

Project Cost Control of Construction Enterprise Based on "Da Zhi Yi Yun" Technology

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Abstract: With the rapid development of the digital age, new technologies such as intelligence, big data, cloud storage and other emerging technologies are gradually applied to various industries, which are closely related to the production of enterprises. In particular, they have a significant impact on enterprise cost management, greatly reducing the cost of enterprises under the traditional production mode, constantly optimizing the production structure of enterprises, and improving the production efficiency. Based on the literature and the company's operating status, this work first took a construction enterprise as an example, then deeply analyzed the deficiency of the cost management under the current mode of the company and the cost innovation method brought by the "Da Zhi Yi Yun" technology, hoping to provide corresponding reference basis for the cost management of the construction enterprise, and fundamentally improve the cost control effect of the enterprise project.

1. Introduction

The so-called "Da Zhi Yi Yun" refers to big data, intelligence, mobile network and cloud computing. It combines these four technologies to form a new technology that supports each other with multiple technologies. Construction enterprises occupy a dominant position in the economic development of China, and their healthy development affects the economic trend of China to a certain extent. At present, there are still many deficiencies in the management of construction enterprises, for instance, more and more enterprises are eliminated, and the reform has become the most important. One of the most serious problems in the economic operation of construction enterprises is that the financing efficiency is low and the production cost is too high [1]. Therefore, if this problem can be solved, the economic development of China will be on a higher level. The emergence of "Da Zhi Yi Yun" technology undoubtedly provides an opportunity for this, which can concentrate the scattered financial data together, calculate the business cost data through big data, and optimize the financial cost control.

2. Effect of "Da Zhi Yi Yun" on Project Cost Control of Construction Enterprises

2.1. Development of "Da Zhi Yi Yun"

Under the background of "Da Zhi Yi Yun" era, the financial information is constantly on the rise, and the scope of financial work will gradually expand, which makes enterprises pay more and more attention to the management of financial costs. People are beginning to realize the trend that "Da Zhi Yi Yun" is beginning to standardize financial data.

The origin of "Da Zhi Yi Yun" was that Ford set up a financial sharing service center in the 1980s. So far, many domestic and foreign enterprises have established financial sharing service centers. With the development of information technology, a large number of data calculation is processed by computer, which makes the acquisition of all kinds of data convenient and fast. The rapid development of IT technology makes the process of financial management more and more standardized, and promotes the improvement of the level of business automation, which not only reduces the cost of human labor but also improves the efficiency of enterprise work [2].

2.2. Significance of "Da Zhi Yi Yun"

From the overall point of view, the emergence of "Da Zhi Yi Yun" exert following influences on construction enterprises:

(1) Improved decision-making capacity. Construction enterprises make decisions based on their own financial data, which were originally recorded manually. In the environment of "Da Zhi Yi Yun", the data can be input into the computer for operation, which not only reduces the error of human input, but also enables companies to timely understand deficiencies and improve through the in-depth analysis of data on the financial sharing platform, so as to provide enterprises with more accurate financial data. Through these data, the management can better understand the financial situation of the company and improve the decision-making ability.

(2) Intelligent financial work process. In the environment of "Da Zhi Yi Yun", the Internet of things brings together global information and forms a huge information network. In this way, construction enterprises can reduce the tedious work in data collection, which is conducive to reducing the workload of financial staff and improving efficiency. The analysis of data through artificial intelligence makes the financial work more intelligent and reduces the loss caused by mistakes in the financial process.

(3) Real-time monitoring of mobile platforms. Under the environment of "Da Zhi Yi Yun", managers can use the technology of mobile Internet to enter the financial sharing platform. Whenever and wherever, they can use mobile devices to enter the mobile platform for real-time monitoring process. They can not only use this platform for examination and approval work, but also can use the platform to consult the financial cost data and employee performance appraisal in the first time.

(4) Financial sharing platforms tend to be virtualized. Under the environment of "Da Zhi Yi Yun", the emergence of cloud service mode can make construction enterprises reduce the cost of establishing financial sharing platform. The data that needs to be processed is stored directly in the cloud, which not only ensures the data security of the construction enterprises, but also provides good data support for the small-scale enterprises without funds to establish the platform.

3. Basic Process of Project Cost Control in Construction Enterprises Based on the "Da Zhi Yi Yun"

3.1. General situation of the construction enterprise

As a leading enterprise in the construction industry, this construction enterprise has continuously explored the project cost management under the background of "Da Zhi Yi Yun", and has continuously expanded the core industry of big data, which is dominated by data asset operation management, service and transaction, the general information technology industry represented by cloud computing, Internet of things, big data, mobile computing, intelligent construction, satellite communication and "Internet +" technology, and the "Internet +" application industry based on intelligent transportation, intelligent city and electronic commerce [3]. Therefore, it is typical to take it as the research object to study the innovative path of cost control of construction enterprises under the background of "Da Zhi Yi Yun".

3.2. Implementation of cost control for the project based on "Da Zhi Yi Yun"

The cloud accounting platform of this construction enterprise can collect material price information, regional policy and intelligent Internet of things equipment through the Internet to record project cost data, and owner, supplier and subcontractor data imported by cloud computing service intelligence. After the cost data related to the project is collected to the "Da Zhi Yi Yun" system, the data related to cost control will be extracted through data analysis and data mining. After processing, it will be transmitted to the enterprise ERP, CRM and financial accounting system, so as to provide data support for the enterprise trinity cost control system, see Fig. 1.

(1) "Da Zhi Yi Yun" and cost management system. Under the operating cost system, construction projects are broken down into hundreds of operations. The establishment of operating standard costs

is an extremely tedious task, involving many financial and non-financial complex factors. Therefore, a construction enterprise needs to define the data sources and types through big data technology, construct a reasonable and effective data structure, collect, integrate, exchange and process multi-source heterogeneous data, and establish a project cost database over the years. These data can provide a reference for the establishment of unit operating standard cost, and with the increasing of cost data, the project cost management can realize dynamic control and continuous improvement, then making the unit operating standard cost more reasonable and accurate. Additionally, the formulation of standard cost also relies heavily on instant price information. Enterprises can collect price information of materials, manpower and machinery through "Da Zhi Yi Yun", establish a networked price information base, grasp the price change situation in real time, select the right supplier, and optimize the supply chain system.

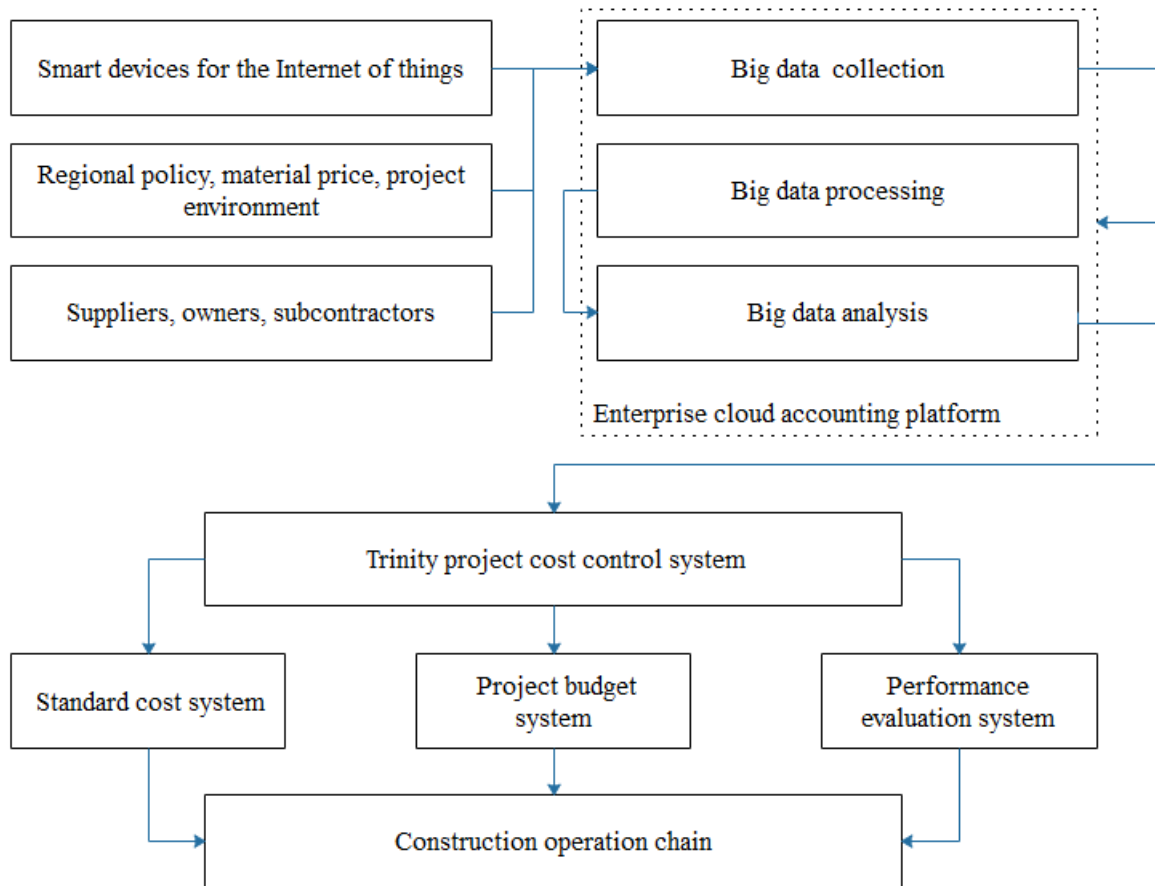


Fig. 1. Project cost control system based on "Da Zhi Yi Yun"

(2) "Da Zhi Yi Yun" and budget management system. The responsibility of project budget management is usually assigned to the engineering department, finance department, contract department, office and other functional departments, while the construction enterprise has a serious "information island" problem, and the information communication between the group company and the project department and the various functional departments of the project department is not smooth, so it is difficult to implement the budget management. For example, the project budget system and the financial system can not be docked [4]. The project budget is formulated by the engineering department using the valuation system according to the budget unit price, quantity and construction drawings, while the cost accounting is recorded by the finance department using the financial system based on the actual occurrence of the project. The two systems are operated separately, which makes it impossible to compare and analyze the construction cost and budget in time during the execution of the project. This means that the occurrence of project costs over the project budget is also difficult to detect in time. Therefore, the construction enterprise needs to standardize the project cost data through the cloud platform under the "Da Zhi Yi Yun" technology, and centralize the cost data of budget department, finance department, engineering department and

other departments to realize the cost information sharing, and reduce the management cost caused by the error of enterprise cost information and the poor communication of information.

(3) "Da Zhi Yi Yun" and performance management system. The realization of project performance appraisal depends to a great extent on the timely and accurate analysis of budget cost. If the performance management of the construction enterprise needs cost data or performance indicators (such as profit indicators), it is bound to be very inefficient to collect, organize and calculate the relevant data only by labor. Therefore, it is necessary to establish the corresponding modules in the cloud platform, and use the "Da Zhi Yi Yun" technology to comprehensively filter, organize and classify relevant data, store them according to different levels and specific requirements, and evaluate the effect of construction operation execution synchronization, including the efficiency and quality of operation execution, so that the responsible person in charge can timely understand the completion of their own tasks and performance appraisal. Additionally, "Da Zhi Yi Yun" system also needs to collect many non-financial and external information related to performance appraisal, such as project environmental protection, construction quality and owner's attitude, and take them as the basis of project performance evaluation.

4. Summary

With the development of social economy, people's life has made a qualitative leap, more and more people are pursuing higher level and higher quality of life, and the demand for construction enterprises is also increasing. The development of "Da Zhi Yi Yun" technology is convenient for construction enterprises to better manage and operate, reduce the cost of financial costs, and help construction enterprises better control and supervise the cost. In order to further improve the operating efficiency of construction enterprises, "Da Zhi Yi Yun" technology should be utilized in the process of project cost control to reduce the financial cost, and it should be integrated with cost management, budget management and performance management and integration. Based on this, it should realize further continuous innovation and optimization, so as to fundamentally improve the cost control effect of construction enterprise projects.

References

- [1] Bilal, M., Oyedele, L. O., Qadir, J., Munir, K., Ajayi, S. O., Akinade, O. O., ... & Pasha, M. (2016). Big Data in the construction industry: A review of present status, opportunities, and future trends. *Advanced engineering informatics*, 30(3), 500-521.
- [2] Lu, W., Chen, X., Peng, Y., & Shen, L. (2015). Benchmarking construction waste management performance using big data. *Resources, Conservation and Recycling*, 105, 49-58.
- [3] Harris, F., & McCaffer, R. (2013). *Modern construction management*. John Wiley & Sons.
- [4] Ruchi, S., & Srinath, P. (2018, March). Big Data Platform for Enterprise project management digitization using Machine learning. In *2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA)* (pp. 1479-1484). IEEE.