

# Gm Cold Chain Logistics Company Cost Management Study

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**Abstract:** In this paper, GM cold chain logistics company as a case, based on the cold chain logistics costs and other related theories, mainly by comparative analysis. Through the analysis, it is found that there are problems in the operation process, such as high proportion of indirect costs, unreasonable contract costs of cold chain logistics service pricing. Aiming at the existing problems, this paper designs activity-based costing method to implement cost control scheme in GM cold chain logistics company, and establishes the accounting and control system of activity-based costing method. Finally, more effective cost information is obtained according to activity-based costing method, operation analysis is carried out, corresponding cost control measures are put forward for GM, and correct profitability analysis and contract pricing decisions are made.

## 1. Introduction

With the promotion of the “One Belt and One Road” policy, the third-party cold chain logistics industry has been booming. On the fast track of the development of cold chain logistics, cold chain logistics enterprises need strong and weak items, strengthen the weak links, overcome the development problems, and cultivate new drivers to meet the diversified market demands. GM is a professional cold chain logistics company that provides whole-process temperature control services. The services it provides mainly include: medical temperature control transportation, food temperature control transportation, and chemical temperature control logistics. Due to the complexity and diversity of product categories and the large differences in product temperature requirements, the proportion of GM's indirect costs is constantly increasing. At this time, the cost method of allocating indirect costs according to the traditional single factor cannot guarantee the absolute authenticity of the enterprise cost information, and the internal cost management and decision-making of the enterprise are affected, and the cold chain logistics service pricing also loses the basis. In 2020, under the background of COVID-19, the cold chain logistics industry has been greatly impacted. Therefore, in order to reduce the cost of cold chain logistics and improve economic benefits, enterprises need to develop effective cost management programs to face the imminent cost reform.

## 2. The Current Characteristics of Activity-Based Costing

- (1) Assume that the occurrence of the cost is caused by the operation.
- (2) Set financial variables and non-financial variables as one to conduct activity-based cost allocation standards.
- (3) Further distinguish costs unrelated to production and related to operations. The cost information distortion can be avoided by using activity-based costing method in cost accounting. Enterprise managers can see clearly the activity-based cost and final cost in the operation process, find out the focal point of enterprise cost control and management, and provide effective basis for pricing.

## 3. Gm's Existing Cost Problems

Through the analysis of financial statements of GM Cold Chain Logistics Company in recent three years, the following problems are found in the company:

(1) The proportion of employee compensation in sales expenses in operating revenue increases year by year.

Among the sales expenses, sales department employees' salary was 40.52%, rent and property management fee was 17.71%, depreciation and amortization was 10.56%, utilities and fuel cost was 9.82% and freight and storage service fee was 6.68%. Among them, the salary of sales staff accounts for the highest proportion.

(2) The staff lacks the awareness of target cost management.

Department responsibility refinement can not achieve the desired effect, cost responsibility not accurate to first-line production staff, a gleam of staff in the implementation process of target cost unable to pinpoint its own responsibility and obligation, the target cost of idealized set to stay on the enterprise management, can't find reasonable cost control of a bottom-up, It has greatly increased the difficulty of reducing costs, and the company's overall cost enforcement rules have yet to be fixed.

(3) The cost accounting method is not scientific.

The existing cost accounting methods can not timely and accurately reflect the operating costs and non-operating costs which account for a large proportion of the cost, and can not provide the enterprise managers with intuitive cost distribution. GM's sales model and the nature of the company determine that the company focuses on the product cost accounting process rather than the target cost forecasting process, product cost optimization design process or target cost analysis and assessment process, which fails to achieve timely and effective feed-forward results and is lack of scientific and real-time.

#### 4. The Solution to the Problem

In view of the three problems summarized, this paper will combine the first and the third analysis, the application of activity-based costing for cost accounting. Then combine the first and the second.

##### 4.1 Cost Accounting Based on Activity-Based Costing

In view of the large daily contract volume of GM Cold Chain Logistics Company, this paper selects two orders that occur every month in GM Company. The first order starts in Lanzhou, Gansu Province, and ends in Xi 'an, Shaanxi Province, with a transportation distance of 1800km. A total of 4,000 standard containers of goods will be transported, and the logistics price of each carton is 25.5 yuan. Delivery will be carried out according to the frequency of 400 boxes once every four days. The second order starts from Zhoushan, Zhejiang Province, and ends in Jinan, Shandong Province, with a transportation distance of 2400km. The price of total business and logistics is the same, and the delivery frequency is 300 boxes once every three days. The specific contract details are shown in Table 1.

Table 1 Summary of Business Volume

Customer order	Contact business	Volume unit weight	Distribution distance	Distribution quantity	Distribution cycle	Number of distribution	Frequency of distribution
A company	A contact	4000boxes	1800km	1000boxes	28days	4 times	7days/time
B company	B contact	4000boxes	2400km	500boxes	24days	8 times	3days/time

Due to the difference in the delivery frequency of these two orders, specific transportation routes need to be planned before the execution of the delivery task. According to the vehicle scheduling plan made by GM, the refrigerated car of 6.8m is used, and the nuclear load mass of the vehicle is 6.6t. According to the general principle of decomposing operation process and GM's actual situation, we divide its logistics and distribution business into 6 operation processes, which are equipment procurement, order processing, pre-cooling loading, refrigerated transportation, temperature

monitoring, unloading and distribution. The resource consumption of these two orders is shown in Table 2.

Table 2 Gm's Resource Consumption Table

Resource expense project	direct variable cost (yuan)	indirect variable cost (yuan)	Total (yuan)
Labor			86,441.00
Fuel cost	5,082.00	2,508.00	7,590.00
Depreciation cost			5,300.00
Electricity			5,718.60
Office cost			516.00
Communications			2,530.00
Road and bridge fee	7,009.00		7,009.00
Total			115,104.60

The cost of employee compensation occurs throughout the whole operation process. In the face of the high proportion of employee compensation, this paper singled out the labor cost and allocated the labor cost. The amount of human cost and expense depends on the number of employees, so the resource driver of human cost and expense is set as the number of employees. At the same time, combining with the specific position and corresponding salary, it is converted into the resource driver for different operations such as equipment procurement, order processing and pre-cooling dispatch, as shown in Table 3.

Table 3 Labor Cost Allocation Table

Name of Operation Center	Resource Motivation	Resource Motivation (Person)	Resource Motivation Distribution Rate	Resource Consumption (Yuan)
Order Processing Center		2		4020.51
Frozen processing center		4		8041.02
Packing Center		4		8041.02
Long-distance transportation center	Number of employees	10		20102.56
Loading and unloading center		5	2010.26	10051.28
Incoming Inspection Center Incoming Inspection Center		4		8041.02
Cold Storage Management Center Cold Storage Management Center		4		8041.02
Outbound Inspection Center		2		4020.51
Distribution Center		8		16082.05
Total		43		86441.00

The labor cost of activity-based costing is used for cost allocation and cost collection, which makes the cost information more real and provides a basis for enterprise managers to manage the cost.

## 4.2 Advice on Employee Positivity

(1) Establish an information management system to reduce the burden of employees.

In the process of cold chain logistics distribution, GM needs to monitor each business link, collect and record the financial information and non-financial indicators generated in the process of operation. The realization of this work needs to invest a lot of human and material resources, so as to provide data support for the application of activity-based costing. The development of various financial management work and activity-based cost control are inseparable from the perfect information management system as the technical conditions and data support. According to the actual situation of GM, the company has not established a perfect information management platform and lacks corresponding technical conditions, so it is difficult to create conditions for the application of activity-based costing. In view of this, it is necessary to invest the corresponding human resources and capital, technology to build information management system.

(2) Establish a performance appraisal system for activity-based costing.

GM should strictly control the loading and unloading link in the logistics business, establish the corresponding performance appraisal mechanism, and require the transportation personnel and loading and unloading personnel to perform their work in strict accordance with the operating standards and operating specifications, so as to improve the transportation quality and efficiency to the maximum extent. For fresh food and other goods that have strict requirements on transportation time, the key of logistics business is to ensure quality..

## **5. Conclusion**

Under the activity-based costing system, the indirect costs can be allocated and calculated more scientifically by taking activity-based as the object of cost allocation and adopting multiple allocation criteria, which improves the accuracy of cost accounting and can reflect the close relationship between resources, activities and costs more intuitively. Under current cost accounting system, the cost of computing is resource consuming and one-on-one contact between cost accounting object, the accounting methods ignore the concrete operation process of the enterprise, according to a single distribution based on cost allocation, which cannot reflect the specific logistics service cost effectively, increase the cost accounting and management confusion. Therefore, compared with the current cost accounting method, the cost information obtained by activity-based costing method is more accurate and closer to reality, which can help enterprises to reasonably price different service items, reduce the cost of enterprises and improve the profitability of enterprises.

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