

Application of statistical work in business management and cost control

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Abstract:

With the development of society, market competition becomes increasingly fierce, companies want to achieve stable development and efficient profits, strengthen its internal management and cost control are important measures to enhance the economic efficiency of enterprises. In business management and cost control, statistical work plays an important role, which cannot only reduce the operating costs in enterprise management, clarify receipts and disbursements of enterprise, while also has an important significance for improving enterprise management and cost control quality, and promoting the healthy development of enterprises. This study analyzes the development cost control situation of enterprise, the application of statistics in business management and cost control, and finally with examples to have detailed in-depth analysis of the statistical applications in business management and cost control, for reference.

With the rapid development of market economy, competition among enterprises is constantly increasing, in the new situation, many enterprises in order to enhance their economic benefit, the focus of the work is placed on the expansion of the market, at the meanwhile of expanding the company's market share, cost management and cost control are effective ways for enterprises to obtain benefits. While statistical work plays an important role in the corporate cost control and business management, statistics can make a clear presentation of the financial situation of enterprise, which leads to a clear understanding of the cost balance of enterprise, and strengthen the statistical work is an important way to enhance the economic benefit of enterprises.

The cost control status in enterprise development

As our country's market economic continues to accelerate the current development pace, the competition among enterprises gradually intensifies, in the current competitive market, some enterprises bankrupt, some companies continue to expand. In the socialist market economy, once companies want to develop, their management needs to be strengthened. In expand development of enterprises, strengthen internal management can improve the overall competitive development of enterprises, and reduce production costs [1]. In the current work of business management, cost control work is the key to improve the effectiveness of enterprise economy, but also the focus of enterprise management, however, in the current corporate cost control, there are still some problems and deficiencies, such as in the development processes of logistics enterprises have the deficiencies in cost control:

Firstly, the cost accounting have deficiencies. With China's economic development, the cost of business is divided into two parts, product costs and labor costs, in the working process of cost accounting, cost accounting is not independent, cost accounting of logistics enterprises only regard the transportation costs, the logistics company's costs as logistics costs, logistics profit and loss are not included in the logistic cost of enterprises.

Secondly, the professional statistical knowledge about cost is lack and statistical methods are unscientific. With the constant improvement of China's market economy, companies' focus on cost control has also been strengthened, although the company began to focus on cost control and statistical analysis, but in the actual cost control, the professional statistical knowledge about cost is weak and statistical methods are unscientific. Most of the cost accounting work of enterprises is held by corporate accounting staff, there is no professional statisticians of cost accounting.

Thirdly, cost control system in cost control is imperfect. An enterprise management work, need to be provided security by some system, for an enterprise, cost management and cost control are effective to enhance the economic. In its cost management and cost control, implementation of cost statistical work can clear the balance of cost, but, the related system of cost accounting has not been fully established in current enterprise development, thereby affecting the quality of cost management and corporate cost control.

The statistical role in enterprise management and cost control

In the process of enterprise development, the results of cost management and cost control directly affect the enterprise market competitive advantage, so in the process of enterprise development, cost control and corporate management need to be strengthened. In the process of management and cost control of enterprise, statistics work play an important role, for example a logistics company in its cost control, make use of statistical methods to manage logistics cost, with statistical principles to rearrange, analyze and calculate data and information related to logistics costs, so as to acquire the effective cost data and build the mathematical model, then grasp the composition of enterprise logistics costs, as well as the status.

In business management and cost control, with statistics can detail cost and expenditure, reduce costs, and to improve the market competitiveness of enterprises, which promote the upgrading of economic efficiency of enterprises. Statistics is the tool which provide data reference to enterprise cost expenditure or other activities, it can be applied in cost control and management of all phases of the enterprise. For example, in logistics and transport companies, statistical is applied to analyze the logistics cost, including transportation costs, storage costs, transportation costs is divided into maritime transport costs, the cost of air transport, road transport costs, etc., in storage costs, also contains the storage expense, warehousing costs, loss costs, service costs and so on [2].

In all aspects of cost control and enterprise management for statistics applications, control of each cost need to have statistical analysis, so the formation of a complete statistical system can ensure cost control and quality of management of enterprises. For example, in vehicle life-cycle management, accounting the time of vehicle purchase, the depreciation rate, maintenance costs, transportation repair costs, material costs, fuel costs, insurance premiums and other, and according to life-cycle cost of the vehicle in different periods to develop statistical models, through the model to estimate time of safe using of the vehicle. Statistical work has important significance and role in enterprise development, affecting the company's cost control and economic benefits, therefore, and the statistics of cost control need to be paid more attention during the process of enterprise development. Statistics applications in business management and cost control, will change the company's cost control system, build statistical indicators system to improve control quality. Statistics in management cost control of enterprise development can summarize the company's cost information and provide the enterprise management department with detailed cost statistics information, so as to help business managers and leaders to make the right decisions for the development of enterprises based on the statistical information of cost.

Statistics applied in business management, cost control

A Statistical analysis

In business management and cost control, statistics utilize the figure as language to control the enterprise cost, and process statistical analysis and evaluation, based on the statistical analysis data can help business managers make the right development decisions. For example, a type of commercial vehicle, from January to September in 2014, overhead costs generated is treated with statistical analysis, statistical mathematics table is formed as below:

Table 1 shipping charges cost analysis for a commercial vehicle in January - September 2014 (yuan)

Time	fuel charge	maintenance charge	repair charge	traffic expense	Rate of depreciation %
2014.01~2014.03	2574	643	438	212	0.04
2014.04~2014.06	3476	376	322	155	0.03
2014.07~2014.09	2665	396	576	175	0.03
Total	8715	1415	1326	542	0.2

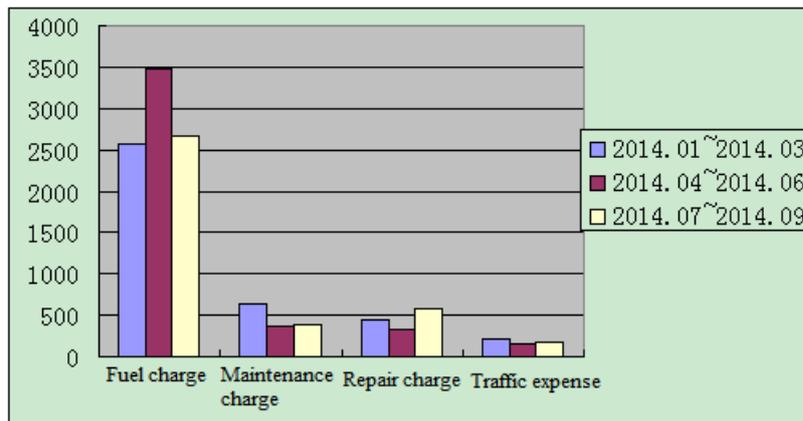


Figure 1 1 shipping charges cost statistical graph for a certain type commercial vehicle in January - September 2014

B Statistical applications

The vehicle life-cycle management is taken for example, accounting the time of vehicle purchase, the depreciation rate, maintenance costs, transportation costs, repair costs, material costs, fuel costs, insurance premiums and other, and according to life-cycle cost of the vehicle from different periods to develop a statistical model, with the model to assess the safe time for using the vehicle and so on. Such as statistics of transportation cost, the factors need to be considered are traffic, transportation condition, transit time, traffic conditions, transportation lines, etc., so as to build statistical mathematical model:

$$C_y = f(Q, T, L, \dots) \quad (1)$$

C_y is transportation costs, Q is the transport volume, T is the transit time, L is the transport distance. The formula 1 after a sort substitution results in:

$$\begin{aligned} \text{Min } C_y &= c_1/Q + c_2 \times L + c_3/tT \\ \text{S.t. } c_1/c_g, c_2 &< c_1, c_3 < c_t \end{aligned} \quad (2)$$

$Q < Q_0, T < T_0$

Among formula 2, c_1 is vehicle transport costs, c_2 is transport fuel quantity, c_3 is transport time limit costs, c_g is acceptable highest fixed costs, c_1 is the maximum fuel costs of unit distance, c_t is the acceptable maximum cost within a certain period of time, Q_0 is maximum transport capacity, T_0 is the maximum time for the customer to accept.

Statistical for vehicle maintenance costs are as follows:

$$C_m = g(Q_p) + C_f \quad (3)$$

C_m is vehicle maintenance costs, Q_p is the usage number of vehicles, C_f is depreciation rate produced in the transportation for vehicles.

During vehicle life-cycle management, there are a lot of content need statistics, we employ the running costs of a commercial vehicle of certain model for example to analyze.

Firstly, the vehicle cost, accounting for about 40%, the cost expenses includes the transportation cost of vehicles, transportation depreciation costs of vehicle, etc.

Secondly, vehicle materials, usage charges, such as vehicle service fee costs takes 20% of the total cost.

Thirdly, vehicle management costs is 0.5% of the total cost.

Fourthly, during vehicle transportation, related administrative costs and welfare of the driver take 13% of the total costs.

Fifthly, vehicle repair costs is 10% of the total cost.

Through analyzing transportation cost control statistics of a commercial vehicle, a comprehensive understanding of the cost can be generated, and then with the understanding of cost mapped to the importance and role of statistics in business management, cost control [3].

Another example is business travel fee of a random employee in a enterprise, including accommodation, meals, transportation expenses and call fees, accounting the travel expenses for staff can help companies master the employees' spending during the travel, to facilitate enterprise on human resources management. In business management and cost control, statistical applications not only need to start from the logistics costs, also need to start from many aspects like management costs, loss cost, which forms a detailed statistical model, and provide the basis for enterprise development decisions.

Conclusions

With the improvement of China's market economy, competition among enterprises continue to increase, in order to enhance their market competitiveness, boost economic efficiency of enterprises, enterprises need to strengthen internal management and cost control. The statistics applied to business management and cost control, can provide a detailed cost balance sheet for the business managers, realize effective implementation of cost control, reduce costs and provide economic efficiency of enterprises, so as to promote the development of enterprises.

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