The Role of Standard Cost Method in Cost Control——Taking Aviation Enterprises for Instance

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Abstract. With the opening of market and the continuous improvement of people's living standards, increasingly more residents choose to travel by air, promoting the swift development of civil aviation industry in China. The standard cost method plays a crucial role in improving the cost management level and enhancing the profitability of enterprises, which is conducive to the further flourishment of Chinese civil aviation industry. This paper analyzes the function of standard cost method in civil aviation enterprises from its concept and framework and puts forward several constructive suggestions concerning cost control.

1. Introduction

With decades of reform and opening up, China has witnessed remarkable progress in the development of economy and significant improvement in the international standing. In the meantime, the civil aviation enterprises have also experienced great development. According to the *Statistical Bulletin of Civil Aviation Industry Development in 2017* published on the official website of Civil Aviation Administration of China, the volume of transport turnover, passenger transport, postal freight and airport business have been increased for five consecutive years since 2013.[1] However, in the face with the intensified international competition in world economy as well as the revolution brought by emerging technologies such as cloud calculation, it is high time that aviation enterprises achieved financial transformation and advanced the ability to create value as soon as possible so that they can develop better.

It is cost management which concentrates on improving and smoothing corporate mechanism that matters most in the management of the 21st century.[2] As one of the key assignments of China's supply-side structural reform, reducing unreasonable costs under reasonable cost burden is vital to enhance the ability of value creation and sustainable development of Chinese enterprises[3], especially for the civil aviation enterprises with increasingly large volume of business activities.

Furthermore, since management accounting is conducive to stimulating management vitality, enhancing value creativity and realizing industrial and financial integration and sustainable development, the Ministry of Finance of the People's Republic of China issued the *Guidance of the Ministry of Finance on Comprehensively Promoting the Construction of Management Accounting System* in 2014 (Accounting [2014] No.27) and the *Basic Guidelines for Management Accounting* in 2016. The standard cost method is beneficial to the promotion of management accounting work by providing the necessary information it requested.

Based on what is stated above, this paper intends to discuss the function of standard cost method in Chinese civil aviation enterprises.

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2. A brief introduction to the standard cost method

2.1 Concept of the standard cost method

The standard cost method, also known as the standard cost system, is a cost calculation model which integrates cost analysis, cost control and cost calculation.

Standard cost method is beneficial for enterprises to control costs and improve the cost management level. It helps to simplify cost calculation, correctly evaluate and assess the performance of enterprises, as well as to mobilize the enthusiasm about work of employees. Besides, standard cost method can provides basis for enterprise budgeting, business decision-making and the organization and formation of external financial statements.

2.2 Categories of cost standards

Cost standards refer to the costs that are supposed to occur in the process of production or service provision. The stage of cost standard formulation requires all aspects of the company's business procedures are taken into consideration, so as to control the cost beforehand. It is widely acknowledged that the cost standard can be divided into three categories known as ideal standard, normal standard and attainable standard.

To be more specific, determined on the premise that the enterprise employs the most advanced technology and management so that the operation efficiency of equipment and technical skills of employees are at the optimal state, ideal standard is the most demanding one and is difficult to achieve. On the contrary, the formation of normal standard is based on the normal capacity utilization rate, normal work efficiency of the enterprise and normal price level, which excludes the influence of abnormal or accidental events and reflects the average performance of past business activities. Last but not least, attainable standard is determined according to the expected capacity utilization rate and the average advanced technology and management level under the current operation conditions of the enterprises. It takes into consideration the possible faults of equipment, the necessary rest and waiting time for employees, and the related losses which are unavoidable at present. Although it is stricter than normal standard, attainable standard is able to be achieved through efforts and can serve as an incentive for employees so that it is widely adopted in practice.[4]

3. Cost analysis and the application of standard cost method

In order to be more concrete, this section will explore the main points that require attention in the implementation of standard cost method through the example of Airline S, a Chinese civil aviation enterprise. The relevant statistics are collected from Airline S's official website and the annual report of the enterprise.

3.1 Background of Airline S

Founded in Guangzhou in 1992, Airline S specializes in air transportation and cargo logistics, boasting the greatest fleet size and passenger traffic as well as the most developed route network in China. With 16 branches, 22 domestic business departments and 68 foreign offices, Airline S has more than 100 thousand employees and manages assets in excess of RMB 200 billion Yuan. By the end of 2017, Airline S had operated 754 passenger and cargo transport aircrafts, including Boeing 787, 777 and 737, as well as Airbus A380, A330 and A320.

Aiming at becoming a world-class aviation industry group with international competitiveness, Airline S is committed to providing passengers with holistic, seamless and high-quality service. The enterprise carried more than 126 million passengers in 2017, ranking the first in Asia and the fourth in the world, and, by the end of which year, Airline S had accumulatively carried more than 1 billion passengers without incident, taking a leading position both at home and abroad in terms of safety record and safety management. In June 2018, it won the "Diamond Flight Safety Award", the top award for flight safety in Chinese civil aviation industry.

3.2 Cost conditions of Airline S

The cost of Airline S during the past three years will be introduced in this part.

Table 1. Cost items of Airline S from 2015 to 2017

	2015		2016		2017	
Items	Volume	Percentage	Volume	Percentage	Volume	Percentage
Operating cost	91362	100	96359	100	111687	100
Fuel	26274	28.76	23799	24.70	31895	28.56
Employee salary	13891	15.20	15783	16.38	17878	16.01
Depreciation	11361	12.44	11994	12.45	12575	11.26
Take-off and landing	11510	12.60	13109	13.60	14910	13.35
Repair and Mainteance	7326	8.02	7876	8.17	7792	6.98
Operation lease	6151	6.73	7325	7.60	8022	7.18
Catering	2680	2.93	2965	3.08	3379	3.03
Other costs	10918	11.95	12185	12.65	13903	12.45
Cost of other business	1251	1.37	1312	1.36	1333	1.19

Note: statistics of volume are listed in 1 million CNY and are collected from the annual report of Airline S. *Percentage* (%) refers to the percentage of each cost item that accounts for of *operating cost.*

As is shown in Table 1, Fuel cost takes a large proportion of the operating cost of Airline S. Other main cost items are employee salary, depreciation, take-off and landing cost, and repair and maintenance cost. Specifically, there exists a fluctuation in fuel cost, which is caused by the fluctuation in international oil price from 2015 to 2017. The depreciation and operation lease is on the rise from 2015 to 2017, as the number of aircrafts of Airline S increases continuously from 667 in 2015 to 702 in 2016 and to 754 in 2017. The cost of take-off and landing and catering increase continuously as well, which is likely to be caused by the sustained increase in the number of flights from 936.75 thousand in 2015 to 959.11 thousand in 2016 and to 1010.46 thousand in 2017. Besides, though it is still higher than 7326 million Yuan in 2015, it merits attention that the cost of repair and maintenance decreases from 7876 to 7792 million Yuan in 2017 against the increase of fleet size and the flight mileage, which may indicate an improvement in operation and cost management.

3.3 The application of standard cost method

According to the annual report of Airline S, the gross margins of its main business from 2015 to 2017 are 17.63%, 15.65% and 11.80 respectively, all of which are lower than those of its domestic counterpart Airline C, with gross margins of main business hitting 23.05%, 23.33% and 17.10% correspondingly. Standard cost method, which is beneficial for cost control, plays a crucial role in improving the value creation ability of enterprises. Therefore, this part will take the unit cost of Airline C as cost standard to identify the cost items with potential to decline in Airline S. Since Revenue Ton Kilometer (RTK) indicates the total turnover of transportation in aviation industry, the unit cost here mainly refers to cost per RTK to eliminate the influence of fleet size, except for the unit cost of take-off and landing, which is more relevant to the quantities (Q) of flight over the year.

Table 2. Comparison of unit cost between Airline S and Airline C.

	2015		2016		2017	
Items	Airline S	Airline C	Airline S	Airline C	Airline S	Airline C
Operating cost/RTK	4.08	3.84	3.95	3.68	4.09	3.95
Fuel/RTK	1.17	1.10	0.98	0.93	1.17	1.12
R&M/RTK	0.33	0.19	0.32	0.20	0.29	0.24
Depreciation/RTK	0.51	0.57	0.49	0.55	0.46	0.51
Operation lease/RTK	0.27	/	0.30	0.26	0.29	0.28
Take-off and landing/Q	12287	18904	13368	19619	14756	20676
Catering/RTK	0.12	0.14	0.12	0.14	0.12	0.14
Other costs/RTK	0.49	0.60	0.50	0.34	0.51	0.34

Note: numerical values are listed in 1 CNY and are calculated with statistics collected from the annual report of Airline S and Airline C. *R&M* is short for *repair and maintenance*.

Table 2 reports the unit cost of Airline S and the simultaneous unit cost of Airline C which serves as the cost standard.

On the one hand, it is apparent that Depreciation/RTK, Take-off and landing/Q and Catering/RTK of Airline S from 2015 to 2017 are all below the corresponding cost standard from Airline C, indicating that Airline S is ahead of Airline C in those aspects in terms of cost control.

On the other hand, however, the unit cost item of Operating cost/RTK, Fuel/RTK, R&M/RTK and Operation lease/RTK of Airline S from 2015 to 2017 are all higher than those of Airline C, suggesting that those costs are more efficiently utilized in Airline C. In order to cut down those costs, for instance, Airline S can adopt financial instruments to hedge risks and reduce the adverse effects result from the fluctuations of international oil price. Moreover, with the largest fleet size, Airline S should make more efforts to improve its bargaining power so as to reduce lease expenses. Besides, it merits attention that the cost of repair and maintenance cannot be reduced blindly since it is relevant to the safety of flights and personal security of passengers and crew members. However, Airline S can still strengthen the training of staff to reduce the unnecessary harm to the aircrafts during operation.

4. Suggestions

In order to further improve the cost management level of enterprises, cost management committee is supposed to be assembled and be in charge of the launch of standard cost management. The financial department and the standard cost department shall issue annual report on standard cost of the enterprise and report it to the cost management committee.

Furthermore, it is of tremendous significance for aviation enterprises to establish the standard cost tracking system so that they are able to continuously investigate the changes of different standard cost items, to identify the cost inputs that can bring more benefits for them, as well as to control repetitive and non-value-added costs. Aviation enterprises can also adopt other cost management methods comprehensively, such as quality cost method, activity cost method, etc., and attain a reasonable standard cost control objective, which will be of great importance to improve the operating efficiency of aviation enterprises and even the whole industry.

5. Conclusion

This paper reveals the function of standard cost method in cost control and management through the example of Airline S. By comparing the unit cost of Airline S with the cost standard from Airline C, the cost items with potential of decrease in Airline S have been identified, such as fuel cost and operation lease cost, so that the cost control of Airline S can be more targeted. Furthermore, relevant suggestions concerning the application of standard cost method have been put forward to reinforce the effect of cost management in the civil aviation industry.

Enterprises of all industry should attach great importance to the application of cost management method and only in this way can they achieve greater success.

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