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# Quantitative Analysis method in Accounting estimation Audit based on risk Identification Model and its Application in Audit quality improvement

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**ABSTRACT**
In today's complex and ever-changing business environment, the rapid development of digital information technology has a profound impact on the audit industry, especially the virtuality and resource sharing of the Internet, which has increased the risk of accounting audit and reduced the quality of audit work. Accounting practitioners are also facing various challenges and pressures. The implementation of accounting and auditing work provides a basic guarantee for the economic and operational management of enterprises, and promotes their better development. To address the risks of misreporting and inspection in accounting auditing, this article combines the accounting estimation audit method based on risk identification models to analyze its research status and application in the field of accounting and auditing. Through quantitative analysis methods, the factors affecting accounting audit risks were deeply analyzed, and the ways to improve audit quality were explored. Multiple practical methods and strategic suggestions for improving audit quality were proposed.

**KEYWORDS**
Audit quality; Quantitative analysis; Accounting audit

## 1 Introduction

In today's complex and changeable business environment, the importance of accounting audit and audit quality improvement is becoming more and more prominent, which is directly related to the accuracy, transparency and reliability of financial information. Audit quality specifically refers to the corresponding results produced by the audit behavior carried out in the audit work. This paper will introduce the audit risk identification model to study the key factors that affect audit risk identification, and put forward its application in the improvement of audit quality.

## 2 Research on the risk of Accounting Audit

### 2.1 Research on Audit risk Assessment

Audit risk is the risk of serious misstatement of financial statements. the goal of audit is to control this risk at an acceptable level and to achieve it through professional judgment and risk assessment procedures.

Based on a sample of 202audit clients, TJ Mock, JL Turner investigated the impact of fraud risk assessment on the audit plan after the release of SAS No. 82, and found that identifying and recording fraud risk factors significantly affected the adjustment of audit procedures, including program scope, staffing, and program increase or decrease.[1] Hironori Fukukawa, TJ Mock, Arnold Wright investigated the archival data from a well-known audit company in Japan in 2010 and found that the risk adjustment of the audit plan is relatively low, although the client's business risk and fraud risk have a certain impact on the audit plan.[2] Messier, Jr., William, F., Austen, Elizabeth, A. This paper discusses the audit risk model of the American Institute of Certified Public Accountants (AICPA) and holds that its multiplication form does not take into account the interdependence of inherent risk, control risk and detection risk. Through the case evaluation of 124 senior auditors and managers, it was found that their judgments showed a correlation between inherent risks and control risks, which were reflected in the assessment.[3]

### 2.2 Research on the factors affecting the risk of Accounting Audit

KY Low's research explores the impact of industry specialization on auditor risk assessment and audit plan decisions. It is found that auditors' understanding of the client industry affects their risk assessment and audit plan decisions, and the performance of professional auditors in different industries is also different.[4] R Fay, JG Jenkins, V Popova's study found that auditors' perception of fraud detection and testing strategies in the previous year would affect their judgments under different participation risks. Continuous auditors were more likely to refer to the previous year's audit strategies, while new auditors were more focused on high-risk areas and corporate standard procedures.[5] Gan Limei's research discusses the influence of audit environment and the quality of auditors on audit risk, and points out that strengthening the internal control of accounting firms and improving the external environment can reduce audit risk.[6]

## 3 Method and application

### 3.1 challenges in improving audit quality

In the current audit practice, although the audit work itself is objective and fair, the audit quality of many companies needs to be improved and can not meet the needs of customers. In the process of improving audit quality, enterprises also need to deal with external challenges such as audit standards, technological updates and regulatory changes, in order to ensure the high quality and effectiveness of audit work. The challenges facing the application of improving audit quality can be divided into external factors and internal factors.

The external factors are mainly the dishonesty of the audited units. The audited unit does not provide complete materials, the project risk is high, the stability of the audited object is insufficient and legal constraints. In order to solve these problems, the accounting using risk identification model plays a key role in the improvement of audit quality. The model can accurately identify and evaluate audit risks, guide the formulation of corresponding strategies, ensure the quality and effectiveness of audit work, and provide reliable audit services for customers.

Traditional experience and methods limit the improvement of audit quality. Auditors not only need to have professional quality, but also need to have good moral concepts and a high sense of responsibility to ensure the accuracy of audit results and put an end to the occurrence of fraud and other problems.

### 3.2 suggestions and applications for improving audit quality

#### 3.2.1 improving the overall quality of accountants and auditors

In the accounting industry, the gap between the professional level of accountants and the level of professional ethics seriously affects the audit quality. The differences in professional knowledge and moral quality of different accounting practitioners have had a negative impact on the development of the accounting industry and social trust.

In this context, the accounting method based on risk identification model has become an effective tool to improve audit quality. The key to improve the quality of accounting audit is to cultivate the comprehensive quality of accounting audit practitioners. Through systematic study, in-depth grasp of professional knowledge such as the preparation of financial statements, financial analysis methods, tax regulations and accounting standards. Regular training courses, workshops and professional qualification examinations are held to ensure that accountants constantly update and upgrade their professional skills. The improvement of practical operation ability is also essential. Through actual case teaching and simulation operation, accountants can apply theoretical knowledge to practical work to improve their ability to solve practical problems. Enterprises should encourage accounting auditors to participate in various practical activities to accumulate rich practical experience, so as to improve the operational level in accounting and financial management.

The cultivation of professional ethics is also very important. Accountants need to have a high degree of professional ethics, involving integrity, confidentiality, integrity and independence. To enhance their professional knowledge and theoretical level through systematic training and to deeply understand and strictly abide by professional ethics, including learning accounting standards and regulations, master audit techniques and methods to ensure a high sense of responsibility and professional ethics at all times. The improvement of technical literacy is a necessary ability for modern accountants. With the development of information technology, data analysis tools and information systems are more and more widely used in accounting audit. Accountants need to master new technologies such as big data analysis and data mining to improve the ability of data processing and analysis to ensure the accuracy of financial information and the efficiency of audit work. There are also differences in the degree to which accountants attach importance to professional accomplishment and professional ethics. Some employees may pay more attention to the improvement of business skills while neglecting the cultivation and strengthening of professional ethics awareness. This difference in attitude leads to some employees' lack of conscious compliance with professional ethics, and their attitude towards professional norms and ethics is relatively indifferent. Through the accounting method based on risk identification model, we can strengthen the supervision and management of professional ethics in the audit process, and promote accountants to enhance their professional ethics awareness while improving their business skills. Cultivate employees' awareness of self-learning and growth, maintain the state of continuous learning, and constantly update knowledge and skills to meet the needs of industry development. These measures will help accounting auditors to better deal with complex audit work, improve audit quality and ensure the smooth progress of audit work.

### 3.2.2 Building a sound enterprise accounting audit system

In today's highly competitive business environment, the establishment of a sound enterprise accounting audit system is the core to ensure the accuracy and transparency of financial information. Risk identification model provides an unprecedented opportunity for enterprises to manage audit risk more effectively, improve audit quality, and then enhance the reliability and transparency of financial reports.

As a systematic risk management tool, risk identification model can help enterprises to comprehensively identify and evaluate a variety of potential financial and operational risks. Through the in-depth analysis of the internal and external environment of the enterprise, the risk identification model can significantly improve the accounting auditors' understanding of the audit workflow and requirements, standardize the audit model and effectively reduce the inspection risk and misstatement risk. The accounting method based on risk identification model can improve the systematicness and scientificalness of audit work. By identifying and evaluating risks, enterprises can identify the key points and difficulties of the audit work, formulate detailed audit plans and audit procedures, and ensure that the audit work is carried out in an orderly manner. The application of risk identification model makes the audit work more predictable and targeted, effectively reduces subjective judgment and human errors, and enables enterprises to understand the risk situation as a whole, so as to formulate and implement accounting audit strategies pertinently, and improve the accuracy and credibility of audit results.

The key to sex and integrity is to prevent and detect potential errors and fraud through effective internal controls. Based on the risk identification model, enterprises can design and implement scientific and reasonable internal control measures and regularly evaluate the effectiveness of internal control, and find and improve the existing problems, and constantly optimize the internal control process to improve the overall level of internal control.

The accounting method based on risk identification model can also strengthen the risk management ability of enterprises. In the process of audit, enterprises should not only pay attention to financial risks, but also pay attention to operational risks, compliance risks and strategic risks. Through comprehensive identification and assessment of risks, enterprises can formulate and implement effective risk management strategies to establish a sound risk management system, and improve their risk response ability and anti-risk ability. The application of information technology is also an important means to build and improve the accounting audit system. With the development of new technologies such as big data, artificial intelligence and blockchain, accounting and auditing is changing to the direction of intelligence and digitalization.

#### 3.2.3 Establishment of an incentive mechanism

Against the backdrop of continuous evolution and development in the business environment, the establishment of a reasonable incentive mechanism has become an inevitable choice to promote the improvement of audit quality. In order to stimulate the work enthusiasm and innovative spirit of auditors, enterprises should establish a sound incentive mechanism. Based on the concept of risk identification model, audit firms need to focus on how to build innovative incentive mechanisms to stimulate auditors' enthusiasm to improve the overall audit efficiency. Through reasonable performance appraisal and reward and incentive system, auditors are encouraged to continuously improve their professional ability and work efficiency. The incentive mechanism should pay attention to multi-dimensional considerations. In addition to verbal praise, the setting of in-kind rewards can directly stimulate the enthusiasm and creativity of auditors. These in-kind rewards can not only be material rewards, but also include training opportunities, promotion opportunities, etc., so that auditors can feel the embodiment of their own value and opportunities for growth in their work, so as to improve their work initiative and investment. The establishment of punishment mechanism is also an important part of incentive mechanism. Audit firms need to establish a strict punishment system to deal with audit errors or erroneous behavior timely and scientifically to avoid further deterioration of the problem. The existence of this punishment system can effectively urge auditors to improve the seriousness and quality awareness of their work, reduce audit risks and improve audit quality. Audit firms should attach importance to the motivation and training of excellent auditors. By giving in-kind rewards and promotion opportunities to auditors with good performance, they can effectively stimulate their enthusiasm and sense of responsibility. At the same time, it can also set an example for other employees to improve the efficiency and quality of the whole team. Innovative incentive mechanism can not only improve audit quality, but also promote the professional development of auditors and promote the progress and healthy development of the whole audit industry.

### 3.2.4 strengthen communication and information exchange

Strengthening the exchange and communication of accounting information is one of the important ways to improve audit quality. Through adequate information transmission and effective communication, auditors can establish closer contact and cooperation with enterprises, related parties, as well as internal and external auditors, so as to ensure the quality and effect of accounting audit.

It is very important to establish an effective information transmission mechanism. Accounting auditors need to keep in close contact with the accounting departments and management within the enterprise and transmit key accounting information to auditors in a timely manner, such as changes in accounting standards, the occurrence of major financial events, and so on. This information transmission process ensures that auditors fully understand the relevant accounting information in their work, so as to make a more accurate judgment in the audit process and improve the overall audit quality.

The communication between auditors and external stakeholders can not be ignored. Auditors need to communicate with investors, creditors, regulators and other relevant parties to understand their needs and concerns for accounting information to ensure that their expectations of corporate financial information are fully understood and met. Through the communication between the two sides, auditors can better understand external needs and accurately identify risks and problems to report to the leadership, and make targeted audit strategy adjustments to ensure the comprehensiveness and accuracy of the audit work. The communication and cooperation between internal audit departments and external auditors is an important means to improve audit quality. The internal audit department can provide first-hand information and important clues in the operation of the enterprise, while the external auditor can conduct a more comprehensive and in-depth audit of the enterprise from the relevant information of the internal audit from an independent and objective perspective. and carry out more focused audit work according to the findings of the internal audit. The organic combination of the two can give full play to their respective advantages and enhance the depth and breadth of the audit work.

The comprehensive quality of employees can make a positive contribution to the improvement of audit quality; through the construction of a sound audit system, enterprises can effectively reduce audit risks and ensure the standardization, transparency and independence of audit work, so as to improve the reliability and accuracy of audit results and provide reliable guarantee for the sustainable development of enterprises. Through the innovative incentive mechanism, audit firms can better stimulate the enthusiasm and creativity of auditors, improve the overall audit efficiency, and provide customers with more high-quality audit services. This incentive mechanism based on risk identification model can not only promote the improvement of audit quality, but also promote the healthy development and progress of the audit industry.

## 4 Results and discussion

As an effective tool, risk identification model provides new ideas and methods for improving audit quality. With the application of this model, accounting practitioners can grasp the audit risk more accurately and improve the efficiency and quality of audit work. Through the systematic analysis of the external environment of the enterprise industry, this model can accurately identify and evaluate various potential risks and make the audit work more targeted and predictable.

By systematically identifying and evaluating various potential risks, auditors can identify in advance the risk factors that may affect the reliability of financial reports, formulate audit plans and define the focus of work. This method not only improves the efficiency of audit work, but also reduces the waste of audit resources, and makes the audit work more effective. Risk identification model promotes the systematicness and standardization of audit work. The framework provided by the model helps auditors to systematically collect and analyze data in the audit process to ensure that each audit step follows a scientific method and process. This not only improves the audit quality, but also increases the credibility and reliability of the audit results.

## 5 Conclusion

The risk identification model has brought scientific, systematic, and efficient working methods to the accounting and auditing fields, not only significantly improving audit quality, but also providing important support and guarantee for improving audit quality by improving the pertinence and operability of audit work, standardizing and standardizing audit procedures, and promoting communication and cooperation between auditors and clients., With the continuous advancement of technology and changes in the auditing environment, the application prospects of risk identification models in auditing work will be even broader. Through continuous optimization and innovation of this model, enterprises can further improve the accuracy and effectiveness of audit work and provide more powerful support for financial management and decision-making.

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