

# Analysis of Real Estate Project Management and Project Cost Control

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**ABSTRACT.** *Since the 21st century, China's economy and society have been developing rapidly, the real estate industry has ushered in a huge development, and the market scale has been growing rapidly. However, the competition pressure in the real estate market is also quite fierce. In recent years, many enterprises have fallen behind, more fresh blood has entered, and the degree of competition is far more intense than other industries. However, the competition among real estate enterprises is not only reflected in the overall scale of their own resources, but also in the ability of engineering management and project cost management. Through this ability, they can maximize the efficiency of resource utilization and their own interests. Therefore, this paper first discusses the importance of real estate engineering management and project cost management, then it discusses in detail the work content of the two at different stages, and comprehensively analyzes the implementation strategies and precautions of the two at different stages, and hopes to help the real estate enterprises to correctly formulate strategic planning and competition strategies.*

**KEYWORDS:** *Real estate project management; Cost management strategy; Design stage, Construction stage, Quality and efficiency; Bim technology; Benefit*

## 1. Introduction

In recent years, China's urbanization level has been promoted rapidly, and there are many projects have been developed and put into use, but there are also many problems. Through the comparison and analysis of a large number of cases, it is found that scientific and reasonable management is the fundamental to achieve high project quality level, reasonable project schedule and maximize economic benefits. This is the basis of providing safety, practicability and reliability for the owners, ensuring the basic life and property safety of the people, and also a good driving force for the continuous economic development of our country. Once there are problems in the management of real estate projects and they have not been corrected, it will make the quality of real estate projects reduce, the construction period delay, the investment benefit decline or even negative benefit and other phenomena appear, which is not only not conducive to the healthy development of the real estate market,

but also to the shaking of our economic market.

## **2. Summary of Real Estate Engineering Management and Project Cost Management**

### ***2.1 Engineering Management***

#### **(1) Development Management**

The development and management work is aimed at the development and management of real estate projects. Through a series of integration and allocation of human, financial and material resources that real estate enterprises can use in the project, a scientific and practical operation process is constructed, which combines information management technology and mode to meet the real needs of the owners. The focus of this work is to effectively coordinate the working relationship of all departments in the enterprise, establish a scientific and reasonable communication mechanism, and ensure that the whole project cycle is under control. A good project development management can effectively control the cost and construction quality, ensure the safety and stability within the expected working time, and lay the foundation for the maximum value of the project.

#### **(2) Planning and Design Management**

The planning and design management of real estate engineering needs to be completed by qualified design units. The construction scheme and architectural scheme of the whole project should be planned. After being determined, the traditional planning map should be transformed into digital planning map, and the scientific and reasonable layer coding standard should be put forward. Finally, the expectation should be transformed into basic data. The uploaded planning and design map can be As a reference for real estate engineering, it can provide help for the follow-up work.

#### **(3) Construction Management**

The construction management of the real estate project needs to be in the charge of the corresponding engineering management department assigned by the real estate company. Taking the contracting management mode as an example, in the actual construction stage of the project, it is necessary to strictly assess the qualification of the subordinate units, complete the bidding work, build and improve the corresponding construction management system, ensure good construction quality and site safety, coordinate each position and type of work of the construction party, reasonably dispatch and use the construction equipment, and the technical personnel do a good job in the construction. Guide the construction site, maintain the order of the construction site, carry out the corresponding safety knowledge education, and ensure the completion of the project construction on time according to the quality and quantity[1].

## ***2.2 Project Cost Management***

### **(1) Cost Planning**

This work is mainly carried out in the design stage of the real estate project, combining the project benefit objectives and design scheme to carry out cost planning and design, and its core objective is to ensure that there are ideas and overall requirements that can be followed in the project cost management work.

### **(2) Cost Calculation**

The cost calculation work needs the help of professional calculation software and corresponding technology to realize the summary of project cost information, and to serve the project cost management work through data resources.

### **(3) Cost Control**

Cost control work needs to use the collected cost management data information to carry out the corresponding adjustment and control work, in order to achieve the goal of cost reduction.

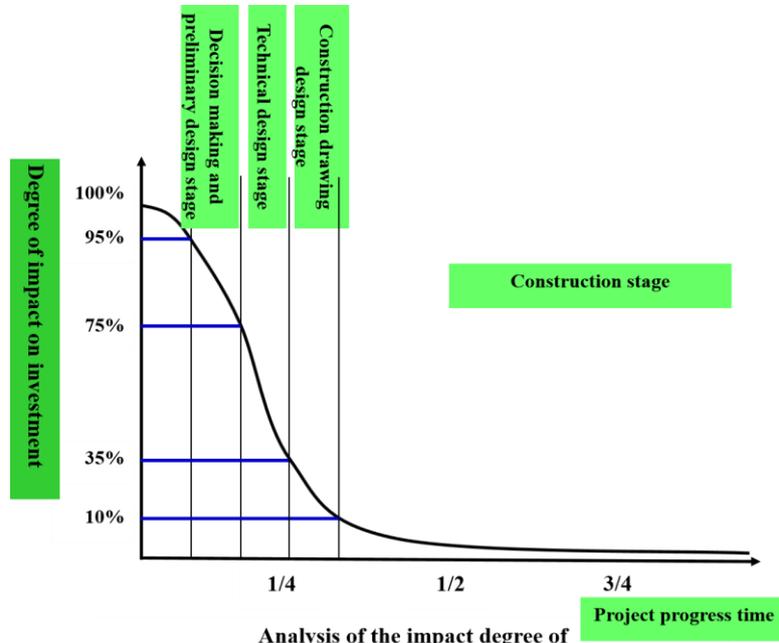
### **(4) Performance Evaluation**

Performance evaluation is to analyze the results of the above work, feed back the information and conclusions of all aspects, and reflect the results of cost management work into the actual data[2].

## **3. Strategy Analysis of Real Estate Project Management and Project Cost Management**

### ***3.1 Pay Attention to the Management and Control of Real Estate Project Design Stage***

In the process of project management and cost control of real estate project, the cost and cost pointed by the design plan are directly related to the final income of the whole project. Kelly's (1982) study found that 80% of a project's cost has been determined during the design phase, so subsequent controls can only affect the remaining 20% of the investment. Wootton (1982) believes that the total cost of the project can be directly controlled by the construction site between 6% and 20%.



**Analysis of the impact degree of investment in each construction stage**  
 (Yin Yi Lin: Prospects for China's Construction Cost Management in the Next Ten Years,2015)

Therefore, in the design stage of real estate projects, it is necessary to adhere to a rigorous and serious work attitude, carefully follow the national design standards and upgrade design standards, and carry out cost management according to the actual situation and needs of enterprises. From the current development of the real estate market in China, the designers of real estate enterprises in China are generally lack of economic awareness, lack of corresponding cost management and cost control concepts, and difficult to do a good job in the cost control of real estate projects. At the same time, there are also over emphasis on the project cost accounting, lack of design technology and cost awareness of the combination of thinking, resulting in cost and design scheme disjointed. Real estate in the development and design stage, need to do a good job in management by stages[3].

First of all, we need to design more professional technology, select the right team to provide high-quality design work. At present, real estate is not only in the increasingly fierce market competition environment, but also in the environment of continuous technological development and concept updating. It is necessary to select enterprises with more advanced scientific design concept and deeper technical understanding to complete the corresponding real estate design work. In addition, the relevant departments of real estate enterprises also need to actively communicate with the design staff, master the real-time design progress, and actively communicate with the existing problems to form effective solutions. At the same time, it can also effectively communicate with the relevant design staff on the design needs of the enterprise, reach a good consensus, and form an effective solution. The

design enterprises also need to carry out the corresponding design work in strict accordance with the relevant national standards and specifications in the whole design stage, to ensure the quality of the engineering design scheme, to conduct multiple reviews of the design drawings, and to ensure the guarantee strength. Real estate enterprises need to set an example to avoid arbitrary changes of design drawings, eliminate engineering hidden dangers, and strictly follow the requirements of relevant national departments and laws[4].

### ***3.2 Do a Good Job in the Management and Control of the Real Estate Project Construction Stage***

In the construction stage of real estate project, real estate enterprises need to effectively manage the contract, pay attention to the management and control of construction quality and construction cost. The construction contract of real estate project mainly limits the appropriation of project funds, project settlement, claim handling, etc., which has a good guarantee for the cost control, project progress promotion and work construction quality of the whole real estate project. Among them, it is also necessary to define the breach of contract in the construction contract accurately, and describe the construction contract duration, construction contract price settlement and other contents accurately. In order to carry out the cost management of construction preparation, it is necessary to do a good job of post division and authorization, ensure that there are corresponding personnel to carry out the corresponding project decision-making work from project decision-making, budget management, payment management, final accounts of completion, supervision and inspection and other aspects, and optimize the existing work scheme through the collection and analysis of the corresponding data and information of the market. The guarantee cost is within the expected range to ensure that the real estate economic benefits can be effectively improved. In the cost management of the construction stage, the cost management of engineering materials should be put in the first place. Its total cost accounts for a large proportion of the whole real estate cost, and it is also an important factor related to the quality of the whole project. In the process of building materials market operation, different kinds of engineering materials tend to have different fluctuations, and the price differences also exist objectively. Even if the same kind of materials change in different periods, different manufacturers, different specifications and any factors, it will also form a huge price difference. The real estate engineering materials procurement personnel not only need to select the right ones in strict accordance with the design scheme. Materials, we need to pay more attention to the collection of market information and data, grasp the market development trends, and then effectively control the cost of real estate construction materials[5].

### ***3.3 Do a Good Job in the Management and Control of Real Estate Project Bidding Stage***

In the bidding stage of real estate project, the basic principles of justice,

openness, fairness and integrity need to coexist, and the corresponding work needs to be carried out in strict accordance with the laws of our country. Relevant staff need to sort out the corresponding bidding information data, verify it carefully, conduct in-depth analysis and mining of valuable information, and ensure that the bidding work is completed according to quality and quantity to ensure the maximization of the fundamental interests of real estate enterprises. In addition, the signing and management of the construction contract also need to be paid great attention to in order to effectively guarantee the actual construction quality and progress, and improve the effectiveness of cost control. The specific work needs to be carried out in three stages: first, it is necessary to know the qualification of the bidder, the corresponding qualification certificate, the actual working ability, resume and experience, and select the best according to the actual needs of the project; then, it is necessary to carry out scientific bid determination, form a reasonable basis and standard based on the work quantity list, and prevent the occurrence of illegal operation; finally, for The contents, standards and other precautions of the contract need to be implemented in strict accordance with the standards and plans. Meanwhile, the bid awarding unit is also required to carry out strictly in accordance with the contract to avoid unnecessary economic disputes and effectively manage the project cost[6].

#### ***3.4 Do a Good Job in the Management and Control of the Completion Acceptance Stage***

The audit at the completion stage is also an important work. On the one hand, it is necessary to do a good job in garbage disposal and property handover at the construction site, on the other hand, it is also necessary to do a good job in acceptance and rectification. In terms of cost management, the cost and list of the whole project shall be compared, and in case of divergence, the contract content shall be followed. In the final stage of the project, cost management personnel also need to adhere to professional ethics and the bottom line, adhere to a rigorous and serious work attitude to carry out the work, record and save the information in all aspects, and ensure the rationality of the cost audit in all aspects[7].

#### ***3.5 Strengthen the Level of Information Management***

Nowadays, it has gradually entered the era of highly informationized, and the links between various industries and informationized technology have become increasingly close, especially with the work of construction, design and supervision units related to real estate. In recent years, BIM technology has emerged as a digital information and engineering application technology used throughout the life cycle of construction project planning, design, construction and operation. At the same time, BIM technology is also a set of management methods, which is a life-cycle management method based on architectural design, construction management, project coordination, operation and maintenance. BIM technology can assist owners to visually manage the whole process of construction projects, help improve

communication and coordination efficiency, and greatly improve building quality. According to the statistical data obtained after applying BIM technology to 32 construction projects by CIFE Center of Stanford University, the effect of applying BIM information management is as follows: 1. Eliminate 40% of extra-budgetary changes; 2. Control the project cost to 3% accuracy. Within the scope; 3, the project cost estimate shortened the time spent by 80%; 4, through the discovery and resolution of conflicts, the contract price was reduced by 10%; 5, the project duration was shortened by an average of 7%. Therefore, for cost management and engineering management units, in addition to strengthening their own professional quality, but also need to strengthen their own information management level[8].

#### 4. Conclusion

China's macroeconomic policies have an important impact on the development of real estate projects, especially in the face of fierce market competition, real estate enterprises need to have strong management and control ability for each project, and can clearly understand that the quality and efficiency of management and control work is the fundamental to reduce the cost and improve the efficiency of real estate projects. In the actual management and development of real estate projects, real estate enterprises need to uphold a good sense of project cost management, conscientiously implement the innovation of cost management methods and cost management means, especially through information management means to strengthen the level of cost management, build cost database, consider cost management from the overall perspective, improve the economic benefits of the project. Reduce the cost of the project and realize the sustainable development of the enterprise. For real estate enterprises, land reserve, financing capacity, government relations, talent reserve and management level directly determine their market competitiveness. At the same time, resource utilization efficiency and cost management capability are also key factors affecting the operating efficiency of real estate enterprises, and must be highly Pay attention to it. In the era of Internet+ and smart+, if enterprises want to be invincible in the cruel market competition, they should make full use of modern information technology such as BIM technology to implement the whole process and life of the real estate project. Cycle management, strengthen open source and reduce expenditure, strictly control construction costs, reduce unreasonable cost and improve management efficiency, and create sustainable and better business operation benefits.

#### References

- [1] Ouyang Yunsheng (2018). Research on cost management of Yuneng company based on value engineering. Beijing: Beijing University of chemical technology.
- [2] Guo Junwei (2018). Risk management and control strategy of Dehua building project of Henan Dazheng Real Estate Co., Ltd. Henan: Zhengzhou University.
- [3] Zhou Dan (2017). Research on cost control in the design stage of real estate

- projects. Liaoning: Dalian Maritime University.
- [4] Mulan (2018). Design and application of BSC based supplier performance evaluation system for real estate enterprises. Jiangsu: Southeast University.
  - [5] Liu Zhiwu (2017). Research on the application of target cost management in real estate enterprise development projects--Taking the M project of K real estate enterprise as an example. Yunnan: Yunnan University of Finance and economics.
  - [6] Zhang Fukui (2017). Study on quality control of hydropower installation project of gold coast project. Shandong: Qingdao University of technology.
  - [7] Mu Zeyuan (2017). Research on the application of value engineering in the management and control of marketing expenses of real estate development projects. Chongqing: Chongqing University.
  - [8] Yu Shunda (2018). Discussion on improvement of engineering management level by BIM Technology. Vocational technology, vol.17, no.9, pp.64-66.