### **Original Research Article**

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# **Construction Management Analysis of Building Engineering**

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Abstract: With the market economy and the increasing development of science and technology, the construction field is also bound to enter a period of rapid growth. In particular, the scale of housing construction is expanding, and we have put forward more and more requirements for the quality of housing construction. Therefore, it is necessary for the constructor to strengthen the supervision and management of the construction quality of housing during the construction process, so as to protect the Chinese people's requirements for the increasing quality of housing. However, China's current construction management is still facing certain difficulties, so we need to raise awareness of such difficulties in construction management, in order to be able to reasonably carry out the operation of the construction management personnel to ensure the construction quality of all buildings. The paper analyzes the problems in the construction management of the current construction projects, and gives specific countermeasures to improve the management level of construction project management.

Keywords: Construction project; Construction management; Factors; Measures

### Introduction

he rapid development of the construction market has had an important impact on the construction methods and organizational structure of construction companies. The level of construction project construction management, as a major element in the internal management activities of Chinese construction companies, has a direct impact on the quality of project construction, and also has a great impact on the construction progress and construction costs of the project. At present, the state in the field of construction project construction management has long established a complete set of perfect management system, but with the continuous introduction of

new technologies and new techniques, the project construction management methods must follow the social trend, continuous innovation, in order to adapt to the actual development of the field of engineering construction, and also in order to play its role.

## 1 The Significance of Construction Management

Construction management refers to a variety of management and organization by the building construction company throughout the construction process, and the ultimate goal of construction management is the comprehensive use of human resources, through scientific and reasonable

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7 of 27 Vol 1 Issue 1 2024

management of the entire building construction process, in order to improve the quality of construction, to achieve the optimization of corporate economic benefits. Nowadays, all kinds of construction technicians, mechanical equipment and construction materials in the construction of building projects are increasingly new, and the construction functions are also increasingly diversified. The new era requires more scientific and strict construction engineering construction management. Only effectively strengthen the construction management, and do a good job on the construction of the whole process of every detail of the strict control, in order to ensure the quality of the project, to protect the interests of all parties subject to safety. But with the more diverse forms of construction, construction mode is more diverse, in the construction of the building is also prone to encounter a variety of climate and other aspects and the impact of external conditions, especially in some particularly complex projects, once the construction control is not rigorous, it is very easy to cause confusion in the construction, seriously affecting the progress of the construction and the quality of the construction [1]. The construction management system is the most effective way to ensure the completion of the construction program. In addition, the level of construction management as a building construction company in the management level of the important foundation, to enhance the strength of the company also played a great influence. The level of construction site management directly determines the quality of the project, while management techniques to regulate the construction behavior of workers, management of production costs and improve the use of land resources, etc. is also of great significance to improve the progress and efficiency of the project at the same time also improve the company's social reputation. The new stage also requires the construction company in the operation of further breakthroughs and technological innovation to enhance the construction company's ability to enhance market competitiveness.

### 2 The Points of Construction Management in Construction Project

### 2.1 Technical Management of Construction Project

The control of enterprise construction is mainly manifested in the following aspects. First, the control of construction drawings. Specifically, first of all, the company can work together with the design unit, supervision and construction agencies, to carry out the design of the book review and technical safety briefing, and optimize the construction process; second, the construction units can be based on the construction requirements of the site and its own condition, etc., to carry out the design and organization of serious and reasonable construction projects; third, we must do a good job in the corresponding technical preparation work. Especially for the application of new technologies, must do a more rigorous preparation of technology-related operations to maximize the quality and quantity to complete the construction project's own corresponding preparatory tasks.

### 2.2 Management of Construction Materials

In order to adapt to the various requirements in the construction activities, the construction site is generally set up in the corresponding items stacking place. At the same time, the material as a construction project in the construction quality of the key to ensure that the construction materials for the construction of scientific control, is also very critical. The management of construction materials involves various aspects, including the handling, storage, inspection, use, sampling and self-inspection of construction materials. Therefore, as a construction unit, should set up personnel on the site of the construction materials to do a good job in the corresponding management, when the construction materials into the warehouse should be its timely inspection, in addition, should also be reported to the appropriate regulatory agencies. In addition, the construction project construction management also has many problems, including the management of the late construction, personnel and safety is also very critical.

## 3 The Main Problems Existing in the Construction Management of China's Construction Projects

### 3.1 Insufficient Degree of Construction Site Material Supervision

In the construction site materials management, whether it is time or in terms of funds will not inevitably incur excessive costs, especially in terms of the amount of materials, there is often a lack of use of sand and gravel materials, the huge gap between the number of purchases and the actual number of available, and even the quality of the material is not pass, which is also a rather difficult problem in the process of controlling the quality of the material<sup>[2]</sup>. How to do a reasonable and effective follow-up on the amount of materials, as well as how to increase the regulatory power and supervisory effect on the construction materials is an urgent problem of urban construction in the construction site supervision and management work.

### 3.2 Imperfect Technical Quality Control

Nowadays, with the continuous progress of the level of science and technology and the prosperous development of the building materials industry, more and more new materials and new technologies are utilized in construction, and the application field covered by construction is also more and more broad, which puts forward more requirements for the building construction industry. However, due to the current stage of part of the construction company's construction personnel on the new technology is not enough to understand, and the management of the construction company's construction technology requirements of the control of the relative lack of a number of construction companies in order to reduce costs and catch up with the schedule, while ignoring the training of technical personnel operation, which results in the process of construction of a number of technical hazards, and even directly affect the quality of the project.

### 3.3 Weak Safety Management

Safety and quality are also aspects of modern project management that cannot be ignored. At present, because of the problem of the government's ability to supervise the various functional departments, construction safety supervision and management work is relatively weak, safety accidents also occur from time to time, not only directly affects the operating efficiency of the construction unit, the construction personnel's life and property safety has also caused a direct impact. Construction of many staff safety awareness is weak, the root cause is due to the construction manager's safety management awareness is not enough, there is no comprehensive safety management system constraints, so that the staff can not strictly comply with the construction standards construction; and secondly, due to the construction unit one-sided pursuit of efficiency, the construction of irregularities in the lack of full attention, thus laying a hidden danger of safety.

#### 3.4 Cost Management Deficiencies

Engineering construction requires huge capital and material resources, the project must be implemented in advance based on the assessment and evaluation of the project to carry out the correct estimation. At present, many construction units lack of full attention to cost management, cost management is also a lack of effective management tools, so the phenomenon of material waste in construction is not controlled, resulting in a lot of materials there is a large backlog of phenomena that can not be effectively utilized and managed.

### 4 Construction Management Methods and Measures

### 4.1 Innovation of Management Concept

The study of construction management is not to pursue a set pattern, but to discover the management method that best suits the actual management needs of the company. This is a long-term goal, but also the construction company managers should have the business objectives, the construction company must position the innovative management to the level of the company's development planning and implementation in place [3]. For the cultivation of professional and technical personnel, the company must form its own full-time management team and core technical backbone, and explore the gradual establishment of construction management system conducive to the company, according to various forms of projects, the flexibility to choose the better project management methods. The company's construction management personnel should adhere to the contract and trustworthy, consciously and strictly implement the contract, on time and quality completion, and perfect quality maintenance services, in order to form a trustworthy spirit of the company. And the only way we can reform from the concept, according to the law, according to the implementation of the contract, in order to carry out fruitful operation, casting high-quality works, but also in the socialist market economy wave guiding the construction industry's way forward.

#### 4.2 Standardize Construction Design

On the one hand, in the preliminary design of the project, its content should include the scale of the construction project, floor area, geological survey report and construction plan design program, relocation

9 of 27 Vol 1 Issue 1 2024

and resettlement of joint plans, construction of the floor plan, project plan, project bidding and other important scientific and technological economic documents. When the project starts to implement the engineering construction, it is necessary to carry out a joint review of the construction drawings by the engineering enterprise and various departments such as the design, supervision and construction unit, so as to communicate and assess certain unknown situations that may exist in the design and construction unit. Through the fourparty joint review, to solve the difficulties in various aspects of engineering construction, owner's use, building adjustments, design changes and so on. At the same time, it is also necessary to carry out the overall planning of construction projects and organization and implementation management. In addition, it is also necessary to establish a three-in-one management system, the development of construction programs, review to maximize the use of the various functional departments of the various disciplines of the resource advantages of the overall review of the engineering and construction program, so as to achieve the three overall different content requirements.

### 4.3 Improvement Of Technology Management

To optimize the management of construction technology, first of all, we must fulfill the responsibility of each link and department, the implementation of the responsible person, to strengthen the supervision of the operation of the construction technology standards, so that each project construction is based on the implementation of standards. Secondly, in the new situation, the building construction enterprises must also increase technological innovation, and strive to improve construction technology<sup>[4]</sup>. For modern construction companies, the use of new technology, new knowledge and new equipment is the key guarantee for improving construction quality and gaining competitive advantages in the market. Moreover, due to the increasing personalized requirements for construction, the new technology involved in the construction of the project is also more and more, so the construction process needs to pay extra attention to the management of the construction details, the construction of the whole process of the use of more stringent technical means and management, so as to make the overall construction process more perfect.

### 4.4 Emphasis on Construction Quality Management

For the construction of the project, the quality of service is the main criterion for the evaluation of the project. Therefore, it is crucial to continuously improve the service quality of the project. First of all, especially the quality management of the design drawings, must ensure that the construction drawings design with standardization, in the engineering design must be carried out when the construction site of the geology of the detailed study; in the selection of construction materials should be strictly good product quality, and the selection of real high-quality building materials. At the same time, when the construction materials must be closely tested when entering the site, and to ensure that all construction materials can enter the construction site only after all qualified, in addition, in the construction project, but also must be sampling and testing of construction materials, to ensure that all construction materials used in the construction project are in line with the standard. During the implementation of the project, the company must carry out the construction strictly according to the drawings, complete the project construction according to the construction progress, ensure that the quality of each project is qualified, and complete the quality inspection requirements. After the acceptance of the construction project, the quality of the construction process must be checked to ensure that the completed construction project is of excellent quality.

### 4.5 Strengthen Schedule Management

First of all, the development of construction programs should be implemented on the basis of a comprehensive understanding of the duration and project; then, develop the project duration. Usually, the bidding period given by the design organization in the bidding. Usually, the design agency in the bidding to put forward the bidding time. The construction unit can be based on that time, and according to their own deployment of the largest and reasonable funds, the final decision on the design time; again, real-time monitoring of the completion of the construction program status. Developed progress plan can not put it on the shelf, and not according to the plan to complete the construction, but should be based on the developed progress plan of the actual site for timely monitoring [1]. The correct method is to summarize the actual progress of the project every day, and monitor its deviation from the planning target, if the schedule is seriously behind, find out the reasons and implement the catch-up plan in time. On the basis of weekly monitoring, monthly, quarterly and even annually to make a summary of the progress of the project; finally, it should also reduce the phenomenon of rush. Construction program is in the construction unit can grasp the largest and reasonable information on the basis of the development, so catch up with the schedule will undoubtedly increase the investment of funds. And because the bidding price is also developed on the basis of the construction offer, so increase the capital investment will increase the construction cost, reduce the investment efficiency.

### 4.6 Improve Safety Management

In the quality and safety management of construction projects, in addition to the usual necessary large inspection, it is also necessary to do a small inspection every day and a large inspection in January. In the inspection process, the problems found in time are dealt with immediately, and the safety responsibility should be implemented to the person, and the personnel are often rectified and evaluated in order to reduce the existence of hidden safety hazards. In addition, in the construction site should do a good job of safety education for workers, through the posting of publicity slogans, necessary safety knowledge teaching, etc., to establish a scientific and reasonable construction methods to ensure that the site's operating procedures are stable and strictly in accordance with the safety standards for construction. For some of the risky specific projects, must be "licensed", and business training in line with the relevant norms before the implementation of the operation; for the provisions of the safety of technical briefings, in the implementation of each process before the implementation of the safety of the technical requirements of the professionals to make a written statement, under the leadership of the team leader on duty, the construction units must be seriously implemented, strictly enforced.

### 4.7 Innovative Cost Management

Building construction companies to achieve costeffectiveness, must do a good job of cost accounting management. First of all, it is necessary to change the concept of cost accounting and improve cost control. Therefore, cost management can be carried out within the building construction company as well as at the source of the building construction process, such as selecting raw materials with good quality and low price, and doing a good job of supplier management [2]. Then, the construction company should be in the implementation of the project preparation stage to develop a detailed budget expenditure program, all the costs to implement a strict budget; implementation of the early stage, must be used in the construction of human capital, materials, etc. to implement strict management, to ensure that the completion of the schedule; implementation of the late stage of the project must be done to check and acceptance, for the legacy of the facilities, materials, etc. to be dealt with the use of. In addition, the building construction company should also strictly implement the accounting information, cost reduction and efficiency.

### 4.8 Strengthen Environmental Management

Constraints on the efficiency of the project construction of many environmental factors, engineering conditions such as hydrology, geography, meteorology, etc.; construction operating conditions such as the control of construction and work surfaces, protection of equipment, ventilation and lighting, etc.; construction control conditions, including mainly the design of the project implementation of the contractual framework and control relationships, organizational systems and management systems, etc.; market conditions, the characteristics of the enterprise and the construction company, the requirements of the consumer, the ideological situation of the community. China's product management policy, political conditions, in product quality management should pay full attention to the overall adaptation to meet the needs.

### **Conclusion**

Construction management through all the construction process, directly related to the quality of all engineering projects, schedule, safety, economic efficiency and image, the role of engineering management has a huge impact. It involves all aspects, belongs to the theory and practice of the work more closely linked, but in practice there are many topics to be explored and in-depth study. With the booming development of China's market economy, the increase in international exchanges will certainly bring a new impact on the construction industry and opportunity to improve the quality of construction is imperative, which is

11 of 27 Vol 1 Issue 1 2024

an important means to enhance the strength of the company.

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