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Research on Internal Control Construction System of Energy-based Enterprises Based on COSO and Financial Quality

Lingyu Wang^a

School of Economics and Trade, Jilin Engineering Normal University, Changchun 130000, China.

^a87094999@qq.com

Abstract. Under the general situation of energy conservation and emission reduction and building a green ecological economy, the financial internal control of energy enterprises has become the main way for enterprises to reduce energy production costs, ensure the security of corporate asset funds, and improve the income of energy enterprises. For the reading of relevant literatures on the internal control of energy resources enterprises, the research direction of the research is to analyze the internal control construction system of energy production enterprises based on the five elements of COSO and financial quality, and find that the accounting audit work in energy enterprises pays attention to the degree is not high. According to the control environment, risk assessment and control activities, the trend of declining shows that the communication between the audit and other departments of the enterprise is not efficient, the internal supervision is weak, and the quality of financial information has a great impact on internal control. The following conclusions are obtained, which requires accountants to pay more attention to corporate auditing, strengthen the awareness of energy audit risk prevention, improve the construction of auditing system, and strengthen internal control in auditing activities to improve the quality and efficiency of internal audit control of energy production enterprises.

1. Introduction

COSO (Five Elements of Internal Control) is the English abbreviation of the sponsor committee of the US Anti-False Financial Reporting Committee. It aims to explore the causes of fraud in financial reports and find solutions. The internal composition of COSO includes control environment, risk assessment, control activities, information communication and communication, monitoring of the environment, and construction of an energy production enterprise control system to promote internal control management efficiency, reduce asset loss risk, and help ensure financial reporting. Reliability, respect for financial laws and regulations.

The key factors affecting financial quality include financial vouchers, cash flow statements, financial statements, etc., which can clearly indicate the company's operational capability, solvency, profitability and development capability; comprehensively disclose the business status and financial status of the enterprise and Disclosure, so as to make an accurate evaluation and judgment on the merits and demerits of the economic benefits of enterprises. The use of COSO combined with financial quality of energy-based enterprise internal control system construction research to meet the



needs of today's internal audit of energy-saving emission reduction and green development. Therefore, this topic combines COSO and financial quality control to conduct a comprehensive evaluation and supervision of corporate audits to prevent operational risks and improve the operating efficiency of enterprises.

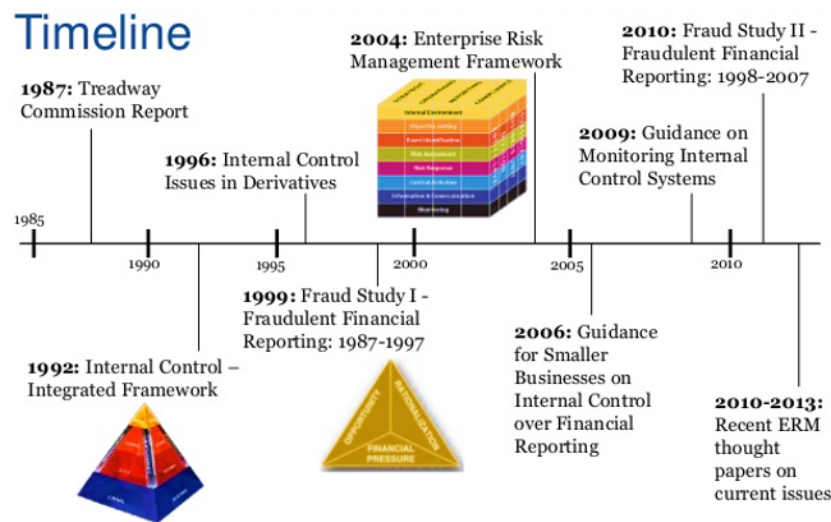


Fig. 1 The development of the five elements of internal control

2. Literature review

The internal control construction system is divided into two aspects: theory and practice. The theory is COSO management. The theory is proposed by the anti-false financial report committee, which includes five parts: control environment, risk assessment, control activities, information communication and internal supervision. The practice includes internal control processes including accounting budget, income and expenditure, procurement costs, fixed assets, infrastructure, and contracts. According to the basic content of COSO, the literature ^[1] puts forward the problems of internal control based on the five elements, and proposes its own solutions to the problem. From the practical point of view, the literature [2] put forward its own opinions on the budget and income expenditure from the perspective of internal control process, but the lack of research on other factors is one-sided.

At present, there are few quantitative analysis methods for internal control evaluation, and they all have great subjectivity. They do not stand on the overall situation and make objective comments, which is not conducive to the display of real results. At present, some scholars combine the qualitative and quantitative perspectives to establish corresponding mathematical models to quantify unstructured data, such as principal component analysis and analytic hierarchy process. The literature [3], the analytic hierarchy process is used to set the weights of the factors affecting the quality of internal control, and after designing the questionnaire, the problems of internal control are summarized and summarized, and the current conclusions about the cost verification are not strict. Although the conclusion is reached, because of the greater subjectivity of the method, the practical application significance of the evaluation is weakened [4].

3. COSO and financial quality internal control construction system construction and control methods

Choosing to build a suitable energy production enterprise's own operating conditions and internal control methods is the key to the success of the internal control system. The internal control system of energy production enterprises needs to be constructed in combination with COSO report and financial quality. It is determined by five factors and three objectives, and is defined by all staff of energy

production enterprises, financial report quality reliability and laws and regulations. The company's comprehensive budget control, accounting information system control, internal control audit control, system control, risk prevention control, internal reporting control and internal audit control, etc., are guided by the energy production enterprise value chain management, through the integration of information technology to achieve the optimization of internal control of energy production enterprises.

3.1. Control environment construction

Using COSO theory to construct an energy production enterprise control environment, organizational control requires rational control of institutional setup and job division. The organization of energy production enterprises should be divided into three levels, firstly, the leadership level, and the overall operation and decision-making of energy production enterprises; the second level is the organizational structure level, and the support department for the normal operation of energy production enterprises. The implementation of energy production-oriented enterprises' decision-making and strategic planning; the third level is the functional division of labor, the various production and dispatching departments of energy-producing enterprises, each management department performs its duties, performs functional work, implements the post responsibility system, and forms one with Division of labor, internal control environment controlled by all levels.

3.2. Risk assessment

Reducing the risk of energy production enterprises, including its operational risks to financial risks, the most critical of operational risks is environmental pollution risks, so in order to optimize the environment and establish an energy-saving society, it is necessary to establish a set of standardized energy production standards, and Strengthen the internal training of energy production enterprises, closely follow the footsteps of the country's green ecological economy, and reduce the probability of operational risks. Financial risks include material procurement and supply of energy-producing enterprises, maintenance of large-scale power generation equipment, management expenses, and operating income. For large-scale equipment procurement and material procurement, it is necessary to strengthen audits to avoid malpractice.

3.3. Control activities

Control activities are the key link in the internal control of energy production enterprises. In the center of activity control management of energy production enterprises, fund management requires scientific research and design of control activities to ensure the realization of internal control objectives. The capital activities of energy-producing enterprises, especially the inflow of funds, are relatively simple. In combination with the measures in the basic norms of internal control, the standard approval process for designing capital expenditures, in the process of fund budget management, use, and settlement, a trinity of control activities is formed. System.

3.4. Information Communication Control

The internal information exchange and communication of energy production enterprises aims to accurately and timely collect information related to the economic activity county of energy production enterprises when implementing internal control, and transmit the information to the above information in a scientific transmission mode combined with information processing technology. Relevant departments. Energy-producing enterprises must pass financial accounting materials, management and management materials, and market errors. The external regulatory authorities analyze and determine the financial and economic information of energy-producing enterprises, and use the information to timely adjust the internal control system of energy-producing enterprises to improve internal control. The structure of the control.

3.5. Internal supervision

Internal supervision is the guarantee of the internal control system. According to the management characteristics, energy production enterprises set up a relatively efficient internal inspection system to supervise the soundness, execution and feedback of internal control, improve the internal control system, and prevent errors [5]. The control system has always been rational and scientific. Through all-round supervision before, during and after the event, effective improvement measures are proposed in time to ensure that the internal control system is efficient and reasonable, and to improve internal system construction.

3.6. Financial quality

The financial quality of energy-producing enterprises includes various statements, cash flow, accounting vouchers and other indicators related to accounts and assets. It is because of the core components of economic management, strictly controlling financial quality, and comprehensively managing enterprises. The status and financial status are revealed and disclosed, so as to make an accurate evaluation and judgment on the merits and demerits of the economic benefits of the enterprise.

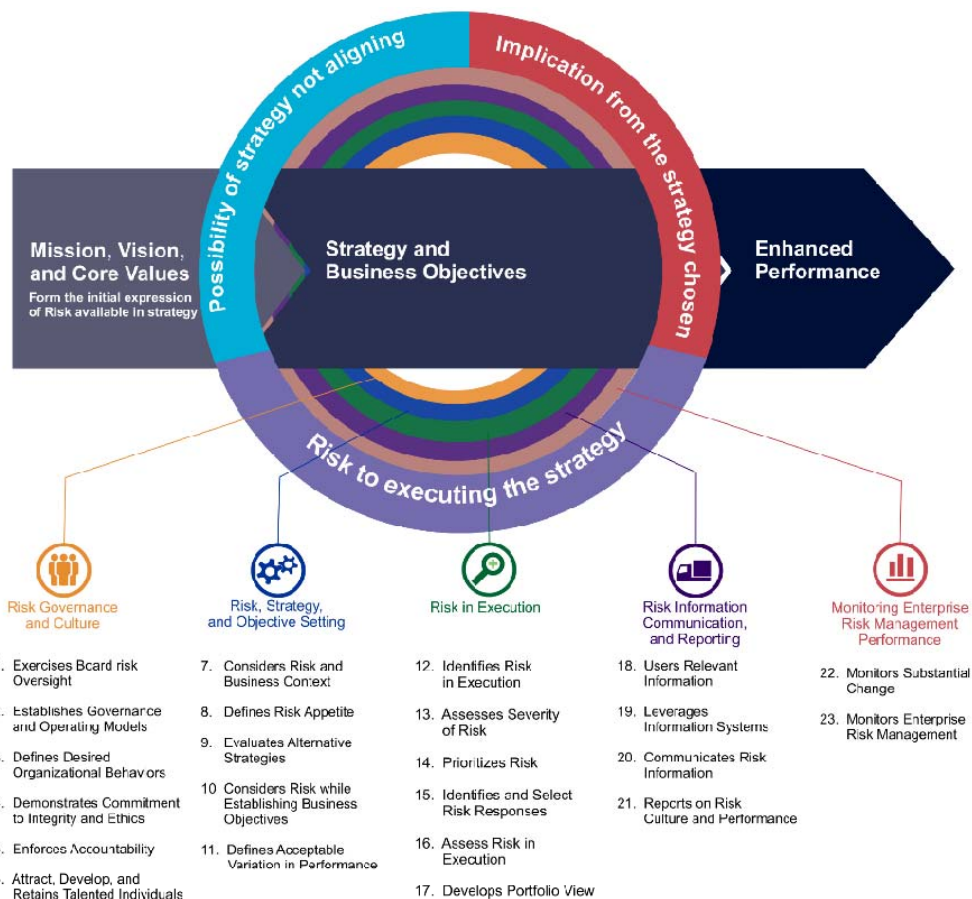


Fig. 2 COSO and financial quality internal control construction system construction and control methods

Using the big data processing method, weight the obtained data, set up multiple regression equations, and analyze the internal control evaluation preferences. The internal control score equation expression is:

$$Y_i = b_{i1}X_{i1} + b_{i2}X_{i2} + b_{i3}X_{i3} \dots b_{in}X_{in} + b \quad (1)$$

The setting Y 、 X_1 、 X_2 、 X_3 、 X_5 、 X_6 represents the internal control score, the five elements, and the financial information quality.

Through the analysis of statistical results, the control environment and the mean value of information communication are close to the median, and the evaluation of the control environment and the information communication dimension shows a relatively stable nature. Among the above six indicators, the average value of financial information quality is the highest, while the risk assessment and the minimum value of information communication are the lowest, indicating that current energy production enterprises pay more attention to financial quality and neglect risk assessment, and auditors and financial personnel of energy production enterprises. The information has problems such as poor communication. On the other hand, it is reported that the current financial production-oriented enterprise financial management system is still not sound, and the risk assessment system is ineffective, and there is no perfect risk management system. In addition, the financial information is released to a lower level, and each department has few opportunities to access the financial system of energy production enterprises, resulting in poor communication of information^[6]. In addition, the quality standard of financial information is quite different, indicating that the current auditors have different aspects of the evaluation of financial information of energy production enterprises.

Tab. 1 Descriptive statistics of internal control indicators for energy production enterprises (n=56)

variable	Mean	Standard deviation	maximum	Minimum value	median
Control environment	12.27	2.24	17.75	14.40	6.70
Risk assessment	5.87	1.69	9.55	7.64	2.87
Control activity	12.21	2.23	17.34	14.87	6.86
Information communication	9.55	2.05	13.10	9.65	4.34
Internal supervision	12.05	2.29	17.24	14.79	7.77
Financial quality	27.91	4.69	37.22	29.04	14.12

4. Problems and measures

Through the analysis of the above survey results, although the internal control evaluation management accountant has certain knowledge of the COSO evaluation system, in most internal control evaluations, the internal control is generally judged based on the financial quality, and the judgment standard is roughly equal to the financial information quality standard. The method has one-sidedness and even deviation, which affects the objectivity and applicability of internal control evaluation. Staying in the basic account audit, the original document and the financial verification of the audit procedures, cannot fully control the audit risk. Therefore, this topic draws the following conclusions.

First, the internal control risk control needs to stand on the whole of the energy production enterprise to analyze, through the strategic risk and the audit wind direction all aspects of the determination and consideration, in accordance with the procedures to determine the audit objectives of the audit focus, get the correct results. From the bottom up, the risks in the financial statements are summarized and the audit conclusions are formed. According to the risk prevention-oriented approach, the audit efficiency is improved and the business risks are reduced.

Second, the improvement of the system is to ensure the rigor of the audit process and the objective and scientific guarantee of the audit results. Improve internal control, establish internal control evaluation and management supervision mode, reduce operational risks, and successfully complete financial control reform in the national green economy development policy.

5. Conclusion

Firstly, through the literature analysis method, the paper searches for the internal control evaluation content, evaluation methods and indicators of COSO management theory, and determines the internal control evaluation basis through literature analysis.

Secondly, through the analysis of the status quo of the internal control of the enterprise, the paper puts forward the research idea of establishing the internal control system combining COSO and financial quality management.

Finally, the COSO management theory and financial quality are used to optimize the energy production enterprise system structure, and the problems that may arise after the system construction is implemented are integrated, and the opinions and measures for continuous improvement are proposed.

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