

Study of Engineering Construction Management Based on Refined Management

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ABSTRACT. *Under the refined management mode, the "fine" of each link is realized, which greatly improves the management efficiency. It is a scientific, standardized and comprehensive management method for construction enterprises. Through accurate positioning, refinement of targets, and quantitative assessment, effective management of the construction process is achieved, and construction projects are promoted in an orderly manner. Based on this, for the purpose of improving the management level of construction projects, this article first briefly describes the current problems in construction management, and then analyzes the refined management measures.*

KEYWORDS: *Refined management, Engineering construction, Cost and management*

1. Introduction

Refined management belongs to a modern scientific management method. Construction enterprises make the management of construction more elaborate through the formulation of detailed management formulation, and ultimately improve the efficiency of project management. Refined management has great advantages and plays an important role in construction project management, and its role has been widely recognized by the society. Therefore, the construction unit should incorporate the concept of refined management in the construction process and implement refined management. Through refined management, building construction units can effectively improve their management level, reduce construction costs, improve the quality of building construction, and promote self-competitiveness. Therefore, it is of great practical significance to analyze the application of refined management in construction project management.

2. Problems in Building Construction Project Management

At present, most construction enterprises in China have a lot of hidden dangers in the construction process. For example: improperly placed construction tools at the construction site and various waste materials can be seen everywhere, which directly poses a hidden danger to construction safety. Due to the relatively complex environment at the construction site of a construction project, it is difficult to manage it. The quality of construction personnel is relatively low, and the importance of construction safety is not fully recognized. At the same time, construction enterprises have not formulated standardized construction standards, and have not implemented safety management into the actual management process, which has led to frequent occurrence of safety accidents. Some construction sites have no obvious safety warnings, or during the construction process, the construction staff did not wear safety helmets as required and the construction equipment malfunctioned. These series of problems have all caused hidden safety hazards during construction. Once a hidden trouble occurs, it will affect the smooth development of the entire construction work.

In order to obtain greater economic benefits and reduce construction costs, most building construction units use some substitutes for building materials, but the quality of these substitutes is far from reaching the corresponding standards, which directly affects the quality of construction projects. When the quality of the construction project cannot meet the actual requirements, it will directly affect the corporate image and hinder the sustainable development of the enterprise. Therefore, the construction unit needs to pay attention to the project construction management issues. In the process of project construction management, it is necessary to do a good job of quality supervision and continuously improve the quality of building construction while ensuring economic benefits. On the other hand, the inefficient project management work of most construction enterprises in China directly increases the overall construction cost of the project. In the process of material procurement, construction companies place too much emphasis on the price of materials and ignore the quality requirements of materials, which directly affects the quality of project construction. At the same time, different links need different ways of project construction management, but in the actual project management process, the relevant management personnel only use a single management method for project construction management.

3. Measures for Refined Management of Construction Projects

The implementation of refined management measures in the construction process of a construction project requires the strong support of construction enterprises and the joint efforts of all members, especially the actual action of all members is the key to ensure the quality of refined management. At present, the first task of construction companies is to set up a refined working group, and the selection and training of group members must be strict to ensure that members have a solid professional knowledge and a strong sense of responsibility. In terms of personnel structure, multiple departments can be involved, such as in charge of leadership, quality and safety department, engineering department, audit department, etc., or working groups

can be formed by means of drafting and hiring from departments. The refinement working group needs to have certain rights and functions, such as the formulation of management systems, process development and revision, supervision and inspection, assessment and evaluation, and regular summary reports, so that the refinement concept can be infiltrated into every link and detail.

Whether it is possible to effectively and smoothly implement refined management measures during the construction process of a construction project is actually closely related to the enterprise's construction technology level, and high-level construction technology can also play a role in promoting the operation of the refined management system. Under such circumstances, construction enterprises must attach importance to and accelerate the promotion of the application of the "four new technologies", that is, the introduction of new technologies, new processes, new materials, and new equipment in construction projects. At present, the traditional construction technology and construction technology in China's construction projects have been relatively mature and stable, and the defects and control difficulties have become very obvious. Coupled with the inertia operation of workers during construction, it is difficult to effectively control quality and safety accidents. However, with the continuous improvement of science and technology, many new technologies have gradually emerged, laying a technical level foundation for the effective implementation of refined management concepts. With the development and promotion of the "Four New Technologies", it has broken through the bottlenecks in traditional construction technology, and further improved the quality and efficiency of construction operations, which has further improved the effectiveness of refined management. However, the application of the "four new technologies" requires construction companies to establish their core technology resource library, so as to provide the most core guarantee for their future development. At the same time, technical personnel should be regularly arranged for research and study, and more in close contact with material suppliers to fully grasp the development of the construction market and technology.

The implementation of sophisticated management methods requires cost accounting and control, which is the key content to realize the optimal benefits of enterprises. The first is the reasonable control of labor costs. The number of labor should be reasonably controlled according to the project size, construction period and actual construction conditions to reduce the occurrence of redundant staff or nest work, improve the utilization of human resources, and reduce unnecessary cost waste. At the same time, it is also necessary to organize the technical training and construction discipline awareness of the construction workers to improve the efficiency of the construction workers, and also to reduce the construction workers' idle behavior during the construction process. The second is the reasonable control of construction material costs, which can reduce unnecessary costs by reducing the procurement costs of construction materials, the loss of material transportation and storage processes. Finally, the reasonable control of machinery costs requires the construction unit to purchase or lease machinery and equipment according to the actual needs of the project, and it is necessary to control the number of machinery and equipment to meet the needs of the normal progress of construction, reduce the cost

of idle equipment, and increase the cost of equipment. Utilization. If it is some special machinery such as cranes, the construction enterprise must require the operator to hold a job with a certificate, so as to reduce the probability of a safety accident, and it is also a performance that is responsible to the construction staff and the overall project.

Practice has shown that scientific and refined management methods have played a positive role in rationally controlling construction progress. This requires project managers to improve their ideological understanding, implement refined management methods into every construction link, and implement follow-up investigations. At the same time, in the aspect of construction progress control, the occurrence of “front loosening and back tightness” must be reduced, and a global perspective analysis must be conducted before construction to formulate a scientifically feasible and standardized construction schedule, and the construction schedule must be carefully formulated, especially to avoid Due to problems with the construction staff, the construction period was delayed, and blind rush work occurred in the later period. In addition, the construction unit also needs to improve the refined management system and comprehensively analyze all the factors involved, such as the construction personnel, construction raw materials and mechanical equipment configuration, the work of supervisors, and the quality control of the construction process to achieve the optimal management effect. The fundamental goal is supplemented by corresponding rewards and penalties, so that the entire construction project construction process can proceed smoothly. At the same time, it should be noted that corresponding penalties and warnings must be given to “discussion on paper”, “empiricalism” and formal phenomena, so as to standardize the entire process of project construction and make the construction process orderly.

4. Application of Refined Management in Construction Project Management

In the construction project construction, the construction plan is very important. By constructing a scientific and perfect construction plan, it can play a guiding role in project construction. In this regard, the project management personnel should consider the actual situation, comprehensively consider each influencing factor, and formulate the project construction plan in strict accordance with the user plan, including the engineering day plan, engineering week plan, etc. By applying the various schemes to the actual construction, the construction process can be guaranteed to proceed smoothly.

In the construction of engineering projects, design schemes have a signifying role. To this end, effective management measures must be taken to improve the accuracy of design plans. When drawing engineering project design drawings, it is necessary to strengthen the quality control of the drawings to ensure the quality of engineering project design details. In addition, in the design plan, if unexpected situations are found, effective treatment measures should be taken based on past construction experience to ensure that the design plan is optimized.

In the construction of engineering projects, the impact of construction raw materials on the quality of engineering projects is relatively large. Before the construction raw materials enter the site, they must undergo strict inspection and screening to ensure that the quality of the raw materials used meets the specifications. Only by strengthening the source control of raw materials can we effectively avoid quality problems during the construction process. In the construction of an engineering project, the preparation work of construction personnel, machinery and equipment is very important. In this regard, the construction unit and the supervision unit need to inspect and control various factors before construction, and provide professional training and technical knowledge to the construction personnel to ensure that the construction efficiency can be effectively improved during the construction process and the quality of the project construction can be guaranteed.

During the construction of an engineering project, the goal of refined management is to achieve zero defects in project construction. In the quality management plan, several important quality control points should be selected, such as stoppage reporting points, points to be inspected, etc., to analyze the construction process, determine key construction content, and conduct on-site supervision and management of key construction links. In the construction of engineering projects, there are still many hidden projects. This requires a comprehensive inspection of all construction procedures during the construction process, timely detection of defects in the construction process, and effective treatment measures to avoid quality and safety. Hidden danger. In addition, the construction process, electrical equipment and pipelines used in the project construction should also be strengthened to check whether they meet the project construction requirements. In the construction management process, after the completion of the construction of the project, in order to ensure the perfect completion of the construction project, it is also necessary to strengthen the refined management of the project. Specifically, a comprehensive inspection and verification of the project is required. During the verification of the construction project, the construction effect needs to be carefully checked with the construction drawings. Specifically, the project data before construction needs to be sorted out, and then checked according to the project construction specifications and construction requirements. If the construction of the construction project is found, If the situation is inconsistent with the actual situation, it should be timely reported and negotiated. It can be seen that in the fine-grained management of engineering projects, various coordination measures must be well established, a sound and efficient operating mechanism must be established, and organizational coordination among various departments must be done well. In actual construction, if quality problems occur, coordination can be done in time to effectively implement the construction requirements of various projects. In addition, after the completion of the project construction, cleaning and recycling management of various types of construction machinery and equipment and construction sites should be done. It can be seen that after the project construction is completed, the quality of the project construction can be guaranteed by adopting a refined management method.

5. Conclusion

Fine management in the process of building project management can effectively improve the quality of construction work and reduce construction costs. Therefore, in the actual work process, construction enterprises should pay attention to the delicate work of project management. Comprehensively consider the problems existing in the construction process of the construction project, integrate refined management into the project management work, and carry out refined management in terms of contract performance, construction supervision process, building materials and pre-construction. Ultimately improve the management level of the construction project of the enterprise, and promote the economic benefits of the enterprise.

References

- [1] Han Laili, Liu Fang(2015). Exploration of hospital construction project based on refined management. *China Medical Herald*, no. 28, pp. 149-152.
- [2] Shan Minghui(2015). Research on Fine Project Management Based on BIM. *Value Engineering*, no. 10, pp. 19-21.
- [3] Liu Fang(2011). Research on the Fine Management of Construction Sites Based on the New Era. *Zhongguo Jujian*, no. 7, pp. 122-123.
- [4] Xu Jia(2017). Fine Management of Engineering Cost Based on BIM. *Value Engineering*, no. 32, p.89.
- [5] Lei Jian(2011). Study on Key Issues of Fine Management of Expressway Reconstruction and Expansion Projects. Chang'an University.
- [6] Wang Fang(2017). Fine management of construction cost based on BIM technology. *Building Materials and Decoration*, no. 47, pp.12-19.