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The development research on Chinese railway logistics

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The Development Research on Chinese Railway Logistics

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DECLARATION

I certify that all the material in this research paper that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me,

The contents of this research paper reflect my own personal views, and are not necessarily endorsed by the University.

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ABSTRACT

Title of Dissertation: **The Development Research on Chinese Railway Logistics**

Degree: **MSc**

With the integration of global economic, logistics, called “The Black Continent of Economy”, has been developed rapidly in recent years. With high competitive pressures from high ways, airlines and water transports, the market share of cargo transportation is shrinking for railway. Under this situation, Chinese railway industry proposes to develop modern logistics.

This dissertation introduces the current situation of Logistics and Railway Logistics development in foreign countries. Then by analysis of the internal and external environment of Chinese Railway logistics to put forward a suggestion to Chinese Railway Logistics development.

KEYWORDS: Logistics, Railway Logistics, reengineering

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LIST OF ABBREVIATIONS

KSZ	Kunden Service Zentrum
JR	Japan Railway Freight Transport Company
CRML	China Railway Modern Logistics Technology Co., Ltd
CRUL	China Railway United Logistics CO., Ltd
CRCTC	China Railway Container Transport Corp., Ltd.
CRS	China Railway Special Cargo Service Co., Ltd.
CRE	China Railway Express Co., Ltd
TMIS	Transportation Management Information System
DMIS	Dispatching and Management System
EC	Electronic Commerce

INTRODUCTION

1.1 Background of this Dissertation

With the integration of global economic, logistics, called “The Black Continent of Economy”, has been developed rapidly in recent years, especially in western countries. Chinese Logistics Industry is in its infancy, but the huge market is attracting more and more domestic and oversea enterprises enter in. With high competitive pressures from high ways, airlines and water transports, the market share of cargo transportation is shrinking for railway. Under this situation, one suggestion is to develop the modern logistics for railway industry. At present, there are some enterprises in the railway industry is engaged in logistics providing.

This dissertation analyses the internal and external environment of logistics development in Chinese Railway Industry, integrating the advanced experiences of oversea railway industry in logistics development, and then

put forward the way of Chinese Railway Logistics development.

1.2 Literature Review

1.2.1 The definitions of logistics

"Logistics is defined as those activities that relate to receiving the right product or service in the right quantity, in the right quality, in the right place ,at the right time, delivering to the right customer, and doing this at the right cost(the seven R's)" *(Shapiro, Heskett,1985)*

"Logistics is defined as the planning, organization, and the control of all activities in the material flow, from raw material until final consumption and reverse flows of the manufactured product, with the aim of satisfying the customer's and other interest party's needs and wishes, i.e. to provide a good customer service, low costs, low tied-up capital and small environmental consequences" *(Jonsson, Mattsson, 2005)*

"Supply Chain Management encompasses the planning and management of

all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service provides, and customers. In essence, supply chain management integrates supply and demand management within and across companies. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business process within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology"*(Supply Chain Management, SCM, as defined by the council of Supply Chain Management Professionals, CSCMP, 2004)*

"Logistics management is an integrating function which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions, including marketing, sales, manufacturing, finace, and

information technology"*(Logistics Management: As defined by the Council of Supply Chain Management Professionals CSCMP, 2004)*

1.2.2 Literatures on the problem of Railway Logistics development in China

Jiang Yong (2006) believes that the railway industry is a monopoly one, which brings in high profits, but at the same time it also brings in strong institutional restraints. Therefore railway logistics is lack of competitiveness

Li Shaohua (2006), General Manager of China Railway Special Cargo Service Company, said to meet the demand, there are several freight stations which provide different services in some large and medium-sized cities. The excessive internal competition of china railway logistics enterprises weakens the competitiveness f this industry and cause great waste of logistics resources.

Li zhihui(2007), presents the disadvantages of Railway TPL industry: unreasonable layout of facilities, lack of specialized workers

1.2.3 Literatures on the plans of Third Party Logistics development of Railway industry in China

According to the problems above, some experts put forward the corresponding solutions; they are all showed in the following:

Wei jie, the professor of Economics and Management school, Tsinghua University, pointed out that Chinese railway industry is belong to the natural monopoly of State-owned enterprise. In order to develop modern logistics, it should be following the way of becoming the state-owned but private-run enterprise. Operating privately brings in competitive mechanism, which is conductive to efficiency.

Guo Jianhua, Guanghua Management School, Peking University, presents Logistics is the developing direction of the rail freight transport cargo

service, although there are a big gap. The main way is to carry out the Logistics operating mechanism in the professional transportation companies

Zhao Jie points out the way of integrating the recent assets and the transportation network in order to get the economy of scale and scope economy. It will form the core competitiveness of the rail TPL industry

1.2.4 Conclusion of Literature Review

Previous literatures, both foreign and local, have all made great efforts on the Logistics development of Chinese Railway Industry. But limit also exists, that is, most research is limited to the theory analysis, which doesn't give a feasible program.

1.3 The Framework and Method of this Dissertation

This dissertation is including 4 parts, the whole framework is showing in Figure 1-1.

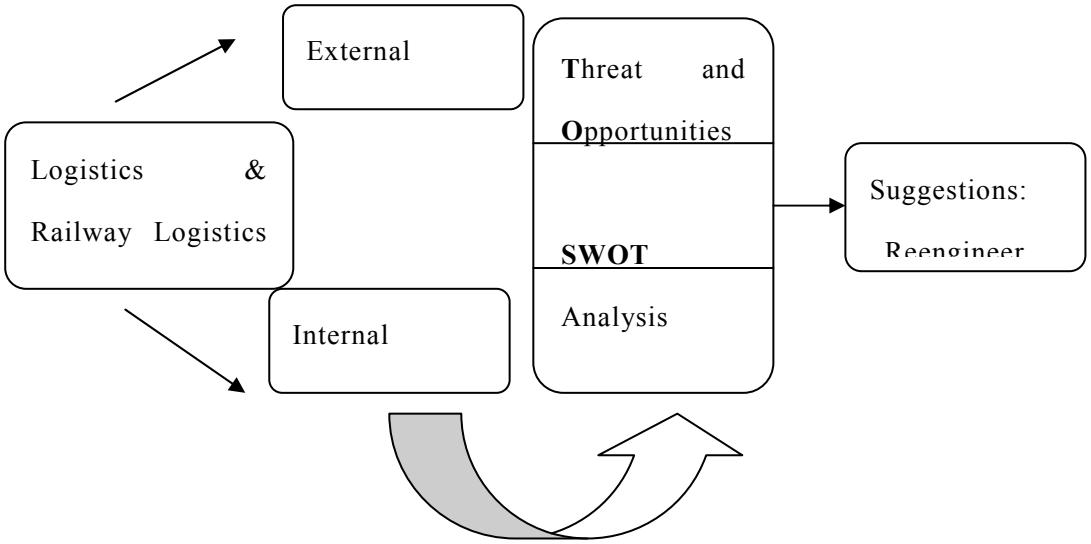

Figure 1.1 The Framework of this Dissertation

The first part is the introduction, it mainly introduce the background this dissertation, literature review and framework &method of this dissertation.

The second part is chapter 2, which introduce the logistics and Railway Logistics in foreign countries. Through the exposition, we understand the feature and requirement of modern Logistics and the current situation of Railway Logistics in foreign countries, which will bring us advanced experience.

Chapter 3 analyzes the internal and external environment of Chinese Railway Logistics, to get the opportunities, threats, advantages and disadvantages of the development in Chinese Railway Logistics

Based on the analysis result of Chapter 2, a reengineer program is proposed in Chapter 4.

The method of this dissertation is environment analysis, base this method to find the the opportunities, threats, advantages and disadvantages of the development in Chinese Railway Logistics

In chapter 4, the reengineer theory is used.

Chapter2 Overview of Logistics and Railway Logistics in Foreign Countries

Recent years, Chinese railway industry proposes to develop modern logistics. What is logistics? How about the other countries to develop Railway Logistics? This chapter will introduce in the following

2.1 Overview of Logistics and Railway Logistics

With the integration of global economic, logistics, called “The Black Continent of Economy”, has been developed rapidly in recent years, especially in western countries.

2.1.1 Overview of Logistics

2.1.1.1 Definition

As for the logistics concepts, based on different focus (business, engineering, management), there are different viewpoints provided by different scholars.

In the western world, the typical logistics concepts which can reflect the current situation of modern logistics are as follows,

“Logistics is defined as the planning, organization, and the control of all activities in the material flow, from raw material until final consumption and reverse flows of the manufactured product, with the aim of satisfying the customer’s and other interest party’s needs and wishes, i.e. to provide a good customer service, low costs, low tied-up capital and small environmental consequences” (Jonsson, Mattsson, 2005)

On 17th of April in 2001, “national standard terms of logistics” was published in China, and logistics was defined as the objective flowing procedure for goods from the supplying place to the receiving place. According to the actual needs, the functions of transportation, storage,

handling, conveying, packaging, processing, distribution and information processing will be organically integrated.

Concretely, the concept of logistics includes the following aspects:

(1)Displacement factor, which including the objective flowing procedure;

(2)Operation segments factor, which including transportation, storage, handling, conveying, packaging, processing, distribution and information processing function, etc.

(3) Objective factor, which is the aim of satisfying the customer's and other interest party's needs and wishes;

(4) Integration factor, which is planning, organization, and the control.

2.1.1.1 Features of modern logistics

The biggest difference between modern logistics and traditional logistics is: the core of modern logistics is service, and the main content is the integrative management of the whole supply chain.

Modern logistics is not only the simple procedure including a series of

operation activities. The more important issue is that production enterprises' management is involved,

Standing by the clients' position, the logistics service providers carry out logistics services, which include the comprehensive service procedure consisting of designing logistics plan and overall planning of the supply chain. In this way, the transaction costs of the clients are reduced, the maximization of the overall profits for the clients is realized, and the profit margin is also gained by the logistics service provider.

2.1.2 Understanding of railway logistics

According to different standards, logistics is defined differently; actually, Railway Logistics is the logistics defined by the transportation mode.

But it should be pointed out that logistics classified by transportation mode does not mean that transportation is equal to logistics. Transportation is only an element of the logistics system. Besides transportation, storage,

handling, conveying, packaging, processing, distribution and information processing are all included in the system.

2.2 Current situation of Railway Logistics in foreign countries

Based on understanding the definition of Logistics and Railway Logistics, the basic situation of Railway Logistics in foreign countries is introduced as follows,

2.2.1 Railway Logistics in Germany

The railway management system in Germany experienced the evolving steps of private operation—state owned—private operation—state owned—private owned. At present, the railway is private operated, in the share-holding system with the controlling number of shares owned by the state.

In recent years, the market share of railway logistics in Germany is growing

at the growth rate of 2%-5%. Logistics is the developing trend of railway transportation in Germany. The main representation is the operation of express cargo trains, at the maximum speed of 160km/h; in the aspect of logistics warehousing, in Germany's Ruhr industrial area, Hagen rolled steel logistics warehousing center can provide the services ranging from transport, warehousing, to ordering, distribution to specific towns to the customers. German Railway Freight Transportation Company also set up the customer service center （Kunden Service Zentrum, KSZ）, this center can arrange vehicles, provide loading suggestions according to the customers' request; Accept orders through telephone, fax, and email; receive customer complaints, claims, freight settlements, and customer management, multimodal transportation management, and international transport management, etc.

In order to make up the limitation of logistics business, Germany Railway acquired Stinnes AG and BAX Global, by this way its rapid access to the logistics market is realized with a big market share. Railway and logistics complemented each other, and Germany became the world's second-largest

logistics group.

2.2.2 Railway Logistics in French

French railway is mainly state-owned, centralized management system is carried out, and the principle of public utilities is followed. And French Railway Company is restricted by the French government in many legal aspects.

French railway's modern logistics is evidenced by the high speed railway transport and the integrative transport of railway and road. The one-stop logistics service is realized by the re-construction and integration of railway and road's advantages.

2.2.3 Railway Logistics in the USA.

The United States has the most developed market economy, and the private operation of railway is carried out. But at present, in order to be adjusted to

the development of the global economic integration, the independent railway companies in the USA are in the trend of joint ventures.

The United States makes great effort to develop the multimodal transportation through different kinds of freight forwarders. The door-to-door service is provided, the express direct trains are operated, large scale, fresh, or perishable cargoes can all be transported by railway. US railway companies which are directed controlled by the government all opened the on-line services, such as vehicle booking, cargo tracking, price checking, and freight payment.

2.2.4 Railway Logistics in Japan

Based on the strategic considerations, after the Russo-Japanese War, Japanese government began to carry out the strategy of railway nationalization. Japan Railway Freight Transport Company（JR）is invested by the government, and it has no rights on the self-management, so the cargo volume is decreasing.

At present, JR is speeding up the expansion in the modern logistics area. The evidences are different types of cargo trains operated according to different types of cargo, such as container train, special train, and combined train; the trains terminals such as Tokyo, was developed into the regional logistics centers.

2.2.5 Enlightenment of Railway Logistics in foreign countries

According to the developing procedure of the modern railway logistics in Germany, France, the USA, and Japan, the following points could be followed:

(1)The precondition for developing the modern railway logistics is the separation between the government and enterprises. After experiencing the different steps of adjustments, the market developing direction is set up among the railway industries of these countries. The transportation mode is improved by expanding the financing channels and improving the service level.

(2) In the developing procedure of railway logistics, the government's macro-control is essential, but as for the management rights of certain special services, the government should not be involved in the price and other detailed management issue.

(3) Outsourcing and mergers are the developing direction of Railway Logistics, and Germany is a good example.

(4) Make great efforts in developing the multimodal transportation, and provide good-quality service to customers.

(5) strengthen the construction of logistics center and information system

(6) Develop the container transport system and special cargo and package transportation.

2.3 Conclusion

This chapter is the basis of the entire paper, and it mainly covers the following aspects:

1. Introduced the definitions of logistics and pointed out the main feature of

modern logistics is service.

2. Understanding the concept of Railway Logistics and pointed out that transportation is not equal to logistics, and it is only an element of the logistics system. Besides transportation, logistics still includes storage, handling, conveying, packaging, processing, distribution and information processing function, etc.

3. Briefly introduced the development of modern logistics in foreign countries, and brought forward several points to learn from: develop the modern railway logistics by the separation between the government and enterprises and go in the direction of market economy; government's macro-control is essential, but as for the management rights of certain special services, the government should not be involved in the price and other detailed management issue; outsourcing and mergers are the developing direction of modern railway logistics; make great efforts in developing the multimodal transportation; strengthen the construction of logistics center and information system; develop the container transport

system and special cargo and package transportation.

Chapter 3 Current Situation & Environment Analysis of Chinese Railway Logistics

Through the exposition in the front sections, we understand the international railways logistics development. This chapter is to introduce the current situation of Chinese Railway Logistics development, and then by analysis of the internal and external environment of railway industry, to get the opportunities, threats, advantages and disadvantages of modern logistics in this industry.

3.1 Railway Logistics in China

3.1.1 Management system of Railway Industry in China

Chinese Railways Industry is a natural monopoly industry, which experienced lots reform. And now, the industry implements three-stage management mode that is: Ministry of Railways manages Bureau of

Railways which take charge of Stations. Ministry of Railways not only is a government department, but also operates directly national railways transportation enterprises. Ministry of Railways is responsible for profits and losses of all enterprises. Ministry of Railways administered eighteen Bureaus of Railways and six professional firms.

Enterprises of the railway industry do not have the key rights: pricing and scheduling rights. Although share-holding system reform has been put into practice, railways network enterprises are still difficult to become truly independent operation of company.

Current liquidation of railway industry is that Ministry of Railways operates cross-subsidies of eighteen Bureaus of Railways. Although this method solves the balance between incomes of each enterprise, the true cost and incomes of enterprises are distorted in a large extent. So some enterprises which have higher profitability can not gain real income and weaken or even lost the ability of raising capital from through the capital market.

In fact, the Ministry of Railways is a huge enterprise, which operates a

unified accounting system. Transportation enterprises carry out separation financial liquidation system between revenue and expenditure. The enterprises of Railway can not directly gain profit from market, which are not a true corporate entities and market competitors. In this sense, the railway stations and Bureau of Railways are not the true sense of the enterprises.

3.1.2 Logistics enterprises in china

In Chinese Railway industry, some enterprises provide the logistics service, such as China Railway Modern Logistics Technology Co., Ltd.（CRML）、China Railway United Logistics CO., Ltd. (CRUL), China Railway Container Transport Corp., Ltd. (CRCTC) 、China Railway Special Cargo Service Co. Ltd. (CRS). And some warehouses, transport, cargo agency which affiliate to the Bureaus are also belonging to the logistics companies.

3.1.2.1 China Railway Modern Logistics Technology Co., Ltd. (CRML)

It is a large-scaled third-party logistics company, which was established in

2002. It integrated the fine logistics resources of Rail industry together with other six sponsors

CRML manages and controls more than 400 distribution centers and operation departments all over the country. CRML has abundant logistics resources: 1.40 million square meters available warehousing area, 139 kilometers special transportation lines which connecting to railway trunks, and a high start-point logistics information network which for cooperation between CRML and its clients. CRML has become an integrated logistics enterprise, which core services are distribution, bulk transportation, less-than-cargo special transportation, logistics information service.

3.1.2.2"China Railway United Logistics CO., Ltd. (CRUL)

It is establishing mainly by railway forwarders from all over China with 39 shareholders in and outside the railway industry, a registered capital of 52.50million Yuan and branch offices in large and medium cities throughout the nation." (http://www.rul.com.cn/)

“CRUL has established sorceries of commodity distribution, warehousing and transportation, allocation and delivery centers in all parts of China, which has all been achieved base on its advantages on the railway transportation network. It is catering for its client's needs in everyway by offering all in-one solutions of materials circulation and information flow to help improve the efficiency of supply chain system of clients. ” (http://www.rul.com.cn/)

The core services of CRUL are: providing internal and international fright forward business by multi-style transportation, undertaking all kinds of transport assurance, providing transport consultation services, material-purchase, and distribution services on customers' behalf.

3.1.2.3 China Railway Container Transport Corp., Ltd. (CRCTC)

It is a state-owned large container transportation enterprise founded on the basis of integration of railway container transportation resources. The assets of the company stands at RMB5.2 billion with its registered capital of RMB1.2 billion, and it has 15 shareholders.

CRCTC has set 18 branches in China, it owns China Railway International Freight Forwarding Co., Ltd., and holds the controlling stock in China Railway Tielong Container Logistics Co., Ltd.

Core business: international and domestic railway container transportation , container multimodal transport , international through railway transport ; storage , loading and unloading , packaging , distribution and other logistic services ; operation and leasing of containers , vehicles specially for containers , facilities specially for containers and coverings for railway transportation.

The company is also engaged in international and domestic forwarding agent, and economic, technical information consultation and service concerning the above business.

3.1.2.4 China Railway Special Cargo Service Co. Ltd., (CRSC)

CRSC is a special cargo transport service provider; it is affiliate to the

Ministry of Railways. The main services are special cargo transportation, storage, handling, conveying, packaging, processing, distribution and information processing

3.2.1.5China Railway Express Co., Ltd (CRE)

The main service of CRE are parcel express, cargo express, contract logistics, international freight forwarder, express flow, express solve project, express conveyance service, safety guarantee service.

3.2.1.6Warehouse, transportation and intermediary institution of Bureaus

The logistics services of the Bureaus are mainly about the intermediary and extension service. Totally speaking, the logistics awareness is still quite weak of these enterprises.

From the beginning of the 1990s, many local enterprises invested jointly with the railway enterprise to construct the warehouse, or invest solely to set up the warehouse or logistics center ,in order to compete with railway

enterprises.

3.2 External environment analysis of railways logistics development in China

The main object of external environment analysis is to find the opportunity and threats of Railways Logistics development.

3.2.1 Policy environment

From the policy environment, China's governments gradually put modern logistics development on the agenda. And Logistics industry has been listed in the national supporting industry. To this end, the state ministries have issued many files, such as "some views on accelerating the development of modern logistics in China" and "some views on the promotion integrated logistics service in transportation enterprises". All of these files encourage, support and guide the Logistics development, which lay the foundation for the healthy and rapid development.

Railways industry has been in continuous deepening the reform. “The Eleventh Five-Years Plan” and “medium and long term plan of railways network” have pointed out that requirements of high speed up the construction of the railways network, strengthen construction of coal transportation routes, construction of container transportation system, improvement of transportation modernization and promoting the building of the railway information.

To sum up, the policy environment, at present, will encourage and promote the logistics development, some policy related to railways industry will enhance the competitiveness of the industry.

3.2.2 Industry environment

3.2.2.1 The size of market

As we all know that the total capacity of logistics is direct proportion to the total capacity of economy. In 2007, China’s GDP is 24.663 trillion Yuan,

annual retail sales of consumer goods is 8.9 trillion Yuan, and import and export volume is amounted to 2.1735 trillion U.S.dollars. Rapid economic development will bring huge demand space of logistics. According to "2007-2008 China's Third-party Logistics Industry Analysis and Investment Consulting Report" published in October 2006, the output value of Chinese logistics industry was more than 39 billion Yuan and will reach 1.2 trillion Yuan in 2010. And based on the forecast made by some transnational logistics enterprises like Maersk Logistics Company, the levy rate of logistics demand will be more than 20 percent.

In sum, Chinese logistics industry is in a phase of rapid growth and Chinese logistics market has a bright future.

3.2.1.2.2 Structural analysis of market demand

According to the market investigation China's logistics market supply and demand conditions survey (sixth editor) by Chinese Association of Warehousing, the outsourcing logistics of manufacturing enterprises and trading enterprises focus on main trunk transportation, followed by the city

distribution. (See the following figure 3-1). The demand of logistics system designs, and logistics agent, which are high value-added service and

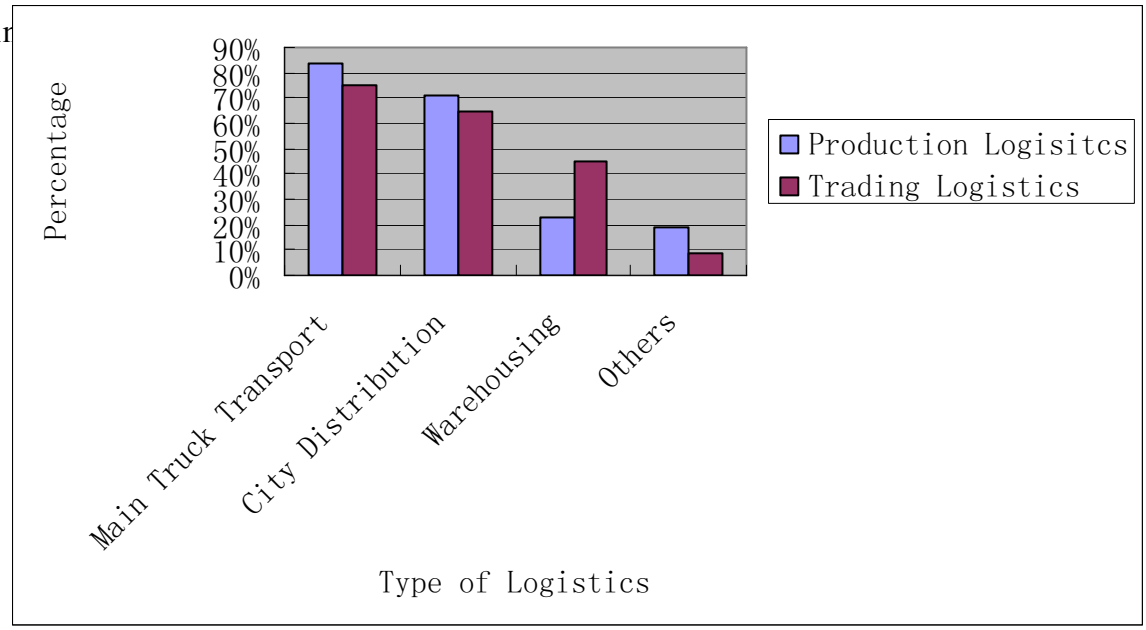

Figure 3-1: the results of outsourcing type survey

Source: Chinese Association of Warehousing,

"China's logistics market supply and demand conditions survey (sixth editor)"

Figure 3-2, 3-3, 3-4 is the survey results of satisfaction rate of logistics service in current market.

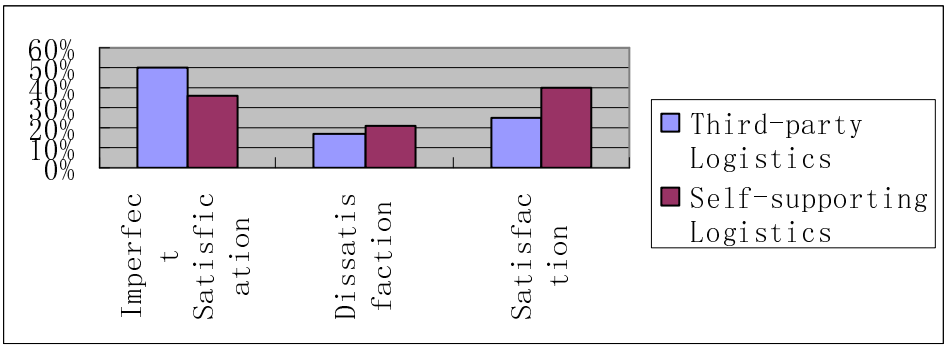

Figure 3-2: results of satisfaction rate of logistics service from manufacturing enterprises

Source: Source: Chinese Association of Warehousing,

“China’s logistics market supply and demand conditions survey (sixth editor)”

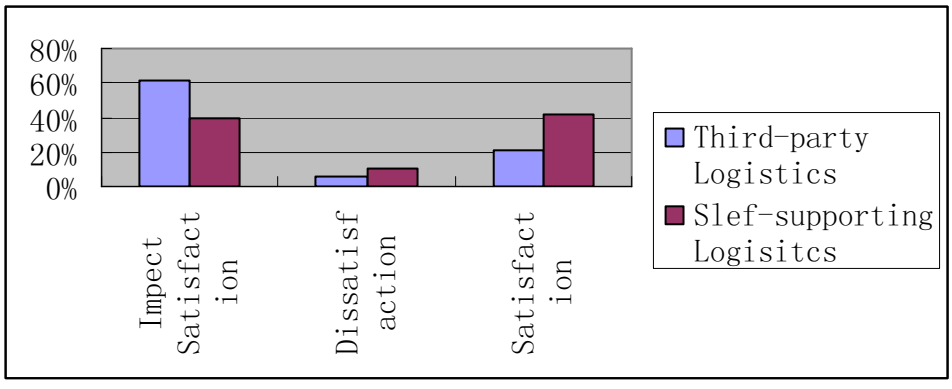

Figure 3-3: results of satisfaction rate of logistics service from trading company

Source: Source: Chinese Association of Warehousing,

"China's logistics market supply and demand conditions survey (sixth editor)"

Reason	Manufacturer	Trading Company
High operating costs	22%	45%
Inaccurate information is not timely	35%	32%
Operating slow	13%	20%
Services incomplete	39%	21%
High rate of damage to the goods	30%	4%
Operating high error rate	35%	9%
Poor service attitude	26%	7%
No Internet service	26%	10%
Can not meet demand	32%	27%

fluctuations		
Can not provide supply chain integration	39%	18%
Can not provide management and advisory services	30%	17%
Others	4%	10%

Table3-4: the main reasons of dissatisfaction

Source: Source: Chinese Association of Warehousing,

“China’s logistics market supply and demand conditions survey (sixth editor)”

According to the results of above survey, the main demand of logistics is oriented to the transportation and warehousing and the high added-value logistics service is limited. The cost is not the most dissatisfying factor, which shows that the requirement of logistics services is constantly deepening. The satisfaction survey indicates that the overall levee of logistics suppliers is not high and should be further improved in current

China's logistics market.

3.2.2.3 Intensity of Rivalry among Competitors

In 2005 the sample investigation showed according to the Chinese Warehousing Association: The Chinese Logistics market concentration degree is not high, there are no logistics service providers with the market share above 2%. At present, the barriers to entry the market is relatively low. And can be predicated, this pattern will maintain for a long time in the market.

3.2.3 Summary: opportunities and threats

From the above analyses we can see that, Chinese logistics industry is in a phase of rapid growth and Chinese logistics market has a bright future. The policy environment, at present, will encourage and promote the logistics development; some policy related to railways industry will enhance the competitiveness of the industry. All about these will bring unprecedented

opportunities to Chinese railway logistics development.

At present, Chinese Logistics market is still in the developing stage, there are no companies with large market share. The service quality in the market is not high, but there is a trend of better services requirement. Under such circumstances, if the Railway finds the correct direction of development, it has the opportunity to stand in the leading position in the Chinese Logistics market.

But at the same time it should pay attention to the threat of potential competitors.

3.3 Internal environment analysis of Railways Logistics development in China

The following part mainly analyzes the internal environment of Railway Logistics development in China, in order to find the strength and weakness of Chinese Railway Logistics development.

3.3.1 Existing resources

3.3.1.1 Transportation

Since the reform and open policy, the construction of railway network has obtained the very big development, the network scale expands unceasingly, the network structure obtains the optimization, the network quality promotes further.

"By the end of 2007, the national railway business mileage amounts to 78,000 kilometers, is the third in the world, the railway network covers all provinces in China. In structure, the rate of double- track railway is 34.7%; Electrification rate is 32.7%. The modernization level of main transport vehicle, equipment has obviously enhanced. Transportation efficiency has been improved further after the Six Speed increase in a large area" (Statistical Bulletin of railway industry 2007, Statistic Center of the Ministry of Railways, March 2008)

In recent years the railway freight transportation has maintained the sustained growth tendency (as shown in Figure 3-6, 3-7), in the entire freight market, it maintains 1/3 market share basically. Because of the Chinese Railway characteristics, it undertakes the key-point products transportation in China, like coal, cotton, grain, petroleum, steel and iron and so on.

The railway owns a considerable scale of containerized traffic system as well as the special cargo transportation system, the luggage transportation system and so on.

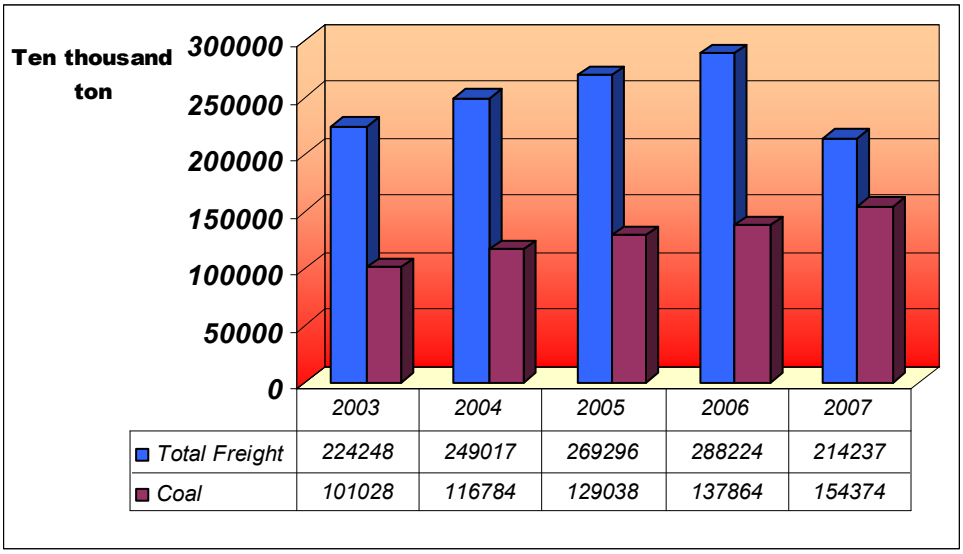

Figure 3-6 2003—2007 the total volume of rail freight sending in china

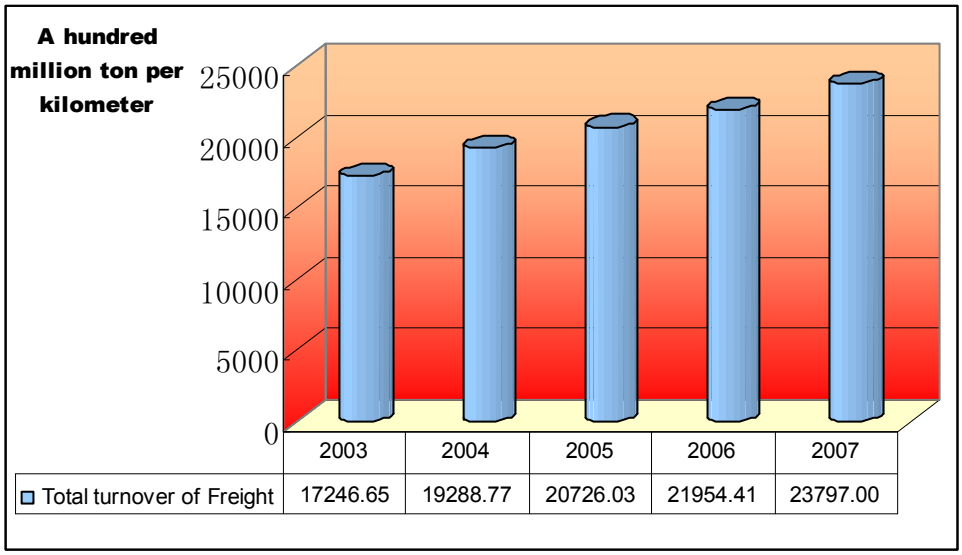

Figure 3-7 2003—2007 the total turnover of National rail freight

Generally speaking, Chinese Railway transportation capacity is still inadequate. The capacity of main line and some area is not enough, especially the transport capacity differences from region to region. In some regions the transport capacity can not meet the demand volume, while some have significant surplus capacity. The seasonal transport Capacity is not balance and so on. Such as the transport capacity of coal is tight, when meet the annual peak consumption of electronic in summer.

Because of the inadequacy of transport capacity, resulting in difficulty control of the process and the time of cargo transportation, and it's difficult to meet the various demand of cargo transportation.Totally speaking, the inadequacy of transport capacity constraints the service level upgraded.

But "The Eleventh Five-Years Plan" and "medium and long term plan of railways network" have pointed out that increasing the construction of the railway network, and vigorously promote modern technology and equipment. The railway transport capacity will be greatly enhanced.

3.3.1.2 Warehousing and distribution

By the end of 2005,18 National Railway Bureau (company) have more than 3,200 freight handling stations, the average distance between stations are 19 KM. Railway freight stations and warehouses, specially the freight hub stations which is set up in ports , land crossings and major cities, have been realized logistics services with packaging, storage, handling, transit, and distribution.

These stations and warehouses have the favorable conditions, which will be developed into be the modern logistics centers and distribution centers.

3.3.1.3 Handling and conveying

The modernization level of facilities and equipments in Chinese Railway Industry is relatively low. The existing handling facilities, such as the gantry crane, Unloading machines, loaders, small forklifts, container spreader and so on, commonly have the shortages of obsolete and lack of

diversify.

Most of the facilities and equipments are still in the hand Operational level. Modernized, intelligent management and operation are only in the stage of planning and design.

3.3.1.4 Information processing

Railway industry has advanced information systems: railway communication systems, Transportation Management Information System (TMIS), cargo tracking systems and Dispatching and Management System (DMIS), which provide the excellent conditions to use Electronic Commerce (EC) for rail transport.

3.3.1.5 The evaluation of existing resources

According to the above discussion, we can see that Chinese Railway Industry has a strong transport network, the more advanced information

systems, railway communications system, adequate station, the considerable size of the containerized traffic system, as well as special cargo transportation system, the luggage transportation system and so on. All of these are the material basis for Railway Logistics development.

3.3.2 Management System

Through the above discussion, we know that the Railway Industry have the material resources which can develop the modern logistics. Whether the resources can be used reasonably or not, is depended on the management system and organization structure of the whole industry.

The core of modern logistics is service, and the main content is the integrative management of the whole supply chain.

However Chinese Railway Industry is monopolized industry，Enterprises of the railway industry do not have the key rights: Pricing and scheduling right. Current liquidation of railway industry is that Ministry of Railways operates

cross-subsidies of eighteen Bureaus of Railways. The enterprises of Railway can not directly gain profit from market, which are not a true corporate entities and market competitors.

Because of the reasons we discussed above, the competition awareness is weak in the Railway Industry. The attention to logistics services is not enough, the whole industry are lack of concerning the information of the market and the competitors.

And now, the Railway Industry implements three-stage management mode that is Ministry of Railways manage Bureau of Railways which take charge of Stations. Ministry of Railways not only is responsible for national railways industry, but also operates directly national railways transportation enterprises. Ministry of Railways is responsible for profits and losses of all enterprises. Ministry of Railways administered eighteen Bureaus of Railways and six professional firms.

Because of the fragmentation among the various departments and

management systems, the entire logistics supply chain is out of the link, poor information flow, poor overall coordination, is difficult to play intensive business advantages.

To sum up, the manage system and organization structure is not adapt to the modern logistics development. It absolutely needs to reengineer.

3．4 Conclusion

This chapter mainly introduces the current situation of Chinese Railway Logistics development, and analyzes the internal and external environment of the Railway Logistics development in China. And then come to the following conclusions.

Chinese logistics industry is in a phase of rapid growth and Chinese logistics market has a bright future. The policy environment, at present, will encourage and promote the logistics development; some policy related to railways industry will enhance the competitiveness of the industry. All

about these will bring unprecedented opportunities to Chinese railway logistics development.

At present, Chinese Logistics market is still in the developing stage, there are no companies with large market share. The service quality in the market is not high, but there is a trend of better services requirement. Under such circumstances, if the Railway finds the correct direction of development, it has the opportunity to stand in the leading position in the Chinese Logistics market.

Chinese Railway Industry has a strong transport network, the more advanced information systems, railway communications system, adequate station, the considerable size of the containerized traffic system, as well as special cargo transportation system, the luggage transportation system and so on. All of these are the material basis for Railway Logistics development. The manage system and organization structure of the Railway Industry is incompatible with the modern logistics development. It absolutely needs to reengineer.

Chapter 4 overall reengineering of Railway Industry to develop Railway Logistics

According to the above chapters, we have such a conclusion: the prospects of Chinese Logistics market and policy environment are both benefit to the development of Chinese Railway Logistics. Chinese Railway Industry also owns the material resources to develop modern logistics, but the manage system and organization structure of the Railway Industry is incompatible with the modern logistics development. .Except material resources, the management system and organization structure, especially the service awareness are not adapt to the logistics development. So the only way to develop Chinese Railway Logistics is to reengineer the entire industry, breaking monopoly, adding the competition, integrating the existing resources, in order to enhancing its competitiveness

4.1 Necessity of Overall Reengineering of Railway Industry

Experts believe that the enterprises reengineering generally apply to three categories: First, problematical enterprises, they have no choice but only choose to reengineer. The second enterprises have not bad performance but also have potential crisis, reengineering is the best method to survive. Thirdly, the enterprise's business reaches at the peak and it's an effective way to construct core competitiveness by reengineering.

The current state of Railway Industry is similar to the first category. Whether solving the monopoly, resolving a bloated bodies and personnel or building a competitive advantage in the transport market, there is no doubt reengineering is an excellent choice.

Although the economic cost or social costs of reengineering is not low, the economic effects would be significant. Through enterprise reengineering, the Railway Industry can effectively solute problems, such as monopoly, service awareness, and so on.

Reengineering will promote Railway Industry more competitive in logistics

market.

4.2 Objectives and Basic concepts

For the current situation, the objectives of reengineering is that: breaking monopoly, adding the competition, integrating the existing resources, in order to enhancing its competitiveness

The basic concept is that: to change the current situation which the Ministry of Railways not only is a government department, but also operates directly national railways transportation enterprises. The function of operation and management truly belong to the railway enterprise, the Ministry of Railways retains the original functions of government department, such as formulating the regulation and rules of the industry. Through this concept, make the railway enterprise to be the real entity.

4.3. Preparation Works before the Overall Reengineering

Because its belongs to the whole industry reengineering, which involves the staff, property and a multi-sector and so on, so we must make a preliminary preparation work

4.3.1. Education and Communication

All employees should be organized to study and communicate, then make them understand the facing crisis, difficulty, opportunity and potential advantages, and make them clearly to understand the necessity importance of rebuilding.

On the basis of understanding, outline the company long-range view and grand blueprint for the majority of employees to have a right development direction, and then form forward momentum.

In order to enhance the effectiveness of rebuilding, it’s also necessary to strengthen the security analysis and study on the case of successful enterprise rebuilding.

4.3.2 Building the Reengineering Teams

The key of rebuilding is to build a strong team; the key of team is to give priority for choose a right leader to build the team. From the actual and part of interests of China's railway transport, the rail transport of rebuilding is completely reform the no creativity and inert, which was caused by monopoly, in order to building a system-wide competitive situation. Therefore this paper thought that the leaders must choose the strong figures out of the rail system and select some key members to set up rebuilding group from the rail system

4.4 Reengineering Contents

According to the geographical location and the basic situation of the country’s passenger and freight transportation, the 18 Railway Bureaus will be reconstructed into 5 regional railway groups. At the same time, some personnel in Ministry of Railways will be designated to set up the

supervisory committee. And the Ministry of Railways retains the original functions of government department, such as formulating the regulation and rules of the industry. Based on the requirement of setting up the fair competition environment, the first grade trunk railway line will be effectively divided. The detailed plan is as follows (4-1 the railway line in china)

Figure 4-1 the railway line in china

Resources from: http://www.xici.net/b357017/d38267837.htm

4.4.1 Approach on how to divide the lines

When dividing the railway lines, the requirement of setting up the fair competition environment should be based on and according to the geographical location and the basic situation of the country's passenger and freight transportation, the regional division should be reasonable and easy to be managed. The local feeder railway will be put under the control of the regional railway group.

4.4.2 Reengineering result of Ministry of Railways

After reengineering, Ministry of Railways will not operate national railways transportation enterprises. Some personnel in Ministry of Railways will be designated to set up the supervisory committee. And the Ministry of Railways retains the original functions of government department, such as formulating the regulation and rules of the industry

4.4.3 Reengineering result of the 5 regional railway groups

The five big railway groups have their own railway lines and rolling stocks, and they will also set up their own road networks companies, long-distance passenger transportation companies, and cargo transportation services companies, and the effective competition and cooperation will be carried out among them.

In this way, the mutually substitutive competition situation among the different groups will be formed; the long-distance transportation companies can mutually rent the lines among different regions and mutually restrict each other. And the industrial committee can supervise the railway groups and government department can strengthen control on them.

According to the boundary of the region, the five railway groups can set up the short-distance passenger transportation company taking the provincial capital city as the center.

Joint ventures retain the share-holding system and limited liability pattern,

the railway asset owned by the state will be put under the control of the railway groups, keeping separate accounts and performance appraisal.

The five railway groups which are set up by dividing the trunk railway lines, and regions, and in the form of crossed network, will introduce the rent and tender system and the competition among the road networks. The communications department of the government will also strengthen the distribution of transportation capacity, planning and construction of the road networks, dispatching and control, monitoring and implementation on the mutual clearance methods, in order to effectively improve the railway and the whole transport industry to form good competition.

Different regions and lines' accounting method will be verified by the state's price management department together with the industry management department and the industry association in order to achieve fair and reasonable. All types of safety responsibilities and economic dissension have to be defined by law.

After the four groups are set up, the financing method could be diversified. Besides the policy priority, using the running income to support the expenses and the railway construction funds, other financing ways should be used to procure equipments, construct infrastructure and do maintenance. The five groups' stock can be issued and sold to get capital, and each company can also issue bond to collect money. In this way, the government can only give the policy support without investment on the railways, such as land priorities, providing guarantee of the loan. At the same time, the railway can also use the transportation equipment as the mortgage, and borrow money from the bank. If there is difficulty in procurement, railway groups can also rent equipments to maintain the operation, in order to save the capital used in equipment procurement and maintenance.

4.5 The competitive system Construction of five groups

Through establishment of five groups, brings the competition mechanism into the Railway Industry. Finally, integrate the advanced Railway Logistics experience of foreign countries with the current resources of Chinese

Railway, put forward the ways how the 5 groups using the existing resources, and enhance their own competitiveness of five groups.

4.5.1 Transportation

Definite market positioning, the characteristics of rail transport is large volume, safety, all-weather transport and lower cost. Therefore the transportation should mainly rely on middle or long distance and large volume of operation. Properly withdraw from the short distance, the small volume of the cargo market. Transport and carry out value-added services, by expanding the scope of truck lines. Strengthen professional logistics development, such as steel logistics and coal logistics to promote the potential of primary route's transport.

Strategic alliance to develop Multimodal transport, the key task is to ensure access work. Due to various modes of transport have their own advantages, and under their own characteristics to survival. Mutual cooperation can achieve win-win situation, no cooperation can only leads to mutual damage.

The most important is strategic alliance between port and Shipping.

4.5.2 Warehousing and distribution

At present, Chinese railway transport capacity is in shortage and uneven, bulk goods transport demand is exceed supply. All of these caused a lot of production and trading enterprises to expand the inventory. Based on the demand of customers, railway logistics service provider can organize and distribute bulk raw materials,so that make enterprises scattered supply of stocks change into the concentrated flow of inventory, thus achieving zero inventory or low inventory.

4.5.3 Handling and conveying

Most of Chinese railway facilities and equipment are in low level of modernization and vast majority of equipment is still in manual level, modernized, intelligent management and operation only in planning and design stage.

After the construction of five groups, they will investigate on the cargo flow and demand in their own administer area and close those kind of yard like small cargo, cargo handling facilities is backward and freight demand growth is not big. Revamp those middle and big size yard's facilities, which has a good prospects.

4.5.4 Information processing

Presently, Chinese Railway Bureau's information is not fully shared, but the establishment of five major groups can increase the logistics information sharing. Actively using the Internet and other electronic data technology, linking business services networking and provide customers for real-time information services, so that to achieve the effective control and logistics management. Meanwhile, with the construction of large-scale information systems and applications, network security issues are highlighted important and should establish the safety and security of information system.

4.6 Conclusions

According to the above chapters, we understand the Chinese railway industry needs to reengineer. This chapter mainly introduces the reengineer program from the following factors: necessity, objectives and basic concepts, preparation works, contents and the competitive system construction.

The objectives of reengineering is that: breaking monopoly, adding the competition, integrating the existing resources, in order to enhancing its competitiveness

The basic concept is that: to change the current situation which the Ministry of Railways not only is a government department, but also operates directly national railways transportation enterprises. The function of operation and management truly belong to the railway enterprise, the Ministry of Railways retains the original functions of government department, such as formulating the regulation and rules of the industry. Through this concept, make the railway enterprise to be the real entity.

The specific content is as the following: according to the geographical location and the basic situation of the country's passenger and freight transportation, the 18 Railway Bureaus will be reconstructed into 5 regional railway groups. At the same time, some personnel in Ministry of Railways will be designated to set up the supervisory committee. And the Ministry of Railways retains the original functions of government department, such as formulating the regulation and rules of the industry. Based on the requirement of setting up the fair competition environment, the first grade trunk railway line will be effectively divided. The detailed plan is as follows,

Through establishment of five groups, brings the competition mechanism into the Railway Industry. Finally, integrate the advanced Railway Logistics experience of foreign countries with the current resources of Chinese Railway, put forward the ways how the 5 groups using the existing resources, and enhance their own competitiveness of five groups.

CONCLUSION

The prospects of Chinese Logistics market and policy environment are both benefit to the development of Chinese Railway Logistics. Chinese Railway Industry also owns the material resources to develop modern logistics, but the manage system and organization structure of the Railway Industry is incompatible with the modern logistics development.

So the only way to develop Chinese Railway Logistics is to reengineer the entire industry, breaking monopoly, adding the competition, integrating the existing resources, in order to enhancing its competitiveness

This dissertation put forward a suggestion to set up the five regional railway groups. The concert program is in the following: According to the geographical location and the basic situation of the country's passenger and freight transportation, the 18 Railway Bureaus will be reconstructed into 5 regional railway groups. At the same time, some personnel in Ministry of Railways will be designated to set up the supervisory committee. And the

Ministry of Railways retains the original functions of government department, such as formulating the regulation and rules of the industry. Based on the requirement of setting up the fair competition environment, the first grade trunk railway line will be effectively divided

Through establishment of five groups, brings the competition mechanism into the Railway Industry. Finally, integrate the advanced Railway Logistics experience of foreign countries with the current resources of Chinese Railway, put forward the ways how the 5 groups using the existing resources, and enhance their own competitiveness of five groups.

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