

Dynamic Control and Management of Construction Engineering Cost

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Abstract: In the daily process of construction projects, project cost is a very critical part of the work. In order to effectively save costs and control the quality, it is necessary to conduct dynamic cost management according to the various construction links, and then formulate corresponding dynamic control measures for the project cost according to the actual situation. This article first analyzes the concept of dynamic management of project cost and control, and then briefly describes the dynamic control process and measures. Finally, according to the current status of the engineering industry, some pertinent suggestions are put forward, and it is expected to be helpful to the dynamic control and management of construction engineering costs in China.

1. Introduction

The continuous acceleration of the process of urbanization has also promoted the large-scale development of construction industry. The development is bound to directly affect the level of construction development. But everything has two sides, and the continuous expansion of the construction industry's market scale also makes the competition increasingly intensified. If construction companies want to gain a firm foothold in the fierce market competition, they must not only take a variety of measures to improve the construction and management but also do a good job of dynamic management and control of construction costs. As far as the current construction industry project cost dynamic management is concerned, its overall management status is not optimistic. Some construction project management departments have not realized the importance of cost dynamic control and management, which undoubtedly directly affects the project construction cost. It is conducive to the continued development of the construction industry. Therefore, it is necessary to guarantee the quality of construction and do a good job in dynamic management and control of construction costs to realize the sustainable and healthy development.

2. Concept of dynamic management and control of construction project cost

Based on the above, it can be seen that construction cost management in the field of building has the following functions. First of all, it can guarantee the smooth development of construction. Secondly, it can help construction departments do a good job in cost budgeting and planning, so as to improve construction efficiency and quality. Then, from the academic perspective, the analysis of the concept of dynamic management and control can be seen. The fundamental purpose of dynamic management is to save the investment cost of building engineering, so as to better manage and control the cost of each stage. In view of this, the construction enterprises in the implementation of the project cost in the process of dynamic management and control should formulate the corresponding cost and do a good job in different construction stages according to the scheme. Only in this way can it guarantee the effect of the construction project cost dynamic management and more effectively control the cost, and increase the profit. Figure. 1 shows the analysis diagram of construction engineering cost management and control.



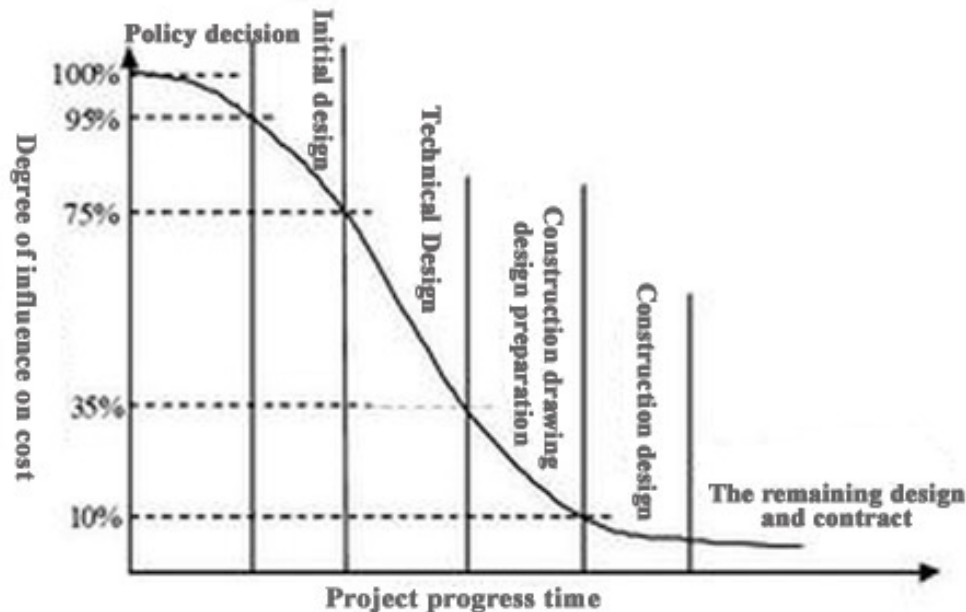


Figure 1. Construction cost management and control analysis

3. Analysis of control measures in dynamic management of construction cost

In general, the dynamic management of construction engineering cost involves a lot of content, mainly including the following parts. They are construction design of engineering, cost control in the bidding stage, cost management of the preliminary design and construction engineering stage, cost management and control, and project cost management at the completion stage of construction projects. Among them, the dynamic control of the project cost bidding stage and the construction stage are core. The control result and control quality will affect the overall control result with a certain impact on the enterprise's project cost investment.

3.1 Dynamic management measures in the early stage of construction

In view of this, in the process of making decisions around a construction project, the following measures can be taken to carry out dynamic control.

For example, in the early stage of bidding, the construction department should conduct scientific analysis and systematic evaluation of various factors that may affect the construction cost, and then formulate the cost control plan for the early stage through the evaluation results, and then plan and formulate on this basis of the best investment feasibility plan. Only after the current period of preparation is finished, can it begin to prepare the bidding materials and participate. After winning, the construction company must also consider some comprehensive factors that may be encountered and incorporate various factors into the cost control plan. However, it should be noted that in the process of dynamic management of engineering cost in the early stage, the department must evaluate and analyze the construction scale according to the actual situation. For example, in the process of determining the scale of the construction project, it should not only consider the scale but also take into account the interests of the owner and the actual economic benefits of the building. Only by considering the above two factors, can the project cost control scheme be formulated more scientifically.

3.2 Dynamic management of construction project design phase

After the current preparations are completed, the construction department will begin to conduct dynamic management of the design phase. Under normal circumstances, the dynamic management of the cost in the design phase of a construction project can be divided into the following three major steps. The first part is the preliminary design phase. The second part is the technical design phase. The third part is the

construction drawing design phase. In the preliminary design stage, although the basic design needs to be modified many times in the later stage, it can create a general direction for the overall construction, thereby providing favorable conditions.

It can be seen that the preliminary design stage of an engineering project plays a vital role in the cost of the project. In view of this, the project designer should comprehensively consider the project cost in the process of preliminary design and also analyze various factors that may affect the project cost through data simulation or mathematical model analysis. It work out a relatively complete preliminary design plan on this basis. Finally, the designer needs to gradually optimize and perfect the design plan through on-site inspection to ensure the scientificity and rationality. Compared with the preliminary design plan, the content of the engineering design stage is relatively easy.

Although the technical design stage is relatively simple, it has very high requirements for the construction engineering technology. If the construction party does not do a good job of dynamic control at this stage, it may bring certain difficulties to the project cost control in the later technical stage. The construction drawing design stage requires the designer to start with the drawings and design in accordance with the actual construction conditions and construction fund budget. In addition, in the process of controlling the project cost during the design stage of construction drawings, designers can refer to the construction experience of other construction projects to avoid various risks in designing construction drawings in time. With this kind of operation mode, it can not only effectively avoid risks such as project omissions and design project changes, but also save a lot of construction costs.

3.3 Dynamic management of cost in construction phase of engineering project

According to the above, the construction stage belongs to the core part of cost management. In order to do the corresponding work well, the construction can take the following measures to control.

For example, the construction organization should strictly follow the pre-made construction schedule to carry out project cost management. In the actual construction, there may be problems such as temporary changes to the project. The sudden change of the construction will not only increase the cost, but also delay the progress, and may even breach the contract. In view of this, it can formulate different response plans according to the changes during the construction process. If the project is changed due to the fault of the contractor, the construction party first needs to notify the owner and explain the reason. After the project change approval is passed, the project can be changed. At the same time, the construction party must also provide economic compensation to the breaching party. In addition, it must also conduct a comprehensive evaluation of the projects for which changes are applied to avoid making unnecessary changes. It can save construction costs and reduce the risk of default.

3.4 Cost management in the completion stage of a project

Many buildings believe that once the project enters the final stage of completion, it will not have a big impact on the overall project cost result. However, if the corresponding project cost management is not done well in the completion and acceptance. It is very likely to cause a certain error in the calculation cost. At the completion, it is also necessary to figure out cost management, only in this way can it ensure the accuracy of the final pricing.

4. Suggestions on deepening dynamic management and control of construction project cost

4.1 Deepen the understanding of dynamic management of project cost

Different from the traditional construction cost management mode, the dynamic management of construction cost is a relatively new management mode, which is applied by relatively few construction departments. Because this management mode is relatively new, many enterprises more or less have certain rejection psychology when applying. The construction department should change their backward management idea, realize the advantage and innovation point of dynamic management and apply it effectively according to the actual situation of the project.

4.2 Improve the existing dynamic management system of construction cost

At present, China's construction cost dynamic management and control has issued the corresponding rules and regulations. However, the construction industry is a rapidly developing real estate, and there are some differences between the regulations and the current status quo. In order to better promote China's construction industry and do the corresponding dynamic management of project cost, relevant departments need to innovate and optimize the original dynamic management system, so that it can adapt to the existing construction cost management.

4.3 Construct a relatively perfect project cost budget management system

In the actual construction, it is very important to carry out scientific and reasonable project budget. Scientific and reasonable project budget has the following functions. Firstly, budget can reasonably arrange and analyze the income and expenditure, and plan the expenditure in different construction stages in advance. The construction of the second budget system can prepare the cost budget, and also help the construction personnel to understand the future construction trend, so as to better optimize the plan. Third, it can reasonably allocate the use of funds according to the pre-established budgeting system, and build the cost control scheme on this basis.

4.4 According to the actual situation, the factors affecting the dynamic management of project cost are analyzed

To sum up, there are various factors affecting the dynamic management of construction cost. In order to further improve the quality of dynamic management of construction cost, the construction organization also needs to systematically analyze the factors affecting the dynamic management of construction cost. In general, the factors that affect project cost can be divided into the following categories. They are natural factors, human factors, factors of economic development and policy considerations. The natural factors mainly refer to the weather and climate. It can cause the construction project to be suddenly interrupted by natural disasters. In the actual project cost management, natural factors are also relatively difficult to manage. Human factors are different, mainly refer to some operational errors caused by human misjudgment or analysis. Generally, human factors are controllable and relatively simple and effective .

5. Conclusion

In summary, with the continuous development of the construction industry, the competition in the market is becoming increasingly fierce. If construction companies want to gain a foothold or a place, they must adopt various effective cost control methods. It can improve the economic benefits and indirectly improve its core competitiveness. It is found that dynamic management of construction project costs can not only greatly improve the construction level enterprises, but also save certain costs, help enterprises obtain higher economic benefits. It has a very important meaning and function to promote the sustainable development of construction enterprises.

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