



## Research on the core function and influencing factors of engineering cost management

BY

Jian Ma<sup>1\*</sup>, Chenfeng Kou<sup>1</sup>, Xiaowen Sun<sup>1</sup>, Xinyue Tian<sup>2</sup>, Jiayi Jiang<sup>3</sup>

<sup>1</sup>School of Economics and Management, Southwest Petroleum University, Chengdu, 610500

<sup>2</sup>School of Intelligent Finance, Tianfu College OF Southwestern University of Finan, Chengdu, 610500

<sup>3</sup>Deyang Tuojiang Road Primary School, Deyang, 618000



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### Abstract

Engineering cost management occupies a very important position in construction project management. Improving the efficiency and level of engineering cost management can not only save more time and cost for construction enterprises but also ensure the quality of engineering construction. Therefore, this paper analyzes the core function of project cost management and its influencing factors in detail.

**Keywords:** engineering cost management; Central role; Influencing factor

## 1. Analysis of characteristics of engineering cost management

### 1.1 Hierarchy

Because the construction project often has rich hierarchical characteristics, it also leads to the existence of special hierarchical characteristics of the project. Under normal circumstances, a complete construction project is composed of many individual projects that independently exert their production capacity and engineering benefits, and each individual project is specifically divided into a number of unit projects in different aspects. Therefore, the relatively overall and general division of engineering cost can be divided into three levels: single project cost, unit project cost, and total construction project cost. If it is divided into more details, sub-projects, and sub-projects also exist as the contract object, such as some large-scale earthworks and pile foundation projects. Therefore, no matter from which point of view of project cost or project management, the in-depth analysis of project cost has a clear and clear hierarchy. Due to the existence of the characteristics of the project cost, the cost engineer is required to have a deep and detailed understanding of the construction project when carrying out the project cost management, so as to ensure the feasibility of making the plan.

### 1.2 Dynamic nature

Under normal circumstances, construction projects have a relatively long construction period from preparation to completion and delivery, and various dynamic factors that are difficult to control or even uncontrollable during the construction period will have various degrees of influence on the project cost, which also results in the dynamic nature of project cost management. For example, changes in the design during construction and changes in the prices of construction materials and equipment will cause the overall fluctuation of the project cost. On the other hand, the adjustment of loan interest rate and exchange rate will also have a direct impact on the project cost. Therefore, the project cost has certain instability during the whole construction cycle due to various objective factors and has been forced to change. Until all the construction projects are completed, the exact cost of the project can be calculated, which increases the work difficulty of the project cost staff to a certain extent. The project cost should be adjusted according to the construction characteristics and objective factors in different periods, so as to continuously improve and optimize the relevant management contents and methods of the project cost. In short, the project cost staff should thoroughly implement the basic principles of dynamic management in the project cost work, so as to reduce the influence of objective factors.

## 2. The core role of project cost management

### 2.1. Integrated management tools

The control of project cost on investment is mainly manifested in the formulation of various quotas, standards, and parameters, and strict control of the calculation basis of project cost. Under the benefit and risk mechanism of market economy, the effect of project cost on investment control has become the internal restraint mechanism of investment. Moreover, the project cost is the main way to effectively obtain benefits and adjust the industrial structure, and the project cost is an important standard to evaluate the investment effect <sup>[1]</sup>.

### 2.2. Tools for project decision-making

The project cost is not within the scope of investors' ability to pay, which will cause investors to directly choose to abandon the project. And the effect of project investment can not reach the expected goal, investors will also take the initiative to give up the project. Therefore, in the project decision-making, the project cost is the main basis for analyzing the project finance and evaluating the economy.

## 3. Influencing factors of project cost management

At present, in most of the engineering projects in our country, the engineering cost management work does not play a full and efficient role, which leads to the failure to achieve the expected goals, mainly because in the engineering cost management, the impact of diversified factors, seriously affect its role.

### 3.1. Legal Factors

At present, the development of the market economy in China is gradually sound, but the relevant laws and regulations of the project cost management are not perfect, and there is not a law and regulation that clearly stipulates and constraints the project cost management. This leads to various obstacles in the process of project cost management, and it is impossible to fully play the role of project cost management.

### 3.2. Cognitive Factors

Under the market economy system, the consciousness of project cost management personnel lacks understanding of the modern market economy system, and can not adapt to it in time. Moreover, they ignore some problems existing in engineering projects and have insufficient awareness of the importance of project cost management. The existence of these problems directly leads to the difficulty of effectively exerting the function of project cost management <sup>[2]</sup>.

### 3.3. Information Factors

With the rapid development of social economy and the update of science and technology, computer technology has become an essential element of daily life and work. At present, many industries have realized modernization and information development. Although at the present stage, the project cost

management of our country has realized the information development to a certain extent, but it still has not achieved the expected effect, which directly affects the follow-up work. Moreover, most construction enterprises have not established a professional project management platform, resulting in the process of project management, can not control real-time dynamic information, can not make full use of information, resulting in the efficiency and quality of project cost management is relatively low.

### 3.4. Conceptual factors

At this stage, there are still some enterprises and relevant departments have a skeptical attitude toward the professional ability of engineering cost engineers, so they believe in overseas engineering cost consulting institutions. However, in fact, China's domestic engineering cost engineers and related institutions are better at familiar with China's relevant technical standards and construction environment, so the choice of domestic engineering cost engineers and cost consulting institutions has more advantages.

## 4. Effective strategies to give full play to the role of project cost management

### 4.1. Pay more attention to cost management

For project cost management, construction enterprises and relevant departments pay insufficient attention to it, thus hindering the smooth development of project cost management to a large extent. In order to fundamentally solve the problem of lack of attention, construction enterprises must effectively implement project cost management during the construction process and comprehensively consider the feasibility of the project. And the related problems of the project cost are fully considered. When designing a construction project, the designer also needs to effectively integrate the key links in the design process through project cost management. Moreover, in the construction process, it is necessary to implement a comprehensive and whole-process project cost management, so as to further ensure that the project cost management can give full play to its high efficiency.

### 4.2. Cultivate project cost management consciousness

First of all, in the initial stage of construction engineering, project cost should be used as an important basis for decision-making discussion, but also to assess the engineering cost control and management level, in order to provide a scientific cost basis for engineering project decision-making, improve the scientific and rational project decision-making. Secondly, in the design stage, construction enterprises should make full and reasonable use of project cost management to carry out the key integration of design, and further clarify the target of project cost and cost objective, so as to integrate the consciousness of cost management into the design <sup>[3]</sup>. Thirdly, in the preparation stage, the construction enterprise should actively cultivate the cognition and consciousness of the management personnel, and determine the project cost through comprehensive preparation, so as to realize the comprehensive control of the project cost. Then, in the

construction stage, it is also necessary to implement the awareness of cost management into the construction process and carry out dynamic and real-time project cost management for the construction, so as to promote the realization of the project cost goal. Finally, in the settlement stage, it is necessary to focus on cultivating the dual consciousness of comprehensive management and system management and implement it in all aspects of project cost management, especially settlement and final accounts, so as to provide more useful information and experience for the cost management of subsequent construction projects.

#### 4.3. Improve the laws and regulations of project cost management

In the process of improving the construction of relevant laws and regulations system, it is necessary to sort out and summarize the relatively loose legal provisions, so as to form an overall and reliable theoretical framework and ensure that this framework can cover all aspects of project cost management, and can play a good guiding role. Secondly, it is necessary to clarify responsibilities, divide powers, ensure mutual supervision and constraints between the government, enterprises, and personal quality inspection, ensure that it will not hinder the enthusiasm of project cost management, and can also penetrate the cost management into all parts of the project. On this basis, a perfect legal and regulatory foundation of project cost management is constructed, so as to provide a good environment for the smooth development of project cost management.

#### 4.4. Promote the informatization process of project cost management

Project cost management is rather complicated. In the modern social environment, if construction enterprises want to better ensure the quality and level of work, they should use the Internet and computers as the carrier to redefine and integrate project cost management, so as to realize the information-based development of project cost management. The application of information technology to all aspects of project cost management can be fully applied, so as to promote the improvement of comprehensive competitiveness of construction enterprises on the basis of improving the overall efficiency and level of project cost management. At this stage, the informatization process of project cost management needs to organically combine with the digitization process of related industries, scientifically and rationally utilize the informatization development advantages of related industries, establish a scientific comprehensive platform of project cost management, and provide perfect information resources and auxiliary decision-making platform for construction enterprises. While realizing the informatization of project cost management, Improve the engineering cost management level, so as to promote the healthy and sustainable development of the construction industry.

## Conclusion

To sum up, the most effective way to achieve enterprise management and economic objectives in our country is project cost management, which requires construction

enterprises to comprehensively promote the scientific and reliability of project cost management, while actively improving the work form of project cost management, so as to ensure the overall quality of construction projects and promote the healthy and stable development of construction enterprises. In order to be able to give full play to the role of project cost management according to the actual situation of the project, construction enterprises should also improve their comprehensive capabilities and the professional quality of relevant departments, so as to further accelerate the development of the construction industry.

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