Research on Internal Audit of Construction Contract Management in Universities under Risk Orientation

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Abstract: This article is risk-oriented, and analyzes and studies the risks of internal control in the contract management of university construction projects from four aspects: contract planning, contract signing, contract performance, and contract change. It proposes preventive measures for internal audit of university construction project contract management, which can provide reference for internal control of university construction project contracts and improve the level of internal audit.

1. Introduction

Risk-oriented internal audit refers to the consistent focus on risks by auditors during the internal audit process based on audit risk models. In the new situation, the development of higher education is accelerating, with more and more investment. However, construction projects account for a large proportion of higher education, and construction contracts, as the leader of construction activities, have higher risks, which increase the probability of economic losses to higher education construction activities. This article analyzes the causes of risks in the four stages of construction contracts and proposes preventive measures.

2. Internal risks of construction engineering contracts in universities

2.1. Construction contract planning risks

2.1.1. Risks in selecting the type of construction contract

According to the different pricing methods of construction engineering contracts, they are generally divided into total price contracts, unit price contracts, and cost-plus-remuneration contracts (Lan, 2020). [1] In order to avoid price disputes, when choosing the contract type, without analyzing the characteristics of the construction project, the total price is always controlled within a fixed range, and projects with complex, variable factors and high risks are signed into fixed total price contracts.

For example, in an elevator procurement and installation project, a fixed total price contract (including temporary funds) was signed. During the construction process, it was discovered that the original plan for the reuse of decorative lines could not be reused, and work content such as decorative lines and steel structures was added. Due to the commitment made by the bidding unit during the bidding process, the additional work content outside the contract would not be adjusted for cost. The two parties had a major dispute over this part of the additional construction content, and the employer did not calculate the additional cost on this basis. The construction unit increased the cost on the basis that this part was not the elevator body equipment. The two parties finally reached a consensus through negotiation, and only the material cost for this part of the additional work content was calculated, while the rest of the costs were not calculated. The signing of a fixed

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total price contract for this project was unreasonable, resulting in the failure to complete the settlement smoothly.

2.1.2. Risks in the early stage of construction project contract preparation

In the early preparation stage of construction engineering contracts, the project declaration department is not familiar with the technical and economic indicators and specifications of construction engineering projects, while the project management unit and project declaration unit do not pay enough attention to the preliminary demonstration of the project, resulting in insufficient demonstration, lack of unified planning, and unclear objectives, scope of conclusion, work content, and quantities of construction engineering contracts, leading to missing items or unreasonable project budgets. Focusing only on costs without carefully analyzing the development plans or business goals of schools and secondary units may result in the content of the signed contract not meeting the actual needs and ideal goals of the main user unit, which may cause the school's economic interests to suffer losses (Zhou, 2019). [2]

A teaching building renovation project, which has been undergoing laboratory renovations in 2017, 2018, and 2019, has limited its projects to only some floors and areas, without long-term planning and reasonable functional zoning for the entire building. This has not only failed to save investment, but also failed to achieve the overall effect of the renovation, resulting in a low effective utilization rate of funds.

2.2. Risks in the signing of construction engineering contracts

2.2.1. Risks in the approval of construction engineering contracts

Construction projects generally involve large amounts of money, and the responsibility system of review and countersigning is implemented according to regulations. However, in the actual process, there are often cases where the application for contract seal usage is not approved according to regulations, and the functional departments do not review the functional terms, resulting in the contractual functions not matching the actual functional needs, loopholes in the contract content and terms, unclear agreements, negligence in the process, and inability to clarify responsibilities. The risk of seal usage cannot be effectively controlled. The content of the engineering contract is not comprehensive enough, and the terms and conditions are not standardized, resulting in inconsistencies between the engineering content and the contract content or difficulties in determining the basis for engineering settlement during completion settlement audit.

2.2.2. Defect risks in the text of construction engineering contracts

Construction projects include too many contents, not only including the construction of housing construction projects, but also including maintenance, installation, greening, municipal and other contents. The construction engineering contracts involved by most units have fixed format texts, but other projects often apply the format texts of construction engineering contracts, resulting in inapplicable contract contents and terms, which leads to certain differences between contract contents and actual repair contents. Although some construction contracts have format texts, there are always many influencing factors in project implementation, and some important and essential terms in the contract are missing or the provisions of some terms are ambiguous, resulting in ambiguity in the text. The understanding of the terms by both parties is quite different. Through nearly 100 construction projects audited every year, the author has conducted a risk analysis on the terms of construction engineering contracts, and believes that the main risk points are as follows: First, the construction engineering contract has unclear agreement on the construction period. Some maintenance engineering contracts do not have detailed agreement on the absolute construction period. Second, the construction engineering contract has unclear agreement on the scope and content of construction. Due to the lack of clarity in the scope and content of work in the contract, the specific scope of construction can only be determined based on the project approval form, and the increase of construction scope during the construction process cannot be controlled. Third, the construction engineering contract has unclear agreement on measurement and pricing. Some

contracts do not have a pricing agreement for the construction content added outside the contract, resulting in disputes between the two parties during settlement and payment, which affects the progress of settlement audit. Fourth, the terms of defects liability period, force majeure and liability for breach of contract are unclear, resulting in the inability to identify the defects liability period and breach of contract. If losses are caused, there will be legal risks such as difficulty in proof and inability to terminate the contract. Fifth, the construction engineering contract has unclear or invalid agreements on disputes, arbitration or litigation, resulting in increased management costs and difficulty in maintaining legitimate rights and interests of the construction engineering contract (Tang, 2019). [3]

2.2.3. Risks of the main body of construction engineering contracts

According to Wang (2021), the ability of the subject of the construction project contract to sign the construction project contract is one of the prerequisites for the construction project contract to come into effect. [4] In the construction project, the contractor's real qualifications determine its construction strength, technical level, organizational management, construction experience, etc., which determines the implementation effectiveness of the construction project, and also determines whether the contract can be successfully fulfilled. First, there is a risk in the subject qualification of the contractor. The contractor may have contracted the project by affiliation or beyond the scope of qualification level. Second, there is a risk in the contracting method adopted by the employer (university). Instead of using the legal contracting method (such as public bidding, invitation bidding, competitive negotiation, single-source procurement, etc.), the employer directly contracts the project. For example, several greening projects implemented by a certain unit in the same period with a project initiation amount of more than one million yuan, the relevant management department disintegrated them and directly entrusted them to the same greening unit to carry out construction for several greening projects, without conducting bidding according to relevant regulations, resulting in uncontrollable investment and settlement amount exceeding the project initiation amount.

2.3. Construction project contract performance risks

2.3.1. Risk of the quality and ability of on-site management personnel

The contractor did not submit the settlement documents according to the agreed quantities, scope and content of work, pricing basis and settlement conditions in the construction project contract, but instead calculated additional costs outside the contract's comprehensive rate table during settlement, resulting in overestimation and risk calculation during settlement. There is a significant gap between the quantities implemented on site and the as-built drawings. Management personnel did not conduct detailed measurement and verification of the quantities during on-site collection, did not carefully review the as-built drawings and implementation content, and signed the as-built drawings at random, resulting in inaccurate basis for settlement.

2.3.2. Supervision risks during the implementation of construction engineering contracts

The supervision of the implementation process of construction contracts in universities mainly includes quality, safety, progress, cost, payment, etc. Among them, the supervision risks most often appear in the control of on-site quality, cost, and payment. During the construction process of a certain exhibition hall, the thickness of the lightweight partition wall was not constructed according to the requirements in the construction drawing, and the thickness of the partition wall was artificially reduced, resulting in safety hazards due to jerry-building. However, the construction projects in universities are numerous and complex, with different payment time and progress. Many management departments, once signing the construction contract, completely hand over the project advance payment, progress payment, and other payment work to the financial management department, without tracking the performance process of the construction contract, and failing to timely coordinate and handle any changes. Alternatively, the payment of the construction contract is not controlled in a prompt manner, which may result in overpayment of the project funds, bringing

financial risks to the school in terms of economic benefits.

For example, a unit completed the renovation of the apartment toilets in 2018. Due to the construction content of this part of the renovation, including the waterproofing and decoration of the toilet balcony. The water leakage on the balcony roof of the apartment was repaired again in 2021. Due to the urgency of the repair project, the relevant management department did not check whether the warranty period of the completed repair project had expired. They immediately followed the repair process according to the procedure, whether it should be repaired by the original construction unit. There were no dedicated personnel responsible for establishing a repair ledger and reminding the school of the expiration of the warranty period, which would cause waste of maintenance funds.

2.4. Risks of contract changes in construction projects

The main changes in construction project contracts are changes in contract content, such as the construction unit's unauthorized increase in construction standards, expansion of the scope of construction, and inclusion of projects not within the scope of the contract in the project construction. The inconsistency between the content of the construction project and the content of the project approval leads to incomplete basis for project settlement, making it difficult to define the completion of the project. Moreover, this kind of borrowing a new project to do other projects violates the management procedures of the construction project and inevitably leads to cost control. Major design changes in the project are not reported for approval, etc. The increase in the number of visa and change orders is unreasonable, the content of the changes is vague or unclear, or the change orders do not sign the workload and price, and the visa is not handled according to the actual situation on site, resulting in the contractor overestimating and underestimating the cost, making it difficult to handle the completion settlement.

During the project approval stage, the wall soft-packing standard for a certain inquiry room was determined to be medium grade. During the implementation process, after surveying other projects, the grade was arbitrarily raised to mid-to-high grade, resulting in the completion settlement amount submitted by the construction company far exceeding the project approval amount. The two parties had significant disputes over the unit price of soft-packing, which led to the project being unable to be settled smoothly.

3. Causes of contract management risks in university construction

3.1. Lack of professional personnel and insufficient contract management personnel

Most universities place the management of construction contracts in the engineering management department, but most engineering management departments focus on budgetary estimates and construction site management, and do not pay enough attention to construction contract management. Construction contract management is generally assigned to an office staff member (most of whom are non-staff members), lacking the specialized management of professional technicians. They cannot participate in the planning, signing, performance, and changes of construction contracts, and cannot provide professional advice, let alone organize post-contract evaluation after the execution of the construction contract.

3.2. The audit supervision force is insufficient and there is a lack of compound internal audit personnel

Although most universities have independent audit departments, there are often situations where there are “officials but no soldiers” or “generals but no soldiers”. Generally, there are only 1 to 2 staff members responsible for audit work, and the number of internal audit personnel is seriously insufficient. At the same time, due to the many contract terms, increasingly complex content, and many construction projects in university construction projects, the quality requirements for follow-up audits during contract performance are high, and the quality and professional requirements for internal audit personnel are increasingly high. Internal audit personnel are required

to have both professional ability and professional spirit in internal audit, as well as mastering relevant professional knowledge such as economics, engineering management, and good communication, coordination, and writing skills.

3.3. The construction contract management system in colleges and universities is not perfect

In recent years, most of the relevant functional departments of universities have formulated relevant construction project contract management systems based on superior documents and their own actual situations, but most of them are fragmented regulations for different construction projects, without forming a system, systemic deficiency, and lacking relevant reward and punishment systems, let alone being strictly implemented, which has little guiding significance for the development of construction project activities.

4. The coping strategies for the prevention of contract risks in the construction of universities

4.1. Improve the internal control system of the contract and avoid the audit risk of the contract

The interpretation order of the construction contract agreement takes precedence over the letter of acceptance, bid letter and other documents, which is highly legal. Therefore, universities should standardize the management system of construction contracts to avoid audit risks of construction contracts. These standardized management systems should be based on the corresponding solutions to the risk points of construction contracts. The construction contract management system should include the control of the signing, performance, change, and file management of construction contracts, and clarify the responsibilities of each link and functional department. At the same time, in the process of construction contract management, the collection of written materials should be standardized, and the negotiation minutes, signing and approval opinions, and signing and approval process should be documented in written form. On the one hand, it records the rationality of the construction contract review and approval, and on the other hand, it serves as the basis for the identification of the responsibility of the construction contract (Li & Bai, 2022). [5]

4.2. Grasp the key links of construction contracts, identify risks, and strengthen internal control audits of construction engineering contracts

Universities should establish and improve a system of contract management (economic contracts, construction project contracts) in accordance with national laws and regulations, combined with the characteristics of each school. They should strengthen management in the stages of contract formation, performance, and modification, formulate corresponding standards and processes, remind potential risk points in each link, develop control measures for risk points, and clarify the responsibilities of each management entity through institutional means, improve supervision mechanisms, To effectively promote the healthy operation of construction project management in universities, it is necessary to incorporate the work of each link in the construction project contract into the supervision line. In addition to formulating management rules for each link of construction project contract management, universities also need to implement an incompatible job separation system internally, so that various functional departments are mutually constrained. Universities should also establish a supporting system for the management of construction contracts, ensuring that all systems can be strictly implemented and enforced, and that responsibilities for each position can be fulfilled, thereby improving the execution of the system.

4.3. Focus on collaboration and efficiency to create a high-quality management team

The management of construction contracts is not the responsibility of the undertaking unit alone, but involves several responsible parties. First, establish a composite internal audit team. Apply to the personnel management department of the university for increasing the establishment, rationally allocate audit personnel, and select some talents with multidisciplinary professional backgrounds such as statistics, law, computer technology, etc. from the secondary colleges in a timely manner based on the professional backgrounds of auditing, engineering management, financial management,

etc., and expand the internal audit team. Improve the knowledge structure of the audit team and audit personnel, and solve the problem of lack of "comprehensive" talents through multiple channels. Secondly, cultivate personnel from relevant departments involved in the signing of construction contracts through multiple paths. Attention should be paid to the continuing education of personnel, especially to strengthen the comprehensive training and learning of knowledge in disciplines such as law, audit, accounting, economics, management, engineering, informatization, and computer science, and improve the professional knowledge structure of internal management personnel in universities. In the case of limited internal strength, imperfect knowledge structure of internal personnel, and limited understanding of the school system by social forces, according to the different focuses of construction projects, excellent personnel from relevant professional or functional departments in the school should be employed as project consultants to provide technical support and form a management synergy. Finally, the project management department should attach importance to the management of construction contracts, and select personnel with a strong sense of responsibility and rich contract management experience to participate in the contract management work. At the same time, strengthen the training of contract management personnel to improve their contract management capabilities.

5. Conclusion

There are various risks in the management of construction project contracts in universities, which are mainly manifested in the four stages of construction project contracts: contract planning stage, contract conclusion stage, contract performance stage, and contract change stage. In order to effectively improve the quality of contract management in university construction projects, actively address these risks, grasp the key links of construction contracts, identify risks, and strengthen internal control audits of construction project contracts. In short, when contract management encounters risks, it is important to approach them with a positive attitude, professional competence, and efficient actions to overcome difficulties, turn risks into safety, ensure the smooth progress of contract management, and safeguard the development of universities.

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