between home and international shipping center is very large. To fully open up the main line in Dalian, need to reduce transport costs, sourcing attract hinterland come to Dalian. In order to increase support for the main port of Dalian ocean liner, Dalian and Northeast China the ocean container cargo should focus as far as possible to Dalian port, As far as possible to reduce through the transit port in Korea and Japan. Therefore, unless it's a direct trade goods from Dalian to South Korea and Japan set off near ocean liners to transport, Other offshore liner routes to Japan and South Korea for transporting to adjust, as far as possible to reduce the number and density.

Strengthening the construction of soft environment of the port

Construction of Dalian international shipping center, is to build Dalian into the port service as the characteristics of multi-functional center city. Dalian is now the financial center of Northeast China, most of the foreign exchange settlement business in Dalian in Northeast China. Dalian is the financial center of the northeast China, Most of the foreign exchange settlement business in Dalian in northeast China. But to meet the requirements of supporting international shipping center, must also be further strengthened.

On the financial front, should introduce more financial institutions for investment, at the same time should also pay attention to cultivate internationally competitive ability of local financial enterprises. In terms of trade, further strengthen the Dalian as China's largest futures exchange, and as a breakthrough, increasing the depth of the northeast hinterland radiation and strength, increasing trade volume, make Dalian northeast Asia's most vibrant international economic center^[9].

Stronger port industry

First of all, the construction of ship manufacturing and advanced equipment manufacturing industry base. Such as strengthen shipbuilding enterprise, make enterprise form close industry chain and core competitiveness, strengthen the equipment manufacturing industry and foreign investment, private capital of the joint venture and cooperation. Secondly, the

construction of large petrochemical industrial base, such as petroleum processing and fine chemicals for direction, building Dalian into the country's largest petroleum processing and petrochemicals processing bases, fully rely on the leading oil companies in oil enterprises in Liaoning and leading role to expand crude oil processing capacity. Thirdly, construction electronic information and software industry base^[10]. Dalian electronic information industry should be based on construction ring and northeast Asia areas electronic information product manufacturing processing and export base, international software city and northeast Asia information service as the goal, speed up the information industry base and characteristics of construction, park planning and construction good car electronics, light micro, computer external devices, digital audio-visual four industrial park.

CONCLUSIONS

The paper has affected the development of researching the factors for the international shipping center in Dalian. However, in the process of contributing the international shipping center in Dalian, some new problems appeared. Besides, in this passage, some of the problems which are existed as before have been discussed. At the end, this paper presents corresponding countermeasures and suggestions, so as to promote the progress of Dalian international shipping center construction.

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