

# RESEARCH ON INTERNATIONAL MULTIMODAL TRANSPORT DEVELOPMENT STRATEGY IN CHINA

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**Abstract:** As a kind of senior organization form, multimodal transport can integrate the advantages of various modes of transport. By means of seamless linking, Multimodal transport is able to improve efficiency and quality and meet the requirement of individual needs in the transportation, which makes it important in the environment of global competition. After nearly four decades of construction and development, China has acquired remarkable achievements in multimodal transport. However, there still exists great gap between developed countries. Currently, the relationship between international multimodal transport and the field of manufacture is becoming increasingly close, International multimodal transport network has become the core resource and business of shipping companies have tried to continually penetrate to the land. Under this kind of situation, in order to promote the development of multimodal transport in china, we must actively foster operators of large-scale international multimodal transport business. Meanwhile, we need to construct international multimodal transport network, improve the management structure and eliminate institutional obstacles to development. We should make a breakthrough in the combination of sea and railway transport and try to promote the development of network between land and sea transport. Great efforts should be made to accelerate the application of advanced information technology in the business of international multimodal transport.

## 1 CURRENT DEVELOPMENT OF INTERNATIONAL MULTIMODAL TRANSPORT IN CHINA

In China, international container transport started in 1970s. After the government promulgated "Management Rules of the International Container Multimodal Transport" in 1997, container multimodal transport in China entered the high-speed development period. During nearly four decades of development, multimodal transport industry has formed main features as follow aspects:

- Rapid expansion of multimodal transport scales.
- Collaborative transport as the main form.
- Transport in high seas as the main mode.
- Continental Bridge transport as the characteristics.
- Substantial improvement in infrastructure and hardware standards basically complied with international standards.

### 1.1 Rapid Expansion of Multimodal Transport Scales

Although no specific statistics on intermodal transport has been found, based on multimodal transport data from individual ports, the total multimodal transport amount in China presents a rapid growth trend. For example, in 2006, the amount of Sea Combined Transport in Shanghai port reached 200 million TEUs, accounting for 9.2% of port container throughput; sea and railway transport volume reached 84,000 TEUs, accounting for 0.4% of port container throughput, etc. Although intermodal transport did not account for a very high proportion in container throughput, the trends in recent years showed that average annual growth rate sea and railway transport up to 30%, Jianghai transport volume growth also exceeded 20%.

### 1.2 Collaborative Transport as the Main Form

According to the organization form of multimodal

transport, it could be divided into collaborative type and connecting type. Collaborative multimodal refers to the process that enterprises which own two or more modes of transport take over the goods and ship them to the designated delivery premises, in accordance with the unified regulations or agreement. Connecting multimodal refers to the process that the multimodal transport operators organize enterprises which own two or more modes of transport to take over the goods and ship them to the designated delivery premises. At present, Collaborative multimodal is still the main operation form of multimodal transport. Under this kind of operation form, each carrier needs to complete the actual transportation task as well as convergence and organization of related freight. Then they need to take risks or distribute benefits under the relevant contracts or agreements.

### **1.3 Transport in High Seas as the Main Mode**

According to different combination of transport modes, there exist different multimodal transport forms, such as, road and railway transport, sea and railway transport and high seas transport, etc. The practical situation showed that the high seas intermodal transport is still the main mode of transport in China. Limited by the railway management system and capability, combined transport associated with the railway transport in China has shown a declining trend. Particularly, the enormous potential of sea-rail transport is difficult to be found and transport of containers from ports to inland area could only rely on the road, which made the efficiency dissatisfied. In developed countries, the rail transport share of total port container throughput is usually 20% to 40%, while the figure is only 1.5% in China in 2007.

Road and railway transport in the land crossings played an important role, but it is constricted by the railway container transport management system either. Some other transport means (such as air and railway transport, air and water transport) has also made some developments in recent years, but generally speaking, those developments is comparatively very small.

### **1.4 Continental Bridge Transport as the Characteristics**

China has a natural advantage on Continental Bridge transport, and three land bridges supply lines we have are able to maintain a volume about 1 million

TEUs per year. Short distance and accelerated speed of operation has not only greatly reduced the transport time, but also saved the transportation cost about 20% to 30%. The huge advantage has greatly increased the throughput of the land crossings. However, considering the needs of transit declaration in many countries, in addition to the different rail standard in European, advantage of Continental Bridge transport could be greatly reduced.

## **2 PROBLEMS FACED BY CHINA'S INTERNATIONAL MULTIMODAL TRANSPORT**

### **2.1 Unintegrated Management System Directly Reduces the Efficiency of International Multimodal Transport (IMT)**

Multimodal transport involves cooperation and integration of different kinds of transportation. It's essential to design the management system in an overall perspective in order to take the advantages of multimodal transport. However, now China still adopts single-modal management system, leading to a lack of coordination and cooperation between different departments, poor integration among infrastructures, unreasonable work division of transport methods as well as blind competitions on sources of same goods. A lack of information sharing also results in negative influence such as multimodal transport's complex process, complicated procedures and low efficiency.

### **2.2 Inadequate Railway Transportation Capacity is the Key Element Strangling the Development of Ship-with-train Transportation**

In the total national-wide requirement for train, only 35% of them can be met. All over the nation, each day there are 280,000 to 290,000 railway carriages that are need by different places but the maximum loading capacity of our railway department is only about 100,000 carriages. The lack of transportation capacity has seriously impeded the development of ship-with-train transportation. With the continuously promotion of our Socialist market economic system, the old planning management system without

separation of the government and corporations of our railway department will further fall behind the quick response required by the multimodal transport.

### **2.3 The Capacity of Domestic Cargo Forwarder is Too Limited to Undertake IMT Business**

At present, although there are tens of thousands of forwarders enterprises, few of them can undertake the business of IMT, which requires strong capacity, including international transport network and ability of negotiating with large liner company to ensure “door-to-door” service. Now, of our current multimodal enterprises are mostly in small-scale, with an operation model of transferring the cargo to strong IMT enterprises. However, the model full of layers of agents and subcontractors is bound to add the possibility of asymmetric information got by different agents, then leading to potential obstacles as well as risks in the process of the multimodal transport.

## **3 THE DEVELOPMENT TRENDS OF IMT**

### **3.1 Clear Trend of Integration of IMT and Enterprises’ Manufacturing Sector**

Modern competition environment demands a quick response to customers’ needs and reducing the cost and time consumed during transportation of goods. It leads to higher requirements for logistics, which are just the goals of the multimodal transport. With the deepening realization of how important the modern logistics is, the multimodal transport has been an important consideration during making enterprises’ strategies. More and more enterprises outsource the transportation, international trade cargo transportation, in particular to the operators of IMT who provide integration services.

### **3.2 The Core Resource of IMT — International Network**

The “door-to-door” services, which cross the border, provided by IMT, require the operator to enlarge its abroad multimodal network by setting up branches or cooperating with foreign corporations, in order to construct its own IMT network. It needs strong financial strength to back up and to consider the

scale and stability of goods resources before setting up a branch on an outlet. As for cooperating with foreign corporations, it demands to take credit risks into consideration. Forging a partnership also needs some time to test. No matter through which method, as long as the IMT network is forged, it will be the enterprise’s core resource, ensuring strong service ability as well as high credit, helping the enterprise to provide better multimodal service. Now, only a few of large global logistics enterprises possess the IMT network. Most of the multi-modal transport work is done by each operator step by step. With the relationship among transport methods’ turning from competition to cooperation, each multimodal subject is seeking cooperation actively, greatly improving the coverage of multimodal transport network.

### **3.3 Increasing Percentage of LCL (Less Container Loading) and Higher Technical Requirement for LCL**

With customers’ needs becoming more and more unique and diversified, there are less bulk goods but more categories. More and more goods need to be put in LCL. Therefore, the percentage of LCL will increase, so does its value. Certainly, personalized goods in diversified categories set higher technical requirement for LCL. How to ensure the goods are delivered to consignees safely, timely and accurately? It’s both a challenge and an opportunity for the operators of multimodal transport.

## **4 OUR STRATEGY AND REACTION**

### **4.1 Actively Fostering Large-scale International Multimodal Transport Operator and Building the International Transport Network**

The key to successfully operate multimodal transport is to bring up a number of international, multi-modal scale enterprises. At present, the transport market in China is still scattered, chaotic and poor, while transport companies are numerous, small and weak. There are few large companies which can undertake the international transport business. In order to promote the development of international multimodal transport and try to respond

competition from multinational logistics giant, we should actively cultivate large international multimodal transport operator, and support to build international intermodal transport network. Specifically, mergers and acquisitions in the industry should be strengthened and international intermodal business entities like the united parcel service's should be extensively established. Meanwhile, various aspects of research on multimodal transport organizations, such as, internal conditions, formation form and running mechanism should be strengthened to offer organizational guarantee for the development of multimodal transport.

#### **4.2 Improving the Management Structure and Eliminating Institutional Obstacles to Development**

Seamless and efficient combination between different modes of transport is the fundamental characteristic of multimodal transport. This kind of combination is not only referred to the internationalization of hardware standards, but also reflected on the interface of system and co-ordination of various departments. Specifically, In order to meet the needs of the development of international multimodal container transport, interface between the different transport infrastructures should be fully considered during the transport infrastructure planning and construction. Particular efforts should be made to reform the current management system of Multimodal transport, and try to build an integrated traffic management system. In this process, we need to avoid overlapping management and simplify procedures for transport between different departments and truly achieve seamless converge between the different modes of transport. In addition, in face of the situation that multimodal transport laws and regulations in China are related to multiple departments, we should further improve and perfect laws and regulations on Container Transport and try to strengthen enforcement in the long run.

#### **4.3 Making a Breakthrough on the Sea and Railway Transport and Promoting the Development of Network between Land and Sea Transport**

Judging by the developing tendency of the container

transportation in China, the forceful promotion of joint-transportation of the sea and railway, of the river and the sea is not only the only way to boost the container transportation industry, but also the essential choice by which the railway transportation could further prosper. Railway transportation has enjoyed the advantage of long-distance transportation of low cost, which, however, has demonstrated little significance due to its inherited restrictions of the management system. On the other hand, coupled with the rapid development of the harbors in China, the total port throughput has ranked No. one around the globe in six successive years. Therefore, in the first place, we should reform our planned management system, which is neither administrative, nor commercialized, and realize the separated-network operation pattern. In the second place, we should benefit from the fast developing harbors, to construct regional, integrated container transportation network centered around the harbors. Shift the focus on the consigned road transportation to more potential railway transportation and inland waterway transportation, with the expectation to build a multichannel multidirectional and multimodal, transportation network.

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