

# Analysis of Problems and Measures in Construction Engineering Management

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**Abstract:** With the rapid development of the construction industry, the scale of the construction industry is expanding and the competition is becoming more and fiercer. Construction project management is particularly important. In order to improve the competitiveness of enterprises, it is necessary to shorten the construction period, save funds and ensure quality. This paper focuses on the elaboration and analysis of the related problems in the management of construction projects, and puts forward targeted solutions and measures.

## 1. Problems in Construction Engineering Management

Nowadays, construction enterprises tend to be more market-oriented, so project management is particularly important. Project management is not only related to the construction project itself, but also affects people's life and property security. Construction quality management is the core content of Engineering projects. Construction projects need to focus on quality management closely. The purpose is to shorten working hours, reduce costs and improve economic benefits. For a long time, we have focused on the construction of the project, but neglected the quality management of the project itself. Little wonder, construction quality management will affect the progress of construction, but also related to the level of construction efficiency, involving the entire project schedule, personnel allocation, survey and design, materials. Supply and so on. If the construction management is not done well, it will lead to engineering materials and materials can not be supplied on time. It will also lead to the uneven allocation of human resources, unable to meet the needs of Engineering construction. At the same time, improper construction methods, rough planning and lack of overall management will also lead to the delay of project quality. As the management problems become more and more serious, the pressure on the construction industry has doubled. The specific problems are as follows:

### 1.1 The quality of managers is low and safety consciousness is not strong.

The role of project managers runs through the whole operation of construction projects, and the construction industry also requires managers to have high industry literacy. In project enterprises, the entry threshold of managers is low and the overall level is not high. There are even some people who are non-management professionals and have several jobs in the construction process. Without professional training, many management work does not follow the regular process. Some managers have weak skills, which also makes the later management more difficult. Many enterprises put safety management work in a secondary position, and management positions are mere formalities, even nominal. The quality of most managers is in the middle and lower reaches, the overall construction industry is short of talent, and the management concept is backward. In addition, the weak innovation ability and level make the management problem leak seriously. Because of the lack of safety awareness, the construction project can not be tightly linked. Therefore, we need to start with the quality of managers and improve the safety management consciousness.

### 1.2 The quality of construction management of construction engineering is not high

Construction management of construction projects has several obvious characteristics. Firstly, the main body is construction management enterprises. Secondly, construction management has a certain time control. Construction management is not static. With the change of demand at different stages, the management content is also changing. In addition, construction management also needs

to coordinate and strengthen organizational work. The poor quality of construction management is reflected in the frequent occurrence of safety accidents and the increasing number of complaints. Geological survey lacks standardized standards, and many construction teams have not carefully checked the surrounding topography, environment and geological conditions, but made a rough estimate, so inaccurate data will affect the quality of construction, which is also caused by inadequate management. Construction management runs through all aspects of the project, which can not be ignored but also has an important role and value. Due to some management negligence and loopholes, it will become a means and channel for some people to make illegal profits. In many construction management projects, management work is carried out by other positions, which is not paid enough attention to. Nowadays, more and more people go to drill the gap of rules, which lowers the overall level of the construction industry.

### **1.3 Lack of management in the selection of building materials**

In addition to the standardized management of construction, the most important guarantee of building quality is building materials. If jerry-building and material-cutting in this link, deliberately reduce the cost to select some non-standard building materials, it will seriously affect the quality of construction, and even lead to engineering accidents. Because the choice of building materials is not uniform, the construction personnel choose building materials at will. In addition, due to the influence of personal subjective judgment, the discrimination of materials is also different. Therefore, the selection of building materials should be standardized standards and systems, avoid financial confusion, facilitate management, once quality problems occur, it is easy to find material manufacturers.

### **1.4 Lack of management in design and construction**

High-rise building construction requires a professional team to operate and design, but the cost will be higher. At present, the quality of high-rise building construction management is not standardized, and the numerical calculation of drawings is not accurate enough. It also adds a lot of difficulties and pressure to the construction team. Although drawings and design schemes are very important in the construction process, some construction teams do not operate in full accordance with the requirements of drawings in order to catch up with the progress quickly, which also buries potential safety hazards for high-rise buildings.

### **1.5 The role of project supervision hasn't brought into full play yet.**

In the construction industry, there is an immature market mechanism. Even if there are unreasonable clauses in some contracts, enterprises have not fully implemented in accordance with written instructions for the sake of certain interests. The phenomenon of contract breach sometimes exists. In order to catch up with the construction progress, the phenomenon of arbitrary change of contract terms will occur. The lack of effective management of contract links will weaken the risk awareness and legal awareness of enterprise construction personnel. In addition, the radiation scope of engineering supervision is narrow and not standardized enough, which makes the price of the same industry be lowered at will to open a mode of malicious competition. Engineering supervision work is relatively inactive, which has moderated the development of the construction industry to a certain extent.

## **2. Measures and Suggestions for Improving Construction Engineering Management**

### **2.1 To train high-quality management personnel and raise safety awareness**

It is necessary to strengthen the sense of responsibility of construction scheme personnel. Generally speaking, the designers of construction schemes are mainly responsible. It is inseparable from the working ability of designers to establish an efficient construction scheme. Therefore, more attention should be paid to the improvement of the working ability of the construction personnel. Enrich the knowledge reserve of construction designers, and regularly do some design training of construction schemes. Establish quality standards that match the quality of construction projects.

Strengthen the guidance and supervision of construction quality, ensure the normal and orderly construction, and conscientiously implement the completion acceptance. In order to improve the effect of fine construction management in construction engineering, it is necessary to screen and train managers, select skilled and experienced personnel, and set up management team to ensure the efficient and accurate completion of construction management requirements and content. At the same time, the basic knowledge of theoretical knowledge is tested regularly, and talents with high quality and high level of quality appraisal are selected to undertake the work. To make the construction personnel fully aware of the importance of safety and quality, ideological education for the construction personnel, training team spirit, cohesion soul. As the most important part of the whole construction process, improving the professional quality of the construction personnel can effectively improve the standardization of the construction process and improve the construction effect, so as to achieve the goal of fine construction management of the construction project.

## **2.2 Improving the Quality of Construction Management**

Firstly, the general objectives of the project are divided into different levels, and the sub-objectives of quality management are formulated. According to the construction difficulty of each part of the project, combined with the technical level and construction experience of the construction personnel, the quality management mode and monitoring focus are determined. And before the implementation of each sub-project, clear responsibility system. Written submission and engineering quality assurance measures are required. Secondly, to ensure the construction quality of the detailed construction stage, arrange the working procedures rationally, solve the sequence of each layer, and arrange sufficient manpower to ensure the construction quality. Understand the overall situation of the project, the current situation and the construction conditions. Relevant responsible persons are required to sign relevant documents, eliminate the oral responsibility system, ensure that at any stage, any details meet the building requirements, can be clearly responsible for the various departments and refined to individuals. In addition, control the change behavior in the construction process, ensure the standardization of construction technology, construction process and quality supervision standards are subject to regulations. Constraint construction behavior, as far as possible to minimize economic losses.

## **2.3 Strict management is needed in the selection of building materials.**

Based on the management of building materials, it is necessary for the construction personnel to enter the market personally, to understand the price of materials needed for the project, and to select the best one by comparing the goods with the others. Rational organization of material supply to provide adequate logistical support for construction. There is no problem in strengthening the inspection and acceptance of materials to ensure the quality of materials used in construction. To ensure the safety of construction equipment, every set of tools should be carefully inspected, neatly placed, easy to use again and save time to find. To formulate and strictly implement the system and norms of certificated induction, so as to ensure the level of operation. Realize the system of fixed man-machine, fixed responsibility and clear rewards and penalties. Every wave of personnel should do a good job of handover records, in the construction process, the installation of monitoring system. In order to achieve the effect of safe construction, to ensure that everyone's safety awareness. In order to ensure the normal progress of construction, construction schemes need to vary according to "work". Optimized construction schemes are often reflected in the preparation of construction. Therefore, before the formal start of construction, it is necessary to fully understand the construction environment, site factors, master first-hand information, and then prepare the construction scheme according to the construction intention and concept. The construction scheme should be carried out in strict accordance with the construction technical specifications. Master the construction procedure of each step and mark the key and difficult points. The acceptance criterion and quality evaluation link should be considered and checked repeatedly after the construction scheme is determined. The next step is to make use of the advantages of the project itself and the existing hard conditions to measure, compare and analyze the economic aspects. Balance the pros and cons and submit them to relevant departments for review and screening. Finally, the feasible

construction plan is determined.

## **2.4 Strengthening the Technical Supervision of Construction Links**

Grasp the key and difficult points of project quality management and make full preparations for construction. Including technical preparation, construction personnel need to be familiar with the drawings, compare the contents of the drawings with the design intentions, find problems in time, and optimize ideas. Secondly, there must be precise calculation, so as to control costs and reduce redundant consumption. Further attention should be paid to site preparation, basic equipment and fund preparation, etc. Do a good job of supervision and control of the construction site, set up encrypted network, and anticipate risks ahead of time. Establish relevant project management indicators, project quality indicators, safety quality indicators, civilized construction management indicators, cost management indicators and other management indicators. Make a comprehensive inspection of the details of the project. Emphasis should be laid on safety production at all stages of construction, prediction of possible problems, checking and filling in the gaps, and thinking of appropriate countermeasures as far as possible so as to prevent accidents before they occur. To formulate the construction quality inspection system, which should be included in the scope of employee performance evaluation, the employees of each post must report the construction situation every day, and inspect the parts, finished products and semi-finished products. Regularly organize the training of construction personnel, supplement and share information of other positions, so that each construction personnel can have a comprehensive understanding of the project as a whole. Supervise and test construction methods to ensure scientific technical guidance in the construction process. In the construction scheme, optimize the integration of construction design resources. One of the most important and difficult problems in the construction plan is the design of construction organization and the allocation of resources. It is necessary to arrange the construction personnel in an organized and planned way, integrate construction resources with new technologies, allocate personnel and utilize equipment. Advanced construction technology is adopted. Define the budget cost and decompose the feasible measures of construction project. Do a good job of cost accounting in advance. In the specific construction plan, we should form a complete financial system, analyze the implementation of construction cost in each link, and find the best way to save resources and reduce costs.

## **2.5 Fully Exerting the Role of Engineering Supervision**

The service object of project supervision is mainly the project builder. The whole process engineering supervision needs to satisfy the owner's demand for integrated and high-quality service in the whole process of the project. In the early stage, the materials, resources and preparatory work needed by the project supervision should be done well, and efforts should be made to reduce the investment cost and risk of the project as much as possible. Secondly, do a good job in the process of engineering supervision service, make full use of the company's existing resources, for enterprise engineering supervision work. Realize the best combination of efficient resources and maximize the economic value of enterprises as far as possible. We should actively learn from developed supervision enterprises and supervision experience of developed countries, and establish strategic cooperative relations from a long-term perspective. To improve the supervision environment and form the concept of omni-directional supervision, it is necessary to improve the internal and external environment of the supervision enterprises and help the formation of the enterprise supervision system. Internal environment includes: supervision of human resources, supervision of infrastructure construction, departmental investment and so on. The external supervision environment includes: the overall supervision policies, policies, systems, databases, information bases and so on. In the aspect of project management, supervision enterprises gradually form the guiding project management methods and procedures for the whole process of project consultation through practice, form a comprehensive supervision concept, create a supervision atmosphere of internal and external interaction, and influence supervision enterprises and employees imperceptibly. In terms of personnel training, supervision enterprises can establish an all-round and compound talent reserve mechanism, with professional service personnel at every stage of the project life

cycle.

### **3. Conclusion**

Construction scheme and construction quality are complementary and inseparable, because most of the projects are facing many problems, such as large scale, long construction period, management loopholes and so on. Therefore, it is necessary to strengthen the management of construction projects, implement scientific and effective construction measures, and restrict potential construction problems. Improve the construction quality, stabilize the construction rhythm, in order to achieve higher standards of construction projects.

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