

## A Study on the Development Strategy of Multimodal Transportation in China

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### ABSTRACT

The emergence of the container transport industry in China has lagged behind other countries. Although its history is relatively short, the container transport volume has increased enormously overnight due to the economic boom since 1979 when China pursued an open policy. In the 1980s, primarily in North America, followed by Europe and Africa, the container transport industry entered an era of multimodal transportation. It relied on an integrated transport network which includes all transport modes and consummate logistics management to realize “door to door” even “shelf to shelf” service, embodying a superiority that any unimodal transport couldn’t match. To cope with this transport revolution, China also got into the arena vigorously.

While many problems remain in the multimodal transport system in China. They can be described in four aspects.

First of all, in the management aspect, the problems are:

- (1) Shortage of coordinated and unified regulation system;
- (2) Backward management system and methods;
- (3) Lacking of efficient competition and customer guidance;
- (4) Inefficient and redundant transit procedures.

Secondly, in the ocean transport system, we find that, as the biggest shipping

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company in China, COSCO, who undertakes the majority of multimodal transport business, has not entered the Trans-Atlantic Line to become a global carrier, nor has COSCO formed dense and competitive networks with other shipping lines. Furthermore, her aging fleet has an imbalanced structure.

Thirdly, regarding ports, the main problem is that so far, China has no international hub-port(except Hong Kong Port), which is not consistent with the status of China as a country which has the highest development rate in respect to economy and international trade. Most ports in China don't have enough water depth to berth the 4th and 5th generation container vessels, and this has extremely hindered the container flow to and from China and wasted enormous foreign exchange for transshipment.

The fourth problem area is inland distribution. Due to the imbalanced economic process between the coastal and inland areas, there are no sufficient transport links to the inland areas, nor are there enough CFS/CY, container equipment or apparatus in the inland areas. This backwardness is the key reason why the container transport has not yet been extended to the inland areas.

Therefore, the development strategy for the multimodal transportation in China is:

- (1) Concerning management, efforts need to be made to amplify and perfect the regulation system, adjust the management system, advocate the application of EDI and simplify trading formalities;
- (2) Concerning ocean transport, COSCO should make efforts to enter the Trans-Atlantic Line to become a global carrier and renew her aging fleet;
- (3) Concerning ports, we should construct Shanghai Port as an inter- national hub-port as soon as possible;
- (4) Concerning inland distribution, we should improve the inland distri- bution system and develop container infrastructure to increase the containerization rate of the inland areas.

## Chapter 1 Introduction

The purpose of this thesis is to try to discover the concealed problems which impair IMT<sup>2)</sup> development in China through analyzing the present situation of this industry, and present the solutions. IMT is a complex transport engineering system, it is impractical to do an exhaustive study in this thesis. Here, the author concentrates on the management system and the physical distribution system. Each of them will be analyzed, and then the problems will be summarized and solutions proffered.

The thesis has been completed with a descriptive methodology through on-the-spot investigation, by collecting and analyzing data and information, and consulting international and domestic articles.

## Chapter 2 Conceptual analysis of IMT

On May 24, 1980, the final act of the "United Nations Conference on a Convention for International multimodal Transport of Goods" was signed in Geneva under the auspices of UNCTAD<sup>3)</sup>. In this convention, IMT was defined as follows:

"...the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods are taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country."

The main feature of IMT is: the multimodal transport operator signs one contract with the consignor; there is only one document, one price and one insurance for the whole transport process; the multimodal transport operator is responsible for the whole process. The advantages of IMT is: Unification and simplification; Reduction of intermediate procedures, transport time, damages and errors, and a resulting improvement in transport quality; Lower transport costs and saving in incidental transport fees; Higher level of transport organization, rationalization of transportation. And the main classifications of IMT are: sea land, sea-air and sea-river multimodal transportations.

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2) IMT: International Multimodal Transportation.

3) UNCTAD: United Nations Conference of Trade and Development.

### Chapte 3 The analysis of IMT in China

In China, there are mainly three companies dealing with IMT business, they are COSCO<sup>4)</sup>, SINOTRANS<sup>5)</sup> and PENAVICO<sup>6)</sup>. After a 10 year effort, COSCO has formed a domestic and international IMT network. Furthermore, China has successfully made use of the Trans-Siberian Landbridge and the New Eurasian Landbridge and led to excellent benefits. while in the ocean transport system, we found that, as the biggest shipping company, COSCO, which undertakes the majority of multimodal transport business in China, has not entered the Trans-Atlantic Line to become a global carrier, nor has COSCO formed dense and competitive networks with other shipping lines. Furthermore, its aging fleet has an imbalanced structure.

In China, there are three port-groups. They are SBB port-group, YRDB port-group and ZRD port-group, each port-group has its own characteristics. But so far, China has no international hub-port(except Hong Kong Port), which is not consistent with the status of China as a country, which has the highest development rate in respect to economy and international trade. Most ports in China don't have enough water depth to berth the 4th and 5th generation container vessels, and this has extremely hindered the container flow to and from China and wasted enormous foreign exchange for transshipment.

In the inland distribution system, the situations are:

#### (1) Container operation

i) The greater volume of containers through ports are loaded and unloaded in the vicinity of ports, while only a smaller volume of the containers are transported from door to door. The main container cargoes, about 70% to 75% are sent to destinations as bulk goods, so the advantage of container transportation is not fully utilized.

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4) COSCO: China Ocean Shipping Company.

5) SINOTRANS: China National Foreign Trade Transportation Corporation.

6) PENAVICO: China Foreign Ship Agency Corporation.

ii) Containers at terminals are collected and distributed mainly by highway truck transportation, making up a major proportion of the transportation market. Highway container transportation has many advantages over railway container transportation and shares 97% of the transport volume. Railway container transportation shares a very small proportion and mainly serves cargo owners deep inland.

## (2) Distribution of routes

i) One characteristic is that CFS/CY and container trucks are mainly concentrated in port cities. CFS/CY and container trucks in port cities share over 90% of CFS/CY and container trucks on all routes. The shortage of CFS/CY and container trucks inland is mainly due to the low containerization rate inland.

ii) The imbalance of the distribution of CFS/CY and container trucks in ports and inland areas results in container cargo being transported as bulk cargo between ports and inland areas. Because of a shortage of container trucks in inland areas, the demand for container trucks in inland areas can only be supplied from ports, so the response time for container on demand in inland areas is long.

iii) All CFS are connected with highways, only few have special railway lines.

## (3) Container transport service

i) The service is only operated by a few companies, especially for customs brokerage, cargo agency, shipping agency and railway transport, which hampers competition and effects improvement in the quality of service.

ii) Several factors, such as the limitation of railway transport capacity, fixed quota for car distribution and irrational freight rates, impair the extension of railway container transport services deeper inland and make applying for cars time consuming. Because long distance container transport to inland mainly relies on railway rather than highway, sufficient railway transport services should be provided to extend the container transport service deeper inland areas.

#### (4) The market for multimodal transport

The development of the multimodal transport market in China is still in its primitive stage. The characteristic of this development stage is that there are only few State-run multimodal transport operators such as COSCO and SINOTRANS. Therefore, cargo owners have very few options. This situation is harmful to the development of the market. A developing market is necessary for the continuing and stable development of foreign trade in China, in which inland areas may participate

In the management aspect, the problems are:

##### (1) Shortage of coordinated and unified regulation system

In China, there are more than 20 laws and regulations concerning container transportation, which have been issued by the Standing Committee of the National People's Congress, the State Council, related ministries and other committees which are all uncoordinated, some specific regulations still need to be improved to minimize misunderstandings. Local government used to expand their area of responsibility based on their own understanding of related laws and rules. Consequently, there are numerous repetitions in the transactions of "the three quarantines", wasting both time and money. Furthermore, ultra vires and abusive charges from law enforcement agencies arise through lack of efficient supervision.

##### (2) Backward management system and methods

(a) Every administrative department performs its responsibility under the direct leadership of the central government. On the national level among related ministries, committees, offices, bureaus there is a lack of unity, advanced and authoritative leadership and coordination. Consequently, problems always arise due to the repetition of transactions, and confusion regarding decisions. These problems have caused a lot of difficulties at a basic level.

(b) Due to the management system, there are too many links, procedures and repetitions. Since every unit can decide by itself, the local government can't

properly coordinate the work when problems arise.

(c) Because each administrative department attends to a number of enterprises, there is always trade protectionism in everyday work. Such problems arise when laying down laws, rules and resolutions.

### (3) Lacking of efficient competition and customer guidance

Although in recent years foreign liner companies and transport agents have poured into the Chinese shipping market, in general, areas in the shipping market still lack efficient competition. In an environment that lacking of market competition, customer-oriented sense is difficult to find. Strategic methods of gaining business such as customer service and value added service are just concepts to most companies.

### (4) Inefficient and redundant transit procedures.

Comparing the standard of the U.S.A, the storage time of containers in seaports in China is much longer(see <table 3-1>). The storage time is mostly required for the over elaborate customs clearance and inspection procedures.

(Table 3-1) Storage time of containers in ports of USA and China  
(unit: day)

|       | import | export | import customs clearance |          |
|-------|--------|--------|--------------------------|----------|
|       |        |        | time                     | method   |
| USA   | 3-5    | 2-3    | 1-2                      | EDI      |
| China | 10-14  | 7-8    | 5-6                      | manpower |

Source: Compiled by related data.

## Chapter 4 The development strategy for IMT in China

1. Concerning management system, we need to amplify and perfect the regulation system, adjust the management system, advocate the application of EDI, open the cargo agent, ship agent and freight forwarding markets, and simplify the trading

formalities.

2. In the ocean transport system, COSCO should make efforts to enter the Trans-Atlantic Lines to establish a shipping network covering the three main Lines. It should participate in the international competition actively as a global carrier. Furthermore, it needs to renew its aging fleet and adjust its fleet structure.

3. Concerning ports, we should construct Shanghai Port as an international hub-port as soon as possible.

4. Concerning inland distribution, we should bring different means of transport into full play to enlarge multimodal transport volume, fasten the construction of inland CFS/CY and add inland ports, varied financing and formulate favorable policies to accelerate the establishment of container transport infrastructure.

## Chapter 5 Conclusion

In conclusion, we pointed out that: In China, the multimodal transportation is still in its primary stage and much work remains to do. We gave solutions in Chapter 4. That is: First of all, we need to improve its management system. In the physical distribution system, firstly, we should make efforts to establish COSCO as a global carrier, renew her aging fleet and adjust her fleet structure; Secondly, we should construct Shanghai Port as an international hub-port as soon as possible; Thirdly, we need to improve the inland distribution system to facilitate inland container transport and increase the inland containerization rate.



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