

Research on Contract Risk Identification in University Based on Grounded Theory

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Abstract

Risk identification is a key step in the process of contract control, so risk identification affects the operation of the internal control system and has become an important concern of managers and a research hotspot of all social circles. This paper identifies contract risk factors based on grounded theory, and identifies 15 risk factors in 5 categories. At the same time, the paper analyzes the influence mechanism of each risk factor, constructs the influence path of contract risk, and gives corresponding suggestions for the contract risk management of universities.

Key words: Risk identification; Contract management; Grounded theory

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1. INTRODUCTION

The "Regulation for Internal Control of Administrative Institutions (for Trial Implementation)" was issued by the Ministry of Finance in 2012. Also, the regulation is effective nationwide from 1 January 2014, which triggered extensive research on internal control of construction of colleges and universities in China.

As a bridge between universities with enterprises or other public institutions, contract is a powerful guarantee to safeguard the university's rights and obligations, an agreement to adjust the equal economic relationship between the two parties in the market economy. With the sustained expansion of the economy and the concurrent growth in university scale, there has been a discernible annual increase in both the quantity and value of economic contracts been executed. Contract control is an integral part of the daily management of colleges and universities. Risk identification is a key step in the process of contract control, which helps to deal with and resolve potential risks in advance and reduce economic losses. Therefore, the contract risk identification affects the operation of the internal control system, and has become an important issue for managers to focus on, as well as a hot topic for research in society.

2. LITERATURE REVIEW

The academic circles have been studying the internal control of universities for a long time, but the research on the risk identification of internal control in universities is more recent and on the rise. At present, the research on the risk identification of internal control in universities has mainly occurred in three aspects, which are the construction of risk management and control system (Du, 2015), the risk identification methods, and the risk identification on the business level.

The construction of risk management and control system in universities mainly include three aspects. First, the main control system was construct based on five elements of COSO, which are internal environment, risk assessment, control activities, information and communication, and internal supervision. Ma(Ma & Tan, 2019) and Shao(Shao, 2016) have made meaningful attempts respectively. In addition, Han analyzes the role of the five elements with Oxford University as an

example. Second, Huang(Huang & Liu, 2019) proposed that according to the COSO-ERM risk management framework and the actual situation, colleges and universities systematically and scientifically identify potential risks and make risk lists by using flow charts. Third, Zhai(Zhai, 2024) proposed internal control ecosystem, which can take the unit level as the inner layer of the ecosystem, do well in the communication and coordination of various departments, form an effective decision-making mechanism, give full play to the advantages of information technology to build an industry-financial integration system, verify compliance and reliability, and meet the needs of strategic goals.

In term of risk identification methods, there are four main aspects. In order to build an internal control evaluation system of university environmental control, Zhao(Zhao, 2017) used AHP evaluation method, combined with COSO internal control framework and ISO14001 evaluation standards. Taking typical cases as clues, Wang(Wang & Cheng, 2016) analyzed and concluded six main risk points of colleges and universities: financial risk, budget risk, procurement risk, infrastructure risk, funding risk, and asset risk. Dong(Dong, 2020) identified risk size from two dimensions of risk occurrence possibility and impact degree by questionnaire survey method, which included qualitative and quantitative indexes in the design. Zhang(Zhang, 2016) identified university risks by using the possibility-satisfaction method, which can determine the maximum and minimum values of indicators, and then determine the early warning interval.

There are two main aspects about the risk identification on the business level. First, taking risk identification in business level as the research object, scholars have carried out relevant research. For example, He (He, 2017) took the budget as the research object to identify node risks such as preparation, approval, implementation and performance. Other scholars had studied risk identification such as travel expense reimbursement, management of scientific research funds, and infrastructure projects. Second, other research focused on the risk management strategies of colleges and universities when the external environment changed. Such as Qiao (Qiao & Fan, 2024) discussed the risk identification scheme of internal control in universities in the digital age.

The findings of the previous research provide a solid foundation for further research. At the same time, this paper finds that the current research mainly focused on defects of the contract, causes of those defects, and suggestions for the optimization, but the research concerning the contract risk identification is insufficient. On the one hand, in terms of research content, most of the existing researches build the basic framework of risk control based on the factors that affect business risks. Moreover, it is necessary to explore contract risks and analyze the causes of key risks. On the other hand,

regarding the identification of contract risk, the existing literature focuses on the risk analysis of contract process, but the relationship and mechanism of different risks were not elaborate clearly. Therefore, the goal of this paper is to concern the contract risk identification in universities and uses the research method of grounded theory to extract the main categories that affect contract risk through in-depth interviews.

3. DESIGN AND IMPLEMENTATION

3.1 Research Method

At present, there are not many researches on contract risk identification in colleges and universities, the research content is very scattered, and the theoretical research is not systematic. Some scholars have used the grounded theory to analyze the internal control of enterprises, but there is a lack of relevant research on universities. Brainstorming method, Delphi method, flow chart method and so on are the methods of risk identification. Internal control research in universities often draws on the internal control framework of enterprises (such as COSO), so that the research vision is limited to one place. The contract risk in colleges and universities may not be limited to the existing theoretical assumptions and related research, so it is necessary to further explore the identification of its risks. This paper selects the research method of grounded theory, which is based on empirical data, and gradually raises the abstraction level of concepts and their relations through scientific logic, comparison and analysis and establishes an analytical framework.

3.2 Data Collection

General qualitative research requires respondents to have knowledge and understanding of the interview questions. Therefore, in order to closely fit the research background of this paper and realize the effective identification of university contract risks, the selected respondents are from the contract management personnel of universities. By designing an open questionnaire, the research conducted an in-depth interview with employees of key contract departments in University A. In view of the universality and process of contract control, the employees selected to participate in the interview included both middle and senior leaders and ordinary employees. When the interviewees no longer provide new important information, the sample size is saturated, and a total of 24 interviewees are finally selected (Table 1).

The content of the interview mainly focuses on the factors that interviewees think may exist risks in university contract management. The main interview outline is as follows: (1) Is the contract management system in your department perfect? (2) During the contract signing process, did you communicate fully with other departments? (3) What indicators should we focus

on during the contract review process? (4) How intensive is the work and whether it can get technical or policy support? (5) How about information transfer in contract management? And so on. In the interview process, it is not only necessary to understand the interviewee's direct answers to the questions raised, but also to guide the interviewee to further introduce the concept category around the outline and capture. Further follow-up questions were asked according to the progress, effect and focus of the interview.

Table 1
Statistical table of respondent data

Item	Options	Amount	Percentage (%)
Sex	male	10	41.67
	female	14	58.33
Age	30 and under	5	20.83
	31-45	9	37.50
Education	46-60	10	41.67
	Bachelor or below	6	25.00
Department	Master or above	18	75.00
	Finance Office	6	25.00
	Assets Office	3	12.50
	Audit Office	2	16.67
Department	Bidding Office	3	12.50
	Logistics Office	2	16.67
	Principal's Offices	2	16.66
	Business Affairs Office	6	25.00

3.3 Data Process and Analysis

The analysis followed Strauss and Corbin's coding paradigm, which includes a three-stage coding process: open coding, axial coding, and selective coding. The qualitative analysis software of NVivo was utilized as a subsidiary tool of the coding process.

In the process of open coding which is the first step in data analysis, it is necessary to check the data word by word, name the phenomenon studied, and try to use the original words of the interviewee to refine the concept in order to avoid misunderstanding. At this stage, not all of the tags are completely disrupted, but only those that can be closely integrated. Finally, 15 categories are extracted through the analysis of the original sentences.

Axial coding aims to form more precise and clear subcategories by linking relatively independent concepts. As a result, five categories were eventually identified, which were shown in Table 2. We regarded the axial coding technique as a method of investigating the relationships between concepts rather than as restrictive rules, in order to avoid the concern that interpretations were formed from a mechanical application of techniques.

Table 2
Relationships presented based on axial coding

Principal category	Specification
Organizational risk	Organization operation: Organizational structure, decision-making mechanism Power restriction: Effective separation, key position control Management mechanism: Centralized management of contracts is clear, the process management is in order, and the approval is clear
Execution risk	Contract investigation: Investigate the other party's qualification, credit status and ability to perform the contract Contract terms: Check the legality, completeness and tightness of contracts Performance of contract: Discover risks in time and take effective measures Contract changes: Carry out relevant management procedures and sign supplementary agreements Contract disputes: Negotiation, arbitration or litigation Contract custody: Number, file, keep, borrow and destroy
IT use and communication	IS and communication: The internal control process is embedded in the information system to achieve effective communication and coordination
Contract complexity	Text complexity: The number of words and terms of the contract Clause complexity: Contract terms involve multiple knowledge
Personal ability	Professional background: Knowledge structure and professional ability Qualification: Employee qualification Competency: Have the ability of creativity, learning ability, communication ability, cohesion and so on

Selective coding that are the final type of coding, systematically dealt with the relationships between the five categories. The core category of this paper is contract risk factors. Centering on this core category and according to "Regulation for Internal Control of Administrative Institutions", the impact path model is obtained from two aspects of organizational risk and execution risk, as shown in Figure 1.

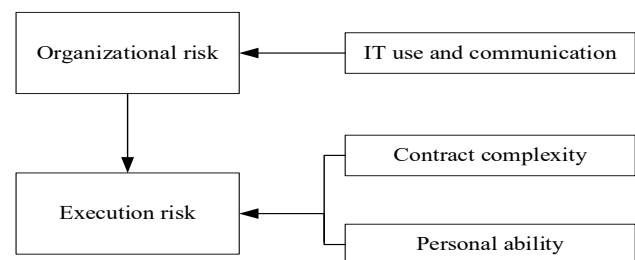


Figure 1
The influence path diagram of contract risk

In this paper, the reserved 5 samples were used as the material for theoretical saturation test, and it was found that there were no new important patterns. In other words, no new contract risk factors were found, so the contract risk factors identified above satisfied the saturation test.

4. RESULTS AND MODEL INTERPRETATION

4.1 Organizational Risk

Organizational risk runs through the whole process of internal control management in colleges and universities. The level of organizational risk is directly related to budget, fund, asset, procurement, project construction and contract management. Specific organizational risks include organization operation, power restriction and management mechanism.

Different organizational structures and decision-making mechanisms bring different organizational risks. Firstly, lengthy hierarchies can lead to distortions or delays in the transmission of information, increasing communication risks. At the same time, senior managers may not be able to keep abreast of the actual situation at the grassroots level. The lack of flexibility in the management level of colleges and universities leads to adequate information transmission and organizational communication risks. Secondly, university management departmentalization can improve the efficiency of specialization, but it may also lead to estrangement and conflict between departments and increase the risk of coordination. Thirdly, decision-making speed, quality, participation, responsibility attribution, standards, etc., can reduce bias, overcome information asymmetry, clarify responsibilities, reduce arbitrariness, and thus improve the organization's ability to cope with risks.

Effective separation and key position control are important features of power restriction. The effective separation of power can avoid abuse of power and corruption; reduce decision-making levels and improve execution efficiency; encourage autonomy and creativity, and stimulate innovation. Key position control ensures clarity of responsibility, optimizes work processes to improve efficiency, strengthens internal oversight to prevent misconduct, and supports business continuity. The quality of contract control affects other business, so the contract risk identification has been a concern of university internal governance. Effective decentralization and control of key positions can safeguard the university's contractual interests, improve customer satisfaction, and promote compliance.

Management mechanism is an important link between organizational risk and execution risk. Contract centralized management can save costs and improve efficiency in several ways. Centralized management ensures that all contracts follow a uniform format, terms, and conditions, reducing the risk of differences in contracts; simplifies the contract processing flow, reduces redundant work, and improves overall work efficiency; and reduces additional costs due to poor contract management, such as legal dispute expenses and breach of contract compensation. On the other hand, it facilitates information integration, making it easier to search, improving document security, and preventing loss and

damage. Orderly process management and clear approval are also important risk factors for contract management.

IT use can promote data integration and centralization, improve the efficiency of business processes, reduce human errors, and thus reduce operational risks and promote the improvement of management mechanisms; it can also analyze large amounts of data to provide insights for decision-makers, optimize organizational structures, and enhance decision-making capabilities; and it can enhance organizational transparency communication and trust, clarify responsibilities, reduce blame-shifting and the risk of mistrust.

4.2 Execution Risk

Execution is the most important part of achieving management goals. Contract execution risk is the key point in the process of risk identification. On the execution level, there are six main risk points, which are contract investigation, contract terms, performance of contract, contract changes, contract disputes and contract custody. The execution process is complicated and affected by many factors such as people, things and environment.

The contract complexity directly leads to the execution risk. Contract complexity can be divided into text complexity and clause complexity. The obvious characteristics of lengthy and complex contracts are poor readability and lack of emphasis on key points. The first is to increase the difficulty of understanding, resulting in misunderstanding or wrong interpretation of the terms. The second is to increase the cost of communication. In order to clarify complex clauses, more communication and negotiation may be required, increasing the time and cost. Third, it is difficult to identify risks. Complex contract text may hide potential risk points, making it difficult to identify risks in time. The clause complexity increases management costs and affects trust. Universities need to invest more professionals to participate in contract negotiation, communication and performance. In fact, the strength of professional law in colleges and universities is relatively weak. Especially when there are disputes or inconsistent understanding of contract terms, internal employees are easy to shirk responsibilities, reduce trust, and damage organizational cohesion. In addition, clause complexity requires university to increase staff training and education to prevent the risk of misunderstanding and affect the execution of the contract.

Employees are an indispensable resource for an organization. Personal ability directly affects the effect of contract execution and bring execution risks. Firstly, employees' knowledge structure and professional background affect their ability to understand contract terms, and employees with relevant professional background may be more likely to understand the complexity of contracts. These employees can provide

professional judgment, improve communication efficiency, and facilitate contract execution. Employees with specialized knowledge are able to make more accurate professional judgments, which is especially important for more technical or professional terms in contracts. Employees with similar professional backgrounds are more effective in communicating with other departments or external partners, reducing execution bias and identifying possible risk points in contracts so that preventive measures can be taken. Secondly, the University shall ensure that all employees involved in the execution of the contract are properly qualified to practice. If the staff is not qualified, it will bring legal risks, security risks, moral risks, hinder team cooperation, lead to contract breach, affect the reputation of universities and so on. Thirdly, the learning ability and creative ability of employees have an important impact on contract management. Learning ability improves organizational adaptability. For example, it can promote employees to master new knowledge and skills of contract management faster and adapt to changes and requirements of contract management. Creativity facilitates risk identification, continuous improvement, and coping with complexity. For example, in the face of problems in the process of contract execution, employees with strong creative ability are more likely to find effective solutions.

5. CONCLUSIONS AND SUGGESTIONS

This paper uses grounded theory to identify contract risk factors. By consensus, 15 risk factors in five categories are identified, the influence mechanism of each risk factor is analyzed, and the influence path diagram of contract risk is constructed. Moreover, it is suggested that, according to identified risks and risk mechanism, the contract management in universities must be gradually optimized as follows.

Firstly, establish an adaptive organizational structure, reasonable decentralization, and perfect contract management mechanism. On the one hand, the hierarchical management structure is reasonably divided, and authorization and control are effectively combined to improve the top-level design ability of risk control. On the other hand, strengthen the centralized management of contracts and control of key positions, strengthen the implementation of legal responsibility for economic matters, prevent abuse of power, enhance the transparency of organizational operation, and promote compliance. In addition, we will strengthen the construction of information technology. Rely on the integration of information systems, strengthen inter-departmental collaboration, promote data standardization, real-time monitoring, improve compliance, and enhance decision support.

Secondly, strengthen the whole process of contract control. Set up effective key control nodes in each link of contract authorization, performance and tracking management to achieve whole-process risk management such as signing and process tracking, payment control, risk warning, information summary and complete archiving. In addition, strengthen the control of contract complexity. In order to reduce the negative impact of the complexity of contract text and clauses, universities should strive to make the contract text concise and clear, avoid unnecessary legalese and lengthy sentences, use clear and accurate language, and ensure that all parties involved fully understand the contract content. At the same time, through effective contract management processes and tools to ensure the smooth execution of contracts.

Thirdly, universities focus on the contract risk caused by personal ability. On the one hand, professional management of contracts should be realized. Pay attention to staff education, knowledge background, and professional qualifications, optimize the post allocation. The contract business of colleges and universities is complicated, involving bidding, law, finance, engineering projects, etc., but the professional talent is insufficient. Even if a special post is set up, there is not enough strength to undertake a large number of audit business; or the professional contract audit force is insufficient, it is difficult to deal with the complex contract business of the school. On the other hand, universities should pay attention to the construction of professional contract talents and enhance the learning ability and creative ability of employees. Provide support in staffing, training, key positions, and seek outside help if necessary.

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