

# Research on Cost Control of Logistics Enterprise under the Perspective of Supply Chain

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**Abstract:** In recent years, China's logistics market has been developing rapidly under the promotion of e-commerce, but it has also attracted many large foreign logistics companies. Facing the encroachment of foreign logistics enterprises on the market, the problem of low cost efficiency in domestic logistics industry becomes more and more obvious. It is urgent to find a reasonable cost control system to reduce the cost of logistics enterprises. Therefore, based on the perspective of supply chain, this paper has explored a cost control system of logistics enterprises. By analyzing the current situation of cost control of logistics enterprises, this paper has constructed a cost control system for logistics enterprises which includes pre-forecast, in-process control and post-accounting and examination, in order to realize the cost reduction and efficiency increase of logistics enterprises.

## 1. Introduction

With the strengthening of specialized division of labor and the increasingly fierce market competition, more and more enterprises concentrate on the core business and choose "logistics outsourcing" to enhance the market competitiveness, thus led to the development of "third-party logistics". In China, the concept of "third party logistics" has been popularized since the 1990s. With the deepening of enterprise reform, outsourcing logistics services are becoming more and more popular. Logistics, which is regarded as the third profit source, has been paid attention to from all aspects of society.

After years of development, China's logistics industry has achieved a certain scale, but still has a big gap compared with the developed countries, such as Japan and the United States. It can be seen that reducing logistics cost and seeking reasonable cost management have become the key to logistics enterprises.

The traditional cost management theory focuses more on the internal cost management of the enterprise, and seldom considers the cost of the whole supply chain. With the increasingly fierce market competition, the competition among supply chains has gradually replaced the competition among enterprises. [1] Supply chain cost control theory has become a new focus of cost control. Combining the supply chain cost management theory with the logistics enterprise cost management theory, this paper explores a new mode of logistics enterprise cost management from the view of supply chain, which will enrich the theoretical research on the related aspects of cost management and create a new perspective for the cost control research of logistics enterprises.

## 2. Literature Review

There has been a lot of literatures on supply chain cost control in the past. Lockamy III, A (2000) holds that customer requirements and supply chain relationships are identified as key criteria for selecting the most appropriate method of target costing for supply chains. [2] Evans, G. N (2007) puts forward that objective cost method is an effective method to guarantee the upstream and downstream enterprises to achieve the objectives of product quality, price, etc. [3]

There is also a lot of literature on cost control in logistics enterprises. Hong (2017) explores a supply chain cost management model of third party logistics enterprises based on "strategic cost management-target cost management-activity-based cost management". [4] He uses time driven activity-based costing (TDABC) to build a cost accounting model for third party logistics enterprises, which provides a new model for cost control and management. [5]

### **3. The Analysis of Cost Composition and Control Status of Logistics Enterprises**

#### **3.1 The Composition and Main Characteristics of the Cost in Logistics Enterprises**

The cost of logistics enterprises refers to the cost of business activities. As the operation process of logistics enterprises mainly includes warehousing, transportation, packaging, loading and unloading, circulation processing, distribution and information processing, the cost can be divided into the following parts according to the function of logistics: transportation cost, storage cost, packaging cost, loading and unloading cost, distribution cost, circulation processing cost, information system cost, management expenses, financial expenses and sales expenses.

Logistics costs have the following characteristics. First, logistics enterprises do not have inventory costs. Logistics enterprises are mainly engaged in the transport of goods and do not produce products. When a designated product is delivered to a destination, its production and sales process is completed at the same time. So the biggest difference in the cost composition between the logistics enterprises and the general manufacturing is that logistics enterprises do not have inventory costs. Second, among different kinds of costs in the logistics enterprises, operating overhead costs account for a large proportion. Operating overhead is the part of the operating cost of an enterprise other than direct labor and direct materials. It involves a wide range of types, such as the operation and maintenance of a transport vehicle. Third, there is a negative phenomenon of benefit. Trade Off is one of the important characteristics of logistics enterprise cost, which refers to the contradiction between several functional elements of logistics. For example, transportation costs and storage costs. When enterprises want to reduce transport costs through bulk transportation, it will often lead to higher storage costs. The existence of Trade Odd phenomenon requires logistics enterprises to consider the costs in the whole process but not only pay attention to the reduction of a certain cost.

#### **3.2 The Cost Control Status of Logistics Enterprises in China**

In recent years, the proportion of total social logistics cost to GDP has decreased in China, indicating that logistics enterprises are constantly optimizing cost control and improving their own efficiency, but compared with developed countries, there is still a big gap. There are many reasons for the high cost of logistics in our country. In addition to the inadequate infrastructure, it is also related to the insufficient cost control of enterprises.

First of all, the logistics enterprises in China lack the sense of cost control. At present, most of the logistics enterprises in our country are in the development period, so managers often pay more attention to the expansion of the enterprise market, and lack of attention to the daily cost management, which leads to the low efficiency. What's more, the cost accounting method of logistics enterprises in China is backward. In the process of cost accounting, more enterprises adopt traditional cost accounting methods, but few enterprises adopt more advanced methods such as standard cost method and activity-based costing method. The traditional cost accounting method is not suitable for logistics enterprises with high overhead cost. Finally, most logistics enterprises in China lack a comprehensive sense of cost control. "Comprehensive" is a requirement to integrate all employees and production processes into cost control systems. However, in the current cost control of logistics enterprises, cost management is often equated with cost accounting, and the cost budget is ignored. The failure to establish an effective cost control mechanism can not prevent and control the key links and risk factors in cost control, which leads to a great discount to cost management. In the aspect of ex post evaluation, due to the backward accounting methods, the problems in cost control can not be found accurately, so that it can not provide effective feedback for the next cycle of cost management.

Therefore, the cost characteristics and existing problems of logistics enterprises require enterprises to establish a more comprehensive cost control system. From the perspective of supply chain, the establishment of a cost control system including pre-, in-process and post-event can fundamentally improve the performance of logistics enterprises.

#### **4. Design of Cost Control Scheme for Logistics Enterprises under the Supply Chain**

A comprehensive and systematic cost control system should include the whole process of cost control. Therefore, this paper constructs a cross-organizational cost control system from three stages. The target cost method is used in the cost budget in advance, which combines the target cost setting with the supply chain as a whole. In the process, the enterprise should take the target cost as the direction and explore how to reduce the operation cost through the cooperation of vertical and horizontal supply chain. Activity-Based cost Management is used to calculate the cost of logistics enterprises. The rationality of each activity cost is analyzed and evaluated in order to provide advice for the improvement of the target cost in the next stage.

##### **4.1 Budget in the Preceding Period**

The traditional target cost method is limited to the enterprise itself. It decomposes the cost pressure received by the enterprise into various departments and does not involve the upstream and downstream partners. The cost control of the supply chain emphasizes the optimization of the cost and benefit of the whole supply chain, so it extends the target cost method to all nodes of the supply chain, starting from the consumer demand. The cost pressure of a certain enterprise in the supply chain will be transformed into the target price of the upstream enterprise, and will be transferred layer by layer in the supply chain.

Logistics enterprises should always adhere to customer demand oriented, actively participate in the whole process to the target cost of the supply chain, take the final product price of the supply chain as the starting point, and conduct the cost transmission among the enterprises. Thus, the target price of logistics is determined, and the target profit is determined on the basis of enterprise management ability. After deducting the expected profits and taxes, the target cost should be obtained. In the actual operation, the enterprise should operate according to the target cost setting, and make appropriate adjustments according to the implementation.

##### **4.2 Cost Control in the Process**

Transportation cost is one of the main components of logistics enterprise cost. As the distance and load increase, the marginal transportation cost will be reduced. Therefore, the ideal mode of transportation should be to assemble and transport the goods with small quantities but long transportation distance. Logistics enterprises can optimize the transportation mode and realize the consolidation and transportation by cooperating with the partners of vertical supply chain.

Third-party logistics enterprises can make use of the information sharing platform to collect and consolidate orders from different customers in the supply chain to the same area, and reasonably plan the transportation route so as to reduce hidden costs of returning or departing empty cars and repeated transportation.

The third party logistics enterprise is the "link" in the supply chain, the storage is the link which has to be experienced in the process of logistics, and the storage cost is also a relatively large part of the logistics enterprise cost composition. Third-party logistics enterprises can share information with upstream and downstream enterprises, optimize warehouse layout, and then reduce the construction of inventory points to reduce storage fixed costs. Specifically, according to the layout of upstream and downstream enterprises, enterprises can set up a unified large-scale logistics center for some areas where the business is more concentrated, and carry out direct distribution to the business in the region. It should be noted that logistics enterprises have a negative phenomenon of benefit, therefore, the fewer warehouse points are not the better, enterprises should consider warehousing, transportation and distribution as a whole.

### 4.3 Cost Accounting and Assessment in the Post-Process

According to the cost characteristics of logistics enterprises, it is reasonable to adopt activity-based costing method in cost accounting. Logistics enterprises can be divided into three steps in cost accounting by activity-based costing. Firstly, the resources consumed by logistics enterprises are determined. Secondly, the resources consumed by the operation center are decomposed to the activity cost database, and the motivation of the operation is determined. Finally, gathering the activity cost to each cost object and then calculating the total cost of the project. After the cost accounting, the enterprise should compare the actual cost with the target cost, and reflect on and improve the gap between them.

### 5. Conclusion

The cost of logistics enterprises in our country is high and the cost control problem is prominent. Therefore, on the basis of analyzing the cost characteristics and existing problems of logistics enterprises, a cost control system of logistics enterprises is designed from two dimensions of horizontal supply chain and vertical supply chain. This system includes cost prediction, accounting, control, analysis and evaluation. Through analysis, we draw the conclusion that logistics enterprises should not only pay attention to the reduction of local cost, but consider comprehensively. Logistics enterprise cost control should not only look for ways from within the enterprise, but also actively reach close cooperation relationship with upstream and downstream partners and competitors in vertical supply chain, so as to improve service quality and achieve cost reduction.

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