

Research on Cost Management and Control Method of Civil Engineering Construction Cost Based on Value Chain Analysis

Yu Lei

Xi'an Eurasia University, Xi'an, Shaanxi 710065, China

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Abstract: The construction industry is a pillar industry in our country and plays a very important role in the national economy. Each value activity in the value chain has an important impact on the overall efficiency of the enterprise, and each value activity is a point of interest to increase the efficiency of the enterprise. In the new era, the control of construction cost still needs to be closely combined with the relevant theories of value chain, make full use of the relevant ideas and methods of value chain, and put forward new cost control ideas related to the actual situation of enterprises, so as to lay a foundation for better realizing the cost control of enterprises. The cost management method based on the value chain theory provides a new way to solve the cost management problem of construction enterprises in China. Based on the introduction of the theory of value chain, this paper puts forward the common defects of construction cost management in China, then analyzes the relationship between value chain and cost control, and finally analyzes the outstanding contribution of value chain in construction cost management.

1. Introduction

Construction industry is an important industry in China's national economic development. It is closely related to the economic development of the whole country and the improvement of people's living standards. With the gradual deepening of China's reform and opening up and the evolution of the process of global economic integration, the social and economic strength has gradually increased. China's construction enterprises have made great progress. The number of construction enterprises and the number of employees have changed greatly [1]. Under such circumstances, people's understanding of the laws of economic activities, the mode of economic operation, and the management concepts of enterprise organizations are constantly being updated and transformed, while people are paying more and more attention to the value of management and its digital carriers, and setting management objectives in each value-added link of the value chain [2]. With the acceleration of the process of global integration, China's construction enterprises are no longer facing a single domestic market, but are upgrading to face a compound market, and the competition mode across regions, countries and industries is gradually becoming a new means of survival [3]. Each value activity in the value chain has an important impact on the overall efficiency of the enterprise, and each value activity is a point of interest that increases the efficiency of the enterprise. It is an inevitable choice for construction engineering companies to seek survival, plan development, and implement cost management, and value chain management is an effective means to implement cost management [4].

The development of value chains has gradually become a tool for strategic analysis of enterprises. It can be decomposed into valuable activities or integrated into a whole [5]. As the scale of the industry continues to expand, the market competition in the construction industry is also increasingly fierce, which will make the construction industry with low profit margins face greater organizational reform challenges. In the increasingly fierce competition in the construction market, strengthening project cost management is a problem that every project manager must face. The value chain has a certain breadth and existence. It exists in any economic activity, including both internal value activities of the enterprise and some external value chains related to the outside world [6]. The ideas and analysis methods of the value chain are in line with the requirements of contemporary socio-economic technology environment, reflect the world's advanced management

concepts, and are of vital practical significance for improving the competitive advantages of China's construction engineering enterprises [7]. Project cost control is a comprehensive work involving all aspects of construction and production. Increasing the cost management level and reducing the project cost has become an inevitable choice for construction companies to maintain basic survival and timely development [8]. This article analyzes and discusses the problem of cost management of the construction cost of construction projects from the relevant theory of the value chain.

2. The Connotation of Value Chain and Its Role in Cost Management

The purpose of cost occurrence is to obtain value, so it is easier to grasp the essence of cost by cost management from the perspective of value. The formation of project cost needs a powerful and convenient tool. Compared with quota compilation, the formation of project cost requires more computers and is more widely used. As there are many materials used in the project, and the price changes of various materials have different impacts on the project cost, the price difference of the main materials of the whole project is summed up after multiplying its content by the price difference. Construction project budget is one of the preconditions for the smooth progress of construction projects. Scientific and reasonable construction project budget can maximize the maximum value of construction funds input, and is also the foundation and guarantee for construction enterprise project cost control [9]. The project budget personnel need to have a response to all kinds of situations and make reasonable arrangements to deal with some problems in a short time without affecting the construction process of the project. All activities of the enterprise are closely linked, for example, the planning, timeliness and coordination of raw material supply are closely linked with the production and manufacturing of the enterprise.

In order to ensure the use efficiency of construction materials and reduce the project cost, project management personnel must strengthen the management and strict control of materials and their use on the construction site. Using the existing technology to establish a multi-mode collaborative work environment and a collaborative work support platform with integrated multimedia modes. The cooperative design and operation process is shown in Figure 1.

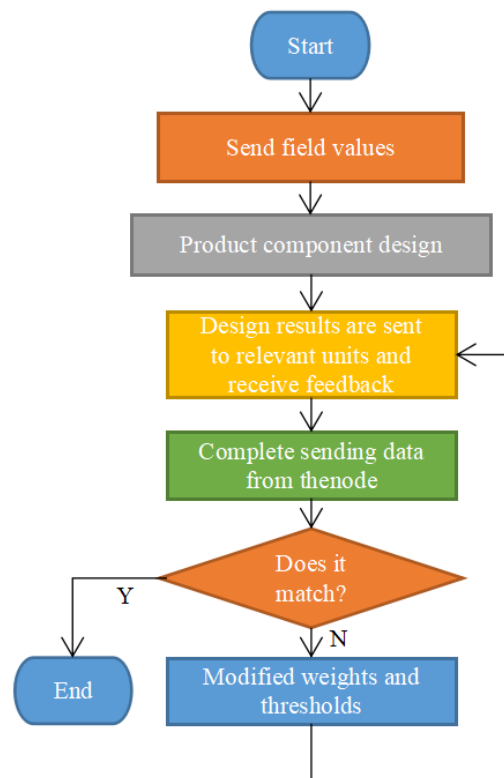


Fig.1 Construction Engineering Cooperative Design Operation Process

The cost management of China's construction engineering enterprises, on the one hand, is due to

the long-term implementation of planned economy; on the other hand, due to the particularity and complexity of cost management in the construction industry compared with other manufacturing industries, the research and practice of advanced cost management theory in construction engineering enterprises are relatively backward. Due to the lack of science and rationality, the cost budget has lost its due guiding role in actual projects. The construction period of the construction project is long, and the scope involved is very wide. Although the budget made at the beginning of the project has made a prediction on the fluctuation of material price, market risk and so on, and left room for the budget. The implementation of each construction project needs to make a budget plan in advance, and the person in charge often makes a preliminary budget according to the project data and then makes a project cost map. From the current situation, in the cruel market competition environment, the vast majority of construction enterprises in China have realized the importance of improving cost management level and strengthening cost control.

3. Application of Value Chain in Cost Management of Construction Engineering Enterprises

3.1 Strategic Cost Management Based on Value Chain

Enterprise engineering cost is the transfer value of production factors consumed in the construction process with the construction project as the cost accounting object. Starting from modern management theory, the purpose of cost management is not only to obtain short-term profits, but also to ensure the competitive advantages of enterprises and to establish an environment in which costs continue to decrease. Cost management runs through the whole process and all aspects of project management activities. From the start of project bidding to construction preparation, on-site construction to completion and acceptance, each link cannot be separated from cost management. In many industries, construction enterprises have their unique characteristics. Therefore, construction enterprises and general production and operation enterprises have differences in value chain. The combination of cost control theory and value chain theory is the key to realize enterprise cost control and strategic management. Construction engineering enterprises must first define their long-term development strategy and make strategic cost planning on this basis. According to the value chain analysis and competitive environment analysis, seek the ability to continuously reduce costs, and try to meet customers' differentiated needs with relatively reasonable costs. The application of value chain method has important practical significance in cost control of enterprises [10]. The purpose of cost occurrence is to obtain value, so it is easier to grasp the essence of cost by cost management from the perspective of value. Applying the value chain theory to the cost management of construction enterprises can find a new way to reduce the production cost, and at the same time eliminate non-value-added operations to a certain extent, prevent and control the factors affecting the construction cost, thus achieving the purpose of reducing the cost. Value chain theory is a cost management method of great strategic significance. It can control the overall situation from a strategic perspective, grasp the value from the source of cost occurrence, combine the internal and external value chains of an enterprise, analyze and manage the external strategic cost from the external value chain, and control the internal operating cost from the internal value chain.

3.2 Total Cost Management Based on Value Chain

In the Internet era, neither the enterprise's living space and behavior space nor the enterprise's engineering cost management can be developed without the network. It is necessary to do a good job in the construction of engineering cost information network to realize the internal and external information network. The preparation of the project cost budget is very important. The preparation of a scientific and reasonable project cost budget is the basis for effective control of the project cost. After engineering evaluation and calculation, the current project cost forms engineering documents based on the project budget. After the approved engineering documents are approved by relevant departments, such documents become the common reference documents for all parties involved in the project [11]. The professional quality of the staff in the project budget often affects the thinking

and methods of the staff in the investigation of market data. The professional knowledge of the project cost management staff can effectively ensure the correctness and prediction of the basic data. Pay attention to the relationship between enterprises, suppliers and customers, as well as the relationship between various activities in the internal value chain of enterprises, improve the relationship between the two aspects, enterprises can obtain competitive advantage.

4. Conclusion

Economic globalization makes the market competition more intense. All walks of life are greatly troubled by the problem of benefits. Construction enterprises are even more difficult to develop when their profit margins are already low. Therefore, cost management becomes the key for each construction enterprise to improve its benefits. Effective control of construction project cost budget is beneficial to control project cost and improve project investment benefit. Cost management is an important link to enhance the competitiveness of construction enterprises. Based on the theory of value chain, it is of great significance for the survival and development of construction enterprises to construct scientific cost management methods. Traditional cost management modes such as responsibility cost method and standard cost method often focus on single cost control while ignoring strategic cost management and value chain analysis. With the further research and application of information technology in the cost industry, it is bound to produce a revolutionary change in the construction engineering budget price, so as to promote the construction engineering cost of our country to further integrate with the international standards and usher in a new period of development in the construction engineering cost budget. The maximization of economic benefits is the common pursuit of every enterprise, but if we want to be invincible in the fierce industry competition, we must strengthen the cost control of construction in progress, and constantly seek new scientific cost control methods.

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