



Audit Cost Control of Coal Enterprises Based on Activity-Based Costing

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Abstract. At present, the audit cost control of most coal enterprises is mainly to audit the accounting statements, but not to pay attention to the internal management, business decision-making and other business activities. This paper studies and analyzes the various problems involved in the project construction process of coal enterprises and the reasons for these phenomena when implementing the integrated activity-based costing method at this stage. Finally, it proposes how to strengthen and improve the acquisition of relevant data under the integrated activity-based approach. The test results show that the variable data of the cost control model is about 0.7 on average for the integrated calculation and analysis under the activity-based approach, so as to promote the smooth realization of the strategic goal of sustainable development of the coal industry and provide effective information support and reference basis for the audit work.

Keywords: Activity-based Costing · Coal Enterprises · Audit Costs · Cost Control

1 Introduction

Audit cost refers to a certain amount of expenses that the certified public accountants need to spend when preparing the financial statements. These expenses mainly include financial personnel, accounting firms and other relevant staff. However, due to the imperfect internal control system of enterprises, many problems have been caused [1, 2]. Therefore, this paper studies and analyzes this phenomenon and puts forward corresponding countermeasures and suggestions to reduce audit risks and costs, and also provides reference for the same industry to improve its own value.

There have been many studies on activity-based costing. Some scholars proposed through literature analysis, combined with the characteristics and requirements of current accounting practice and relevant theories, to establish an audit cost control model based on the new theoretical perspective under the integrated framework. Guided by the traditional integration view, the model has been more comprehensively and systematically solved after the implementation of integrated activity-based costing for listed companies in the coal industry [3, 4]. Other scholars, starting from the current situation of coal enterprises, put forward that reducing the implementation cost by establishing and

improving the information communication system and strengthening the communication and cooperation between various departments is an important way to improve audit efficiency, enhance controllability and promote economic efficiency. Some scholars put forward the principle of combining the improvement of the organizational structure with the establishment of a reasonable incentive mechanism from the perspective of internal management, and pointed out that in the implementation process, attention should be paid to personnel behavior and performance evaluation, and cost control should be strengthened. By comparing the differences between traditional accounting and the implementation of enterprise audit under the new system, other scholars have drawn the conclusion that it is suitable for the development trend of China's national conditions and international practices, and then proposed to establish an internal control framework based on the principle of integration with the core content of "integrated activity-based costing system" [5, 6]. Therefore, this paper integrates activity-based costing to study the audit cost control of coal enterprises.

With the continuous development of social economy, the cost issues involved in the production process of coal enterprises are increasing, and auditors are also paying more and more attention to the effective control of the audit work. This paper combines a series of problems and deficiencies in the current coal industry, and puts forward corresponding measures to improve the quality of power supply and reduce losses and waste. At the same time, it summarizes some targeted suggestions for reference by analyzing the actual operating results of the current accounting firm's implementation of activity-based costing and the various difficulties encountered in the specific practical operation process.

2 Discussion on Audit Cost Control of Coal Enterprises Based on Activity-Based Costing

2.1 Audit Cost Control of Coal Enterprises

Audit cost control refers to issuing a correct opinion report after the accounting firm has been entrusted to conduct a detailed review of the operation and management activities and internal financial situation of the audited entity. The auditors should fully understand the basic situation, business objectives and risk level of the audited enterprise, prepare the audit operation instructions and determine the evaluation criteria according to the information provided in the accounting statements, analyze the problems and possible causes of deviation in the implementation process through the implementation of the preliminary test procedure, and finally form the audit proposal, and propose effective improvement measures and methods for the follow-up work [7, 8]. Through the inspection of the enterprise's internal control system and implementation, problems are found and fed back to the superior department in a timely manner. For matters that do not understand or have objections but have not been resolved or have not been fully explained and that affect the management's decision-making, they should immediately report to the Audit Committee. During the audit of coal enterprises, the auditors should carry out a comprehensive, systematic and normative audit of the audited units, sort out and file relevant data, and determine the scope of audit according to certain standards and

procedures. According to the internal control system, specific objectives can be formulated, and conclusions can be drawn only after detailed recording and analysis. Then, the information resources needed need to be obtained through internal checklist and other methods. Then, the problems existing in the process of audit costs should be summarized and summarized, and improvement suggestions and suggestions should be put forward in the next stage, In the process of implementing effective risk management, it is necessary to formulate corresponding plans according to different stages and organize the implementation to achieve the overall strategic objectives of the enterprise through risk identification and analysis, objective decomposition and quantitative evaluation. At the same time, it is necessary to take appropriate measures to control the level of audit costs and other related expenses in combination with the actual situation to ensure the smooth completion of various economic activities, Conduct a comprehensive evaluation of the internal audit work of the audited unit. The control of audit cost is mainly to analyze and evaluate the management level, internal system construction and human resources of the audited unit, so as to formulate corresponding improvement measures to promote the realization of organizational objectives [9, 10].

2.2 Problems in Audit Cost Control of Coal Enterprises

The level of audit cost is one of the factors that affect whether an enterprise can successfully complete the audit work. For an accounting firm, it is of great significance to implement an effective, accurate and appropriate activity-based costing method to analyze and evaluate it, which is conducive to improving the role of certified public accountants in enterprise internal control [11, 12]. When the certified public accountants prepare the financial statements from the audited units, in order to ensure the high quality of the information provided, the auditors must have a strong level of professional knowledge and professional ethics, and a series of factors will affect their judgment ability, quality and work attitude. Due to the lack of perfect and reasonable management system, relevant standards and normative documents, it is impossible to clarify the responsibility subject and the obligations of relevant personnel in practical application, and it is also lack of corresponding professional talents to help them carry out specific audit activities and provide assistance and guidance. The internal management and employees of coal enterprises have not formed the due attention to the audit work. They believe that accountants can only complete the task in the process of making and preparing financial statements. They only pay attention to immediate interests and ignore long-term development, but also ignore the fact that accounting firms and other third-party institutions should bear responsibility and compensate for losses if they may have problems in providing services. For example, some accounting firms have reduced or even stopped issuing relevant reports to accountants in order to reduce their responsibilities, and some companies have ignored the long-term development strategic objectives of enterprises while focusing on immediate interests, which has seriously affected the implementation of cost control work [13, 14].

2.3 Activity-Based Costing

Activity-based costing refers to the allocation of each activity in the business process of an enterprise according to a certain standard, and then control it according to these results, so as to reduce product costs, improve economic benefits and enhance market competitiveness. Activity-based costing is a new cost calculation method, which allocates enterprise resource consumption to products based on service quality. In traditional accounting, fixed manufacturing costs are usually used as the main accounting object. However, this method can not fully reflect what customers provide, how to produce and how to improve, and can not accurately assess whether there is a relationship between the increase in benefits and the decrease in costs caused by the changes in profits caused by operations, which leads to the inability to allocate the enterprise's resource consumption to products, and will affect the evaluation results of the enterprise's operating performance. Therefore, the least square method is used to calculate the correlation of various factors [15].

$$R^2 = a_1[\sum x_i y_i - (\sum x_i \sum y_i/n)]/[n \sum y_i^2 - (\sum y_i^2/n)] \quad (1)$$

$$a_1 = [n \sum x_i y_i - (\sum x_i \sum y_i)]/[n \sum x_i^2 - (\sum x_i)^2] \quad (2)$$

$$r = \sqrt{R^2} \quad (3)$$

In the formula, R^2 is the determinable coefficient, a_1 is the regression line, X is the cost driver, Y is the value of the manufacturing cost of this part, and r is the correlation coefficient. The closer the determinable coefficient and correlation coefficient are to 1, the higher the correlation of this factor is, the more accurate the allocation is. When calculating the cost of a certain production business or service, the first thing to be clear is the consumption of resources, calculate the consumption rate of each operation, and select the relevant information such as the work position of each department's personnel and the quantity of materials required by the personnel based on this, and then allocate the enterprise reasonably according to these data, draw a conclusion through comparison to provide reliable information support for the next link, and then formulate corresponding improvement measures and plans.

3 Experimental Process of Audit Cost Control of Coal Enterprises Based on Activity-Based Costing

3.1 Audit Cost Control Model of Coal Enterprises Based on Activity-Based Costing

Figure 1 shows the results of audit cost control model of coal enterprises based on activity-based costing. Under the audit activity-based costing method, the business activities of an enterprise are an organic and interdependent whole, and this relationship will affect the final conclusion of the audit that is reasonable, effective, feasible and consistent with the actual situation. Therefore, how to determine the appropriate proportion

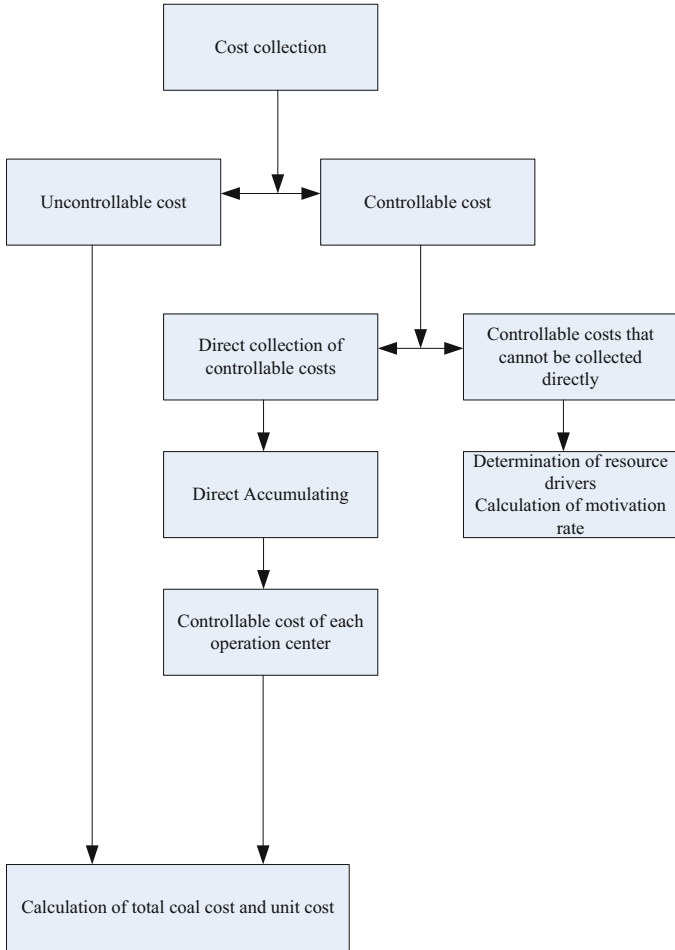


Fig. 1. Audit cost control model of coal enterprises based on operation cost method

and scope should be considered when comprehensively and systematically evaluating and analyzing coal enterprises. Different audit methods and procedures are adopted for different types of businesses to achieve control objectives. For enterprises, appropriate cost accounting methods, accounting treatment methods and relevant indicators should be selected according to the characteristics of their business activities. The audit cost control model based on activity-based costing is to analyze the accounting statements, draw conclusions and put forward suggestions for improvement. Before implementing the audit procedure, it is necessary to clarify whether the enterprise can successfully complete the financial indicators, and whether the corresponding standards and procedures are formulated in accordance with the relevant standards and systems, which are in line with the national regulations. If any problems or hidden dangers have been identified or have not been found, they should be immediately paid attention to and reported to avoid unnecessary loss and waste of resources, so as to achieve the purpose of cost

control. The audit cost control model based on activity-based costing is to determine the specific quantity and amount of the audited unit by means of statistics and analysis of the enterprise's resource consumption according to certain standards. When we find and adjust the large differences between the relevant data and information in the actual work process, we need to understand the causes of these situations, the extent and scope of possible losses and the impact on the audit cost in a timely manner, and then make corresponding countermeasures to reduce the economic losses caused by risk factors, so as to effectively control the internal management activities of the enterprise. The audit cost control model based on activity-based costing is based on the comprehensive analysis of enterprises and the determination of reasonable weights according to relevant factors, so as to draw conclusions.

3.2 Operation Function Test of Audit Cost Control Model of Coal Enterprises Based on Activity-Based Costing

Draw conclusions after formulating corresponding objectives and procedures according to different stages, and then feed back the results to the relevant responsible person and person in charge. Finally, follow up the follow-up test work under the function of making summary suggestions or decision-making opinions to the auditors. During the actual operation of the audit cost control model, the audit activity-based costing method that has been developed has been tested, and the effectiveness of the method can be judged through relevant indicators. Through comprehensive and systematic analysis of the audited units, the auditors find out the problems and propose solutions. This model can help the audit department find and solve problems in the implementation process. At the same time, it can also make the enterprise management understand the importance of cost control. Determine which resources can be used as the basis and standard for implementing the business. The second is to clarify the key indicators such as resource input and output rate, and then put forward specific plans on controllability to reduce the probability of risk occurrence, and finally calculate the relevant data and draw conclusions based on the information obtained to provide reference opinions for the follow-up audit. According to the accounting standards, enterprises should establish a cost control model to effectively implement, comprehensively monitor and evaluate the business processes of the audited units.

4 Experimental Analysis of Audit Cost Control of Coal Enterprises Based on Activity-Based Costing

Table 1 shows the operation function performance data of the audit cost control platform of coal enterprises. The cost is divided into direct consumption and indirect consumption. By calculating these, the results are obtained and the reasons are analyzed. Problems found in actual work can be corrected in a timely manner, but due to the lack of specific quantitative data support and unclear application, it is impossible to accurately evaluate the impact of the enterprise. At the same time, due to the lack of corresponding standards to determine whether it is necessary to improve or modify procedures or programs, it is unable to effectively control errors in the audit process, resulting in cost losses, increased unnecessary expenditures and risks.

Table 1. Operation function and performance data of the audit cost control platform for coal enterprises

Resource library	Total cost drivers	Cost factor rate	Raw coal cost	Costs of cleaned coal	Regression coefficient	Statistic	Significance level
Salary	134	56	1542	1657	0.563	0.553	0.755
Equipment	143	53	1642	1674	0.677	0.868	0.785
Material	123	56	1355	1574	0.466	0.343	0.875
Extraction fee	121	67	1654	1645	0.764	0.734	0.897
Transport	131	53	1645	1741	0.452	0.778	0.564

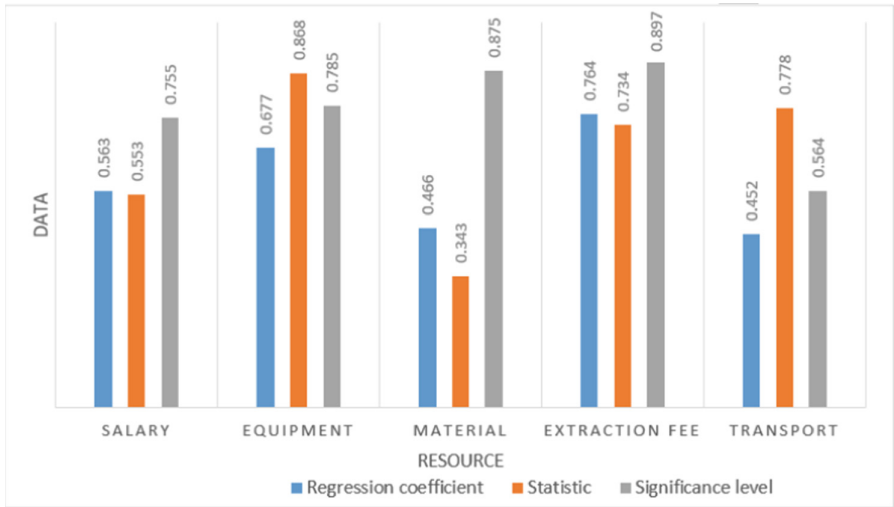


Fig. 2. Variable correlation of the system

After the implementation of the audit procedure for coal enterprises, as shown in Fig. 2, it can be seen that although the integrated calculation and analysis under the activity-based costing method has been completed, the variable data of its model is about 0.7 on average, but there are still some problems in practical application. The main performance is that the resource consumption cannot be well controlled, and the second is that the resource and cost operation standards cannot be unified and standardized, because a series of reasons such as not fully considering the complexity of the audit work and the high requirements on the quality of staff have resulted in high staff turnover rate.

5 Conclusion

In recent years, with the continuous development of economic globalization, coal enterprises are also facing serious challenges. In the face of fierce competition, audit work must improve efficiency and reduce costs. This paper discusses the impact of the integration of activity-based costing on audit units and how to effectively control it to reduce losses and achieve the goal of maximizing profits. At the same time, it analyzes the problems existing in the implementation of this method by enterprises and the countermeasures to solve them, clearly defines the relevant personnel, develops reasonable and perfect systems and processes, and takes corresponding measures to reduce audit risks and improve work efficiency in combination with specific circumstances.

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