# Problems in Railway Transportation Cost Management and Their Countermeasures

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**Abstract:** Railway transportation is the main land transportation mode in the modern transportation system, occupying an extremely important position in China's national economy, and its characteristics of low transportation cost, small influence by natural conditions, large transportation volume and wide transportation range make it have an unshakable position in the modern transportation industry. This paper introduces the composition and characteristics of railway transportation costs, expounds the necessity of railway transportation cost management, and puts forward some solutions in order to seriously implement the deployment requirements of the central government to vigorously develop green economy and adjust the transportation structure.

#### 1. Introduction

Railway transport enterprises mainly focus on passenger and freight business. Under the new green transport mode of "transit rail" for bulk, medium and long-distance goods, the demand for railway passenger and freight volume has risen, and railway transport has ushered in development opportunities. How to seize the opportunity in the good situation and break through the bottleneck of development is a question that railway transportation enterprises need to think deeply. Based on the production and operation of railway transport enterprises, this paper explores the current situation and existing problems of railway transport cost control to further improve the cost management methods of enterprises, and make railway transport enterprises stand out in the fierce competition in the market.

### 2. The Structure and Characteristics of Railway Transportation Cost

#### 2.1 The Main Components of the Cost

There is no physical product produced in railway transportation, which is the displacement of passengers or goods in space and time. Cost refers to the sum of the direct and indirect consumption of the respective factor resources in the process of completing the transportation of passengers and goods. Generally, according to the economic use and financial system of transport enterprises, it is carefully divided into operating costs, management costs, financial costs and non-operating expenses, among which operating costs can be further divided into line expenditure, building expenditure, equipment expenditure, transportation expenditure and other expenditure.

Operating costs mainly include cargo handling costs, depreciation costs, transportation costs, maintenance costs, fuel and power costs, property insurance costs and other costs related to the production and operation process; The management cost mainly includes the sum of the expenses incurred by the management department of the organization and management of the business process; The financial cost mainly includes all related expenses incurred in raising funds for the completion of activities such as the construction of railways and the purchase of vehicles; Non-business expenses refer to the relevant expenses unrelated to the normal operation and transportation of the enterprise, such as the loss expenses caused by traffic accidents, passenger casualty accidents and cargo damage accidents.

#### 2.2 Characteristics of Cost

## 2.2.1 High Labor Costs

Compared with other general freight transportation, railway transportation must set up many professional jobs, so it needs to hire a large number of licensed professionals with high salaries, which makes the overall labor cost higher. In addition, due to the COVID-19 epidemic, in recent years, a large number of special personnel are needed to be specially responsible for the elimination, which further increases the labor cost.

In addition, railway transportation units belong to state-owned enterprises, which have both corporate functions, government functions and social functions. The employees of functional departments occupy a large proportion of the total employees, and the significance of functional departments lies in administrative functions rather than creating economic benefits. The labor cost in this aspect is too high, and the management cost is much higher than that of other ordinary enterprises.

#### 2.2.2 High Non-Cash Costs and Maintenance Costs

The normal operation of railway transportation requires a large capital investment in infrastructure. With the continuous rise of passenger and freight traffic, the standard requirements for civil engineering, vehicle purchase, large road maintenance equipment, communication and power supply equipment are increasingly high. The depreciation expense of fixed assets is generally proportional to its cost, so the large depreciation expense of fixed assets and the equipment maintenance cost allocated by the company every year are also increasing.

## 2.2.3 Cost-Sharing is Complicated

One of the characteristics of railway transportation is that in order to complete the transportation task, it needs to go through multiple railway line sections, and the railway section is generally managed by several subdivision units, so the cost generated in the process of transportation involves multiple management bodies, and it needs to be settled and apportioned according to the line segment in the cost calculation. In addition, in order to improve the transport efficiency, railway transport often adopts the way of passenger trains carrying freight cars. In this process, passenger transport costs and freight costs are mixed, and only after reasonable allocation of the two can a relatively complete record of railway transport costs.

## 3. The Necessity of Railway Transportation Cost Management

#### 3.1 Help to Improve Market Competitiveness

Railway transportation belongs to state-owned enterprises, which have monopoly in the region, and the enterprises do not have a strong awareness of cost control. With the rapid development of urban trunk and branch airports, the market share of railway transport is declining. For railway transport enterprises, cost management and control is an important link to improve the competitiveness of enterprises.

#### 3.2 Help to Achieve the Cost of Fine Management

Railway transportation units for the cost management mode is relatively simple and around each link separately, in the case of not overall consideration will produce a lot of unnecessary waste. The research on cost management and control is helpful for railway transportation units to carry out fine management according to different characteristics of cost in separate parts, continuously improve the operation process of service and guarantee, save cost to some extent while improving service quality, and transform development from extensive type to intensive type.

## 4. The Shortage of Railway Transportation Cost Management

#### 4.1 Weak Awareness of Cost Management

Due to the nature of railway transportation unit, its internal organizational structure is very simple, but there are problems such as unclear authority and responsibility between departments, information asymmetry and so on, which will lead to the difficult implementation of cost management. Some financial personnel lack of relevant theoretical knowledge of transportation management will lead to unreasonable measurement and distribution of transportation costs. In addition, the overall unit pays too much attention to safety and service, placing indirect social benefits before direct economic benefits, which leads to the misunderstanding of blindly making money regardless of the cost, which runs counter to the positioning of market-oriented operation and management of railway transportation units.

In addition, in the stereotype, budget, control and other aspects of cost are the business scope of financial personnel. The guarantee unit does not value cost, and the department does not care about cost.

#### 4.2 The Cost Accounting Method is Backward

The biggest characteristic of railway transportation cost composition is that there is no inventory accounting of physical products, and the cost involves a wide range of areas, covering a lot of operational processes, it is easy to cause omissions in the accounting process. At the same time, selecting different links in each link of transportation operation as accounting objects and selecting which costs to include in transportation cost will cause great differences. The traditional cost accounting method based on manufacturing cost method is obviously unable to meet the current complex situation. In addition, the company mainly focuses on document circulation operation, which is complicated. The operation of revenue and cost items of some single business needs to span several accounting months. The cost of this part of business is not only difficult to be effectively controlled, but also prone to errors when financial personnel input relevant data.

#### 4.3 The Cost Budgeting Method is Not Reasonable

In the cost budget target determination, the implementation of control and other aspects of the lack of more scientific and professional methods.

First, the railway transportation unit generally takes the actual data and the acceptable cost deviation rate as the main basis, and lacks the targeted investigation and analysis of the market and customers. As a result, the cost budget target is prone to a large deviation from the reality, and the cost budget data is difficult to ensure the authority. Therefore, the cost budget needs to be adjusted repeatedly. There is even a possibility that the budget target may not be met. Second, there is a certain deviation between the cost budget and the implementation. The implementation and control process of cost mainly relies on the Capital Operation Department, and the implementation and completion of budget targets are linked to the performance assessment and salary of each budget unit, which may easily lead to fraud in the reporting of budget by each budget unit. When the cost of other functional departments exceeds the budget, the excess will be passed in the name of "security guarantee". When there is a large surplus, they will spend money at the end of the year.

#### 4.4 Performance Evaluation and Incentive Mechanism is Not Perfect

Due to the different functions and types of operations of various departments, some business processes need to be completed in coordination with each other. The traditional cost accounting method makes it difficult to allocate the incurred costs to various departments and posts in a reasonable and balanced way, and the relevant cost data cannot be directly used for quantitative comparison. As a result, enterprises rely on qualitative indicators while ignoring quantitative indicators in performance evaluation. Unable to objectively and scientifically assess employees, unable to effectively promote and motivate the subjective initiative and participation enthusiasm of all staff, resulting in a waste of resources.

#### 5. Suggestions on Improving Unit Cost Management of Railway Transportation

## 5.1 Change the Consciousness of Cost Management, Accelerate the Construction of Financial Information Management System

The change of cost management consciousness should be instilled from top to bottom. The management must deeply realize the importance of cost management innovation, constantly optimize the enterprise operation process, the cost management to a strategic height, consciously combined with the enterprise's own situation to form a set of institutionalized, procedural, standardized and standardized cost management system.

In addition, the consumption of railway transportation costs has the most direct relationship with the behavior of employees. For example, if the traffic scheduler develops the optimal transportation organization plan, the vehicle turnover time can be reduced, the locomotive utilization rate can be improved, and the vehicle operation cost and the cost of electricity, fuel and other materials can be greatly saved. Therefore, enterprises should strengthen the team construction of front-line employees, organize regular discussions between departments and employees of all business functional departments, and improve the overall quality and ideological consciousness of employees.

#### **5.2 Introduce Advanced Cost Management Methods**

## 5.2.1 Strengthen the Implementation and Control of Cost Budget

First of all, enterprises can adopt the combination of the upper and lower budgeting mode, and actively use the rolling budget, flexible budget, incremental budget and other advanced budgeting methods. When determining the cost budget target, financial personnel should make a general framework by integrating business budget and financial budget through directional investigation and analysis of the market and customers, and combining multiple factors such as the existing market environment, the latest relevant policies and the situation of railway transportation units themselves. Then each budget unit should prepare its own budget in the framework of the budget target to reduce the game space.

Secondly, in the process of cost implementation and control, enterprises also need to strictly control the cost layer by layer, establish a scientific budget evaluation and tracking system, carry out budget in batches and implementation supervision and inspection work, ensure that the content of business expenditure matches the budget, focus on analyzing the items with large deviation between the budget data and the actual data, adjust the difference in time, and prevent the waste of resources. Avoid the occurrence of ineffective costs.

#### 5.2.2 Improve the Cost Accounting Mechanism

The railway transportation unit should improve the cost accounting mechanism under the relevant standards formulated by the state, improve the accuracy of cost accounting and strengthen the cost management and control. Under the traditional accounting method, enterprises pay more attention to the qualitative analysis of explicit cost, only focus on financial information, lack of control of implicit cost. Nowadays, in order to meet the continuous update of the market, enterprises should change their attention to multi-dimensional quantitative analysis, attach importance to the impact of hidden costs on cost accounting, accurately understand and master the situation in each stage of the process of cargo transportation, so as to adjust and improve the cost situation in the process of operation according to the collected data.

In the traditional cost accounting method based on manufacturing cost method, financial personnel focus on the result of cost, lack of cost driver analysis and activity analysis. In activity-based costing, financial personnel not only need to pay attention to the results, but also need to pay attention to the process and causes of cost formation. Due to the large amount of work content, any link out of control will have a negative impact on the overall accounting. Manufacturing cost method and activity-based costing method have their advantages and disadvantages. Enterprises should focus on the combination according to the actual situation.

Activity-based costing (ABC) is introduced into the manufacturing cost method. Through ABC, the cost of the value chain is controlled within the scope of the budget cost, and the cost allocation and resource consumption are reasonably integrated to ensure the realization of the cost management objectives.

## **5.2.3 Carry out Systematic Asset Evaluation**

Railway transportation units are capital-intensive industries. As upgrading equipment requires large capital investment, many enterprises choose to delay the upgrading of equipment and use more old equipment in the transportation process, resulting in a large proportion of non-cash cost. The status of assets directly determines the level of maintenance expenses that enterprises need to bear. Carrying out systematic asset evaluation irregularly is helpful for enterprises to carry out cost control, solve the problem of cost difference caused by non-cash cost due to its characteristics of being difficult to be measured, solve the short-term decision-making problem in the process of cost management, and make assets achieve the ideal use state of high income and low loss. To optimize the asset maintenance costs.

#### **5.3 Improve the Performance Evaluation and Reward Mechanism**

Enterprises should optimize the position allocation through performance management, establish a salary distribution model of "distribution according to work, more work, more gain" and a multi-dimensional performance appraisal system, improve the work efficiency of employees through positive incentive mechanism, guide employees to change from passive acceptance to active execution in the incentive environment, improve service quality and reduce waste of human resources. If conditions permit, employees who are willing to improve can be arranged to take further training to improve their professional skills, so as to realize the common progress of railway transportation units and employees.

#### 6. Conclusion

With the continuous development of China's economy and the continuous improvement of its comprehensive national strength, the "Fourteenth Five Year Plan" period has become a critical period for promoting high-quality railway development. However, The railway transportation enterprises can not get rid of the original form constraints in terms of relevant cost management, which leads to little controllable space for the cost of railway transportation enterprises, and many uncontrollable factors are likely to occur, affecting the normal transportation function of the railway. We need to update the cost management means to solve the problems in the process of railway cost management to meet the needs of industry development.

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