Research on the Transformation and Upgrading Mode of Traditional Cost Consulting Enterprises under the BIM + Internet Mode

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Abstract: This paper starts from the competitive situation faced by the cost consulting industry, and then we analysis the present situation of the cost consulting enterprises and discusse how to reposition the cost consulting enterprises in the construction industry. Finally, we put forward some suggestions on the transformation and upgrading of traditional cost consulting enterprises under the BIM, Internet and other new technologies.

1. Introduction

China undefineds cost consulting industry originated in the planned economy era. At the beginning of the planned economy era, all the infrastructure works were handled by the government in a single hand, such as the construction of auditorium, bridge, road, toilet, and so on. The so-called project cost is estimated by the government or bank infrastructure departments, including budget estimates, budget, settlement, final accounts and so on. Which is government price. After the reform and opening up, the project cost management has gradually changed from the estimated budget management during the planned economy period. The new management mode was coordinated and supervised by the government functional departments, which was hope to in line with the international practice in an all-round way. With the extensive application of PPP, EPC and BIM technology, the reform of cost consulting industry is constantly promoted. If the cost consulting enterprises want to break through and achieve new growth, they must open a new road in the business and constantly strengthen the learning and integration of new technologies.

2. History and present situation

The project cost management in China has gone through the following stages:

From the 1950s to the early 1990s, it is the pricing mode of the project cost under the uniform budget quota and unit price of the government, which basically belongs to the decision of the cost by the government.

From the 1990s to 2003, the cost management followed the previous cost management method. At the same time, with the development of our socialist market economy, the Ministry of Housing Urban and Rural Construction put forward the "control quantity" to the traditional budget quota pricing mode. The government open the price and attract people to compete "the basic reform train

of thought."

In March 2003, the relevant departments promulgated the construction bill of quantities valuation specification, which was implemented throughout the country on July 1, 2003. And it gradually developed into a mainstream pricing mode. With the rapid development of social economy and management science, the project cost management system has been continuously reformed and deepened.

In 2009, the Medium Price Association issued the "procedure for cost consultation in the whole process of Construction Engineering" CECA/GC4-2009. The engineering cost consulting service developed from single-link cost management to covering the whole engineering construction. It is beneficial to realize the whole investment control. The cost consulting enterprise also starts to transform to the whole process management mode of the construction project.

In 2017, with the gradual deepening reform of the construction industry, cost consulting enterprises are faced with greater opportunities and challenges. The deep application of BIM technology and internet technology in the construction information technology has accelerated the integration of construction industry.

3. Competition facing

The service content of cost consulting industry i s to provide the whole-process cost control and management services for the construction project from the feasibility study, which includes the engineering technology, economic management, contract law and so on. Cost consultation service is built on the basis of information asymmetry and benefit asymmetry.At the present stage, cost consulting enterprises are mainly facing three aspects of competition.

3.1 Homogeneous competition

According to the Ministry of Housing Urban and Rural Construction Project cost Consulting Statistical Bulletin, in 2017, more than 7800 enterprises (Grade B or above) engaged in the construction cost consulting service business throughout the country. The operating income of engineering cost consulting enterprises is 146.914 billion yuan. Since 2015, the average annual growth rate of consulting enterprises has been about 10%, and the business of consulting services is fiercely competitive.

There are many reasons that caused the low low-level competition of the cost consulting service industry, such as the low entry threshold, low start-up cost and low differentiation. Cost engineers have long been plagued the problems by basic calculations, pricing work, lack of time. The competition of homogenization is serious, which eventually turns into price fighting. Under the low profit level business model, the development of cost consulting company is weak, and it is eager to change the business model and realize the business transformation.

3.2 Cross-city competition of industry chain convergence

With the gradual development of the engineering consulting pilot work, the trend of industry chain convergence has become overwhelming, the main business boundaries of the industry chain are melting, and the cost consulting enterprises will face up to it. In the document of the sustainable and healthy development of the construction industry ([2017] 19 issued by the State Affairs Office), it is pointed out that enterprises are encouraged to take joint operations, such as investment consultation, survey, design, supervision, bidding agency, cost and other enterprises. M & A and other ways will cultivate a number of international level of full-process engineering consulting enterprises. It involves planning and consultation of the whole life cycle, such as construction

engineering, preliminary research, engineering design, bidding agency, cost consultation, engineering supervision, pre-construction preparation, construction process management, the management services of completion acceptance and operation warranty.

Now many design institutes, supervision companies, project management companies, even owners and construction enterprises have started to form professional teams , they try to carry out the whole process consulting business in the project, which involving the planning and consulting throughout the life cycle. The pre-research, engineering design, bidding agency, cost consultation, engineering supervision, pre-construction preparation, construction process management, completion acceptance and operation warranty are all part of the whole process engineering consultation service.

3.3 Competition between man and machine

With the popularization and application of BIM technology, the integration of construction engineering information and data has made remarkable progress. Building Information Model (BIM) has the characteristics of strong information bearing capacity, omni-directional and all-factor information collection, which makes the relevant information break through the limitations of specialty, time and space. Thus, the each link of the construction project information is eliminated, and the integrity and precision of the information transmission are enhanced. The one-mode multi-use model abandons the traditional cost model is not only accurate and efficient, but also avoiding the influence of man-made subjective errors on the calculation results. So, the cost data is more objective and accurate.

4. Suggestions on the transformation of traditional cost consulting enterprises

The traditional cost consulting business faces adjustment and severe competition, and the profit margin of the original business is declining year by year, which poses a serious threat to the survival and development. The cost consulting enterprises are seeking transformation one after another, which hoping to upgrade the technology through the business expansion. The "transformation" of the cost consulting industry should start from the following aspects:

(1) By means of M & A, merger, join-in, Alliance and so on, the national business network and brand effect can be formed. And the profit and profit can be increased by increasing the volume of business and the scale.

(2) Provide the whole process consultation for the project. Because some large-scale construction projects starts from the identification phase of the project, such as PPP projects, which has a long implementation cycle. The cost consulting unit is familiar with the whole construction process of the construction project and the industry rules of consulting services, so it can combine the specific situation of the project. The necessity and feasibility analysis are carried out, and the corresponding scheme which accords with the actual situation on the PPP project is put forward. So, we can complete the consulting service of the PPP project.

(3) Actively cultivate the high-end and complex professionals needed by the industry. The development of enterprises is inseparable from talents, and the application and research of BIM requires a large number of high-end and complex professionals. So, we must reform the education and training system and speed up the cultivation of economic, legal, and management.

(4) We should establish big data resource base and build the traditional cost consulting enterprise knowledge management service platform. By using BIM technology, a knowledge management service platform and a database are set up to provide a data, information sharing and exchange platform for the cost consulting industry.

(5) Transition to full-process engineering consulting. At present, more and more engineering cost

consulting organizations have entered the PPP consulting field, and they have the conditions to drive the consulting agent construction business. We must have the ability to carry out the whole process engineering consultation with PPP as the leader.

5. Conclusions

BIM is undoubtedly an important engineering innovation technology. Engineering consulting enterprises should actively develop and make full use of BIM technology for industrial upgrading. At the same time, we should invest carefully, combine the actual and orderly development of BIM technology. Only in this way, can we ensure the integration of BIM technology and traditional engineering consulting service. And then we will gradually establish a new life-cycle engineering consulting service system.

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