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## The Role of Internal Audit in Engineering Project Risk Management

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### Abstract

In order to minimize the losses caused by internal and external enterprise risk, also, achieve maximization of enterprise value; internal audit department in large numbers of engineering enterprise starts to be involved in risk management. The paper is aimed at illustrating how an engineering enterprise should carry out internal audit for risk management by adopting methods of identifying and evaluating risk such as AHP and etc. Moreover, analyzing advantages of internal audit involved and current situation of development in our country engineering risk management. Finally, in combination of several practical measures put forward by our country to perfect internal audit, risk-oriented internal audit is suggested to be comprehensively applied in risk management of engineering enterprise so that enterprise can improve successfully core competitiveness to promote development of economy in the age of comprehensive risk management.

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### 1. Introduction

It is a serious subject that how internal audit should be involved in engineering project risk management in our country. To find a cause: firstly, an urgent demand for engineering enterprise risk management of our country faced with must transform risk management activities to adapt demands of scientific risk management. Secondly, our country's internal audit established relatively late is still at the stage of financial audit, so hard to extend audit work to risk management and control system of the entire company. It promotes inevitably risk management to exert greater effect in development of economy to learn from western advanced theory and technology and combine our country's practical situation to formulate an internal audit mode in line with national conditions.

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## **2. Overview of engineering project risk management in China**

As the engineering project have the following characteristics, for instance, numerous participants, complex technology, difficult construction and long construction period etc... Parties of the project involved in the project implementation process are inevitable to face a large number of risks. These risks will not only decline project economic benefits, even making the project failed. Engineering enterprises of China are weak to resist risks; they lack of effective, standardized and scientific management procedures. Engineering project risk management is the weakness in our country constructions field; it has not form a system. Therefore, the project risk management is of great significance, which is not only relates to the quality of the project directly, but also directly affects project cost. We should effectively guard against various possible risks in the process of engineering project construction. To avoid unnecessary consequences of loss, guarantee the smoothly implementation of engineering project. [1]

In order to efficiently control the schedule, cost, quality and safety of project, we must carry out project risk management. It is a process that measure of project risk and select, develop risk treatment options. Risk management in engineering project in China began in the late 1980s, the development time is not so long that still have following problems:

### *2.1. Technical difficulties existed in the risk management*

Most of Chinese engineering enterprises have not comprehensive identify project risk element and various types of risk may be encountered in project life cycle, their own project risk management information has not been fully. There are serious errors of risk evaluation; risk analysis is more focusing on qualitative rather than quantitative.

### *2.2. Risk management methods are backward*

In the present circumstance, most project managers are willing to adopt risk control and risk retention. Without effective risk identification and assessment of risk control is blind and subjective, it means a greater actual risk expenses. In addition, risk retention just can indicate that the risk occurrence probability is very small by risk assessment, or the loss caused by risk in project reserve resource limits can be used, otherwise it is very dangerous.

## **3. Analysis of advantages for involvement of internal audit in engineering project risk management**

Internal auditors in 21st century should be experts in risk management. Effects of internal audit should not point out existing risk in active ways but indicate how to manage and control risk and take precautions before risk.

### *3.1. Risk can be reviewed objective and independently through internal audit*

Internal audit is not involved in specific constructions activities of engineering enterprises, so does not need to bear direct responsibility for problems in various project managements. Its relative independent position is the internal basis on which independence of audit can keep. Audit opinions voiced through carrying out inspection procedures for internal audit can direct to senior management of enterprises, so internal audit is relatively objective.

### *3.2. Internal audit can control risk from overall situation*

The risk of engineering enterprises hides in all aspects, so risk management need, from overall situation, make a comprehensive evaluation for impact degree and priorities of risk, and coordinate all

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