

Original Research Article

Discussion on Design Control and Management of Construction Cost

Mengli Li*

Hengtai Architectural Design Co., Ltd. E-mail: mengli@163.com

Abstract: As a pillar industry in China, the construction industry is developing rapidly at this stage. In order to better promote the development of the construction industry, it is necessary to reasonably ensure the economic benefits of the project and do a good job in the cost management of the project. Based on this, this paper analyzes the construction cost control and management measures, aiming to take effective measures to control the construction cost and promote the better development of the construction project.

Keywords: Construction Engineering; Cost; Control and Management

1. Introduction

The construction project has a large scale of investment and a certain degree of complexity, which puts high demands on the development of construction project cost management and control. As the staff of project cost management and control, the actual situation of construction engineering should be fully understood from a scientific point of view, and combine the specific characteristics of the project to perfect and improve the related cost work mechanism, and put forward scientific and feasible cost work strategies and means to meet the development requirements of construction cost management. However, the control and management of construction project cost should be implemented from a systematic point of view, and ensure that it is comprehensive enough to run through the whole process of construction projects.

2. Form a correct understanding of cost management by personnel themselves

In view of a series of problems existing in the development of cost management, it is very necessary and crucial to position the cost management accurately and let the on-the-job personnel form a correct understanding of the development of cost management. The on-the-job personnel of some projects lack sufficient recognition for the development of cost management, which leads to insufficient cooperation in the development of related work. To this end, the publicity should be strengthened within the project, so as to enhance the attention paid by the on-the-job personnel to the cost management work, so that they can better cooperate with the development of various cost-related work. Construction project managers also need to form a correct understanding of the development of cost management, combine the actual characteristics of construction projects, improve and optimize the cost work in all directions, and continue to promote and implement, so as to promote the healthy and stable development of the project.

Copyright © 2022 Mengli Li
doi: 10.18282/adr.v2i1.1076

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

3. Build a system risk prevention mechanism and do a good job in advance control

The account receivable risk prevention mechanism of construction enterprises should be carried out from the following two aspects: first, it is the customer risk prevention, which requires construction enterprises to conduct credit investigation on customers, do a good job in customer credit management, collect and investigate customers' credit information before the project is built, analyze the information according to the data after collection, and divide customers' credit into Class A, Class B, Class C and Class D customers according to their credit situation from high to low after analysis. A-class customer enterprises are relatively large in scale, in good financial condition, and have good solvency. Class B customers have average assets and financial status, and fixed assets can be mortgaged. Class C customers have average assets and normal financial status, and cannot provide fixed assets mortgage. Class D enterprises have poor assets, poor financial status and bad credit records. The enterprise management shall designate a special person to track the projects whose customers are assessed as Class C or Class D, focus on analysis, continuously monitor the changes of creditor's rights, and timely feed back creditor's rights information. It can be learnt from the experience of setting up credit management departments in western developed countries, and set up relatively independent credit management departments within enterprises and allocate special credit management personnel for them.

Second, it is the contract risk prevention. Legitimate and standardized contracts include many orderly links, and each link needs to be strictly controlled and managed. Especially before the conclusion of the contract, personnel from various professional departments should be organized to review the contract, specify the time and method of settlement and measurement, and the liability for breach of contract when payment cannot be measured on time, keep good communication with the owner, and strive to pay the bid bond, performance bond, project quality bond and migrant workers' bond by way of guarantee. Implement quota control and term control to further ensure that the amount and repayment period of accounts receivable are within the controllable range.

4. Improve the system of construction cost management

In order to ensure the effective development of the construction project, it is necessary to have a perfect, scientific and feasible cost management system, which is an important implementation basis of the whole construction project cost work and has a direct impact on the quality and effect of the subsequent cost work. During the construction process of a construction project, relevant project managers should fully understand the on-site situation of the project, analyze and refine the current cost scheme in combination with various resources on the site, and make corresponding adjustments to the unreasonable places, so as to ensure that the relevant cost management work scheme has sufficient feasibility and relevant work standards are clear enough, and can really play its due guiding role. In addition, the construction project has strong systematic characteristics, which requires the participation of multiple construction organizations, and the cost work in the construction process needs to take into account various contents. In this regard, cost managers should combine the cost work of different departments, improve the corresponding management work, and clarify the relevant workflow. Among the modern construction cost management concepts, refined management is a very important management mode. In order to improve the development level of cost management, the actual management work can also be optimized from the perspective of refined management, and make more detailed cost management work plans and objectives, so as to achieve the purpose of improving the cost management level.

5. Optimize the cost management at the stage of contract conclusion

When signing a contract for a construction project, all the terms of the contract must be checked carefully, especially the terms for determining the contract price and paying the project funds, because the construction and payment of the construction project are completed in accordance with the contract, and if the contents stipulated in the contract are not clear, it is easy to cause settlement disputes. If there is no explicit agreement in the contract as to how much the price of materials will

rise, the unit price of materials will be disputed at the time of settlement. The total price of the contract shall be determined according to the total cost in the tender, and the contract cannot be signed by lowering the bid price. The signing of the contract must be fair and just, and the contents of project valuation must be clear, so as to control the total project cost. Construction enterprises are under great competitive pressure. In order to contract projects, there is no risk assessment on whether customers' accounts receivable can be recovered. In addition, most construction enterprises lack the awareness of risk prevention of accounts receivable, which leads to the increase of accounts receivable risk of construction enterprises. Therefore, the construction enterprises should strengthen the awareness of risk prevention of accounts receivable. The leaders of enterprises should put the financial management and fund management of enterprises first in their daily operation and management, and strengthen the management of accounts receivable of enterprises to reduce risks for their operation and management. At the same time, all departments of the enterprise should strengthen cooperation, change the ideas of the personnel in the market development department, business management department and other departments, and make them strengthen the cooperation of financial management departments, so as to achieve cross-departmental cooperation and effectively promote the management of accounts receivable. In addition, construction enterprises should further standardize the risk control process of accounts receivable, comprehensively consider what risk factors of accounts receivable include, which links should be used to control accounts receivable, and formulate standardized and orderly risk control process of accounts receivable.

6. Do a good job in the construction process of cost supervision

In the construction of a building project, the construction stage is an important stage of capital expenditure and an important stage of cost control. In this regard, the cost management personnel should do a good job in tracking the construction process, fully grasp the implementation of the cost work, and make reasonable optimization and improvement in

combination with the actual situation. It is necessary to find and solve the deficiencies in the development of cost work in a timely manner, and optimize the current practical methods of cost work. In the concrete construction, each construction link should be recorded effectively, and the cost problems should be reported and solved in time. For some key construction links, cost personnel should fully communicate with designers and technicians, clarify the key points of cost management, and make disclosure to relevant construction responsible personnel in advance, so that they can master the correct construction methods, ensure the effective realization of cost objectives, and avoid the increase of construction costs caused by unnecessary rework. The arrangement of labor should be reasonable and organized to carry out flow construction, so as to avoid the increase of labor cost caused by slowdown of personnel, improve the efficiency of labor construction, avoid working overtime at night and reduce labor expenses. In the use of machinery, the machinery with excellent performance should be chosen, the appropriate construction machinery should be selected according to the construction content and workload. and the construction efficiency of machinery should be ensured. At the same time, the construction efficiency of machinery should be supervised, which can be comprehensively evaluated from two aspects: contract and monthly, so as to improve the construction efficiency of machinery and reduce the cost of machinery. In the aspect of material selection, the material purchasing system should be strictly improved, on-site material management should be strengthened and efforts should be made to choose materials with lower cost on the premise of ensuring material quality. It is also important to strengthen the management of on-site material use to avoid material waste and control material cost. By doing a good job in dynamic cost management of construction site from these three aspects, the actual cost can be controlled within the planned range. In the completion settlement stage of construction project, in order to do a good job in dynamic management of project cost, it is necessary to establish the premise that the procedures in previous stages have been perfected, the contract is uncontroversial, and the on-site visa and change are handled according to the specifications, so that no matter the price change or quantity change, there

is a basis for adjustment, so as to ensure that the project settlement cost is consistent with the actual construction.

7. Strengthen the training of outstanding talents

At present, in the new period, the development of construction project cost is facing many new challenges. The current development process of construction project cost management should be optimized and adjusted from the perspective of scientific management, and build a professional high-level management team of construction project cost, so that it can better adapt to the needs of scientific management, give full play to the advantages and strengths of cost management, and promote the improvement of economic benefits of engineering projects. In view of the scientific management requirements and standards of construction project cost in the new period, a set of scientific personnel training system is formulated to improve the professional quality and ability of on-the-job personnel, so that they can be better qualified for their own jobs. As project cost managers, the needs of various business work should be better understood in the process of scientific management of construction project cost. And it is necessary to continuously research and improve the professional quality, learn advanced cost management experience and means to improve the implementation level of cost work and take the information method to carry out the cost management. With the development of information technology, the construction cost management has changed to some extent. Therefore, it is necessary to further improve the construction cost management from the perspective of information technology. The amount of information involved in

construction cost management is large, and the types of construction cost are more complex. By applying information management, a systematic management platform is constructed, which can better meet the cost management needs in the new period and meet the new requirements of refined management. Through information management, the cost and expenses in the process of engineering construction are recorded and analyzed by computer, which can also facilitate the project managers to find out the problems in the current cost work and make corresponding improvements and adjustments.

8. Conclusion

Generally speaking, the construction cost should be optimized and improved reasonably. Combining with the actual characteristics of construction projects, new working ideas and concepts will be introduced, and the problems and shortcomings will be improved in the previous cost work. Thus, the scientific nature of the cost work will be enhanced, the adverse effects of various factors on the project cost will be eliminated, and finally, the goal of improving the economic efficiency of construction projects will be achieved.

References

1. Zhang B. Analyze the importance of the whole process project cost in modern building economic management (in Chinese). *Engineering Construction and Design* 2019; (24): 243-244.
2. Li X. Discussion on the whole process cost consultation management of construction projects (in Chinese). *Hubei Agricultural Mechanization* 2019; (24): 41.
3. Wang B. Application analysis of engineering audit in engineering cost control (in Chinese). *Value Engineering* 2019; 38(36): 63-64.