

Research on Dynamic Management and Control Measures of Construction Project Cost Based on Whole Process Management

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Abstract: With the continuous development of the national construction industry, in current construction projects, more emphasis is placed on the dynamic control and management of engineering costs and the entire process. Dynamic management of engineering costs is an important part of the current basic building management. The article analyzes the management and control of the entire process of construction cost of the construction enterprise, and briefly discusses the relevant management and control measures. The project cost is implemented in an all-round and whole-process dynamic management and control. The system has a certain positive effect. It is hoped that through this preliminary discussion, more attention and more extensive communication can be aroused, thus providing some valuable information for theoretical research and application practice in this field for reference.

1. Introduction

The cost of construction projects directly determines the profits of construction enterprises, and the dynamic management method has been widely used in the process of construction project cost, which has become an important part of the implementation management of construction enterprises. With the development of China's economy and the comprehensive development of the modernization process, the construction industry has been greatly developed, but with the expansion of scale and the increase of cost, there are also many problems [1]. In the new era, the requirements for cost control of construction projects are constantly improving. In addition, the new features of construction projects, such as the active promotion and application of new materials, promote the innovation of cost control and improve the level of cost management [2]. In the specific practice, dynamic control measures are adopted, combined with the causes and characteristics of cost problems in the design stage and construction stage, and targeted control measures are applied to prevent and control them, thus ensuring the realization of project cost control objectives [3]. Strengthening the cost management of construction projects can standardize the whole process of bidding, design, project implementation and completion settlement of construction projects, so as to limit the investment limit of each construction link and each work, so as to reduce the economic disputes in the later period, thus realizing the full utilization of human resources, material resources and financial resources and effectively ensuring the construction progress and construction quality of construction projects [4].

The construction market in China's construction industry, which is dominated by national key construction projects, infrastructure construction, real estate development, transportation and energy construction, industrial project construction, and socialist new rural construction, is vigorous. Rapid expansion [5]. The dynamic management of construction cost is based on the premise of fully respecting the labor and material prices in the construction market. During the construction and development of the project, the scientific and effective dynamic management of the construction cost at each stage is carried out, in order to achieve the best investment and quality and progress optimal balance, and finally achieve a win-win result between the construction party and the construction party [6].

2. Analysis of the Entire Process Management and Control of Engineering Cost

2.1 Decision-Making Phase

The investment decision of construction project is the process of making the decision of construction project and deciding the plan investment. It puts forward various views on the necessity and feasibility of the project, compares and selects different construction schemes with the methods of technology and economy, and finally makes the judgment result. Whether the project investment decision is right or wrong is directly related to the success or failure of the project construction, whether the cost of the project is more or less, and whether the investment effect is good or bad. The correct investment decision is the premise of reasonable control of the project cost. Project decision-making is the decisive stage in the whole process of cost management and control. Only when the decision-maker makes a good use of the construction cost, can each stage of project construction be carried out according to the standards and specifications. Decision makers need to do a good job of market research in the process of making engineering decisions to provide a basis for the demonstration of project construction. Relevant personnel need to do a good job of collecting basic information to ensure the accuracy of relevant content. Decision makers need to discuss with engineering designers, constructors, and managers about the use of engineering costs. Designers need to have strong economic awareness to provide better suggestions for decision makers [7]. From the macro point of view in the investment stage of the project, the relevant parameters of the construction project are determined and the cost is consulted and reviewed accordingly, and reflected by relevant indicators such as the project's net present value and dynamic payback period. To carry out the corresponding analysis of sensitive indicators, to do a good job in the cost control of investment decision-making. Do a good job in controlling the investment estimate, adopt a comprehensive review method, and focus on reviewing the basis for preparing the investment estimate to see if it is credible, so as to ensure that the investment estimate can meet the relevant regulations and planning requirements. In addition, review the relevant expense items and data, and strengthen the control over their authenticity. Construction project decisions are generally made in stages from coarse to fine and from shallow to deep. The specific working procedure can be seen in Figure 1.

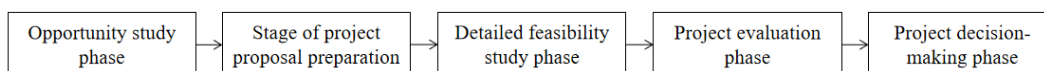


Fig.1 Working Procedures in the Decision-Making Phase

2.2 Design Phase

Engineering design is the key stage of construction cost management and control. The engineering construction needs to be carried out according to the design drawings, and the designers need to select reasonable construction technology according to the characteristics of the engineering construction. Carry out the design bidding mode and realize the organic combination of technology and project economy. Adopt the quota design method, according to the approved design assignment, combined with the investment estimate and the preliminary design general estimate, to control the construction drawing design. Optimize the charging method of design and take rewards and punishments according to the design quality. Engineering designers need to cooperate with cost control personnel to work out the best construction scheme in line with the actual situation of the project. At the same time, cost management personnel need to limit the design of each stage of construction through the cost control system, on this basis, optimize the design scheme, so that the final construction scheme can be within the control range of each standard.

2.3 Construction Stage

Engineering construction stage is the most important stage in the whole process of construction cost management and control. Construction problems are likely to occur in the construction,

resulting in changes in engineering design. Therefore, it is necessary to re manage and control the project cost. In the construction stage, cost management personnel need to consider the necessity of engineering change order from multiple perspectives, manage all possible engineering changes, and reduce unnecessary expenses in the construction. In the construction of construction projects, in order to ensure the economic benefits of the project, in addition to strengthening the early cost control, the construction should be carried out in strict accordance with the construction scheme given by the construction enterprise in order to strengthen the cost control of the construction project. To strengthen the technical and economic management of construction projects, in the process of ensuring the construction quality, to strengthen the project cost control and management work, in order to effectively avoid the phenomenon of rework due to substandard quality in the construction process [8]. In addition, in the construction phase of the construction project, it is necessary to strengthen its safety management and safety protection work to ensure the safety of the life and property of its construction personnel, effectively inhibit the occurrence of unsafe accidents, thus reducing unnecessary losses in the construction project, so as to strengthen the dynamic control of the construction project cost and ensure the construction quality of the construction project. If there is a design change, it is necessary to do a good job in the cause analysis, sign a design change agreement, and implement the change according to the procedures. In addition to the above-mentioned measures, it is also necessary to control personnel activities, pay attention to personnel training, improve the comprehensive level of personnel, and ensure the overall cost control [9]. The optimization of the construction organization design, the construction organization design and the project cost are inextricably linked, and they are mutually connected and restrict each other. The rationality of the construction organization design determines the level of the project cost, which in turn improves the construction organization design Role. The relationship between construction period and project cost is shown in Figure 2.

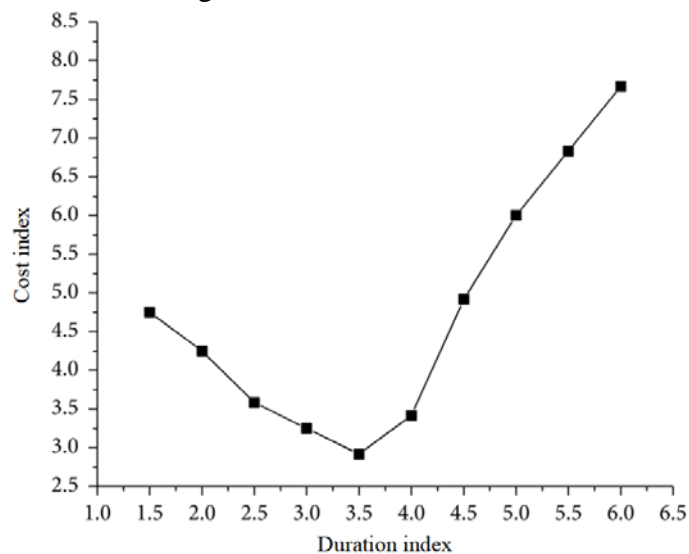


Fig.2 Relationship between Construction Period and Cost

2.4 Completion Settlement

Completion settlement is the final stage of the whole process of project cost management. The enterprise needs to complete all the contents stipulated in the contract, and summarize the cost for the owner's approval. In the completion settlement stage, the enterprise needs to summarize the costs of each stage, clarify all borrowings in the construction process, and summarize the contract borrowings, additional costs and claim costs, so that the owner can clarify all costs applied in the project construction. In the settlement, the construction enterprise needs to make a list of all the cost utilization, so as to achieve a reasonable basis and ensure the maximum benefit of the enterprise. In the whole construction process and the preparatory work, the construction enterprises are required to strengthen the engineering cost control of the project, and then reduce their workload in the

completion stage of the construction project, so as to effectively reduce the construction period of the construction project. After the completion of a construction project, its staff are required to calculate the project cost as soon as possible, strengthen the examination of the construction project, and carry out the examination of the project in strict accordance with the construction standards and design drawings of the construction project. In the process of review, if any construction technology that does not conform to the decision-making of construction projects is found, it should be dealt with seriously, and the phenomenon of shoddy construction and over-estimation and over-calculation should be resolutely eliminated. At the same time, the cost review of each stage and each item in the construction process of construction projects should be strengthened, so as to ensure the quality of cost control and management of construction projects. Before the completion and acceptance of the project, the relevant real estate development enterprises should invite the relevant construction and testing units to the project site to carry out all-round examination and testing, so as to ensure that the project construction process can reach an ideal state. If we want to strengthen the dynamic control of the cost, we must do a good job in the control of the completion inspection. When the settlement is completed, it is mainly carried out according to the construction drawings used. In order to ensure the authenticity and effectiveness of the settlement, it is necessary to do a good job of reviewing the construction drawings and conducting a site inspection. As an inspection department of the project, the general inspection unit must be responsible for the project to the end. It must take various measures for acceptance. It is not possible to formulate an acceptance plan in form without implementing policies. For the quality problems existing in the engineering calculations, it is necessary to communicate with the construction unit in a timely manner to ensure that each job can be comprehensively dealt with to achieve the real acceptance of the real estate project.

3. Strengthen the Whole Process Management and Control of Engineering Cost

3.1 Establish a Scientific Management Mechanism

In order to better carry out economic cost management, we need to establish a scientific management mechanism. In order to ensure the normal operation of cost management. The following measures can be implemented. First of all, relevant personnel can learn from foreign experience, integrate into the actual situation of the enterprise, and establish a set of management mechanism in line with the actual situation of the enterprise. Secondly, in order to make the management mechanism more instructive, people can integrate the experience of construction workers. Quotation mechanism is the basis of cost management and control. In the process of cost management and control, construction enterprises need to improve the quotation mechanism to lay a good foundation for project construction decision-making and management. Managers can formulate a quick quota quotation scheme at the initial stage of the project, strengthen the effectiveness of project decision-making and improve the winning rate of the contractor's bid. Fixed cost needs to reflect the actual cost of engineering construction and enterprise management expenses, and also needs to determine the cost of labor consumption according to market conditions. Enterprises need to analyze the characteristics of engineering projects, define their own production and operation capabilities, and set reasonable bid scales and quotations.

3.2 Cost Control in Each Stage

In terms of construction project cost, it should be combined with the local reality. For example, taking Guangdong as an example, consideration should be given to natural conditions, cultural conditions, cultural traditions, urban planning and other aspects. During the decision-making phase of construction projects, relevant personnel should be required to strengthen the prediction and management of their projects, and to strengthen the project cost accounting of each construction link in combination with the actual situation. In the specific management, it is required to pay attention to comprehensive and systematic analysis at the decision-making stage, and confirm the necessity and operability of implementation through multi-angle and comprehensive demonstration,

especially the accuracy of data, so as to ensure a better balance between investment and benefit estimation and reduce the possibility of misleading risks caused by “house price rise expectations”; We should pay attention to budget evaluation and formulate the feasible optimal investment scheme on the basis of effective and reasonable budget, thus laying the foundation for cost management in the design and construction stages. The dynamic cost control in the design stage mainly means that the designer should make a comprehensive and careful evaluation of the whole project. During the design, the designer should start with terrain, environment, climate, material selection, style and other aspects to reduce unnecessary waste, improve practicability, increase the rationality of the project cost and reduce the cost. It is required to achieve the optimal scheme within the investment limit. In the dynamic management and control of the construction link and in the pre construction management stage, we should pay attention to the dynamic management and control of the material balance, because the material accounts for 70-80% of the whole project, so we should develop a systematic small system of material cost control, for example, through the collection of market samples, experiments, result evaluation, price analysis, warehousing and ex warehouse, waste treatment, etc Through the analysis of the links, we can build a comprehensive cost budget and control system, which can control the material cost more directly and effectively. The dynamic management and control should be implemented in the completion acceptance link. In this last link, comprehensive analysis should be carried out with the previous links. This is because in the entire process, dynamic management needs to be achieved through specific evaluation mechanisms, that is, the fundamental cost must be reflected in specific technical indicators and material technology applications, and evaluated through a series of technical indicators. To ensure the usefulness, effectiveness, and controllability of these applications, and then, based on the results of the evaluation, a quality assessment report is given, so that the cost needs can be met and the scientific control of dynamic management can be better achieved.

4. Conclusion

The dynamic management of construction cost is the inevitable trend of the development of construction cost and the inevitable result of the development of market economy. Through the analysis of the problems in each stage, this paper puts forward the “whole process cost management”, expounds the whole process cost management, points out the influence and function of the whole process cost on each stage, which can effectively solve the outstanding problems in the project cost management, control the cost in each stage, and finally achieve a whole process control cost In order to realize its dynamic management, we should strengthen the design, construction management and completion acceptance of construction projects, so as to strengthen the cost management of construction projects. This requires that construction engineering companies can consciously strengthen the cost control of construction projects, and can continuously strengthen the construction of audit teams to strengthen the management of cost control of construction projects, and ultimately achieve a win-win result for both parties, and provide a sound development for the construction market. Protection.

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