

# Analysis on Improvement of Internal Audit in China's Listed Companies Based on Artificial Intelligence

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**Abstract.** Based on the theoretical connotation of internal audit, this paper first states the major deficiencies in the execution of internal audit supervision of China's listed companies. The main reasons of forming these deficiencies are also analyzed in depth. According to the development of artificial intelligence technology and the background of big data, the relevant suggestions to strengthen corporate audit supervision, recover internal audit deficiencies and improve internal audit system of China's listed companies are proposed finally. It is hoped that this paper can provide a useful reference for the healthy development of internal audit supervision of China's listed companies.

## Introduction

With the application of artificial intelligence technology and the expansion of the scope of internal audit functions and the increasing importance of internal audit, the meaning of internal audit is constantly changing [1]. The Institute of Internal Auditors (IIA) believes that internal audit is an independent and objective assurance and consulting activity, and its purpose is to add value to the organization and improve its operational efficiency. It takes a systematic and standardized approach to evaluate risk management, control, and governance processes and improve their efficiency to help achieve organizational goals. From this, it can be seen that the IIA is very concerned about the authenticity and legality of financial audits, and specifies the methods and procedures of fraud audits in detail. Although the term "evaluate" is used to explain internal audit as the main function of internal audit [2][3], it is not difficult to find that "evaluate" contains a strong sense of "supervision". Originally, auditing was produced and developed as an economic supervision. Without supervision, auditing would lose its essential characteristics. Meanwhile, with the level of science and technology and marketization are constantly improving, and the functions of internal auditing should also be continuously expanded. Many scholars at home and abroad also hold the same view [4].

## Deficiencies and Its Reasons of Internal Audit of Listed Companies

### Incomplete Independence of Internal Audit

The independence of the internal audit of China's listed companies is incomplete, mainly because internal personnel are susceptible to interference from factors such as management constraints and personal interest violation when conducting internal audits, so the independence of internal audit cannot be fully reflected. The reasons are mainly in the following three aspects: First, China's internal audit is mainly driven by the state, and the positioning of internal audit institutions is not clear, which has affected the independence of internal audit to a certain extent. Secondly, the internal audit institutions of listed companies in China are still under the control of the company's internal management. Whether the internal auditors are promoted or their salary and benefits are subject to the management of the company, it is easy for internal auditors to be affected by these factors when performing audit procedures, performing evaluation functions and supervising their duties. Finally,

the internal audit of listed companies involves a lot of financial expenses. In order to save manpower costs, some finance and accounting personnel may serve as internal auditors. When formulating audit plans and implementing audit procedures, they are susceptible to self-evaluation and their own interests and cannot be maintained independence.

### **Insufficient Attention to Internal Audit**

The insufficient attention of listed companies to internal audit is one of the important reasons hindering the development of internal audit in China. Since most shareholders do not participate in the company's operation and management, there is a problem of information asymmetry between shareholders and management, which can easily cause management to invade shareholders' interests. Because the supervision of the internal control system of Chinese listed companies mainly comes from the China Securities Regulatory Commission (CSRC), this has led to the internal audit work of listed companies not receiving sufficient attention from the management of listed companies. In addition, the purpose of internal audit is to protect the overall interests of the company's shareholders, but management may resist internal audit work to a certain extent due to the pursuit of personal interests. This negative behavior is mainly manifested in two aspects. One is that management does not resolve the problems found in internal audit, and the other is that the reasonable suggestions made by internal auditors are not accepted. This situation not only makes it difficult for the internal audit work to proceed normally, but also makes the internal auditor lack confidence in the internal audit work and loses the sense of responsibility to the internal auditor. As a result, the internal audit work of listed companies has not played its due role.

### **Lack of Risk-oriented Internal Audit Philosophy**

As an important part of China's audit system, internal audit aims to evaluate the company's operating performance, monitor the company's operations and prevent various risks that may occur in the company. The role of internal audit in China's listed companies is mainly reflected in monitoring and evaluation. Internal audit work does not attach much importance to the company's risk management now, and has not yet formed a risk-oriented audit concept. This internal audit model may delay the application of advanced artificial intelligence technology to some extent. At the same time, it will also hinder the development of China's internal audit to a more perfect direction.

### **Lack of Completed Internal Audit Responsibility System**

The quality of internal audit of listed companies in China has not been high for a long time. The key to guaranteeing the quality of internal audit of companies is to establish an internal audit responsibility system. The internal audit responsibility system of listed companies in China is not complete, and it is difficult to grasp the responsibility standards of internal auditors. This has greatly affected the improvement of the quality of internal audit. From the perspective of specific work, when a listed company has an inferior quality internal audit report, it should investigate the responsibilities of relevant internal auditors, failure to do so will cause the continuous decline in the quality of internal audits, which in turn will increase the negative impact of internal audit quality. On the other hand, if excessive penalties are imposed on relevant internal auditors after an audit quality problem occurs, it may also affect their enthusiasm for future work, or cause internal auditors to enforce strict requirements on auditees, this also will obstruct effective operation of the company. Therefore, there is no clear standard for the internal audit responsibility of listed companies in China, which has affected the improvement of internal audit quality to a certain extent.

### **Low Quality of Internal Audit Staff**

The low quality of the internal auditors of listed companies in China is mainly reflected in two aspects. On the one hand, the internal auditors of listed companies have a single profession and the overall quality cannot fully meet the needs of internal audits of listed companies. The professional composition of China's internal auditors is mainly accounting or auditing. There are fewer internal auditors with other professional backgrounds in computer, big data and artificial intelligence technology. From the perspective of the audit scope covered by the internal audit of listed companies,

the single professional composition of internal auditors can not meet the needs of internal audit in background of artificial intelligence technology, resulting in low internal audit efficiency. On the other hand, after years of development, the total number of talents in the auditing field in China is increasing, but most senior auditing talents mainly serve social audit institutions such as accounting firms. The listed company's internal audit department has relatively few high-quality audit talents, and fewer internal auditors with rich theory and practice, which has limited the development of China's internal audit to a certain extent.

## **Suggestions for Improving Internal Audit of Listed Companies**

### **Improve Internal Audit Report**

The purpose of the internal audit of listed companies is not only to achieve the tasks of general internal audit work, but also to give useful internal audit information for the effective resource evaluation, in order to maximize the use of the resources owned by listed companies. The aim of establishing a economic assessment system also takes higher requirements on internal audit reports. The improved internal audit report should be factual, precise, well-timed, suitable, valid and realistic. It should report not only the real condition of internal audit of listed companies, but also the situation of internal control. This improved new internal audit report should present not only internal audit data, but also related risk prediction information; it should report not only internal financial audit information, but also related internal control information; not only monetary information, but also non-monetary information. In a word, the improved internal audit report is the "work product" of the improved internal audit work. The monotonous model of the previous internal audit report should be adjusted, and complete internal audit information would be disclosed in the improved internal audit report to encounter the requirements of economic benefit evaluation.

### **Improve Independence of Internal Audit**

In view of the main independence deficiencies in the internal audit of Chinese listed companies mentioned above, the independence of internal audit should be improved from the following three aspects. The first is the national level: China's internal audit is mainly driven by the state, and the positioning of internal audit institutions is unclear, which has affected the independence of internal audit to a certain extent. Therefore, the state can revise the relevant laws and regulations, improve the relevant national legal system, control and supervise the internal audit of listed companies from the legal level, urge the listed companies to establish independent internal audit institutions and strengthen the internal audit. The supervision of audit institutions enables internal auditors to maintain due independence when performing audit procedures. The second is the level of listed companies. As a listed company, it is necessary to strengthen the understanding of the importance of internal audit, and take the internal audit department as an important part of corporate governance. The implementation of its internal audit procedures should not be affected by the company's management, enabling it to complete the audit work fully independently and directly responsible to the shareholders' meeting. At the same time, listed companies should continuously improve the corporate governance system, strictly manage the company in accordance with the company's rules and regulations, strengthen the supervision of the company's internal auditors, and ensure the effective conduct of internal audit work. The third is the level of auditors: as internal auditors, they should strictly abide by the principle of independence, and not be interfered by other company's management and personal interests when conducting internal audits. Appropriate measures should be adopted for procedures that may violate independence in order to keep personal independence from being compromised. At the same time, internal auditors should constantly improve their knowledge reserves, ensure that their internal audit process can be relatively independent at the knowledge level, and not be interfered by other external factors, and comprehensively improve the independence of listed companies' internal audit.

### **Exploring Artificial Intelligence-based Internal Audit Methods**

For different companies, the internal audit methods should also be different; if the same company is in different development periods, the corresponding internal audit methods should also be different. Against the background of the diversified operations of listed companies and the rapid development of artificial intelligence technology, traditional auditing methods have been unable to meet the requirements of internal audits of listed companies. The listed company must formulate internal audit standards and audit objectives suitable for its own situation. At the same time, the internal audit method chosen by the company should also be fully compatible with the company's development goals and the environment of artificial intelligence and big data. The artificial intelligence-based internal audit method in background of big data can make full use of its huge scientific and technological advantages, can timely identify problems that hinder the company's development, and can provide corresponding risk warnings in advance, so that listed companies can take appropriate measures in time to resolve possible risks; the artificial intelligence technology in background of big data can also provide valuable opinions for the company's management decisions, promote the continuous improvement of corporate governance, and then promote the development of listed companies. Because the development of modern science and technology has made the development of artificial intelligence technology very remarkable, artificial intelligence technology has been widely used in many fields, so the impact of artificial intelligence on internal audit must be consideration. Artificial intelligence-based internal audit have been gradually mature in background of big data. It is an inevitable choice to introduce artificial intelligence technology into internal audit in a big data environment. The application of artificial intelligence will have a great impact on internal audit technology. Therefore, the internal audit department of listed companies should strengthen the construction of internal big data systems and strengthen artificial intelligence-based internal audit. With the help of artificial intelligence-based internal audit, the entire process of risk control is reflected, the risk early-warning effect of internal audit is highlighted, and possible internal frauds of listed companies are timely stopped. Therefore, the great value of internal audit can be reflected in the internal supervision of listed companies.

### **Clarify Functions of Supervisory Board and Audit Committee**

In order to protect the interests of shareholders, complex governance structures are set up in listed companies. Supervisory boards, audit committees and other oversight agencies are common in listed companies. Complex supervision and governance structures not only easily cause overlapping of functions, but also affect to some extent effectiveness of internal audit. According to China's internal control guidelines, the responsibility of the board of supervisors is mainly to supervise the company's compliance with laws and regulations, check the reliability and authenticity of finances, and supervise, inspect and evaluate the work of various departments of the company. Its main functions include supervision, inspection and assessment, and its scope covers all departments of the company. The main activity of the audit committee is to monitor the company's compliance with laws and regulations and the company's system, and its responsibility includes shareholders' meetings. It can be find from the functions and responsible scopes of the Supervisory Board and the Audit Committee that there are similar or overlapping functions between the two, which is not conducive to the coordination between the two, nor is it conducive to the performance of their supervisory. Based on this situation, it is recommended that the specific implementation of internal audit, process analysis, responsibility determination and report issuance are the independently responsibility of the audit committee. After the internal audit report is formally finished, this internal audit report will be stated to the board of directors and the board of supervisors.

### **Improve the Internal Audit Responsibility System**

The parties who make mistakes in the internal audit process of a listed company should be held responsible for their mistakes. Most of China's listed companies' internal audit accountability systems are consistent with other company's accountability systems. However, in order to maintain their independence, internal auditors cannot really participate in the company's production and operation.

Therefore, for internal auditors, the use of the same accountability system has significant limitations and does not allow a good evaluation of the work of internal auditors. In the actual operation process, the enthusiasm of the work must not be discouraged because of excessive penalties, nor can the formalities of accountability system be imposed because of the light punishments. In view of this, the state should improve relevant regulations on accountability for internal audit, formulate clear national standards as soon as possible, and support internal audit from a legal level. Listed companies should establish a complete accountability system for internal auditors. The degree of punishment should be a key consideration when establishing the accountability standards for internal auditors to avoid dilemma in internal audit accountability.

### **Expanding Scope of Internal Audit**

With the development of China's economy, the level of science and technology and marketization are constantly improving, and the scope of internal auditing should also be continuously expanded. However, from the perspective of Chinese listed companies, the main role of internal audit remains at the level of supervision. Therefore, listed companies should expand the scope of internal audit, from the field of supervision to risk prevention. Only by expanding the scope of internal audit can internal audit be more suitable for the company's development.

### **Encourage Internal Auditors to Learn New Method**

Most of China's internal auditors have a single profession, so their internal audit competence is not high. Listed companies should actively train the professional skills of internal auditors, especially artificial intelligence-based internal audit technologies. With the advent of the era of big data and artificial intelligence, the use of artificial intelligence internal audit technology can save a lot of manpower and material resources, and improve the efficiency of internal audit. On the other hand, the application of big data and artificial intelligence will improve the accuracy of internal audit and also facilitate internal tracking and monitoring of audit responsibilities.

### **Summary**

Listed companies are an important force in China's economic development. Due to the diversification of their operating methods and the complication of their property rights structures, a set of systems that are suitable for their own evaluation, supervision, and risk management urgently need to be established in order to improve the corporate governance. As an important part of corporate governance, internal audit plays a very important role. Due to the late start of China's internal audit and its rapid development, there are many deficiencies in the development process. Based on the summary of related research at home and abroad, combined with internal auditing related theories, and using theoretical analysis methods, this paper systematically analyzes the problems and causes of internal auditing of listed companies in China. According to the application of artificial intelligence technology, by this article, some related improvement suggestions were proposed in order to provide useful reference for the development of China's internal audit.

### **References**

- [1] Aviv Kidron, Yuval Ofek, Herztel Cohen: New perspective on the black box of internal auditing and organisational change, *Managerial Auditing Journal*, Vol.31, Issue 8/9 (2016), p.804-820
- [2] Julie Petherbridge, William F. Messier Jr: The impact of PCAOB regulatory actions and engagement risk on auditors' internal audit reliance decisions, *Journal of Accounting and Public Policy*, Vol. 35, Issue 1 (2016), p. 3-18
- [3] Paul John Steinbart, Robyn L.Raschke, Graham Gal, William N. Dilla: The influence of a good relationship between the internal audit and information security functions on information security outcomes, *Accounting, Organizations and Society*, Vol. 71, 2018, p. 15-29

[4] Dominic S.B. Soh, Nonna Martinov - Bennie: Factors Affecting the Internal Audit Effectiveness: A Survey of the Polish Private and Public Sectors, *International Journal of Auditing*, Vol. 22, Issue3 (2018), p. 404-421