

Research on Problems and Strategies in Quality Management of Construction Engineering in China

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Abstract: With the improvement of the economic system since the reform and opening up, the construction industry is also developing rapidly. Quality management is the core of the development of the construction industry. It is not only related to the survival and development of enterprises, but also affects the lives and property of our people. The author analyzes the main problems existing in the construction quality management of China's construction projects, and explores how to strengthen the quality of construction projects, hoping to promote the sustainable development of the construction industry.

1. Introduction

Over the years, with the continuous development of China's economy and culture, the construction industry has developed more and more rapidly. With the continuous improvement of the quality of life and the growth of the gross output value of construction enterprises, the requirements of the whole society for the quality of engineering are more stringent than before. Engineering quality is an important part of construction management. Any quality problems will have a significant impact on enterprises and society. Any quality problems in construction management should not be underestimated. However, in the face of the rapid growth of the construction industry, problems and shortcomings in the management of the construction market in China are gradually exposed, especially in the construction process of quality problems.

2. The Main Problems in the Construction Quality Management of Construction Projects

2.1 Project Construction Process Management Confusion

First of all, in the construction process of many projects, there is a problem that personnel management is not in place. The coordination of the personnel in the construction process of the project is very important, and problems in any one link will have an impact on the progress and quality of the construction. Unreasonable personnel arrangements will cause the entire project to lose its power and goals, making the management of the construction site difficult and affecting quality management. Reasonable and orderly personnel management can easily control engineering construction costs, schedules, quality and other issues. Second, the safety awareness of construction workers is weak. Safety at the construction site is always the first. However, each technical process is strictly implemented in accordance with the relevant regulations at the construction site, but the safety issues have not been paid attention to, and the responsibility is in the form. In order to maximize the economic benefits, the construction party often reduces the investment in safety facilities at the construction site. The safety administrator has many jobs, and the safety support equipment of the construction personnel is often in short supply.

2.2 Higher Failure Rate of Machinery and Equipment.

During the construction of the construction project, many complicated processes need to be completed by means of mechanical equipment. The mechanical equipment plays an extremely important role in the process of project construction. Therefore, the management of construction

machinery and equipment should also be taken seriously in the construction unit. At the beginning of the new equipment put into use, due to the design defects and installation of some mechanical equipment, the unskilled operation of the workers can not fully grasp the performance of the new equipment, so the mechanical equipment failure rate is high. However, after a period of operation, some faults will gradually be exposed and eliminated, the failure rate will gradually decrease, and the mechanical equipment will enter the normal running-in phase. At this time, the probability of failure of mechanical equipment during construction is random, but most of them are in a stable state. As the construction progresses, the equipment will wear out due to the prolonged use time. In order to catch up with the progress of the project, the construction unit often makes the mechanical equipment in the state of overload operation, accelerates the wear and aging of the equipment, and gradually increases the probability of occurrence, which often requires maintenance.

2.3 The Method of Quality Management is not Scientific.

In the process of quality management of project construction, some quality management methods and tools are usually used, which can help project personnel to understand the problems in project construction more timely, and to analyze and propose solutions. It can not only find some hidden quality problems to improve the quality of construction, but also improve the project. Progress and increase the economic benefits of construction units. In the construction process of most projects, although we advocate the implementation of total quality management in the construction process and have written quality management regulations, most project quality managers have many years of work experience and are too persistent in their work, thus ignoring the use of scientific management methods and tools. There is no systematic analysis of the quality problems encountered in the construction process or the potential quality hazards.

2.4 Imperfect Incentive and Restraint System.

Because of the particularity of the construction project, a large number of project personnel are needed in the construction process, including leaders, technicians and a large number of construction personnel. The quality of construction depends to a great extent on the management of personnel. Improving the enthusiasm of employees and how to make employees pay attention to the construction quality, so that the constructors have a positive quality awareness is an indispensable work of construction units

3. Relevant Strategies for Improving Quality Management of Construction Projects.

3.1 Improving the Quality of Personnel in Project Construction Organization.

In the process of project quality management, people play a leading role. To ensure the quality of the project, first of all, the quality of the staff must be guaranteed. As the leader and implementer of the project, the quality and ability of project managers affect the whole project. Quality management of construction projects requires not only excellent professional and technical knowledge to control construction quality, but also professional management skills and methods to effectively coordinate construction personnel and flexibly face emergencies to solve various contradictions. Firstly, in order to improve the quality of construction and strengthen the management of construction site, the state has established a variety of professional qualification standards. However, in many projects, there is still "affiliation" phenomenon, so it is particularly important to strengthen the training of current project quality management personnel. Secondly, it is necessary to improve the ideological awareness of quality management personnel in the management of rich experience, but only by experience management will reduce efficiency. Quality management personnel should keep pace with the times, have the idea of total quality management, and cultivate the concept of total quality management of project personnel.

3.2 Strengthen the Control of Machinery and Equipment.

In the process of project construction, a large part of productivity depends on mechanical equipment. The influence of mechanical equipment quality on project quality can not be ignored.

Production equipment and ancillary equipment are an indispensable part of the project construction. The quality of mechanical equipment directly affects its use in the construction process. In order to ensure the overall quality of the construction project, the quality of mechanical equipment should be strictly checked. First of all, according to the different construction environment, safety warning signs should be placed on the corresponding machinery and equipment, and put them in a striking position to play a reminder and warning role. Secondly, mechanical equipment operators must be trained to fully understand the operation performance, operation requirements, operation specifications and other operational problems of mechanical equipment. Finally, it is forbidden to put into use some equipment which has malfunction, aging, no safety device or long-term failure of safety device.

3.3 Adopting Scientific Quality Control Method.

Every project has its own characteristics. It is impossible to control the project quality effectively only by experience. Only by using scientific quality control method can we analyze the problems existing in the engineering quality, find out the factors affecting the problems and put forward solutions based on the actual project. Using scientific judgment method to reflect the real situation of the project can improve work efficiency on the basis of effectively controlling the quality of the project. Causal analysis chart, ABC classification and other scientific analysis methods can be used to analyze the quality problems existing in the project.

3.4 Improving the Management of Project Quality Organization System.

First, set up QC group. QC quality management team is an important organization form for construction units to carry out total quality management. Through the establishment of QC team, focusing on some problems existing in the construction site, mass activities are launched for the purpose of finding and improving the quality problems existing in the construction process. In the process of participating in QC team, the majority of employees can solve the quality problems existing in the construction, solve the problems encountered in the management process and improve the quality of employees. Secondly, improve the material inspection system. To achieve the standardization, standardization and procedure of material storage. Inspection standards mainly refer to whether the materials and components purchased or used conform to engineering technical specifications, design documents, operation specifications and quality inspection and evaluation standards. Thirdly, the system of project quality responsibility should be established. In his research, Katie Callan shows that the responsibility allocation matrix has been applied in some modern project management, and the establishment of a clear quality responsibility system can make all departments and personnel of the project clear their responsibilities. According to Michael Goold and Andrew Campbell's research and analysis, it is also known that the establishment of a clear system of project quality responsibility can effectively help improve the efficiency of project management and operation. Finally, the incentive and restraint mechanism is established. Material rewards should be given priority to rewarding those employees who work hard in order to motivate their enthusiasm, make them more motivated in future work and make contributions to improving the quality of the project. At the same time, some penalties should be imposed on employees who do not work hard and make mistakes in order to curb such unhealthy tendencies. Establishing reasonable incentive and restraint mechanism combines incentive and restraint, and runs through the whole quality management process.

4. Conclusion

At present, project quality management in China is not mature, and there are still some problems, such as insufficient attention to project quality and imperfect quality management system, but these problems are gradually improving and maturing. Quality management is not unchangeable. With the development of economy and science and technology, quality management will continue to develop and update. Its goal is not only to meet the needs of customers, but also to make further breakthroughs in project quality. In the work of project quality management, we should flexibly

apply the existing methodological theory according to the characteristics and specific conditions of the project itself. Adhere to the principle of treating both the symptoms and the symptoms, and ensure that the quality of the project meets the normative target . At the same time, the research field should be extended to the overall macro background of project quality management at home and abroad, in order to enrich and improve the research of project quality management.

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