

Application of game theory in accounting analysis and decision-making Case study of audit failure based on the game conflict model

Jinman Ma

School of Management, Hebei University of Geology, Hebei, Shijiazhuang 050022, China

Abstract: The occurrence of audit failure has aroused public doubts about the audit industry, which not only hinders the development of the audited units, but also has a negative impact on the reputation of accounting firms and the development of the audit industry. In view of this phenomenon, this paper, based on the reference of relevant literature and related theoretical knowledge, this paper adopts game theory and game model to analyze the causes of audit failure, and put forward the corresponding countermeasures and analysis. Based on this game analysis, the original audit conflict model can be extended to establish the game conflict model and analyze the specific factors to study the formation process and causes of audit failure, and the influence of different participants can be analyzed. Citing game theory research is of more practical significance, which can enhance external supervision and supervision, and put forward universal preventive countermeasures combined with specific factors, and help firms and practitioners to be vigilant when facing the same or similar audit business, so as to improve the audit quality and reduce the occurrence of failure.

Keywords: Audit failure; Game theory; Game model; Preventive countermeasures;

1. Introduction

In recent years, with the rapid development of national economy, enterprise governance mode also changed, more and more enterprises adopt the method of hiring agent to manage the company's business activities, but some professional managers through fraud, fraud damage the interests of investors to realize their own interests, the development of audit industry does exist some quality problems, especially the audit failure cases occurred repeatedly. For example, Enron manipulated profits, and third-party firm Arthur Andersen was accused of destroying data, lacking audit independence; Luckin Coffee invented revenue and cost, and external investigation institutions can easily understand the substance of corporate fraud, which directly or indirectly caused different degrees of profit loss to investors.

2. Materials and Methods

2.1 Materials

This paper first introduces the relevant concepts of audit failure and the relevant theories applied in the research process, including process view, result view and game theory; the second part is the overview of the audit failure case, including the introduction of the company, the means of fraud, the negligence of the firm and the punishment results; the third part is the construction of the game conflict model and the analysis of the causes of audit failure based on the game conflict model. The original audit conflict model is optimized and analyzed to frame the following case study and the design of audit failure prevention mechanism.

2.1.1 Audit failure

“Process” think, certified public accountants violates the recognized audit standards, the theory that certified public accountants because of subjective reasons, not in accordance with the recognized audit standards, the audited institutions fraud or major mistakes, finally, only when the audit opinion does not conform to the real situation of the company, was identified as audit failure. The process view focuses on the compliance with audit standards, that is, the compliance of audit reports.

“Results view” believes that the audit work is not completed, that is, the result of the audit, is to judge the success or failure of the audit work. This view emphasizes the final effect of the audit, not because of what. That is to say, if a CPA fails to find significant errors in the company's financial statements during the audit, whether it complies with the audit standards, it will be considered an audit failure. The result

view focuses on whether the audit conclusion is consistent with the actual financial situation, that is, the authenticity of the audit report.

2.1.2 *game theory*

Game theory refers to the use of mathematical methods to transform the participants' information into symbols and formulas, considering the participants' expected strategies and actual strategies, and then construct a game model. The mathematical matrix and game tree are used to calculate and show all the choices of participants in different situations, and finally the equilibrium solution is obtained, which reflects the optimal strategy choice of participants in the established conditions. Typical cases include Prisoner's dilemma and smart pig game.

2.2 Methods

2.2.1 *Literature analysis*

This paper collected in the research content and research direction of the research conclusion and basic theory are from domestic Chinese and English database, for the reference theory and the content, this paper will selectively accept, using this research method is beneficial to deepen the theory, reduce the possibility of theoretical blind spots in the article, is conducive to the study of this paper has a correct theoretical guidance.

2.2.2 *Model extension was combined with the case analysis.*

On the basis of the original audit conflict model, this paper considers the power conflict between the auditor and the firm at each stage of the audit process, expands the original conflict model, constructs the game conflict model, and analyzes the factors in this model, and then the model is combined with the cases studied in this paper. This approach can not only allow a systematic analysis of the cases studied, but also in turn examine the applicability of the extended model in real cases.

3. W accounting firm audited the failure cases of Company Y

3.1 Introduction of the auditee and the auditee

W accounting firm (special general partnership) is a large-scale firm in China and ranks top in the audit industry, with branches in many places. The business scope mainly involves audit, consulting, capital verification, asset evaluation, internal control system design, tax planning and other aspects.

Y co., LTD. Is the auditees, mainly engaged in the production and processing of agricultural and sideline products, issued by W firm cannot express the opinion of the audit report, the CSRC began to investigation, found that the annual report issued by false information, and issued by the punishment of Y company and the company head, firm also issued by the inappropriate audit opinions by the punishment.

3.2 Overview of the audit cases

3.2.1 *Y Company financial fraud*

First of all, in the first three years of the punishment, Company Y faked 936 million yuan of matters related to the business income through the same bank account up to 936 million yuan, and the inflated revenue in each year in the three years accounted for about 50% of the main business income disclosed in the same year. One of the ways for Y to increase revenue is to increase the construction under construction and then transfer it to the fixed assets account. The inflated fixed assets account for 38% of the disclosed fixed assets amount, and the inflated fixed assets also need depreciation, so the cost is inflated.

In the case of concealing related parties, Y Company Y conducted transactions with related parties, thus achieving the purpose of inflated revenue and profit and whitewashing the statements. In three years, Company Y has concealed 591 million yuan by tampering and making false accounts. Secondly, while Company Y inflated its income, it also forged the bank payment voucher. Finally, the Y company still has no false disclosure to the actual controller, false disclosure of gambling information, and false disclosure of internal control defects.

3.2.2 *Problems in the audit process of W accounting firm*

First of all, the audit report issued by the W firm has false records. The phenomenon of Y company's falsely increasing income, forging bank payment vouchers and concealing the amount of related party transactions did not only occur within one year, and the amount was 832

million yuan high. However, the W firm issued a standard unqualified opinion report on these situations, which was not recorded. Second, W firm of Y company inconsistent items of audit procedures inappropriate, even if the bank vouchers and net bank data, bank statements data inconsistent, W firm nor the actual situation to verify, the accounts receivable, prepaid accounts in the process of the audit process are not get proper audit evidence.

4. Analysis of the reasons for the failure of the audit based on the game conflict model

4.1 From the perspective of the auditee, Company Y

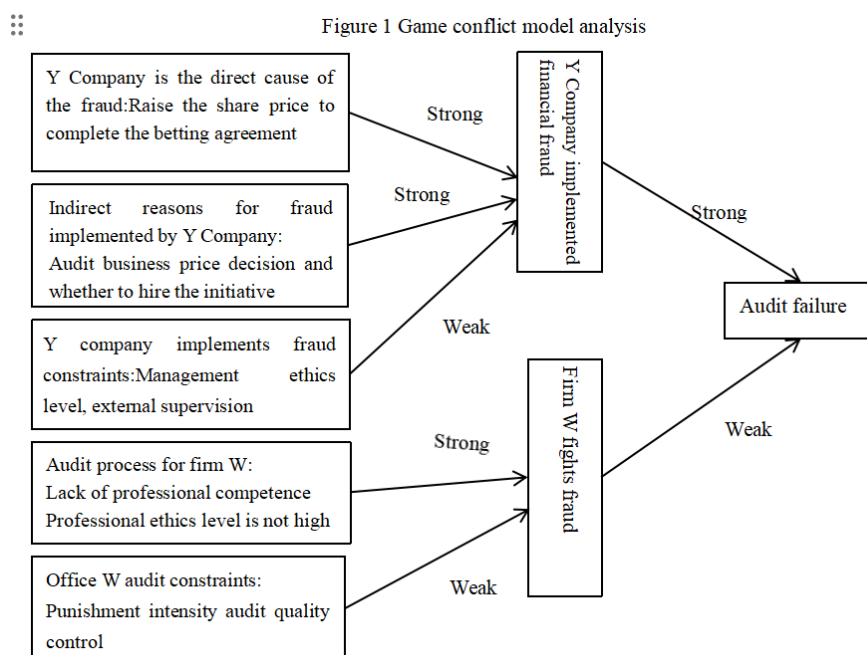
Since the Y company hopes to increase the price of equity to meet the demand of equity pledge, its controlling shareholder plans to increase the stock value of the company through financial fraud. In addition, the company has announced the signing of the betting agreement without the performance of the betting agreement, and promised not to reach the betting agreement with Shanghai Xinlian and other 16 shareholders from the signing date of the commitment. However, after investigation, the above agreement has the betting content, so the controlling shareholder decided to take the risk to meet the performance of the betting clause.

4.2 From the perspective of the audit firm W

With the development of economy and the progress of The Times, relevant departments constantly revise relevant laws and regulations and auditing standards. In order to strengthen their professional ability, auditors need to pay attention to and learn from the regulations and standards to meet the needs of audit work. But in this case, W firm responsible for the project audit team appeared obvious professional competence phenomenon: the audit risk assessment is not in place, not in strict accordance with the auditing standards audit procedures, on the level of professional ethics CPA did not find many unreasonable financial information, and Y company disclosure of related party transaction information does not have authenticity, but W auditors did not doubt the obviously unreasonable amount.

4.3 Game analysis summary

Because Y company in hiring or firing firms and determine the audit cost occupy the initiative, and meet the demand of equity pledge and meet the performance of the performance of the agreement, to the actual controllers of financial fraud, thus, through the analysis of the actual controller found that the auditee moral level is not high and the external supervision force is insufficient, coupled with the neglect of audit quality control and illegal cost is low, these will lead to Y company implement financial fraud. Therefore, the game between W and Y will fail^[3]. The following figure is the analysis diagram of the game conflict model:



5. Conclusions

5.1 Countermeasures to prevent audit failure

5.1.1 *W Institute did not have a comprehensive understanding of the Y company's background, business environment and current industry environment, and did not identify the audit risks that would be faced by undertaking the project, which buried hidden dangers for the following audit failure. When undertaking business, the firm should pay attention to customer screening and fully understand the basic situation of the audited unit^[4]. At the same time, firms need to determine whether they have the ability to undertake the business and ensure audit independence.*

5.1.2 *The firm needs to clarify the business charging system. The firm can determine the charging standard based on its own scale, industry evaluation, service level, the average charging level of the city and the cost of the firm, and strictly abide by the standard to filter out some enterprises with problems in buying audit opinions with interests, and reduce the possibility of pressure from the auditee.*

5.1.3 *Improve the corporate governance system and internal control system. Clear the structure of various responsibilities and authority, improve the articles of association, improve the principal-agency system, reduce the information asymmetry between shareholders and management, to ensure that the management system can maximize the mutual supervision between various departments, the role of checks and balances. An internal audit committee can be set up.*

5.2 Regulatory measures to prevent audit failure

We will increase the penalties for illegal acts. From a company's point of view, penalties exceeding the benefits of fraud can reduce the possibility of fraud. From the firm's point of view, the firm will choose to provide low-quality audit services, in order to reduce the audit costs as much as possible, even without fear of violating the guidelines. If the penalty intensity exceeds the benefits of the firm's illegal audit, then it will actively provide high-quality audit under the benefit balance. Therefore, the low cost of illegal, to some extent, condone the occurrence of financial fraud, but also improve the risk of audit failure.

References

- [1] Ding Liqi. Case study of Yabbetter audit failure based on audit conflict theory [D]. East China Institute of Technology, 2021.
- [2] He Jianchao. Case study on audit failure of Jinya Technology from the perspective of game theory [D]. Shihezi University, 2021.
- [3] Zhou Yingxin. Research on audit failure problem based on audit conflict model [D]. Guangdong University of Finance and Economics, 2021.
- [4] Guo Yaru. Research on audit failure governance based on the Game Conflict Model [D]. Chongqing University of Technology, 2021.
- [5] Cao Xiaozhuang. Audit risk prevention and improvement of audit quality of accounting firms [J]. Market Weekly, Issue 07,2021.
- [6] Zhang Jiani. Research on audit failure of accounting firms based on audit conflict model [D]. Fuyang Normal University, 2020.
- [7] Zhai Wenxin. Case study of audit failure from the perspective of game theory [D]. Hebei University of Geosciences, 2020.