

# Research on the Application of Refined Management in Construction Industry Management

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**Abstract:** Refined management, as a management concept and method that pursues efficiency, quality, and low consumption, has been applied in various industries. Due to its particularity, the construction industry needs to strengthen management and refined management has become the primary choice for the industry, which is of great significance for its stable development. The article elaborates on the definition of refined management, analyzes the necessity of refined management in the construction industry, and explores the application measures of refined management in construction industry management, aiming to provide reference for improving the management level of the construction industry.

**Keywords:** Refined management; Construction industry; Cost management; Security management

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## 1. Introduction

Under the rapid development trend of the construction industry, the traditional extensive management mode is no longer able to meet the requirements of modern construction projects in terms of quality, cost, schedule, and other aspects. To make up for this deficiency, a refined management mode has emerged. As a new management concept, refined management requires enterprise managers to start from details and strengthen their attention to management processes and execution capabilities to improve the overall operational efficiency and competitiveness of construction enterprises. Therefore, the construction industry should attach importance to the introduction and application of refined management and maximize its application effect.

## 2. Definition of refined management

Fine management refers to the scientific and effective approaches employed by enterprise managers to implement refined and systematic control over various management processes. The goal is to enhance management efficiency, reduce costs, improve product quality, and strengthen the overall competitiveness of the enterprise. Refined management is characterized by a strong emphasis on details, processes, implementation, and results.

As an inevitable trend in enterprise management reform, it can inject vitality into the long-term development of enterprises.

### **3. Necessity of refined management in the construction industry**

The construction industry, characterized by large project scales, long cycles, and extensive involvement, presents an inherently high level of management complexity. The traditional extensive management model often struggles to comprehensively and accurately control every aspect of the project, resulting in frequent problems and low efficiency during project execution. The introduction of refined management can help the construction industry solve this problem. Firstly, refined management breaks down a large construction project into several specific and actionable small projects or tasks by subdividing the management objects, making management more targeted and operable. Building on this foundation, each specific task can be further refined and broken down, with clear designation of responsible parties, timelines, and completion standards to ensure effective execution and monitoring. For the construction industry, this refined management approach can greatly improve the efficiency and quality of project execution<sup>[1]</sup>.

Secondly, refined management also refines various implementation links of management systems, ensuring that management systems can truly take root and play a role. In the process of refined management, construction enterprises establish a sound management system, clarify the responsibilities and authorities of management personnel at all levels, and form a hierarchical and interconnected management chain, making project management more standardized and orderly. Finally, refined management helps to improve the management level of construction enterprises and reduce management costs. Through refined management, construction enterprises can more effectively utilize resources, avoid waste and repetitive labor, and thus improve resource utilization efficiency. In the fierce market competition, construction enterprises can only improve their management level and reduce costs through refined management to win more market share and customer trust, thus occupying a favorable position in the market competition.

### **4. Application measures of refined management in construction industry management**

#### **4.1. Refined cost management**

Cost management occupies a core position in the management of the construction industry and is a key link in ensuring project profitability. By implementing refined management, construction enterprises can gain a deeper understanding and grasp of the cost composition and dynamic changes of projects, thereby achieving precise cost control. To achieve refined cost management, construction enterprises need to take the following measures. Firstly, establish a scientific cost management system. The system should define the responsibilities of cost managers, establish clear cost control objectives, and ensure that all relevant personnel fully understand and prioritize cost management. By formulating detailed cost management systems and processes, construction enterprises can further standardize cost management practices and enhance overall management efficiency.

Secondly, strengthen the accuracy and scientificity of budget preparation. Construction enterprises should conduct sufficient market research and historical data analysis in cost budget management, predict project costs reasonably, and ensure the rationality and feasibility of the budget<sup>[2]</sup>. Additionally, construction enterprises should establish a budget adjustment mechanism to promptly modify the budget based on the project's actual conditions, ensuring its flexibility and adaptability. Third, use information technology to monitor and analyze cost data in real-time. By introducing advanced cost management software, construction companies can track cost changes in real

time, detect and solve cost overruns in a timely manner, thereby improving the timeliness of cost management and reducing the risk of human errors. Moreover, strengthen the supervision and management of contract execution. Construction companies should ensure clear and concise contract terms to avoid cost disputes caused by vague contract terms. Based on this, a sound contract execution tracking mechanism should be established to promptly identify and resolve problems that arise during contract performance, ensuring effective control of contract costs <sup>[3]</sup>.

## **4.2. Refined material management**

The cost of materials plays a crucial role in the total cost of construction projects, therefore, implementing refined management of materials is essential for controlling project costs and improving material utilization efficiency. Firstly, to implement refined material management, construction enterprises should develop a comprehensive material list that includes essential details such as material name, specifications, quantity, and intended use. Additionally, a supplier information database should be established to thoroughly assess suppliers' qualifications, reputation, pricing, and supply capacity, ensuring timely delivery and reliable material quality. By understanding suppliers, construction companies can establish long-term cooperative relationships with high-quality suppliers, further reduce material procurement costs, and improve procurement efficiency. Secondly, in terms of inventory management, construction companies should strengthen the management of material warehousing, outbound, and inventory to ensure the accuracy and real-time nature of inventory data <sup>[4]</sup>.

Based on a comprehensive understanding of inventory materials, construction companies can set reasonable safety stock levels to avoid material backlog and waste, while ensuring continuous supply of materials at the construction site. In addition, construction companies should regularly check and organize their inventory materials, promptly dispose of idle and expired materials, and reduce inventory costs. To standardize the use of materials, construction enterprises should also establish strict systems for material collection and use, clarify the process and approval authority for material collection, and ensure the rationality and necessity of material use. Moreover, utilize information technology to monitor and analyze the real-time usage of materials. To manage building materials reasonably, construction enterprises can introduce material management systems to track the flow and usage of materials in real time and promptly discover and solve material waste problems. In this process, construction companies can optimize material procurement plans and usage schemes by conducting in-depth analysis of material usage data, further improving material utilization efficiency <sup>[5]</sup>.

## **4.3. Refined safety management**

Safety is a prerequisite for the smooth progress of construction projects and a key factor in ensuring the safety of construction personnel. To achieve refined safety management, construction enterprises need to take a series of practical and effective measures to control safety risks at the lowest level. In the process of achieving this goal, construction enterprises need to start from the following aspects. Firstly, enterprises need to establish a sound safety management system and process system. For construction enterprises, in the process of safety management, it is necessary to clarify the division of safety responsibilities among management personnel at all levels, so that each link has a dedicated person responsible and accountable <sup>[6]</sup>. At the same time, detailed safety operating procedures should be formulated to regulate employee behavior and reduce safety hazards. In addition, construction companies need to develop comprehensive emergency plans to ensure that they can quickly activate response mechanisms and effectively control the development of the situation in the event of a safety accident.

Secondly, construction companies need to effectively strengthen safety education and training for construction personnel. Construction companies should regularly organize various safety training courses, systematically impart safety production knowledge, operating procedures and emergency response methods to construction personnel,

and ensure that construction personnel can comprehensively and proficiently master and correctly apply this knowledge through various forms such as case analysis and on-site demonstrations <sup>[7]</sup>. In addition, construction companies should actively create a safety culture atmosphere and encourage construction personnel to actively participate in various safety activities, such as safety knowledge competitions, emergency drills, etc., to enhance the safety responsibility and self-protection awareness of construction personnel and build a solid defense line for construction safety. Thirdly, strengthen the inspection and maintenance of construction equipment and tools. Construction companies should regularly inspect, repair, and maintain construction equipment and tools to ensure that they are in good working condition and avoid safety accidents caused by equipment failures. At the same time, construction enterprises should establish equipment management systems, clarify the responsibilities for the use, storage and maintenance of equipment, and ensure the safety and reliability of equipment <sup>[8]</sup>.

#### **4.4. Refined quality management**

Quality is the lifeline of construction projects, directly related to the service life and safety of building products. To achieve refined quality management, construction enterprises need to take comprehensive and effective measures to ensure strict control of construction quality and significant improvement of building product quality <sup>[9]</sup>. Firstly, establish a scientific and comprehensive quality management system and process. When building a quality management system, construction enterprises should clarify the specific responsibilities of quality responsible persons at all levels, set clear and measurable quality control objectives, and provide clear direction for quality management work. Construction enterprises also need to establish detailed and comprehensive quality management systems and operating procedures, standardize quality management behavior, and ensure that every detail in the construction process is strictly executed following quality standards. This can effectively improve the overall construction quality and lay a solid foundation for the long-term development of construction enterprises.

Secondly, to grasp the construction quality status in real time, construction enterprises can use information technology to monitor and analyze the construction quality in real time. In this process, construction companies can introduce quality management software, install quality monitoring equipment, etc., to track quality data in real time during the construction process, discover and solve quality problems in a timely manner, and prevent the occurrence of quality accidents. Finally, strengthen the inspection and acceptance of the construction process and finished products. Construction enterprises should establish strict inspection and acceptance systems, clarify inspection standards and acceptance procedures, and ensure that the quality of the construction process and finished products meets relevant standards and specifications. At the same time, construction enterprises should strengthen the training and management of inspection and acceptance personnel, improve their professional quality and sense of responsibility, and ensure the accuracy and reliability of inspection and acceptance work <sup>[10]</sup>.

### **5. Conclusion**

In summary, as an advanced management method, the application of refined management in the construction industry has significant implications for improving enterprise management level, reducing management costs, and enhancing economic benefits. For the construction industry, in the process of applying refined management, measures such as cost management refinement, material management refinement, safety management refinement, and quality management refinement should be taken to improve their own management level, to adapt to the needs of the times. With the continuous development of the construction industry and the intensification of market competition, refined management will become the key to enhancing the core competitiveness of construction enterprises. Therefore, construction enterprises should actively introduce refined management concepts and methods, continuously improve and optimize their management systems, and inject new impetus into the

sustainable development of the enterprise.

## Disclosure statement

The author declares no conflict of interest.

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