Retraction

Retraction: Advantages of Computer Aided Audit Technology in Enterprise Internal Audit (J. Phys.: Conf. Ser. 1992 042018)

Published 9 September 2022

This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

Retraction published: 9 September 2022
Advantages of Computer Aided Audit Technology in Enterprise Internal Audit

Peibo Xie*
Zhanjiang Science and Technology college, Zhanjiang 524094, Guangdong, China
*Corresponding author email: xiepeibo@gdou.edu.cn

Abstract. Corporate internal audit is a review of the company’s own operations. However, with the development of the company, the original manual audit method is becoming more and more difficult to meet the needs of the company. Under the background of big data, the current high redundancy and involving a wide range of characteristics, computer auditing technology shows advantages that traditional audits do not have. In order to study the role of computer-aided auditing technology in corporate internal auditing, this paper uses distributed computing, using case analysis, literature analysis and other methods to collect data from databases such as CNKI, Wanfang Database, and SSCI, and build a model of computer-aided audit in enterprise internal audit. Experimental results prove that through computer-assisted auditing, the audit-related efficiency of enterprises has been greatly improved, and the growth rate is about 30%. The accuracy and application efficiency of audit information have also been improved, which is about 20% higher than that of traditional audit methods. This shows that computer-aided audit technology can play an important role in the internal audit work of enterprises.

Keywords: Computer Audit, Audit Technology, Internal Audit, Enterprise Operation

1. Introduction
In the current complex and changeable environment, various risks that enterprises may suffer are increasing, and more and more enterprise managers begin to consider the specific damage that these risks may cause to enterprises [1]. Therefore, enterprise managers begin to think about the reliable assessment and prevention of these risks before they occur, and establish their own risk management system according to their own reality. As a relatively independent part of enterprise organization, internal audit can objectively and comprehensively reflect various business indicators of enterprises, effectively identify and prove the appropriateness and effectiveness of enterprise risk management, and provide more real and available information for actual decision-makers of enterprises, so as to play a positive role in enterprise business decision-making to a certain extent [2].

With the increasing risks faced by enterprises, the importance of risk management is also increasing. Therefore, enterprises must pay more attention to risk management and improve their own risk management level, so as to ensure the healthy and sustainable development of enterprises [3]. Because internal audit can objectively evaluate and improve the risk management activities of
enterprises from the perspective of the overall situation of enterprises, managers pay more and more attention to its related functions. However, there are still a series of problems in the application of internal audit in risk management, which affect its role in risk management [4]. How to promote the better application of internal audit in risk management has become the focus of academic and practical circles.

Li Zhong briefly introduces the computer-aided audit, analyzes the problems existing in the computer audit, puts forward relevant suggestions on the improvement methods of computer information management, and introduces in detail the important role of internal audit in enterprises in today's era [5]. Yu Zhijie thinks that there are great differences between the use of computer audit information in different places, which is very important for information management. The monitoring and analysis capabilities of the system are also different. In order to change this situation, we need to take the development of professional audit software as the direction of computer information management design in the future, and promote it from the national level, so as to fundamentally solve this problem [6]. Meng Fengjiao thinks that the current internal audit of enterprises requires a large amount of materials and talents. In order to ensure the scientific design in the process of audit and avoid the waste of resources, he thinks that the computer-aided audit technology should be designed scientifically and reasonably, and the enterprise internal scientific audit should be carried out through the computer audit technology [7]. These studies have a certain reference value for this paper, but due to the narrow data cited in the study, the data industry is basically limited in individual industries, and has no universal role in practice.

On the one hand, there are some innovations in this paper. At present, scholars at home and abroad focus on the concept of internal audit, function development and the role in risk management. However, most of the studies are still at the theoretical level, and there are relatively few case studies. On the other hand, there are some innovations in research methods. In this paper, questionnaire survey and field survey are integrated into the case analysis of enterprises. Through the collation of questionnaire, interview results and field survey data, we can have a deeper understanding of the application status of internal audit in risk management.

2. Audit Method of Computer-aided Audit Technology in the Enterprise

As a relatively independent part of an enterprise, internal audit can objectively and comprehensively reflect the various operating indicators of the enterprise, and effectively identify and support the appropriateness and effectiveness of enterprise risk management [8]. And to provide more real and usable information for the actual decision-makers of the enterprise, in order to play a positive role in the business decision-making of the enterprise to a certain extent, thereby promoting the realization of the relevant goals of the enterprise. It can be seen from the definition of internal audit that my country's internal audit is gradually emphasizing the application of internal audit to enterprise risk management [9].

With the increasing role of internal audit in risk management, more and more managers have realized the importance of promoting the application of internal audit in risk management. However, only some advanced enterprise risk management concepts are relatively mature at present, and a series of management systems and guidance methods have been constructed for the development of internal audit in risk management to ensure the smooth development of internal audit related work in risk management [10]. With the continuous development of information technology, computer-assisted audit will become a new development trend of enterprise internal audit, which puts forward new requirements for enterprise operations. The calculation method is derived from the nonlinear partial differential equation of Taylor series expansion motion:

$$\frac{a^2 R}{at^2} = b_9^2 \left[ 1 + \frac{w}{w ad} + \ldots \right] \frac{a^2 R}{ad^2}$$  (1)
Where $R$ is the displacement relative to time $t$; $d$ is the distance of propagation, in this study $d$ is the length of the sample, the second and third order elastic constants, and $b02$ is the velocity. Equations related to elastic constants of nonlinear parameters:

$$\eta_2 = -\frac{w'}{2w}$$

(2)

Variants of nonlinear motion equations:

$$\frac{a^2 R}{at^2} = b_0^3 \left[ 1 - 2\eta_2 \frac{au}{ad} + \ldots \right] \frac{a^2 R}{ad}$$

(3)

3. Computer-aided Audit Technology is Experimented in Enterprise Internal Audit

3.1. Experimental Purpose

This article makes full use of the research results in the field of computer-aided audit technology, and takes the realization of the company's sustainable development as the starting point. Through in-depth research on the company's resource allocation status and existing problems, the company's internal audit system is constructed, and it also proposes to promote resource optimization. Feasible and scientific opinions can help companies build a more competitive system and improve their market competitive position.

3.2. Establish a Model Evaluation Index System

Definite conclusions can be drawn through actual observation of objects. Generally speaking, the evaluation index system includes three levels of evaluation indexes: they are the relationship between gradual decomposition and refinement. Among them, the first-level evaluation indicators and the second-level evaluation indicators are relatively abstract and cannot be used as a direct basis for evaluation. The third-level evaluation indicators should be specific, measurable and behavior-oriented, and can be used as a direct basis for teaching evaluation.

Comprehensive quantitative and qualitative analysis methods: Quantitative analysis is to analyze the data of the problem, using the intuition and clear essence of mathematics to reflect the existence of the problem; qualitative is to collect, read, and organize relevant domestic and foreign research literature. Systematically summarize the related theoretical results. The evaluation criteria of green supply chain performance are complex and diverse, including not only financial standards but also other non-financial standards. Some standards cannot be directly analyzed by quantitative methods, but can only be evaluated by qualitative analysis methods. Green supply system performance evaluation standard system of the company uses a combination of quantitative and qualitative analysis methods to construct, and at the same time provides formulas for standard calculations and evaluation standards.

3.3. Determine the Evaluation Weight

The index weight is a numerical index indicating the importance and function of the index. In the indicator system of the evaluation plan, the weight of each indicator is different. Even if the indicator level is the same, the weight is different. Index weight is also called weight and is usually represented by $a$. It is a number greater than zero but less than 1, and the sum of the weights of all first-level indicators must be equal to 1, that is, satisfy the conditions of $0 < a < 1$ and $\sum a = 1$.

3.4. Statistics

All data analysis in this paper adopts SPSS19.0, statistical test adopts double-sided test, significance is defined as 0.05, $p<0.05$ is considered as significant difference. The statistical results are displayed as mean±standard deviation $(x \pm SD)$. When the test data complies with the normal distribution, the double
T test is used for comparison within the group, and the independent sample T test is used for comparison between the groups. If the regular distribution is insufficient, two independent samples and two related samples will be used for inspection.

4. Computer-aided Audit Technology in Enterprise Internal Audit Experiment
We first collected statistics on corporate internal audit efficiency in recent years. We collected corporate internal audit efficiency from 2010 to 2019, and used model calculations to quantify it for comparison. The specific data is shown in Table 1:

Table 1. Audit effect in recent years

|                | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------|------|------|------|------|------|------|------|------|------|------|
| Review speed   | 0.193| 0.187| 0.244| 0.229| 0.194| 0.216| 0.257| 0.243| 0.276| 0.277|
| Audit accuracy | 0.223| 0.196| 0.189| 0.205| 0.211| 0.215| 0.199| 0.238| 0.241| 0.249|
| Audit independence | 0.193| 0.203| 0.235| 0.215| 0.198| 0.196| 0.192| 0.207| 0.234| 0.269|
| Review information construction | 0.204| 0.191| 0.204| 0.236| 0.210| 0.223| 0.242| 0.227| 0.216| 0.235|
| Audit risk management role | 0.413| 0.397| 0.389| 0.366| 0.352| 0.372| 0.392| 0.421| 0.435| 0.447|

![Figure 1. Audit efficiency in recent years](image)

From Figure 1, we can see that in the internal audit of enterprises in recent years, although various parameters have shown an overall upward trend, the values have basically not changed, and the value has increased by less than 10% in the past 10 years. This is the disadvantage of traditional audit methods. In order to compare the computer-aided audit, we use the model to simulate the computer-aided audit, as shown in Table 2:
Table 2. Audit efficiency in recent years

| Year   | Review Speed | Audit Accuracy | Audit Independence | Review Information Construction | Audit Risk Management Role |
|--------|--------------|----------------|--------------------|----------------------------------|-----------------------------|
| 2010   | 0.357        | 0.492          | 0.424              | 0.525                            | 0.725                       |
| 2011   | 0.352        | 0.481          | 0.437              | 0.537                            | 0.735                       |
| 2012   | 0.331        | 0.472          | 0.417              | 0.513                            | 0.717                       |
| 2013   | 0.379        | 0.499          | 0.399              | 0.529                            | 0.698                       |
| 2014   | 0.412        | 0.512          | 0.429              | 0.547                            | 0.721                       |
| 2015   | 0.425        | 0.532          | 0.441              | 0.585                            | 0.735                       |
| 2016   | 0.398        | 0.524          | 0.457              | 0.577                            | 0.741                       |
| 2017   | 0.414        | 0.556          | 0.469              | 0.592                            | 0.747                       |
| 2018   | 0.462        | 0.578          | 0.482              | 0.616                            | 0.789                       |
| 2019   | 0.472        | 0.592          | 0.515              | 0.624                            | 0.813                       |

Figure 2. Computer-aided audit simulation

From Figure 2, we can see that through the computer-assisted internal audit of enterprises, the audit effect has been greatly improved, and the audit speed and quality have been improved by more than 50%. This shows that computer-assisted internal audit of enterprises can achieve good results. It is the development trend of corporate auditing.

5. Conclusion
This article believes that computer-assisted audit can create good conditions for the application of internal audit in risk management, clarify the relevant functions of internal audit in risk management, and improve audit efficiency. Computer-aided audit creates good conditions for internal audit to participate in risk management, builds an internal audit organization model that is conducive to risk management, builds a high-quality composite internal audit team, and innovates internal audit information technology and methods.
Acknowledgement
This work was supported by the 2019 College-level Quality Engineering Project: Practical Teaching Reform and Research of Management Accounting Course (Project No.ZLGC2019013); the Innovation and Strengthening School Project: Application of Block Chain Technology in Supply Chain Finance in Beibu Gulf Region (Project No.CJ20CXQX006); the 2019 Innovation and Entrepreneurship Project of GuangDong Ocean University Cunjin College: Zhanjiang Internet Supply Chain Finance Research under the Background of Big Data (Project 2020CJXYDCYB67).

References
[1] Wang Ming. Research on the Application of Database Technology in Computer Aided Auditing. Information and Computers (Theoretical Edition), 2018, No.400 (06):136-137.
[2] Feng Suzhen. Research on the Application of Computer Aided Audit Technology in my country. Finance and Economics (Academic Edition), 2016, No.393 (01):232-232.
[3] Lu Tao. Computer-aided audit risk and countermeasures. Petrochemical Technology, 2019, 26(03):195-196.
[4] Liu Yan. A Preliminary Study on Computer Aided Audit of Foreign Exchange Management. Jilin Financial Research, 2018, 442(11):79-82.
[5] Guan Wenzhi. Application and Practice of Computer Aided Audit in Risk Management. China Petroleum Corporation, 2018, No.398 (06):77-81.
[6] Wang Guangwei, Wu Huaqiong, Su Limin, et al. Data analysis models commonly used in computer-aided auditing. China Management Information Technology, 2016, 19(05):42-43.
[7] Tang Xiaoshan, Liu Junping. Discussion on Computer Aided Auditing Risks and Countermeasures. Contemporary Accounting, 2020, No.97 (13):95-96.
[8] Yang Jin. The Application of Computer Aided Audit in the Supervision of International Payments Business. West China Finance, 2019, No.542 (11):51-53.
[9] Zheng Shaojin. Analysis on Computer Aided Audit and Verification of Project Settlement Cost. Operator, 2018, 032(001):100-103.
[10] Zeng Quanlai. Research on the Application of Database Technology in Computer Aided Auditing. Modern Business, 2018, No.513 (32):40-41.