

The Research of Cost Control by Construction Project Departments for Whole Process

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Abstract. The cost management of construction project department is an important content of cost control in construction enterprises. The cost management determines the realization of the whole process of project investment or not. While the cost control in every construction stage is an important part to reflect the achievements of the cost management of construction project department. This paper studies the key points and steps of well cost forecasting in the construction preparation stage, well cost production factors and objective management in the construction implementation stage, as well as the well project settlement in the completion acceptance stage.

Keywords: construction project department, construction preparation stage, construction implementation stage, completion acceptance stage, cost control.

1. Introduction

With the implementation and improvement of the systems of the project management, the market competition is becoming more and fiercer in the construction industry. In such a market environment, construction enterprises must not only compete for construction projects to ensure the successful operation of construction project department, but also make sure that the enterprise can get biggest economic benefits after acceptance of the bid under the premise that obeys the law of market competition. However, the most effective way is to strengthen the cost management of construction stage. Cost management is an important link of project integrated management, which throughout the whole construction phases. In order to ensure the construction cost management to realize the profit maximization, the construction project department should join in construction process by means of active control, dynamic management and analysis evaluation methods for the whole process of cost control.

2. Cost control in construction preparation stage

2.1 Enterprise quota is applied to forecast the construction cost

Enterprise quota which is set by construction enterprises to consider the company specific situation, with reference to the country, the department or regional level. It can reflect the advanced level of the enterprise. In order to control the project cost, the construction project department can constantly improve the internal quota data and take it as a basis for compiling construction budget and settlement. At the same time, enterprise quota also can more truly reflect the construction cost in the construction process control. Cost prediction of construction preparation stage include the cost of construction enterprises in the bidding, the cost of labor, materials, machines and the administrative department and so on. In addition, the fees which appears because of any change or risk in the process of construction should be taken into consideration. Therefore, the construction project department should make a comprehensive and accurate cost prediction according to the enterprise quota before construction. At the same time, it also calls for the construction project manager seriously study the content of the design drawings and the contract. In view of the weak link, they should strengthen the cost management, overcome the blindness, and enhance predictability in order to reduce cost, improve quality and accelerate the construction period.

2.2 Compilation of implementation of the construction organization design

Engineering construction may appear many problems, such as improper field personnel deployment, the waste of materials, and low utilization of equipment's and so on. Therefore, the

implementation of construction organization design reasonable or not is very important to the project management effect. Construction organization design should be on the basis of saving cost, then orderly organize materials, machines, construction methods and labor organization and technical organization measures. In addition, the construction of paragraphs and lap should be arranged reasonably, Deploying construction site reasonably, ensuring the security and the civilization of the construction, making full use of the construction site conditions and having a scientific management on the whole process of construction activities are all necessary to compile the construction organization design. A perfect and feasible construction organization design is reliable guarantee of reducing the construction cost, improving engineering quality, speeding up the project progress and preventing safety accidents. 1.3 To establish cost control responsibility system of the construction site

Project departments play an important role in completing construction tasks. In the process of establishing an organization, first of all, we must determine the core position of a project manager whose duty is to be responsible for all economic activities after winning the bidding; second, in order to make the cost control measures carried out successfully, various rules and management systems should be established and improved. So do the responsibilities rights and interests of every department, even each person. All of them should be definite clearly. Also, improving all members the consciousness of cost control, establishing rewards and punishment systems, giving full play to the effect of incentive mechanisms in cost management, and realizing the evaluation and personal interests connected is necessary to guarantee measures of cost control to implement.

3. Construction implementation stage

The management of factors of production, including personnel, materials and machinery cost, is prioritized in the proceeding of construction.

(1) The amount of labor used in each phase of construction should be arranged according to present progress. And a system in which overconsumption is punished and under consumption is rewarded should be introduced as to control labor cost. It is desirable to raise labor productivity by improving the workers' techniques and management levels on the administrators' part. Enterprises internal should enhance the management of personnel and expertise, reducing cost as well as improving productivity in accordance with the principle of "more pay for more work". In addition, technicians should work in close cooperation with cost controlling staff. The former are often inclined to value safety and maneuverability over economic factors because of the nature of their own type of work and at this moment the latter should be a positive complement to the former. Only when economic and technology is combined well, can it reach the best effect.

(2) Material cost is a key point to control the cost for a project manager, and it has unexploited potentials for cost reduction. This aspect of cost control mainly starts with the project manager managing the reduction of the consumption of materials. Rational planning is needed before material procurement, which enables relevant departments of materials to proceed with procurement in a methodic way. Then the exact quantity and quality of materials as well as their certifications and other pertinent information should be scrupulously checked. In the meantime, site management for construction project should be implemented and galvanized. Strict adherence to procurement and supply planning should be enforced. In addition, to prevent material wasting, carrying out limiting institutions of materials and retrieving residual materials is of importance. In a word, the aspects of plan, procurement, acceptance, custody, reception and use of materials should be strictly checked so that the material cost can be controlled effectively.

(3) Construction machinery cost means the expenses in the utility of machinery and also in the installation, uninstallation and shipping of it. During the process of management, the selection and matching of mechanical equipment should be reasonable. Furthermore, working platform, operation intensity and order of operation all ought to be taken into consideration adequately. Under the premise of not disrupting the overall proceeding of construction, Multi-tasking on machines is accepted in order to raise mechanical utilization and reduce the machinery cost. At last, Regular maintenance of

the machines should also be done in order to ensure the mechanical intact rate and prevent unnecessary losses.

3.1 Construction contract management

Construction contract is an important basis of operation and a main document for cost control staffs to study. Therefore, construction contract is also an effective way to reduce the cost and improve economic profits. Construction contract management covers the entire time span of the project from contract negotiation to the end of maintenance days. Either part involved should timely deal with changes happening in the duration of construction and verify the price of engineering change. The problem of visa and claim should be treated in time to make sure that the project settlement will effectively reflect the real situation on the construction site and ensure the benefits of the construction project department.

3.2 Construction cost management of safety and quality

The cost of construction quality is cost that the project spend on security and quality. Sometimes losses triggered by failure to meet certain quality standards are also put into this category. So to prevent the occurrence of any loss and to minimize quality cost, meticulous checks over materials shipped onto the site should be conducted. Emphases on quality should be made in the process of construction and methods of quality control should be improved. Any secure negligence over construction site could make all previously efforts reduce cost cutting to vain. Therefore, secure management should be galvanized and rigorous conformity technical rules and safety instructions should be observed. In addition, enterprises should hire employees specialized in security matters to guard against unpredictable situations.

3.3 To strengthen construction cost assessment

Actual construction project cost accounting is the basis of cost analysis and assessment. The relevant personnel of the project department should account various fees that have happened in the process of project implementation. Project progress shall be submitted by estimators to superior departments at the end of each month. The actual project progress and the consumption of personnel, machines and materials should be reported to know the change of the cost anytime. The differences between actual cost and budget cost should be compared and analyzed. Some problems shall be found. Therefore, in view of the problems, some corresponding measures should be formulated to strengthen construction project cost accounting work. Obviously, it has a positive effect to reduce the construction cost and to improve the economic benefits of construction project department.

4. Cost control in completion acceptance stage

4.1 To assist construction enterprise to do project settlement well

For construction enterprise, project settlement is an important index of assessment of the economy. Therefore, construction project departments should prepare for the relevant economic and technical documents, data and visa of the project variation and claim report of each stage actively after completing an engineering. Then they ought to compile completion settlement data according to the contract. At the same time, assisting construction enterprise to handle the completion settlement and guaranteeing the cost management of the construction project department from start to the end is good to reclaim funds in time so that they can reduce internal operating costs and ensure construction enterprise profits.

4.2 To compare and analyze the cost with the combination of the engineering

Comparative analysis of project cost by construction project management departments is based on comparing actual quantities and the consumption of person, machines, and materials with budget cost to understand the situation of cost changes. Problems in the cost management can be found through deviation analysis to analyze the main technical and economic indexes. On one hand, studying causes of cost changes and accumulating experience can be convenient for construction project managers to improve the methods of cost management. On the other hand, it makes the cost management more reasonable, more scientific and more effective for the construction project managers in the future.

4.3 The cost assessment of construction project departments

After the completion of the project, the construction project department should compare actual index of construction cost with budget cost and evaluate the completion of the construction project cost plan and the performance of each person liable according to the relevant provisions of the construction project cost control responsibility systems. Then, there must be some corresponding rewards and punishment for each person liable in the process of cost management. Through cost assessment, publishing and rewarding clearly and arousing every staff in all project department in their respective positions to complete the enthusiasm of target cost effectively can have a good effect to reduce the cost of construction project.

4.4 To strengthen the informatization management of construction cost management

With the advancement of modern management technology, the construction project department using the informatization method of the cost management is imperative. Cost management informatization can make all kinds of cost data summarized in time to be convenient for relevant departments to compare and analyze. It also can be easy for all members to participate in real-time, share information and coordinate with each department. Construction projects shall duly applicate and popularize cost management software which are based on computer technology and network technology to build cost management systems for enterprises. At the same time, construction project departments can use advanced technology to improve the existing management status and optimize the goal of cost control realize effective cost management in the end.

5. Conclusions

The cost management of construction project departments is a complex job that all members will be participated in. It is necessary to use scientific management methods to strengthen cost management in every stages of construction, improve the consciousness of cost of each person in construction project departments. Moreover, we need sum up and take a progress constantly in practice to achieve the goal that make construction management technology and actual economic benefit together. Only when effective cost management is carried out, can construction project departments surely have profits under the condition of achieving the goal of the project cost and ensuring the quality, progress, security target. All above, the final goal is to make sure the enterprise can obtain the best economic benefits and to lay a good foundation for further develop.

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