The Research of Independent Auditing Mode about China's Electronic Government Information Systems

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Abstract With the development of information technology, electronic government information system becomes more complex and diversified. As the impact of the traditional administration mode, it is difficult to establish appropriate electronic government information system auditing. So, It is more important to research the organization mode of electronic government information system auditing. In this essay, I summarize the existing research data, analyze our and foreign countries' information system auditing. At last, propose the development strategy of our country's electronic government information system auditing.
Key words Information technology; Electronic government system; Auditing mode

1 Introduction

Electronic government information system auditing is still a new concept all over the word, even in developed countries like the United States, the current e-government information systems auditing is only in the integration phase of the e-government and information systems. In China it is in a stage of theoretical research and practical exploration.

Information Systems Auditing originated in the United States. In 1961, the United States has published "electronic data processing and auditing" which is the first book of the information systems auditing. IBM also published many literatures such as "Audit Encounters Electronic Data processing", to develop the internal audit rules and organizational methods in electronic data environment, and introduce many new concepts, terminology and audit techniques. AICPA published "the implication of the survey and evaluation of internal control system in electronic data processing" in 1974 which has become the standards for data processing systems auditing.JICPA in 1976 issued "interrogatories on internal control system of accounting organizations using electronic computer ", "cases of electronic data processing systems auditing standards and auditing process " "electronic data processing systems auditing approach ", etc, as the mandatory standards for implementing information systems auditing.

The United States Institute of Internal Auditors in 1977 published the famous "systems auditability and control systems research", called SAC report for short. It advanced a variety of computer-assisted audit techniques, which create a Exploration for using computer during computer information systems auditing. With the extensive popularization and application of information technology in the field of accounting, management, more and more attention have been attracted to information systems auditing in China, which has become focus on the theory circle and practice circle.

First of all, in 2000 by the China National Information Security Testing Evaluation and Certification Center issued, Tongji University, responsible for completing the project "The standard system of information systems checking". This project is the first time systematically done in our country to management as the core, to the laws and regulations as protection, technology-supported information systems auditing standard framework system, and in 2001 passed the appraisal sponsored by National Science and Technology Commission.

Secondly, the domestic research on the information system audit has mainly stayed in the following aspects: the impact and influence of the computer and network technology to Accounting and Auditing, the overall analysis about the concept of the information system audit, and the study on the internal control, audit risk and the specific technical solution under information environment. Whereas the enaction of the criterion, practice guidelines and professional code of ethics of the information system audit and the study on the specific content has been relatively less which results on the lack of the standardized system of our information systems audit.

Finally, at the present time, the information system audit in our country has remained in the level of computer-assisted auditing and accounting information system audit by the restriction of notion, and has hardly paid attention on non-financial information system.

"the standard system of information systems checking " when it refer to Information Systems Auditing Standards of international Information Systems Auditing and ISACA, failed to integrate with

China's actual conditions and   there is still short of operability, so we were unable to promote the use of it in our country.

2 Compare the Development Patterns of Domestic and International Information Systems Auditing

2.1 United States of America

As early as the computer entered the practical stage, the United States put forward a concept of systems audit. The Information Systems Audit and Control Association whose headquarter is based in Chicago, engaged in information systems auditing is the only international organization. It is through establishing and issuing professional standards such as Information systems auditing criterion, practical guidelines and code of ethics to regulate and guide the work of the Information Systems Audit. It established the Information Systems Audit and Control Foundation, engaged in research in related fields, so that the organization's members can enjoy their latest research results and through holding around the world various forms of seminars, training courses and other activities to promote international l exchanges for the personnel in the same industry.

Meanwhile, the United States is the first state in the word to carry out independent audit of e-government information systems. From the e-government point of view most of the information systems of the U.S. government in the process of approving a project, inviting tender, construction and operation often hired social audit firms to carry out auditing and evaluating and use their reports as an important reference and basis which are submitted to Parliament for Parliament examining relevant departments and developing the next step of the investment plans. However, the writings specifically discussed e-government information systems auditing are still relatively rare.

2.2 Japan

The Government of Japan in the mid-1970s sent people to study to the United States, from the 80s of 20th century, the Japanese developed a large number of information systems auditing standards and guidelines and other documents. In 1985, MITI published the famous "IT auditing standards" and the standard is still applicable. It required the information systems of Japanese government and information systems projects invested by government must be supervised and audited during the whole process by designated and specialized organizations in order to ensure these systems' smooth construction and operation and added "system auditors test" in the National Software levels examination in order to cultivate the backbone team for the Information Systems Audit.

2.3 China

In China, the construction of auditing informationization traversed a 10-year history. people increasingly recognized the importance and necessity of the Information Systems Audit, also conducted a number of useful exploration to obtain a preliminary effectiveness from the theory and practice but, in general, China's information systems auditing work is still at an exploratory stage and the understood of Information Systems Audit is mainly remain in the level of accounting information systems audit. It lacks a molding information systems auditing professional norms, information systems Audit professionals is still lacking and management and operation mechanisms which are used for Information Systems Auditing career's development are not yet established and improved. more importantly, the e-government information systems audit work is still at the stage of the national audit and government departments internal audit and there is no specific and independent audit organizations to participate in government information systems audit.

3 The Feasibility Analysis of Independent Audit of Chinese E-government Information Systems

3.1 The feasibility of an independent auditing professional environment

Professional standards which are formulated and released by Information Systems Audit and control association such as information systems auditing standards, guidelines and procedures can guide China's e-government information systems independent auditing work. Although these criteria of the United States are not fully suited to China's national conditions, but objectively speaking it has provided a reference for China to carry out an independent audit of e-government information systems. We can sum up the practical experience of e-government information systems independent audit step by step, learn from ISACA's professional norms and combined with our country's actual situation develop e-government information system independent auditing standards with guidance and operability.

3.2 Independent auditing theory and the technical feasibility

With the development of auditing theory and technology, auditing model experienced three stages

(accounts-based audit, system-based audit and risk-based audit) in turn. E-Government information systems audit is an audit take risk-based audit as a theoretical basis. E-government information systems audit and auditing techniques are also from the traditional manual auditing method developed to the use of computer-assisted auditing techniques and tools for test data method, integrated testing tool method, snapshot technology, system control audit review file method, parallel simulation and the audit expert systems. The development of both theory and technology for carrying out e-government information systems independent audit provided tremendous support.

3.3The feasibility of management of an independent audit organization

The construction and development of Auditing informationization is not only the use of information and network technology in the audit work, but also changes in auditing management ideas and concepts. With progressing ahead the national informationization strategy step by step and gradually improving the level of government information, our government has recognized that Information and e-government information systems have become important influencing factors in improving the government work's efficiency and creating "service-oriented government." like other public property, e-government information systems control and audit become necessary requirement for the existing government. Our government has prepared for accepting and implementing e-government information systems independent audit at the organization and management level.

3.4 The feasibility of the economic environment of independent audit

Carrying out E-government information systems independent audit will definitely bring some costs. The cost will include audit fee and the associated costs when the Information Systems Audit officer perform e-government information systems audit work to occur. The implementation of e-government information systems independent audit will bring the returns including the direct benefits and indirect benefits. Generally speaking, a result from improving system control weaknesses and improving the system's effectiveness and efficiency is the direct benefits through e-government information systems audit; The indirect benefits are due to timely detect errors or abnormal behavior of e-government information systems and improve systems' reliability and security of assets; The results from attesting data's authenticity, reliability, objectivity and integrity through e-government information systems audit are direct benefits of attracting foreign investment and indirect benefits which take place from the social and public trust.

4 The Development Strategy of an Independent Audit Mode in E-government Information System

4.1 Establish an effective incentive mechanism for independent audit of e-government information system

In independent audit of e-government information system, independent audit organization and information systems auditors who wish to survive need to get their due reward. When this demand is met, it would have higher level needs. Therefore, the independent acts in e-government information system independent audit, also constraint and influence by its inherent needs hierarchy. Thus, to standardize audit behavior in e-government information system independent audit, the central issue was its motivation. We should establish an effective incentive mechanism, make greatest efforts to meet their needs in e-government information system independent audit, for example, the government liberalized the approval of independent audit organizations to encourage the capable information systems auditor's free development; complete the internal distribution system of independent audit organization in e-government information system; what important is to cultivate the identity for independent audit profession with e-government information systems , and so on.

4.2 Form large firms which engage in e-government information systems independent audit

With the development of E-Government Information Systems Audit, some powerful international audit organizations and audit organizations outside the region will also be involved in this market, the independent audit organizations within the region is difficult to compete, so that will influence the independence of the audit directly and severely. Therefore, it is necessary to establish the firm which engaged in professional e-government information systems audit from the organization model. For the attribution of responsibility and competitive pressures, according to China's current status of independent audit organization in e-government information system, reorganized methods can be used to form large-scale firm to achieve the development of scale economies. This helps to reduce the pressure of competition in the industry, but also conducive to resources' effective integration, such as human, material, capital and other resources. Strengthen the operational management of the entire

industry, strengthen the regulatory responsibility to the firms and risk awareness, enhance the sense of maintaining the audit independence in e-government information systems independent audit practice, reduce audit failures, greatly improve the opportunity cost of reducing the audit independence in e-government information system independent audit.

4.3 Ensure economic independence during e-government information systems independent audit

As the Information Systems Audit in China is in the primary stage, there are still drawbacks in audit system. Some information systems auditor, as government official at the same time, should be subject to the dual leadership of government departments and directly higher institutions, which often make them can not be impartial and independent in e-government information systems audit. Therefore, we should completely make a decoupling reform during the process of the independent audit, obtain income depend on the credibility quality, and should have objective of independence in undertake an independent audit, receive remuneration and the audit liability, which is the direct specific condition to keep economic independence during an independent audit of e-government information system. In addition, we can also consider the adoption of legislation to ensure the independence. For example, prohibit e-government information system auditors to be government officials, request e-government information system auditors to disclose details of the relationship with government departments, such as the immediate relatives and themselves' personal relationship with government departments, strictly perform the audit avoiding system through the adoption of legislation, and so on.

4.4 Construct the integrity mechanism in e-government information systems audit

It is necessary to establish integrity mechanism in the e-government information system independent audit market, making the person who engage in e-government information system independent audit aware that both the reputation and image are valuable intangible assets, realized the importance and function of the e-government information system independent audit, and the lofty professional ethics must be abide as the golden rule during their work. At the same time, strengthen the integrity mechanism's constraints, making the quality of services and benefits from the e-government information system independent audit linked.

5 Conclusion

Organization system of the E-Government Information System Audit includes national audit, internal audit and independent audit. As China's e-government information systems audit becoming more mature in the environmental, economic, organizational and theoretical aspects, independent audit organization will continue to intervene in government information systems audit work, which will rise to the great changes of the traditional audit organizational patterns. A fundamental prerequisite of the E-government information system independent audit is independence. Independence affects the survival and development of the independent audit, losing independence, audit services and audit opinion would lose its original meaning and existent value. At this stage, due to the presence of a strong government, the impact of supply and demand factors, market factors, e-government information system independent audit organizations are often subject to the government in economic, organizational, personnel, mental as well as the audit results, and some other aspects. Its independence will be impacted on varying degrees. Therefore, we could only effectively ensure independent audit organization's independence in electronic government information system independent audit by strengthening credit mechanisms, maintaining economic independence, guiding the relationship between independent audit organization and government, and formatting large-scale firms.

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