

Research on the Combination of Standard Cost Method and Activity-Based Cost Method – Activity-Based Standard Cost Method

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Abstract:

With economic development, enterprise competition has become increasingly fierce, and profit margins have continued to decrease. In order to survive, enterprises should strive to reduce costs and expand profit margins. Therefore, higher requirements for cost supervision and control are put forward. Effective cost control methods can enable enterprises to maintain their own competitiveness while continuously increasing profits and provide a guarantee for the stable development of enterprises. Standard costing and activity-based costing are costing methods widely used by today's enterprises. In order to make enterprises more scientifically perform cost calculations, this article attempts to combine these two methods to create standard operating-based costing, which has both standard costing and operating costing. The advantages of the law make up for the disadvantages of the two.

Keywords: Standard costing; Activity-based costing; Standard costing based on activity; Cost control

I. INTRODUCTION

Under the impact of the epidemic, market competition is becoming more and more fierce, and cost accounting and control of enterprises become particularly important. Enterprises in the process of operation often appear a large number of cost related problems: inaccurate cost accounting, cost management lack of data, lack of cost management links. The influx of similar products in the market leads to low-price competition. In order to survive, many enterprises have no choice but to reduce the price to reduce the quality of their products, rather than accurately analyze the cost of their products and strictly control the cost. This may enable the enterprise to maintain normal operation in a short time, but it is difficult to achieve long-term stable development, this is not desirable. Scientific cost control mechanism can promote the full use of funds, so that the capital flow of enterprises to achieve a virtuous cycle, and then substantially improve the competitiveness of enterprises.

In the cost control method, standard cost method and activity-based cost method have been widely used in the actual operation and management of enterprises [1]. This paper tries to combine the two methods to carry out the study of standard activity-based costing. Standard activity-based costing expands the content of enterprise cost control theory and enriches the research system of cost management. Through various cases, this paper shows the standard cost method, Activities-Based Cost Method, activity-based standard cost method, the three methods of cost control in enterprise production and operation of the effect, through comparison, the characteristics of various methods can be intuitively discovered, which helps enterprise managers to choose reasonable and effective cost control methods, so that enterprises can better use limited funds to create maximum profits [2].

II. THE CONSTRUCTION OF STANDARD ACTIVITY-BASED COSTING SYSTEM IN ENTERPRISES

2.1 The Concept of Standard Activity-Based Costing

Standard activity-based costing is based on activity-based costing, to establish cost standards for various activities, and then compare the actual accounting costs with standard costs, analyze the differences, find the sources of the differences, and then take effective cost control measures to achieve cost control.

2.2 The Construction Process of Standard Activity-Based Costing System

Both standard costing and activity-based costing have their own advantages and disadvantages in enterprise cost management. The standard cost method can use the standard cost to effectively control the actual cost, but the production data of the standard cost method is not accurate enough; Activity-based costing can reasonably divide operations and accurately distinguish favorable and unfavorable factors. However, without the constraint of cost allocation standard, activity-based costing is difficult to provide accurate reference for price formulation, they each have their pros and cons. If the two methods are combined to form standard activity-based costing, relatively accurate data information can be obtained, cost difference analysis can also be carried out, and scientific and accurate decision support can be provided for managers [3]. Enterprises can construct standard activity-based costing system by referring to Figure1.

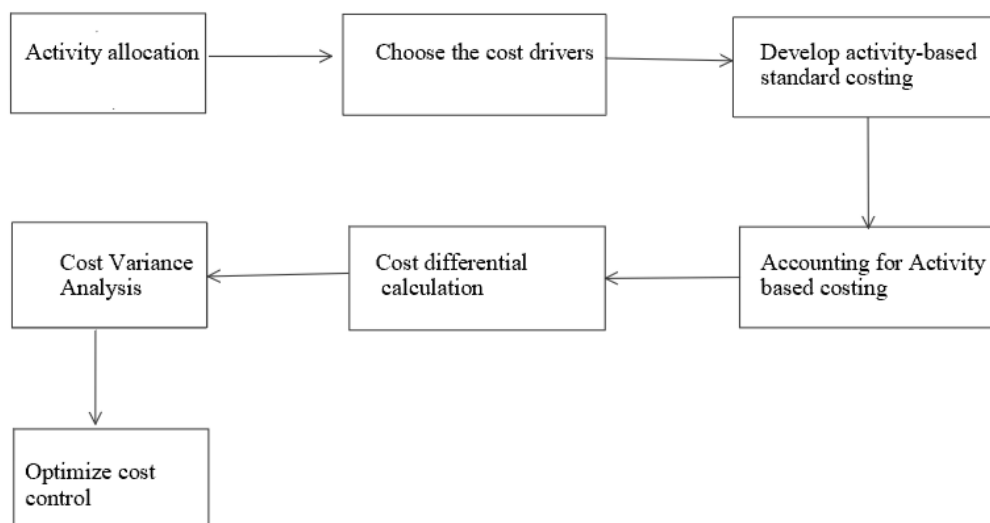


Fig 1: The construction of standard activity-based costing

2.2.1 Activity allocation

Activity allocation is to divide production activities into the same types of activities. A large number of processes will be involved in the production process of enterprises, so the activity allocation should not be too detailed. Otherwise, the workload will increase and the cost will rise, which is not conducive to practical operation and economic benefits, Enterprises should reasonably divide their activities in light of its own situation.

2.2.2 Choose the cost drivers

Cost driver is the basis of cost allocation and plays an important role in enterprises' cost control activities. Cost drivers include labor hours, machine hours, etc. There are also less common cost drivers, which are not obvious and are hidden within the production process. Enterprises should gain an in-depth understanding of the operations and steps involved in production activities, consult relevant experts to find the cost drivers hidden under the surface after fully grasping the details of production.

2.2.3 Develop activity-based standard costing

Companies usually use the historical cost projection method, engineering measurement method and forecasting method to develop standard operating costs. In this paper, the historical cost imputation

method is used to calculate the standard operating costs for the case. The calculation formulas are as follows:

Formula 1

$$\text{Unit standard Activity consumption} = \text{total activity volume} / \text{total production}$$

Formula 2

$$\text{Standard Activity Costing Allocation Ratio} = \text{Total Activity Cost} / \text{total activity volume}$$

Formula 3

$$\text{Standard Activity cost} = \text{Unit standard Activity consumption} \times \text{Standard Activity based Costing Allocation Ratio}$$

2.2.4 Accounting for activity based costing

Companies should calculate the costs as they are actually incurred when accounting for Activity based costing.

2.2.5 Cost differential calculation

Cost difference refers to the difference between the actual cost and the specified standard cost, including activity volume variance and Activity price variance.

Formula 4

$$\text{Activity volume variance} = (\text{Unit actual Activity consumption} - \text{Unit standard Activity consumption}) \times \text{Standard Activity Allocation Ratio}$$

Formula 5

$$\text{Activity price variance} = (\text{actual Activity based Costing Allocation Ratio} - \text{Standard Activity based Costing Allocation Ratio}) \times \text{Actual consumption}$$

Formula 6

Activity based costing Variance=activity volume variance+Activity price variance

2.2.6 Cost variance analysis

Under Activities-Based standard Cost Method, difference analysis plays an important role. Through variance analysis, find the causes of cost variances, so that targeted countermeasures can be taken to achieve cost savings and improve efficiency. In the actual operation process, the actual cost is inevitably different from the standard cost, so the enterprise should pay more attention to it. Enterprises should establish a tolerable range of cost variance rate. When the cost variance rate is within the tolerable range, enterprises do not need to conduct cost variance analysis. When the cost variance rate exceeds the tolerable range, it is necessary to conduct the variance analysis in a timely manner, find out the key influencing factors, and formulate effective measures to reduce the variance rate.

2.2.7 Optimize cost control

Through the difference analysis, we can find out the reasons for the difference. The common reasons for the difference are the fluctuation of the price of materials, the fluctuation of the price of water and electricity, and the excessive consumption of resources, etc. It is necessary to adopt appropriate methods to optimize the cost control and consider whether the cost standard needs to be re-established.

III. COMPARATIVE ANALYSIS OF ENTERPRISE COST ACCOUNTING METHODS

3.1 Case Introduction

Yixing lighting company focuses on the production of lighting, specializing in the production of ceiling lamp and pendant lamp. With professional machinery and technology, Yixing lighting company focuses on product quality and long-term sustainable development, and reassures customers with affordable prices. The company has been adhering to the concept of professional and honest management to create a larger profit margin for purchasers at a lower price.

The company produces simple-style design ceiling lamps and entry luxury crystal pendant lamp. The market price of ceiling lamps is 100 RMB and the market price of crystal pendant lamp is 950 RMB. In July 2020, 4,200 pieces of ceiling lamp and 180 pieces of pendant lamp were produced. In August 2020, 3800 pieces of ceiling lamp and 215 pieces of pendant lamp were produced. In September, 4,000 ceiling lamps and 205 pendant lamps were produced. In October, 4,100 ceiling lamps and 210 pendant lamps were produced. Table I shows the direct materials, direct labor and manufacturing costs from July to October.

Table I. Summary of production costs from July to October 2020

project	July		August		September		October	
	Ceiling lamp 4200 pieces	pendant lamps 180 pieces	Ceiling lamp 3800 pieces	pendant lamps 215 pieces	Ceiling lamp 4000 pieces	pendant lamps 205 pieces	Ceiling lamp 4100 pieces	pendant lamps 210 pieces
Direct material (yuan)	46200	12600	41800	15050	44000	14350	45100	14700
Direct labor (yuan)	88200	27000	79800	32250	84000	30750	86100	31500
Manufacturing cost (yuan)	355800		353800		348800		366350	
Total (yuan)	529800		522700		521900		543750	

Data source: Yixing Lighting Company 2020 production data

3.2 Analysis of Costing Conclusions

The actual costs calculated by the standard cost method, Activities-Based Cost Method, and the activity-based standard cost method differ significantly [4]. As shown in Table II: First of all, the actual cost of ceiling lamp calculated by standard cost method is 117 yuan, which is far higher than the selling price of 100 yuan, and the actual cost of pendant lamp is 305 yuan, which is far lower than the selling price of 950 yuan. This is due to the unreasonable allocation of costs. Secondly, the actual cost calculated by activity-based costing fluctuates, and the fluctuation range of chandelier is slightly larger, which is not conducive to product pricing. In addition, this method only calculates the results without variance analysis, which makes it difficult to pinpoint the problematic link. Finally, standard activity-based costing formulates the standard cost, calculate the accurate actual cost by reasonable cost allocation method, and can carry on the difference analysis through the cost difference rate, carries on the responsibility investigation, then takes the effective measure to control the cost.

Table II. Comparison of cost accounting methods

	Ceiling lamp				pendant lamp			
	Price (yuan)	Standard Cost (yuan)	Actual cost (yuan)	Cost variance ratio	Price (yuan)	Standard Cost (yuan)	Actual cost (yuan)	Cost variance ratio
standard cost method		116	117	0.86%		304	305	0.33%
Activities-Based Cost Method	100	—	July	86	950	—	July	937
			August	88			August	875
			September	81			September	956
			October	85			October	925
Activity-based standard cost method		85.10	85.25	0.18%		922.05	924.95	0.31%

The comparative analysis of the three methods leads to the following conclusions:

1) The advantage of standard cost method is to set standard cost and analyze the difference between actual cost and standard cost. However, it is also clear from the case that its disadvantage lies in the failure to allocate costs reasonably, which results in the error of cost data.

2) The advantage of activity-based costing is to make the calculation result more real and accurate through reasonable allocation of costs. However, its disadvantage is also shown in the case. It calculates the cost results with fluctuation, which is not conducive to product pricing. In addition, activity-based costing does not set cost standards, which is not conducive to cost control throughout the whole production activities, nor can it conduct difference analysis to find the source of the difference.

3) Standard Activity-Based Costing not only combines the advantages of the two, but also makes up for the disadvantages, which is embodied in the following aspects: First, it formulates cost standards, which can compare actual costs with standard costs for analyzing variances; Second, the formulation of standard costs is also conducive to the prediction of product price; Thirdly, The formulation of standard cost is conducive to cost control throughout the whole production activities and promote effective cost

control; Fourth, the cost allocation is more reasonable and accurate cost data can be obtained. Activity-based cost method and Standard cost method can be combined and complement each other. Only by setting standards to control costs can we give full play to the advantages of activity-based costing. Standard Activity-Based Costing combines the advantages of them. It can not only calculate more accurate cost data, but also establish a standardized and systematic cost control system, clarify the work responsibilities of various departments, strengthen employees' awareness of cost control. With less waste and higher production efficiency, enterprises can develop steadily in the long run.

IV. PROPOSAL FOR IMPLEMENTATION OF STANDARD ACTIVITY-BASED COSTING

With the strengthening of enterprises' awareness of cost control, standard cost method is gradually applied in practical management activities. In the process of implementation, there are many factors affecting its implementation effect. Enterprises should plan carefully and pay attention to details to ensure that the standard costing method is really effective.

4.1 Establish Standardized Production System

Production process includes many links, enterprises should establish a standardized production system, so that each production link has standards to follow, so as to lay a foundation for the effective implementation of standard activity-based costing. Enterprises can develop suitable standards for various operations according to the division of operations, from the procurement link to the final sales out of the warehouse, through which it is likely promote the standardization of production activities, make the cost accounting more scientific and reasonable.

4.2 Reasonable Division of Standard Operations

Enterprises should judge whether it is feasible and fully consider the implementation cost, before the implementation of standard cost method. Although the standard cost method has many advantages, this method needs to divide the activities, find out the motivation, which consumes a lot of labor, make the cost increase. Too much detail in the delineation can result in more cost than benefit when this method is used. When the gains don't make up for the losses, it is time to make adjustments or choose another more appropriate method. Therefore, enterprises should evaluate when choosing cost accounting methods, fully consider the implementation of cost and, reasonably divide standard activities, and implement standard activity costing on the premise of ensuring benefit.

4.3 Strengthen the Cost Control Consciousness of All Staff

Senior management should pay more attention and set an example. The decisions and behaviors of senior executives are related to the prosperity and decline of the whole enterprise, and also determine the

attitude of all employees towards work. Senior management should play a good leading role, improve the enthusiasm of employees to participate in cost control, and urge employees to carry out cost control work with high quality and efficiency.

Employee quality cannot be improved without regular and effective training, so enterprises should regularly train their employees, so that the concept of saving resources and reducing waste is deeply rooted in staff's hearts and strengthen their awareness of cost control. Only systematic education and training can make employees adapt to the changes of The Times, complete their work more efficiently and reduce enterprise costs.

4.4 Establish Scientific Cost Information System

With developing economy develops, expanding scale of enterprises, more personalized customer needs, and increasingly wider range of products, the cost data will become increasingly complex, so it is inappropriate to rely solely on manual processing of cost information. Therefore, enterprises should establish a cost information system and improve the automation in order that they can deal with complicated data information. Timely and accurate cost information will be conducive to standard activity-based costing approach to give full play to its own advantages.

4.5 Develop a Comprehensive Evaluation and Correction Mechanism

With the incessant growth of the economy, the factors that affect the cost are also constantly changing, and the previously established standards may no longer be suitable for continued use. Therefore, enterprises ought to be vigilant on whether the established standards are still applicable, and administrative staff need to evaluate them in time. When it is found that this standard is no longer suitable for the current business situation, it should be revised immediately to prevent unreasonable standards mislead administrative staff who make meaningless analysis so that increase labor costs.

V. CONCLUSION

This article recognizes the advantages and disadvantages of standard costing, activity-based costing and standard activity costing. Comparing the three through example calculations, it is found that the standard activity costing method not only absorbs the advantages of the activity costing method for accurate accounting data, but also absorbs the advantages of the standard cost method to effectively control costs through the formulation of standards. Thus, standard activity costing method standardizes activity cost management and improves the cost control ability of the enterprise. Of course, the implementation of this method requires prerequisites and conditions. It is more suitable for product cost accounting where manufacturing costs account for a higher proportion of total costs, and it is also

suitable for companies with a wide variety of products and complex production processes. In addition, companies should choose a cost control method suitable for their own production activities based on their actual conditions.

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