Research on the application of computer information management system in project cost prediction

Yanhua Chen¹, Zhihua Yu¹ and Jinchao Liu¹
¹Shandong Transport Vocational College, Shandong, China, 261206
*Corresponding author e-mail: chyh@sdjt.edu.cn

Abstract: "project cost" refers to how to build or change an engineering structure, so that it can more effectively achieve the established objectives of the project, the project cost is often referred to in the project to make the relevant project should have what kind of structure selection. With the advent of the information age, the engineering structure of a project has an increasingly important impact on its management effectiveness. In this paper, a management guru Mintzberg's theory as the breakthrough point, analyzes the engineering cost in computer information management the important role of engineering cost, and how to effectively achieve the project cost and the environment of good match, good configuration of engineering parameters, to meet the needs of the engineering of computer information management effectiveness.

Keywords: Project Cost, Design Parameters, The Environment, Project Configuration

1. Introduction
It is very important to construct the computer information management system of the project not only for the long-term development of the project, but also for the current stable existence and enhance the competitiveness. In order to build a reasonable and effective computer information management system, it is necessary to comprehensively consider the assessment, training and recruitment of talents. In the construction of the computer information management system, a comprehensive consideration should be given to whether the system is effective, feasible, rational and scientific, because this is not only related to the quality and level of the engineering computer information management and structure, but also will have a huge impact on the overall development of the project.

2. Computer information management of the overall configuration of project cost
2.1. Configuration of computer information management
According to the author's research on the engineering computer information management system, the system plays an important role in the following two aspects: first, it is helpful to improve the engineering competitiveness. After the implementation of the computer information management system, the project can use computer information management system in its first development goals to be decomposed, then on this basis in according to the different departments of responsibility
assignment of the corresponding task, the final departments according to the department of computer information management index and the tasks assigned to the quantity, the actual number of cases in combination with department staff and reasonable tasks assigned to each employee, are shown in figure 1 below is the computer information management of project cost:

![Figure 1](image)

**Figure 1.** The corresponding engineering cost process in computer information management

As shown in figure 1 above, if the situation favors this attraction, then the project will adopt the configuration of mechanical bureaucratic structure. The operational core exerts the gravity of specialization, coordinates through skill standardization, and achieves the two-way decentralization of power both horizontally and vertically. If the situation is favorable to this gravity, the engineering will form a professional bureaucratic structure. The intermediate line managers apply the segmentation gravity, aiming to divide the project into several market-based units that can control their decisions by themselves, and realize coordination and limited vertical decentralization by relying solely on the standardization of work output. If the situation is favorable to this gravity, the divisional structure will emerge. Support personnel exert cooperative attraction, coordination is achieved within and between work clusters through mutual adjustment, selective decentralization is carried out, and if the situation is conducive to joint collaboration, the project will adopt the configuration of amoeba structure.

### 2.2. Parameter design of computer information engineering

The essence of man-made science, whether in engineering, medicine or management, is design. For engineering structure, design refers to the adjustment of the division of labor and coordination mechanism, thus affecting the operation of the whole project. In this way, the selection and configuration of design parameters are very important for the design of engineering structures. The project cost includes 9 design parameters, which are divided into 4 groups. Office design team including work specialization, standardization, the training and indoctrination three parameters, the upper structure of the design team including unit grouping and scale of two parameters, lateral contact group includes planning and control system, communication system of two parameters, decision-making mechanism design team including the separation of horizontal and vertical separation of two parameters. In the real project management, through professional members of the division of labor in the first place, through standardizing the behavior to employee training and indoctrination, coordination and implementation of the design of the specific position, and second, through the unit group (group according to the market and functional group) and unit scale for the design of the superstructure, after he aims to enrich the upper structure, using better planning and control system, communication system to realize coordination. All parameters are related to each other, they affect the structural design of the project together, and play a large or small role in different parts of the project.

### 2.3. Matching of computer informatization engineering cost and environment

There are two hypotheses about engineering effectiveness: coherence hypothesis (effective
engineering structures require close matching between situational factors and design parameters) and configuration hypothesis (effective engineering structures require inherent consistency between design parameters). On this basis, Mintzberg further proposed a set of extended configuration hypothesis: an effective engineering structure should be consistent with contingency factors as well as design parameters, as shown in Figure 2 below:

![Diagram of Business Knowledge, Personal Credibility, Strategic Contribution, HR Delivery, and Technology](image)

**Figure 2** Computer informatization project cost and environment matching

As shown in Figure 2 above, it is still important to consider the scenario compatibility hypothesis, despite the preference for this extended configuration hypothesis. There are four situational factors in project management: age and scale, technical system, environment and power. These factors work through certain intermediate variables. In the hypothesis about the environment, Mintzberg proposed that the more dynamic the environment, the more organic the engineering structure, the more complex the environment, and the more decentralized the engineering. According to the way of coordinate system, he vividly describes the influence of five coordination mechanisms on bureaucratization and decentralization, and explains the coordination mechanisms applicable in different environments. He also drew a matrix based on complexity and stability, explored the types of projects corresponding to different environments, and carried out a more coherent and detailed explanation. Fashionable engineering structures (and cultures) are not necessarily the most appropriate.

3. Construction strategy of engineering computer information management system

For the sustainable development of contemporary engineering management, the development and development of human resources is an important content. And how to carry out staff training effectively and reasonably has a great impact on the overall quality of engineering staff and the construction of engineering computer information management system. The training plan for engineering staff is the key to build a high quality computer information management system. Through the management, promotion and coordination of human resources in the project, and the reasonable resource mining and utilization through the training arrangement, the work efficiency of the project can be significantly improved, and the real ability of the project staff can also be promoted. The training of engineering staff is mainly aimed at the actual activities of engineering development, understanding the construction needs of engineering human resources, and combining with the different environmental requirements of different regions, making corresponding plans for the construction of engineering human resources. The corresponding projects of guarantee engineering can be carried out more efficiently, and sufficient staff support can be obtained in specific time and position, so as to build a good engineering computer information management system.

3.1. Conduct a comprehensive analysis of computer information management
In this respect, first of all, engineering departments should draw a clear flow chart of engineering computer information management, conduct an overall analysis of the management process, and seek for the breakthrough of management process update and creation; Secondly, the existing computer information management process should be deeply analyzed to find out the loopholes and problems. Figure 3 shows the development trend of computer information management:

![Figure 3. The development of computer information management in China](image)

It can be seen from Figure 3 that employees' demands for development and appropriate computer information management schemes; In addition, according to the trend of market development and the actual demand of engineering development, process reengineering should be carried out for the key links in the business process. Finally, it is necessary to reposition and order the direction and projects of the project in the market development process, and conduct detailed analysis and research on the management process, so as to carry out the corresponding human resources construction and improve, and realize the flat development of project management.

3.2. Realize the diversified development of information construction

Based on the analysis and research of the traditional computer information management process of engineering, the standardized design of the existing management process is carried out to realize the integration and automation of the management process. Carry out a special analysis of the needs of human resources construction, actively carry out effective training courses, and fine management, to achieve the diversified development of human resources construction. At the same time, it can also be further integrated into the information management platform of the project, using information network technology to make the training and assessment of employees more procedural and efficient, and realize the optimization of the engineering computer information management process.

3.3. Transformation of computer informationization management process

Within the project to carry out full investigation, and after the opinions from the departments, can with the demand of computer information management work, the more streamlined engineering staff computer information management processes and evaluation standards, and further can request each department, project management team should be strict accordance with the requirements of project issued by management, timely and accurate basis of the project of specified channels and employee performance evaluation, implement engineering computer information management system of vertical and horizontal comparison.

3.4. Comprehensively promote computer informatization

First of all, to confirm the project to provide in the computer information construction on the budget. The budget for the development of engineering resources should also be evaluated in the development of training plans and the overall process of the work. Comprehensive development is meaningful only under the premise of feasible funds. Secondly, the project budget difference of
computer information management in different fields may be large, so it is necessary to analyze the evaluation data of internal engineering staff. In addition, the performance evaluation system of the project needs to be determined after the actual discussion between the decision-making level and the employees. If the project cannot establish a perfect evaluation system, it needs to optimize the evaluation index for the employees, so as to obtain the main data information of "employee demand". Finally, we should comprehensively promote the construction of project management informatization and standardize the development of project performance appraisal on the whole.

4. Conclusion
Engineering cost is an important force to promote the improvement of engineering efficiency and efficiency. It is the thing hidden behind the engineering structure and also a key factor to form the engineering structure system. The principles of engineering cost, engineering reconstruction, engineering parameters and engineering configuration are the means to carry out the thought of engineering cost. At present, the project cost is developing towards the flexible direction. Today, global economic integration and workplace diversity require us to re-examine the ideas and rules of engineering cost. We must pay attention to the relationship between the behavior subjects, strategic expression and the core vision within the project, and under the new historical conditions, seriously think about the project cost, so as to effectively carry out the project cost, improve the management level of the project, enhance the competitive strength of the project.

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