Exploring a New Method of Cost Management for Modern Hospital Construction Projects

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Abstract: Scientific and effective project cost management measures can promote innovation effectively in the construction industry and accelerate the formation of a cost management system. The importance of establishing a sound project cost management method cannot be ignored. At present, although major construction units have implemented cost supervision during the construction process, it is difficult to form a reference material that can be used as a cost management task in the future. Based on the current situation of cost management in the construction budget stage and preparation stage of hospital construction projects, this paper makes an in-depth analysis and research on the problems in the cost management of modern hospital construction projects. According to the specific conditions of project construction, a new method of scientific and reasonable cost control management is proposed.

1. Research Background

1.1 Literature review

Yi and Yuan et al. analyzed and evaluated the application of the SIPOC management model in reducing the cost of hospital infrastructure projects, and found that the SPIOC model shortens the construction period, reduces the construction cost, controls the daily operation cost, and reduces the direct treatment of patients in the cost management of hospital infrastructure projects. Significant results have been achieved in terms of cost and marginal cost of waiting for treatment (Yi et al, 2014). Chen and Liu believe that hospital managers should understand the basic content and characteristics of project cost structure, grasp the balance between project cost control and medical development, post-operation cost, environmental protection and energy-saving investment, and control construction project cost reasonably and effectively (Chen et al, 2017). Sun and Wang Wei and others believe that in the process of construction management, there are problems such as poor original design, lack of cost awareness, inadequate bidding system, and inadequate engineering supervision and audit work (Sun et al, 2013). Guo and Wei proposed that in order to avoid unexpected situations in the infrastructure construction process, the management of hospital construction projects such as purchase, construction, expansion and demolition should be done (Guo and Mou, 2017). From the perspective of hospital project management, Hao and Tan proposed the three stages of project investment decision, design and construction bidding as the focus of project cost control (Hao and Tan, 2016).

1.2 Purposes of research

Scientific and effective project cost management measures can effectively promote the reform and innovation of the construction industry. The importance of establishing a sound project cost management method cannot be ignored. However, there are many problems in the development of various links in modern hospital construction projects, such as lack of data information as a reference, systematic cost planning and guidance on related cost theory. Although the project leader implemented cost supervision during the construction process, in theory, it is difficult to form a reference material that can be used as a cost management task in the future. Based on the current situation of cost management in the construction budget stage and preparation stage of hospital construction projects, this paper conducts in-depth analysis and research on the problems arising in

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the cost management of modern hospital construction projects. According to the specific conditions of project construction, a new method of cost control management is proposed. In order to provide practical methods for cost management projects, promote the formation and development of cost management systems, and promote the development of the construction industry.

2. Current status of cost management in modern hospital construction projects

2.1 Current status of cost management in construction budget of hospital construction projects

The formulation of the construction project plan directly affects the management effect of project cost management (Shen and Huang, 2013). Scientific and rational planning can not only shorten the construction period, reduce costs, but also improve the quality of the project and ensure production safety. The ultimate goal of the project plan is to get the highest profit value for all those involved in project implementation. The construction budget is critical in the process of cost management (Wei, 2018). At the same time, the main task of the project construction unit is to implement the implementation plan provided by the project design unit. Therefore, the cost budget cannot be separated from the project design. When the construction project leader is carrying out the construction project plan, the value engineering method is cited in the design process to ensure the smooth progress of the project. Introducing the value engineering method into the implementation of specific hospital construction projects can lead to an optimal solution for project cost management (Yan, 2017). In the budget phase, the cost management project includes three aspects. The first aspect is the investment required for the plan formulated in the project preparation phase. The second aspect is the input of resources, machinery and manpower in the project implementation phase. The third aspect is the completion of the project. The stage of testing and acceptance of the required inputs. There are four main components of project cost management. First, the cost management during the preparatory period. Second, cost management during the bidding period. Third, the cost management of the construction plan design period. Fourth, cost management during the project implementation period.

2.2 Current status of cost management in the construction preparation phase of hospital construction projects

The cost management of the construction preparation phase of the hospital construction project is based on the project construction plan that has been adopted and has been implemented. At this stage of cost management, in the process of project implementation, the actual cost input can be fully grasped and controlled, and the purpose of reducing investment can be further achieved. For the projects with the largest proportion of costs in the hospital construction project plan, conduct a cause survey and a specific link analysis to clarify the cost reduction that the project can carry out. In the process of project implementation, timely and effective regulatory measures can be taken and managed. The length of the construction period of the hospital construction project determines the direct cost more or less. Focus on quality management, which can be corrected in time when quality problems occur, reducing the cost of remediation after the project is completed. The price of raw materials is affected by market rules and it is difficult to plan management. The project management level affects the overall cost and can be upgraded on the basis of traditional processes to reduce the costless loss of costs. Cost management in the construction preparation phase of the project needs to be considered in all aspects from the aspects of purchase and loss. All kinds of small materials belong to the cost range of this stage. At this stage of cost management, the hospital construction unit needs to clearly plan the cost management, such as planning to monthly and weekly. In the construction phase, clear methods and measures to reduce the cost of use are an important means to further develop a cost management program.

3. Problems in cost management of modern hospital construction projects

3.1 Cost Management System Issues

At this stage, hospital construction projects have a low level of understanding of control management, and lack of understanding of the important role of cost management in project implementation. Therefore, when the hospital construction project is implemented, there is a lack of supervision and management of the direct costs of various raw materials, resulting in a large amount of direct cost, resulting in a situation in which the cost is difficult to manage. If an individual project deviates from the actual cost plan in the implementation decision-making process, it is easy to cause the cost input to be higher than the planned investment in the specific construction process of the project. If the staff of the project construction does not understand the specific cost plan of the hospital construction project in terms of cost management, it is easy to produce the problem of paying attention to the actual situation of the construction and ignoring the actual cost of the project. The staff of the project construction should also raise awareness of cost management and conduct training on cost management. In addition, the cost input plan and accounting plan formulated by the hospital lacked real examples for reference. The cost data record lacks rigorousness, the reported materials do not have strict auditing standards, and data fraud has occurred. When formulating the cost input plan, there is a lack of standards for formulating the plan. In the specific implementation of cost management, it is easy to cause many problems.

3.2 Cost calculation method problem

The commonly used cost calculation method is the deviation analysis method. The deviation analysis method is to subtract one data from another data to obtain a difference, and analyze the difference obtained, and finally obtain the difference between the planned cost input and the actual cost input. This is an important analytical work for cost project management. However, the deviation analysis method shows that there is no trend of cost and progress. It is difficult to comprehensively sort out the relationship between cost and schedule, the specific relationship between project capital input and output, and estimate the true net profit value. The information in the cost data is too cumbersome to distinguish between inputs and outputs of different projects at the same time, and data screening according to time and cost conditions. Therefore, when an unexpected situation occurs, the deviation analysis method is difficult to make an accurate early warning. This makes it impossible for the responsible departments and responsible persons related to the hospital construction project to deal with the problems in time. Therefore, if you want to conduct scientific research on project cost management, you can not only use the deviation analysis method unilaterally, but also need to make up for it by other means. The hospital construction project management party is conducive to the implementation of cost control management, to maximize the benefits, and to solve the problem of the intersection of problems caused by cost and schedule.

3.3 Cost Management Method Issues

The management of hospital construction projects generally has a low level of awareness of the scientific management model and lacks understanding of the application of computer software. The manual input of information, the accuracy is difficult to guarantee, and the entry efficiency is low. When working in calculation, comparison, and search, manual entry of specific cost data information may lead to more cumbersome work. Manually processed data analysis is extremely inefficient compared to computer information processing data. Hospital construction project workers lack the awareness of using advanced science and technology for data management. In the use of computer technology, engineering project managers only perform simple records and calculations, and do not know much about the relevant data analysis systems. Therefore, the cost control management and implementation progress of the current project are still relatively weak. Therefore, in the implementation of the project, computer programs should be gradually introduced, and advanced computer application technology should be used to manage costs online.

4. A new method to optimize the cost management of modern hospital construction projects

4.1 Follow the principle of integrity and key cost management

First, the principle of integrity. The principle of integrity runs through the entire period of project construction. This principle requires the participation of all personnel involved in the construction project, and it is necessary to enhance the cost management awareness of each staff member so that everyone has the cost management sense of ownership. Link the tangible benefits of each participant to the cost to understand the importance of cost management. Every aspect, every detail, and every stage of project construction must stop the waste of costs, and the responsible person should bear the direct responsibility, so as to achieve the purpose of cost-keeping principles. Second, the principle of emphasis. The inputs required during the construction of the project are divided into direct inputs and indirect inputs. Among the types of inputs, it is necessary to clarify which kind of cost needs to be supervised. The key principles are classified into the whole, and follow the principle of emphasis. When carrying out cost management work, it can selectively manage and supervise key projects and reduce the effort of work energy.

4.2 Programmatic cost management

In the implementation process of cost management, it is necessary to establish a leadership framework for cost management organization, and formulate job responsibilities, job requirements, and tasks for different departments. According to the work system of project construction, the cost management tasks of different departments are clarified. Build a professional cost management system, including the distribution and supervision of work, the purchase and use of resources, the final accounts of projects, and the quality of projects. Clearly manage the operating procedures, such as ground construction, land use, material purchase and use, document information management and other systems. These tasks have laid the theoretical foundation for the proceduralization of cost management work, ensuring that cost management can be completed quickly and efficiently.

4.3 Focus on cost management during project construction

After the project construction is confirmed, the cost input is carried out according to the plan of the project. At this time, it is the starting point of the cost input management work. The target cost is the actual embodiment of the target management, and the goal of the cost input management is the planned input value of the cost. This is an important means of carrying out target management. In the project implementation process, all the individual items that need cost input in the construction project are listed, and priority is set according to different cost inputs, and different supervision mechanisms are adopted for different cost input projects. In this way, plans are made to reduce costs, and at the same time, the corresponding management methods are combined to implement supervision through targets. At present, the cost management of construction projects can be carried out in three aspects. First, the overall plan objectives are formulated. Secondly, different planning schemes are implemented for different projects, and different management methods are implemented to form a target cost management system. Finally, formulate plans for different stages, formulate sub-goals, and formulate plans for individual projects, financial plans, project construction schedules, and professional technology application management plans.

References

[1] Yi L.H., Yuan H.Z., Zhou Y. (2014). Applying the SIPOC Management Model to Reduce the Cost of Hospital Infrastructure Projects, Modern Hospital Management, 12 (3), 79-82.

[2] Chen Y., Liu X.Y., Ba Z.Q., et al. (2017). Analysis of Cost Management Control of Hospital Infrastructure Construction, Modern Hospital Management, 15 (4), 5-8.

[3] Sun X.W., Wang W., Zhang C.N., et al. (2013). Reflections on the Management of Hospital Infrastructure, Modern Hospital Management, 11 (1), 52-53.

[4] Guo H.T., Yan J.Y. (2017). Practice and Experience of Hospital Engineering Construction Project Management, Urban Construction Theory Research (Electronic version), 7 (25), 28-29.

[5] Hao S.J., Tan X.P. (2016). Talking About the Key Point of Cost Control of Hospital Construction Projects, Chinese Hospital Architecture and Equipment, 17 (9), 82-83.

[6] Shen X.Q., Huang W. (2013). Risk Analysis and Control of Hospital Construction Projects Based on Life Cycle, Modern Hospital Management, 11 (5), 86-89.

[7] Wei G.P. (2018). Exploration and Practice of Cost Accounting in Hospital Infrastructure, Modern Hospital Management, 83 (2), 100-102.

[8] Yan H.Z. (2017). Inquiring into the Construction Cost Management Countermeasures of Engineering Construction Projects, Modern Trade and Industry, 30 (20), 106-107.