

Study on the Application of Activity-Based Costing in Foreigntrade Enterprises in the Context -- Taking KAPT as an Example

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Abstract: CoVID-19 is raging around the world, leading to economic recession and difficult business conditions for foreign trade enterprises. If foreign trade enterprises want to have sustainable competitiveness in the international market, it is one of their important measures to accurately calculate and control commodity cost. This paper first analyzes the problems existing in the cost management of foreign trade enterprises and the necessity of applying activity-based costing in foreign trade enterprises. Then, taking KAPT foreign trade company as an example, the ABC calculation system was designed according to its business characteristics, and the actual cost in March was calculated and analyzed by using the ABC calculation system. Finally, according to the results of calculation and analysis, some Suggestions on cost management and control are put forward. This paper has reference value for foreign trade enterprises to apply activity-based costing.

Keywords: Foreign Trade Enterprises; Activity-Based Costing; Application Research

1. The existing problems of cost management in foreign trade enterprises and the significance of activity-based costing

1.1 Current problems in cost management of foreign trade enterprises

Compared with industrial enterprises, foreign trade enterprises cost accounting and management is relatively simple. Industrial enterprises pay much attention to the accounting and control of costs, while foreign trade enterprises pay more attention to the management of tax deductibility, thus ignoring the strict management and effective control of costs to a certain extent. At present, most foreign trade enterprises use the traditional cost method to calculate the commodity cost, and the cost management has the following problems.

1.1.1 Underestimating the cost of goods by ignoring the correlation between costs and goods.

When foreign trade enterprises calculate commodity cost, they will include direct cost into their commodities, while the indirect costs related to commodities will be included into the period expenses, so they cannot be 1.1.2 collected and allocated into the commodity cost, resulting in the illusion of lower commodity cost, which is not conducive to the reasonable pricing of commodities^[1].

The cost allocation method is single, resulting in unreasonable cost allocation.

Foreign trade enterprises adopt a unified standard to calculate the cost of commodities according to the traditional cost method, but ignore the characteristics of different types of commodities, which will easily lead to the distortion of their commodity cost.

1.2 The significance of applying activity-based costing to cost management in foreign trade enterprises

In the market economy with numerous and complicated commodities, if we want to stand out in the market, we must constantly improve our strength and enhance our competitiveness^[2]. To reduce enterprise cost reasonably and effectively and improve enterprise profit is undoubtedly the necessary way to improve their own strength and enhance their own competitiveness.

Foreign trade enterprises adopt activity-based costing to accurately calculate commodity costs, which is conducive to the accurate locking of marketable commodity varieties and reasonable pricing.

Foreign trade enterprises use activity-based costing to calculate commodity costs. According to the characteristics of commodities and the nature of work, the expenses that are inevitably associated with commodities are reasonably allocated to commodities according to the multivariate distribution standard, so as to make the commodity costs more accurate. Accurate commodity cost is the basis of locking marketable commodities and reasonable pricing of commodities.

1.2.2 Activity-based costing can effectively control commodity cost and promote enterprise profit maximization.

Activity-based costing uses activities to bridge the gap between resources and commodities^[3]. The analysis of resources and operations can reduce the saturated resources and unnecessary operations appropriately according to the needs of commodities for resources and operations, so as to improve the efficiency of operations, thus effectively controlling commodity costs and promoting the maximization of enterprise profits.

2. Application research of activity-based costing of KAPT Company

2.1 Company introduction and Data of March 2020

2.1.1 The introduction of KAPT company

KAPT (Shenzhen) Co., LTD., referred to as KAPT Company. (In order to protect the trade secrets of the company, English letters are used in this article instead of the name of the company, the name of the commodity and the name of the country) . It was registered in Shenzhen in 2014 with a registered capital of 1 million yuan. KAPT company is a small g-funded foreign trade enterprise with its head office in Country G. Its business scope covers the wholesale of outer packing design, graphic design, paper products, craft gifts, import and export of goods and technologies^[4]. The company mainly sells packaging boxes of an internationally well-known jewelry brand. At present, all its businesses are mainly sold in China and exported to Country V (In accordance with the Agreement on Trade in Goods, China and ASEAN give each other preferential tariff treatment for about 7000 tax items originating in China and ASEAN, and realize customs clearance of each other's goods at the rate of free trade area. As a member of ASEAN, Country V can enjoy reciprocal tariff reduction and exemption for specific commodities exported from China to Country V, which is also one of the important reasons why Country G chooses to set up a subsidiary in China).

2.1.2 Information of KAPT company in March 2020

In March 2020, the company had 15 employees, including 3 managers and 12 salesmen (The salesman is further subdivided into 8 salesmen who are responsible for the business of G and China and 4 salesmen who are responsible for the business of China and V) . The salary and welfare expenses are 39,417.19 yuan for the administrative personnel, 40,913.30 yuan for the business personnel in charge of Country G and China, and 27,881.35 yuan for the staff members in charge of country V and China. Domestic sales and export sales in Country V occur in the current month, and the weighted average method is adopted at the end of the month. Domestic sales of paper packaging boxes H01, H02, H03, H04, H05 and H06 (The above commodities are collectively referred to as domestic commodities, the same below), the direct costs are 115,203 yuan, 10,265.77 yuan, 479.22 yuan, 28,4056.39 yuan, 322,722.93 yuan and 4,703.28 yuan respectively. Paper packaging

boxes H07, H08, H09, H10 and H11 were exported (The above commodities are collectively referred to as export commodities, the same below), with direct costs of 74371.27 yuan, 191024.62 yuan, 105933.67 yuan, 161678.78 yuan and 181555.79 yuan respectively. The company sells goods in EXW mode (EXW is one of the incoterms, ex works, which means that the seller delivers the goods conforming to the contract to the buyer only at the time and place specified in the contract. Unless otherwise agreed, the Seller shall not be responsible for loading the goods onto the means of transport prepared by the Buyer), so the company's business is not involved in the transportation costs of the goods sold^[5].

The indirect expenses incurred in that month are as follows: Rent property management fee RMB 58190.00, water and electricity fee RMB 1664.02, transportation fee RMB 24546.80, entertainment fee RMB 10575.00, difference fee RMB 20325.00, communication fee RMB 17441.75, office fee RMB 32173.33, recruitment fee RMB 7679.25, express fee RMB 4062.02, customs declaration fee RMB 21484.55, certificate of origin fee RMB 2050.00.

2.2 The activity-based costing accounting system design of KAPT Company

2.2.1 Division of operation center

After in-depth investigation and study of KAPT Company, based on the idea of division of operation center and combined with the business characteristics of the company, the operation center of the company can be divided into management center, G-China business processing center and China-V business processing center, and the cost drivers of each center are determined according to the operation content of each operation center. See table 1.

Table 1 List of KAPT operation Centers

Operation Center	Management Center	Country G - China Business Processing Center	China - Country V Business Processing Center
Job content	Company operation management	Country G and China business liaison work	China's business relations with Country V
Cost drivers	Weight	Weight	Weight
The measuring unit	kilogram	kilogram	kilogram
The cost of the underlying	Domestic goods, export goods	Domestic goods, export goods	export goods

2.2.2 Design the model system of activity-based costing

Only by establishing activity-based costing (ABC) calculation model system can enterprises effectively use ABC to calculate costs. According to the operating characteristics and cost calculation needs of the company, four calculation models were established^[6].

Model 1: Activity-based cost aggregation model.

$$X = \sum_{i=1}^m a_i b_i + \sum_{j=1}^n c_j$$

Model letter interpretation: This model is the aggregation computing model of activity-based costing. X is the activity cost collected in an activity center; A_i is the I resource cost allocation rate to be allocated and included in the operation center; The amount of resource type I consumed by BI for the job center; C_j is the JTH resource cost that can be directly included in the operation center.

Model 2: Activity-based cost allocation calculation model.

$$Y = \sum_{i=1}^n \frac{X_i}{Q_i} \cdot q_i$$

Model letter interpretation: This model is the assignment calculation model of activity-based cost. Y is the

activity-based cost of a certain commodity^[7]; X_i is the total activity-based cost of the i -th activity center; Q_i is the total amount of operation in the I operation center (distribution standard); Q_i is the operation volume of the i th operation center consumed by this commodity.

Model 3: Commodity cost calculation model.

$$Z = Y + D$$

Model letter interpretation: This model is the calculation model of commodity cost. Z is the total cost of this commodity in the current month; D is the direct cost that can be directly included in the commodity.

Model 4: Unit cost calculation model.

$$O = \frac{Z}{W}$$

Model letter interpretation: This model is a unit cost calculation model. O is the unit cost of the commodity; W is the monthly sales volume of this commodity.

2.3 Activity-based costing of KAPT Company

After the completion of the design of the activity-based costing calculation model system of KAPT Company, taking its cost and expense data in March 2020 as an example, the designed activity-based costing calculation system was adopted to conduct cost trial calculation for it.

2.3.1 Collect activity-based costs

By adopting model 1 and using the cost data of March 2020 of the enterprise, the activity-based cost of the company is collected, as shown in Table 2.

Table 2 List of cost collection of each operation center of KAPT Company Amount unit: Yuan

Operation center resources	Management center	Country G - China Business Processing Center	China -V Country Business Processing Center	summation
Salary welfare	39417.19	40913.30	27881.35	108211.84
Property management fees	11638.00	31034.67	15517.33	58190.00
The electricity and water	332.80	887.48	443.74	1664.02
Car rental transportation fee	4913.09	13037.90	6595.81	24546.80
Business entertainment expenses		6860.03	3714.97	10575.00
travel expense	4577.33	11931.50	3816.17	20325.00
Tonly fee	3488.35	9302.27	4651.13	17441.75
office allowance	6434.67	17159.11	8579.55	32173.33
Hiring fee	2559.75	2559.75	2559.75	7679.25
Courier fees		1443.30	2618.72	4062.02
Export declaration fee			21484.55	21484.55

Certificate of origin fee			2050.00	2050.00
subtotal	73028.38	134241.82	99469.34	306739.54

2.3.2 Assignment of activity cost

Using model 2, the activity-based costs collected by each activity center of the company were distributed to various beneficial commodities, and the activity-based costs of various commodities were calculated, as shown in Table 3.

Table 3 Cost distribution list of KAPT operation Center

Operation center		Management center	Country G - China Business Processing Center	China –Country V Business Processing Center	Activity cost subtotal
Total Activity-based Cost (YUAN)		73028.38	134241.82	99469.34	306739.54
Total operation (kg)		35918.26	35918.26	17953.18	
Activity-based cost allocation rate		2.03	3.74	5.54	
Varieties of commodities	H01	Work volume (kg)	3113.61	3113.61	
		Cost (yuan)	6330.54	11636.89	17967.42
	H02	Work volume (kg)	152.52	152.52	
		Cost (yuan)	310.10	570.03	880.13
	H03	Work volume (kg)	13.72	13.72	
		Cost (yuan)	27.90	51.28	79.17
	H04	Work volume (kg)	6743.11	6743.11	
		Cost (yuan)	13709.97	25201.87	38911.84
	H05	Work volume (kg)	7817.58	7817.58	
		Cost (yuan)	15894.57	29217.62	45112.19
	H06	Work volume (kg)	124.54	124.54	
		Cost (yuan)	253.21	465.46	718.67
	H07	Work volume (kg)	2010.57	2010.57	2010.57
		Cost (yuan)	4087.86	7514.36	11139.53
	H08	Work volume (kg)	4689.52	4689.52	4689.52
		Cost (yuan)	9534.65	17526.73	25982.22
	H09	Work volume (kg)	2716.99	2716.99	2716.99
		Cost (yuan)	5524.14	10154.55	15053.44
	H10	Work volume (kg)	4392.44	4392.44	4392.44
		Cost (yuan)	8930.63	16416.42	24336.25
	H11	Work volume (kg)	4143.66	4143.66	4143.66
		Cost (yuan)	8424.82	15486.62	22957.89

2.3.3 Calculate the cost of goods

Model 3 and Model 4 are adopted to calculate commodity cost and unit commodity cost, as shown in Table 4.

Table 4 Cost list of KAPT company Amount unit: Yuan

Name of commodity	Commodity sales	Commodity operating cost	Direct cost of goods	Cost of goods	Unit commodity cost
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H01	3113.61	17967.42	115203.00	133170.42	42.77
H02	152.52	880.13	10265.77	11145.90	73.08
H03	13.72	79.17	479.22	558.39	40.70
H04	6743.11	38911.84	284056.39	322968.23	47.90
H05	7817.58	45112.19	322722.93	367835.12	47.05
H06	124.54	718.67	4703.28	5421.95	43.54
H07	2010.57	22741.75	74371.27	97113.02	48.30
H08	4689.52	53043.60	191024.62	244068.22	52.05
H09	2716.99	30732.13	105933.67	136665.80	50.30
H10	4392.44	49683.30	161678.78	211362.08	48.12
H11	4143.66	46869.33	181555.79	228425.12	55.13
summation	35918.26	306739.54	1451994.72	1758734.26	-

2.4 Calculation and analysis of cost distortion degree

2.4.1 Each commodity unit cost distortion degree calculation

The November data of KAPT company was used to calculate the unit cost under the traditional costing method and activity-based costing method. The calculation results were compared and the unit cost distortion degree under the two methods was calculated, as shown in Table 5.

Table 5 Comparison table of unit commodity cost calculation results under KAPT's traditional cost method and activity-based cost method

Amount unit: Yuan

Name of commodity (1)	Unit cost under traditional cost method (2)	Unit cost under activity-based costing (3)	Unit cost distortion rate $(4) = \frac{(2)-(3)}{(3)} \times 100\%$
H01	45.54	42.77	6.47%
H02	75.85	73.08	3.79%
H03	43.47	40.70	6.80%
H04	50.67	47.90	5.78%
H05	49.82	47.05	5.89%
H06	46.31	43.54	6.36%
H07	45.53	48.30	-5.74%
H08	49.27	52.05	-5.32%
H09	47.53	50.30	-5.51%
H10	45.35	48.12	-5.76%
H11	52.36	55.13	-5.03%

2.4.2 Analysis of the distortion degree of each unit cost under the traditional cost method

As can be seen from the unit cost distortion rate in the fourth column of Table 5, when the traditional cost method is used to calculate the commodity cost, the unit cost of domestically sold commodities all increases falsely [8]. The virtual increase of unit cost of commodity H03 reached 6.80%. The unit cost of export commodities has been reduced substantially,

among which the unit cost of commodity H10 has been reduced as much as 5.76%.

Under the traditional costing method, the expenses indirectly related to the goods are distributed among the goods according to the uniform standard. Domestic goods bear the cost of an unrelated China-V business processing center, thus inflating their costs^[9]. And part of the cost of export commodities is transferred to domestic commodities, so that its cost is reduced, resulting in different degrees of distortion of the cost of each commodity.

Under the traditional cost method, the increase of unit cost of domestic goods will lead to the enterprise's inaccurate pricing of the goods, which will reduce the competitiveness of domestic goods in the market^[10]. In addition, the reduction of the unit cost of export commodities will lead to the overestimation of the profit of export commodities, which will further lead to the miscalculation of profit, making the enterprise mistakenly believe that the profit of export commodities is better and misleading the enterprise to make business decisions (Business decisions such as pricing decisions, purchasing decisions, and abandonment of certain goods).

2.5 Advice to KAPT

2.5.1 Activity-based costing is recommended

Case study table name, the company adopts activity-based costing method, so that its cost accounting results are more reasonable and accurate, which is conducive to improving the enterprise's cost management level and optimizing the resource structure.

2.5.2 Improve the management staff's awareness of cost management

To cultivate the managers' awareness of cost management, attach importance to cost management and control, and improve their level of cost management and ability of cost control, so as to carry out cost control effectively.

2.5.3 Adjust pricing to enhance the competitiveness of enterprises

We should adjust the pricing of domestic commodities and enhance the market competitiveness of domestic commodities. The cost of goods sold in domestic market is inflated, but the salesman can reduce the selling price of goods sold in domestic market by investigating and analyzing the domestic market, so as to improve the competitiveness of goods sold in domestic market^[11].

2.5.4 Improve negotiation skills and reduce travel costs

By improving the negotiation skills of the enterprise and persuading the salesmen from Countries G and V to visit the enterprise in China, it can not only contribute to China's economic growth, but also promote the trust of the salesmen from countries G and V to a certain extent. Thus, the business trip expenses of the salesmen to G and V countries are reduced, thus reducing commodity costs.

2.5.5 Hire a professional export customs declarant

It is recommended to hire a knowledgeable export customs declarant who is familiar with the export customs declaration business and procedures and is specially responsible for the export customs declaration of the enterprise. It can not only improve the efficiency of export declaration, but also reduce the cost of export declaration, so as to reduce the cost of export commodities.

2.5.6 Hire salesmen who understand G and V languages to increase efficiency

Hiring salesmen who understand the languages of G and V is conducive to the development of business in G and V. The G - China Business processing center and China -V business processing center of this enterprise have a total of 12 employees. If the salesmen of the enterprise all understand the language of G or V, the relations between G and China and Between China and V will be greatly shortened, and the efficiency of the business processing between G and China and between China and V will be improved.

Conclusion

It is an established long-term state policy of China to remain open to the outside world. The development of export-oriented economy is the objective need of China's economic development. However, there is still a long way to go to improve the cost control level of foreign trade enterprises by activity-based costing. The author hereby appeals to more theoretical and practical workers of cost management to actively invest in this research field and make contributions to the cost control of foreign trade enterprises in China and even in the world.

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