

# Research on the Effectiveness of Construction Engineering Quality Management

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**ABSTRACT.** *The construction industry is a pillar industry of the national economy. Quality management is the key and core of project construction management, and it is the main link of China's construction construction to enhance the core competitiveness of enterprises. The people's cultural and living standards have been continuously improved. People need to improve the housing environment and raise their living standards, so as to drive the rapid development of the construction industry. The construction industry's proportion in the national economy is getting higher and higher. However, no matter how the construction industry develops, the requirements for construction quality are first. The quality of construction projects involves the settlement of thousands of households and people, and it is related to the return on investment of investors. People's awareness of the environment and taste is not only concerned about whether the layout of the rooms inside the house is reasonable, the appearance of the project is beautiful, or the requirements of the living environment. It is getting higher and higher, but the attention to engineering quality is more applicable. With the rapid development of China's economy and the improvement of the country's strength, the need for improved housing continues to increase, driving the rapid development of the real estate market, and bringing a period of rare development opportunities to the construction industry. A lot of hot money flows into the construction industry every year, and the building area It is several billion square meters. At this time, we need to pay more attention to preventing the occurrence of engineering quality accidents. Otherwise, rapid quality accidents will seriously affect the government's ability to govern, and will cause damage to the country's people's property and even endanger people's lives. To ensure the quality of the project is the basic requirement to reflect the government's ability to govern, establish an image, and maintain social harmony and stability.*

**KEYWORDS:** *Construction quality, Management tool, Effectiveness study*

## 1. Introduction

At present, the supervision company has low technical, personnel, financial strength and entry barriers, and the supervision work is very weak. Inadequate checks, such as limited construction site supervision staff, often a technical staff to supervise multiple sites. In the case of continuous concrete winding or key site operations, the side station supervision is not in place or lacks supervision. The supervision notice and log of the project are missing, and the quality problems that occur in the project are not supervised and rectified. Supervisors need to take a card, or collude with the construction staff to conceal the quality of the project and cause hidden dangers to the project; the technical level and quality of some employees in the plan review department are too low, which causes problems in the process of reviewing the construction plan, resulting in incorrect review of the construction plan, Missed review, especially the review of the survey report documents did not incorporate the necessary verifications with the construction drawings. At the same time, some construction drawing review units did not record or report the violations of the mandatory provisions of the drawings designed by the design unit, objectively sheltered the illegal acts of the relevant survey and design units, and brought losses or hidden dangers to the project quality. There are serious shortages of registered practitioners such as first-level builders in some areas, construction personnel are not well-equipped, and the contracting of projects beyond the scope of qualification is still common; there are fewer technical personnel in the construction unit, the internal management system is not sound, and rules are not followed or regulations Work has become a habit, coupled with the low level of some technical personnel, inaccurate understanding of standard specifications, poor mastery, and insufficient experience; front-line technical operators lack effective training in related construction projects, lack of basic quality safety common sense, and low professional quality Under the current situation of difficult employment, it has become a common occurrence for construction companies. The personnel of the construction quality supervision agency are not responsible and are unwilling to suffer. Every day at the invitation of the construction company or the construction party, they will go to the construction site to survey the concealed engineering and concrete strength inspection of the key parts. Some supervisors have limited professional and technical capabilities. For example, there are obvious quality problems on some construction projects, local quality supervision agencies are not in place, employees do not work, their work responsibilities are not strong, and penalties for violations of laws and regulations are not strict. Supervision and rectification are not in place, and supervision responsibilities remain in place, especially the inspection of key parts of concealed projects is not in place.

### ***1.1 Influencing Factors of Construction Project Quality Management***

In the process of managing the quality of construction projects, the main influencing factors mainly include the following: Construction technology. During the construction process of the construction project, due to the different construction goals of each sub-project, the construction technology suitable for application in it will also change accordingly. If the construction technology applied by the

construction personnel does not meet the actual requirements of this part, it will have a corresponding impact on the quality management of the construction project, and may even cause corresponding hidden dangers. (1) Construction materials. Construction materials are a major component of building products. If the construction unit applies the construction materials with lower price and lower quality to the construction due to economic factors and other considerations, it may cause corresponding quality problems, which will affect the effectiveness of quality management. Taking cement as an example, if the construction unit applies unqualified cement materials to the construction of concrete structures, a large number of cracks may occur in the concrete structure, which will adversely affect its stability.(2) Construction Equipment. During the construction process of the construction project, the role of the construction equipment is to help the construction personnel achieve the goal that the human way cannot be completed. Taking foundation construction as an example, the geology of the construction site is the main reference basis for the construction unit to choose a roller. If the soil at the construction site itself is hard, you can choose a medium or small roller to compact the corresponding location. In this process, if the construction unit applies large rollers for construction, it may adversely affect the final ground quality. In addition, the use of large rollers will cause an increase in construction costs and cause waste of resources. (3) Construction workers. In the construction process of construction projects, the quality problems caused by the construction personnel account for more than half of all quality problems. This phenomenon is mainly caused by low comprehensive quality and poor professional skills of construction personnel. In the actual construction process, the construction personnel may have unreasonable behaviors such as irregular operation, which will cause corresponding problems. (3) Construction environment. During the construction process of construction projects, changes in environmental factors such as weather will affect the quality of the project to a certain extent. For example, when the concrete structure of a construction project is in the maintenance stage, the temperature in the construction area drops sharply. Compared with other concrete structures, the concrete structure is more prone to quality problems.

### ***1.2 Effectiveness of Construction Project Quality Management***

Here, we mainly start with the following aspects to analyze the effectiveness of construction project quality management: the construction project construction order. In the construction project quality management work, the construction process is one of the main management contents. Therefore, in the process of analyzing the effectiveness of quality management, it can be used as one of the analysis objects. When problems such as sequence errors are found in the quality management of the construction sequence, it indicates that its management effectiveness is poor. Aspects of construction project construction. The construction plan is one of the main guarantee factors for ensuring the quality of construction projects. Therefore, the effectiveness of construction project quality management can be analyzed through the rationality of the role of construction schemes. If the construction unit does not

strictly follow the construction plan, it indicates that the quality management of the project is ineffective. (1) Operational aspects of construction workers. The rationality of the actual construction operation of the construction personnel will have a certain impact on the effectiveness of the quality management of the construction project. If in the actual construction project construction, there are quality problems caused by the construction personnel's non-standard construction operation, it means that the construction project quality management is less effective. (2) Control of construction engineering system. It is of practical significance to apply the corresponding system to the construction process. The application of related systems in construction engineering can be used as an evaluation standard for the effectiveness of quality management. Taking the responsibility system as an example, if the construction unit establishes a reasonable responsibility system based on its own situation and the characteristics of the construction project, and through the reasonable use of the responsibility system, it can effectively avoid the occurrence of repeated construction phenomena, and use this system to control the occurrence of quality problems. It shows that the effectiveness of the construction project quality management is better. (3) Construction materials. The application of unqualified construction materials in construction projects will bring certain hidden dangers to construction projects. In the actual construction project quality management process, if the relevant personnel have reasonable acceptance of the quality of the construction materials entering the construction site, it indicates that the construction project quality management is effective. (4) In terms of acceptance of construction projects. After the construction phase of the construction project is over, the relevant departments will pass the detection of the corresponding detection indicators to get the result of whether the construction project is qualified. If the construction unit has not obtained the qualification for acceptance during this stage, it indicates that the quality management process of the project is less effective.

The construction market is an important part of the socialist market economy system. The quality of the construction market has a major impact on the development of the national economy and social stability. Since China is in a transition period from a planned economy to a market economy, in the course of many construction activities, the concept and identity of the owner is unclear, resulting in unclear investor responsibilities. The construction market is currently the main source of disorderly market competition, which requires that the three major players in the construction market-construction units, contractors, and supervision units-each regulate their market behavior. The standardized market behavior of construction and contracting units is the prerequisite and guarantee for the healthy and stable development of the construction supervision industry. The problems to be solved by the contractor include: the standardization of competition in the construction market, the imbalance between supply and demand of the construction team, and the low technical content of the construction team. The norms of the owner's behavior are particularly important to the supervisor. The main thing to be solved is to implement the owner's responsibility system.

All administrative departments should further change their functions to form a fair and fair competition mechanism and create a good environment for the purpose of

changing previous management models and methods, improving regulations, strengthening macro supervision and management of projects, and reducing micro supervision. At the same time, the administrative department should strengthen the service awareness of market entities, boldly innovate, reduce the examination and approval process, exercise the power of supervision on the quality of construction projects for the purpose of quality supervision around the construction of a market economy, and insist on “supervision, help, promotion” Enforcement of the work policy has played a positive role in promoting the standardized management of the construction market, improving the quality of the project, and adapting to the requirements of the market economic system, and promoting the smooth implementation of the project from a service perspective.

## 2. Conclusion

Construction works are closely related to people's daily lives. In order to ensure the quality of construction projects, it is necessary to start with the construction sequence, construction personnel's operation, construction material acceptance, system application and other factors to analyze the effectiveness of construction project quality management. When there is a problem in the quality management of the construction project, it should be adjusted in time to ensure its overall quality control.

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