

# Exploration on Reform of Railway Transportation Management System Based on Separating Train Operation with Rail Equipment Management

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**Abstract:** This article analyzes Chinese railways transportation management system, uses the experiences of other countries' railway transportation management system for reference, as well as discusses the necessity of reform of railway transportation management system based on separating train operation with rail equipment management. Moreover, the article also puts forward an imagination on the reform scheme of railway transportation management system based on separating train operation with rail equipment management.

**Keywords:** railway transportation management system, separating train operation with rail equipment management

## 0 Introduction

From the first railway appeared in England in 1825, world railways has experienced 170 years development. Also, Chinese railways has more than one hundred years history since the first railway was putted into operation in 1876. Today, Chinese railways are faced with a historic chance and challenge.

It's a significant, extremely difficult and urgent problem for us to research and explore on a proper way to the reform of transportation management system for Chinese railway that can meet the demands of Socialism Market Economy.

Located in highly developed economic and cultural districts, Shanghai Railway Administration owns railways in four provinces ( i.e Anhui, Jiangsu, Zhejiang, Fujian ) and Shanghai municipality directly under the central authority. With an operating length of 4,451.2 km and a total length of 10,234 km, Shanghai Railway Administration has a volume of all employee of 221.6 thousand person and the original value of fixed asset of 36.39 billion yuan until 1997, In 1997, Shanghai Railway Administration dispatched 131.3million passengers and 121.65 Mt of commodities. The transportation income reached 9.6 billion yuan, thus a profit of 215.80 million yuan was realized.

For Shanghai Railway Administration's particular status in China and Ministry of Railway (MOR), it's very important for Shanghai Railway Administration to hurry up its steps to reconstruct management and operation mechanism. This article emphasizes on the implementation of separating train operation with rail equipment management model for Shanghai Railway Administration.

## 1 Analysis on Transportation Management System for Chinese Railways

For a long time, under the traditional planned economy management system, Chinese railways are characterized as highly concentration, wide cooperation and half—army. Besides, with such important quotas as the passenger and freight dispatch volume, traffic density and labor productivity keeping in the world advanced level, Chinese railways act as the mainstay of the comprehensive communication and transportation system beyond doubt.

However, with the transition from Planned Economy to Socialism Market Economy and with the rapid development of other transportation fashion, the disadvantages of existing management system prominently manifested as follows:

### **1.1 The Combination of government and enterprise**

Under the leadership of MOR who plays both government and enterprise roles, railway transportation enterprises are carried out by three levels of administrations: railway administrations, railway sub administrations and stations and districts at grassroots level. As an affiliated organization and manufacturing workshop to the government, transportation enterprises find it very hard to step into market.

### **1.2 The Confusion of Property Right**

Such multilevel legal person as MOR, railway administrations and sub administrations run the same asset leads to the confusion of property right. So, the enterprises' legal person property right can't be really put into effect.

### **1.3 Inflexibility of Mechanism**

As for the overlapping organization of MOR, railway administrations and railway sub administrations, as well as the benefits don't get in touch with the responsibilities, railway transportation enterprises can't allocate traffic resources according to the demands of market.

### **1.4 Bad Beneficial Results**

With market demands and management benefit coming apart railway traffic production, railway transportation enterprises are lack of input/output concept and market competition idea. Thus, from 1980 to 1996, railway's percentage in the whole social passenger turnover has been dropped from 60.5% to 36.3%, freight turnover from 47.5% to 35.4%. Although there is a reason that other transportation fashions rationally separate the transportation market, it also shows that railway lies in the passive location in the competition of transportation market. Since 1994, railway transportation has appeared whole industry loss, and the loss has accumulated to 20 billion yuan.

Since Reform and Opening Up, Chinese railways have started from the situation of our country and railway itself to explore the reform of railway transportation management system. During the period of 1986—1990, Chinese railways implemented the entire industry economic system of contracted responsibility. Then during the period of 1991—1995, with the working out of "Implementation Measures on Transformation of the Enterprise Operation System", the market entity status was set up and enterprise operation power to make independent decisions was broadened. Afterwards, to meet the demands of setting up new railway system and mechanism for Socialism Market

Economy, eleven railway enterprises were chosen to carry out establishing Modern Enterprise System. At present, as for railway administrations level, the reform of transportation management system can mainly adopt two types as follows :

(1) Controlling and Affiliated Company Structure

Represented as Guangzhou Railway Corporation(Group) (GRC), corporation (Group) is a share-controlled company that keens on capital management. Otherwise, affiliated company refers to the regional transportation companies which engage in passenger and freight transportation. This type helps to adjust enterprises' organization structure rationally and make the existing asset flow reasonably. Besides, it helps to overcome the drawbacks of the overlapping administrations. Even so, this type also has such shortcomings as that it can't reduce administration levels.

(2) Stations and Districts Directly under the Administration of Railway Administrations

Such railway administrations as Nanchang, Huhehaote, Kunming and Liuzhou directly manage stations and districts. This type has the virtue of reducing administrative levels, and helps to quick reaction and decision—making according to the market information, as well as traffic production. But now, this type has just acted as a structural adjustment , has not realized the reform of system yet.

## **2 Using the Experiences of Other countries' railway transportation management system as reference**

For about one hundred years, with the development of economy and the proceeding of industrialization, the world railways have experienced the process from flourish to decay. However, upholding with the technical process and the demands of market, railway industry has developed very quickly especially from the 1980s, symbolizing as high—speed passenger transportation and heavy—loaded freight transportation. Accordingly, the reconstruction of property right reaches to a reform tide of world railways. Different countries adopt various types of railway system, but the same thing is that the reform is carried out in the center of meeting the transportation demands and bettering operation benefits.

As for administrative fashion, it transfers from highly concentration to decentralization or both decentralization and centralization. For example, through establishing five transportation management divisions, English state—owned railway companies gradually decentralize administration right. French railways also use decentralization administration to take the place of the former concentration management, and scatter right to stations and districts at grassroots level.

As for ownership structure and operation fashion, it has transformed from state operation to state own and railway operation, commercialization and even to private operation. Just as Japan, USA and other countries, they realize the reform of railways by establishing corporations and public offering.

Among all these fashions, an administration system based on separating train operation with rail equipment management has typical significance. This fashion of railway

administration management originated from Sweden, and it has been widely adopted by most countries of EEC.

The concept of separating train operation with rail equipment management refers to the management system of separating the rail fixed facilities with passenger and freight traffic. So, both of them can operate independently. The essence of this fashion is that separating ownership main body, management main body and traffic main body. Taking Sweden as an example, after SJ and Bv established in 1988, the former with independent operation acts as a market main body, and engages in passenger and freight transportation. The latter remain an administrative department, responsible for the construction and maintenance of rail facilities. This fashion helps to realize the separation of government and enterprises, as well as further definite the responsibility between government and enterprises. It also helps to create equally competitive circumstances for different traffic fashions. Therefore, although there are so many differences between China and Sweden, the adoption of this fashion still has its positive significance.

### **3 The Necessity of Reform of Transportation Management System Based on Separating Train Operation With Rail Equipment Management**

At present, separating rail equipment with train operation has been a prominent trend for the reform of transportation management system for world railways. However, for a long period, Chinese railways are burdened with both construction and operation. And the construction loss for Chinese railways has amounted to hundreds of billion yuan. It is obviously hard to turn the construction responsibility over to government in a short time. This is a reality that should be considered in the reform of Chinese railways. Then, how to recognize and evaluate the positive significance and necessity for Chinese railways to adopt transportation management system based on separating train operation with rail equipment management?

#### **3.1 Definition the Responsibilities, Promoting the Separation between Government and enterprises**

Under the existing railway transportation management system, the economic relationship between railway and state is vague; railways' relationship of public welfare and enterprise is mixed together. So, railway enterprises are subsidiaries of government in nature. All these phenomenon seriously prevent railway enterprises from stepping into market and further developing. Through separating train operation with rail equipment management, it can definite the rights and responsibilities between rail facilities and train operation, and further promote to straighten out the economic relationship between railway and state. And then gradually separate inoperative asset and governmental function which ever undertaken by railway enterprises; promote MOR to transform its functions; create equally competitive circumstances for railway enterprises.

#### **3.2 Definition the Relationship of Proper Right, Realization of Operation Responsibilities**

Through separating train operation with rail equipment management, with the establishment of rail equipment companies and passenger and freight transportation companies, it can realize railways' recombination of asset and specialization management. As well as it can naturally overcome the shortcomings of the overlapping administration and help to definite the operational responsibilities between various departments and systems.

### **3.3 Introduction to Competition Mechanism, Marketing Promotion**

Through separating train operation with rail equipment management, with establishing passenger and freight transportation companies acted as market main body and legal person entity helps to promote railway enterprises to get rid of administrative interference and step into market in order to strengthen vitality and competition under the reform of transportation management system for Chinese railways. This is of great significance for railway transportation under the serious circumstances of market competition. Besides, after setting up several transportation companies, it helps to break monopoly and form order competition. It doesn't only help to reduce cost, improve efficiency and perfect product structure for the rail equipment companies but also help to better service quality and improve economic results.

### **3.4 The Reform of Financial System, Strengthening Encouragement Mechanism**

For a long time, taking the unique transportation price and the difference of regional traffic cost into account, Chinese railways are carried out financial management system of income and expenses separation. The income that enterprises gain is the clearing income that has been adjusted by MOR. So, in fact, the whole railway enterprises have not business account independently.

Through establishing passenger and freight companies based on separating train operation with rail equipment management, with the support of rapidly development of TIMS system for passenger and freight , there is a reality to implement cost accounting by sections. And it helps railway enterprises to gain complete income and carry out the whole cost accounting, as well as afford the responsibilities of self-operation, self-limitation and self-development.

## **4 The Imagination on the Reform Scheme of Railway Transportation Management System Based on Separating Train Operation with Rail Equipment Management**

Chinese railways have characteristics of state-owned property right, combination of government and enterprises, traffic line sharing, huge existing asset and the volume of employee, the relative backwards of management system and technical means, as well as burdening both tasks of reform and development, Thus, the reform of transportation management for Chinese railways is bound to a long -time, advancing process. Therefore, the implementation of separating train operation with rail equipment management must be a process that need gradually deepen, spread and perfect. So, we should adopt the methods of total design, legislative guarantee, regional breakthrough

and gradual separation in order to diminish operational obstruction and ensure implementation effect.

From the process of separating train operation with rail equipment management, it's possible to adopt an advancing process of accountant separation, organization separation and system separation. At first, we can separate rail equipment management with passenger and freight transportation in terms of internal organization structure and financial accounting, then set up relationship of independent accounting and mutual clearing between the rail equipment management and train operation. Afterwards, through adjustment of organization structure, to establish passenger and freight companies and rail equipment management companies to realize the separation of organization and system.

From the scope of separating train operation with rail equipment management, we can choose these terminal lines or branch lines that have little influences on the railway network and low technical operation difficulties. Of course, it can also be implemented in some parts of main lines that have mature conditions.

From the degree of separating train operation with rail equipment management, it can be considered from train operation to rail equipment management, from small ones to big ones, from the coarse to the fine. From train operation to rail equipment management refers to separate passenger and freight transportation marketing from railway transportation enterprises at present, then establish companies to carry out marketing and participate in competition. The establishment of rail equipment management companies and the separation of social functions can be done afterwards. From small ones to big ones refers to separate little attached departments, employees and assets at first, then gradually expand the scope in order to diminish the difficulties in the initial stage. From the coarse to the fine refers to the clearing methods between rail equipment management and train operation just adopt coarse clearing at first, then gradually transform to independent clearing.

With highly developed economy and culture, high density of passenger and freight transportation, as well as sufficiently developed market and perfect conditions, it's of great significance for Shanghai Railway Administration to set up a passenger transportation company limited and public offering. That's will be a breakthrough for Shanghai Railway Administration to explore on the transportation management system based on separating train operation with rail equipment management.

Known as gold triangle, Shanghai, Nanjing and Hangzhou locate in the jurisdiction of three sub administrations of Shanghai Railway Administration with an operating length of 1,993.7km, and the original value of fixed asset is about 19.13 billion yuan. These three railway sub administrations launch 63.5 pairs passenger trains per day and have been allocated 2,088 rolling-stocks with the original value of 1.14 billion yuan. In 1996, these three railway sub administrations dispatched 100.4 million passengers ( 75.9% of that of Shanghai Railway Administration ), and with the transport income of 3.23 billion yuan (78.1% of that of Shanghai Railway Administration ). It can be considered to establish a passenger transportation company limited with the management scope of

passenger and luggage transportation, as well as such diversified business operation as commerce and trade, tourism and real estate. Through public offering, the company can raise funds, better technical equipment, as well as broaden management scope and improve economic results. If Huninghang Passenger Transportation Company Limited will be established and managed successfully, it will be a great breakthrough setting up passenger transportation companies based on separating train operation with rail equipment management.

While stepping into the 21<sup>st</sup> century, Chinese railways are faced with both development chances of 245 billion yuan investment and serious challenges. The only way is to set out of the obstruction of planned economy and to deepen system reform and transform management mechanism. The reform of railway management system based on separating train operation with rail equipment management is a fashion worthy of reference. We wish our research and practice will be helpful and useful to the reform.

We should use the experiences of world railways reform for reference, and combine with the reality of Chinese railways, to create a new railway management system and mechanism with Chinese characteristics.