

The Cost of the Construction Project Risk Management and Optimize the Allocation of Resources

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Abstract. Author thoroughly discussed the project cost risk determinants, and to analyze the formation stage of construction project cost risk, building construction project cost risk management mechanism. Author through the study of optimal allocation of resources based on the cost of construction projects planned application of limited resources to proactively investigate the optimal allocation of project cost plan by early in the project development, the rational allocation of resources, and the cost of the construction project for effective risk prevention.

Introduction

Construction projects with large investment, long construction period, involving a wide range, complex technology, encountered many risks in the process of development. The biggest risk is cost risk. The cost of fluctuations, directly affect the enterprise management decision, should cause the attention of all stakeholders. Construction project cost is determined the basic cost in the framework of the planning and design. In the forming process of the cost will be adjusted, each risk will bring the cost fluctuation. How to prevent and avoid and solve problem of cost risk, is an important problem we need to solve.

Determinants of Construction Project Cost Risk

Risks arising from the grasp of the information are not accurate, comprehensive, timely. Significant characteristics of the industry have the cost risk of construction project. According to the features of formation we can put the determinants of construction project cost risk is divided into two categories: environmental factors and decision factors. Among them, environmental factors are divided into external environmental factors (policy risk, market risk) and internal environment factors (organizational environment risk) (Fig. 1).

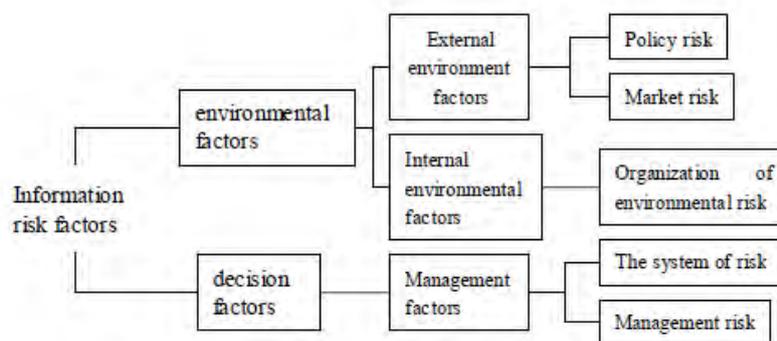


Fig. 1 Determinants of Construction Project Cost Risk

Conditions vary from minute to minute, risk project encountered emerge in an endless stream, these risks are information risk, they are the decisive factors for the construction project cost. Establish a set of effective risk management information system, timely and effective screening and

transfer of useful information for enterprise decision, the enterprise to deal with all kinds of cost risk, to ensure the normal operation is very important. Real estate enterprises should make full use of advanced information and network technology, the integration of internal resources, industry and social information, optimization of information transfer process, the formation of a full range of three-dimensional information network, to ensure the effective information timely and accurately transmitted to the relevant personnel.

The Formation Stage of Construction Project Cost Risk

When the cost of construction projects in the early formation, decision factors dominate. This stage is in a critical period of design orientation, decided to outline future construction project cost. In this process, the risk decision positioning errors, such as the main selection error, structure size, material and equipment selection scheme, determines the future direction of development of cost.

Another crucial factor is also important in the early formation of construction project cost. This stage is just in the construction project tender stage. In this phase, the construction project cost also face many risks, such as the cost of risk, the risk management, determines the direction of future costs.

In the construction project cost in the forming process, the important cost risk produces place is the construction stage. Risk of a stage implication will burst out in this cost practice stage, risk aggregation, such as change, visa volume increase, the uncertainty factors of negotiations increase, as the stage of risk.

In the cost accounting period of project construction, project settlement audit has become the key factor in the construction project cost determination. This stage requires the determination of the content of many, to risk a stage not processed will appear again at this stage, and the audit risk and negotiate quality risk, time risk which a superposition, form a perplexing situation.

The Mechanism of Cost of Construction Project Risk Management

Risk identification, assessment, detection, control of construction projects shall be allocated to the best control the risk status of the people, they can be at a low cost control risk. In this case we should consider the risk takers, whether there is sufficient capacity to correctly evaluate the risks and the reasonable risk control will be down to the smallest capacity. Measures should be taken to ensure consistent allocation method in actual and expected risk allocation method. From the control of risk cost and time, risk sharing application value, the size of the risk and the risk price etc, we can introduce the following cost risk management mechanism.

Environmental Risk Should Increase the Cost of Risk Recognition System

Construction project external environment risk included policy risk, market risk. We should strengthen risk identification, to implement, nip in the bud. The internal environment risk project including organization internal environment cost risk. We should strengthen risk identification and evaluation, the establishment of evaluation system, the internal environment risk immediately corrected.

The Decision Risk Should Increase the Curing System and Standard System of Cost Risk

Decision making risk project mainly comes from the risk management, including system risk and managerial risk. We should strengthen the detection and control of risk, curing system and personnel decision criteria, standardized operation.

Construction Project Cost Risk

Introducing the system of internal control and risk management framework of real estate enterprises, with the overall aim of enterprises as the guidance, the basic process of risk management and carry out to every link and process of enterprise cost management. Enterprises

should conduct a comprehensive cost function of organization system of risk management system, including risk management, risk management, internal control system.

In the cost control and management, real estate enterprises should introduce the system of risk management framework, in fact enterprise is to set up the risk control of information system. We should take the following measures:

The Construction Project Cost at the Early Stage of Formation of Risk Prevention

In the early stage of the construction project cost, planning design period, the decision risk dominance. Standard decision procedure and curing design standards are essential. Design review good before bidding, design reflects the intention, materials, equipment, marketing, technology, construction, management and other aspects, these are the important factors influencing the cost. Standard decision procedure and curing design standards make the decision making of accurate positioning, drawings and documents is clear, both the structure, scale scheme or materials, equipment level, size, all of these will cost risk prevention measures.

When the cost of the building project is in the early formation, the tender stage is just in construction projects. We also should establish the risk control of information system, such as setting standards and audit system, establish the tendering template, prevention of cost risk, the risk etc.. In particular, a clear definition for the scope to civil engineering, installation, subcontracting relationships engineering division and lap, risk aversion price, bidding the way clear for a material type, quantity, defined in advance, and retain the right to tender subcontractors, materials and equipment required to bear the risk, the standardized field and civilization the site requirements and other information should be explained clearly enough, clear, and tender.

The Construction Project Cost Risk Aversion in Forming Process

When the construction project cost is in the process of formation, construction has become an important cost and risk occurrence place. The environmental risk is the main risk, decision-making risk is of secondary importance. At this stage, the risk identification is given priority to, supplemented by curing system, avoid the environmental risk and risk management decision. The risk of a stage which broke out in this cost practice stage, is shown by the change, visa the quantity increase, the material, the artificial factors of uncertainty. This stage should increase the identification and control of risk, risk tracking system, to implement, the timely detection and timely solve.

In addition, because the stage is an important period of construction management, management risk is also prominent. To avoid risks, real estate enterprises should establish the decision-making process management and reasonable standard, determine the experienced management personnel management, avoid the risk happen with a fixed system. Specific such as materials, artificial price tracking system, change the visa decision system, the construction contract risk allocation and relations of the system, and the various management system, track, control cost information.

The Construction Project Cost in Determining the Risk Control Stage

When the construction project cost is in determining stage, project settlement audit has become the key factor in the construction project cost determination. The main risk of this phase is the decision risk, risk management and system. At this stage, real estate enterprises should establish curing standard and system, control the cost risk information is the greatest strength in the stage. This stage requires the determination of the content of many, the risk in the previous stage has not processed will appear again at this stage, such as standard review process, the specified audit, auditors, increase the check the signature system, bargaining, records, access system, the audit quality risk, time risk and negotiation risk minimization, control risk.

Real Estate Project Resource Allocation Optimization and Cost Planning

By strengthening the guiding role of resources optimization allocation based on project cost plan, we can effectively control cost trends, and monitoring implementation of cost. In the process of

project development and construction, real estate enterprises should focus on the following issues and improve:

(1) Real estate enterprises should actively pursue cost pre control, form the resource optimization project cost planning framework in the plan stage, implement cost control in the design stage, reduction of late change and modify repeatedly lead to increase the cost of.

(2) Target cost formulation needs further refinement. In addition to the explicit control standards and responsibilities of departments, real estate enterprises need to key steps or influential portion of the main methods of cost control.

(3) Enhanced prediction and prevention of market risk. For the long construction period of the project, real estate enterprises should accurately predict the possible risk, and prior to the circumvention measures, establish the risk early warning and emergency response mechanism, reduce the cost of risk.

(4) Strengthen the control of indirect cost. Real estate enterprises should strengthen marketing efforts, from marketing to benefit, to improve the accuracy of sales plan.

The Value Orientation of Real Estate Project

Real estate project optimizes the allocation of costs through prospective value orientation, makes enterprises to introduce the system of internal control and cost management framework. This can take overall management goal of the enterprise oriented, optimize resource allocation of basic process cost management and carry out to every link and process of project management to build a comprehensive cost management system, the organizational structure of project management. It can integrate the project with limited resources, so that resources can be optimized configuration is relatively reasonable, to maximize the economic benefits (Fig. 2).

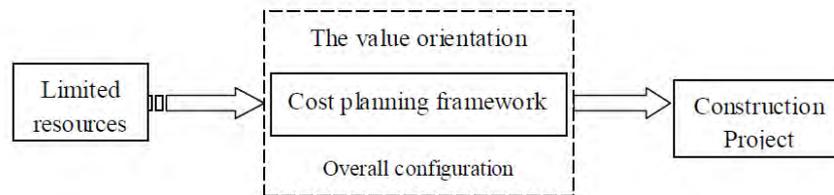


Fig. 2 The Real Estate Project Resource Optimization Cost Planning Framework

Optimization of resource allocation optimization refers to the person, property, materials, technology, information and other resources use and arrangement. They are involved in the real estate project organizations optimize the allocation of resources, and to achieve the goal of real estate enterprise plan innovation, technical improvement, to improve the management level, to bring high efficiency of resource use technical management measures and means. Real estate project value as to meet the demand of the bridge, plays an important role in the project resource allocation. The value of the real estate should meet the needs of different levels of people, so as to determine the direction and principles of the allocation of resources (Fig. 3).

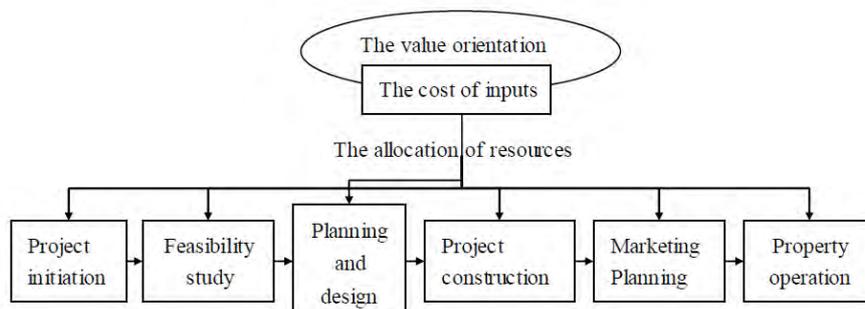


Fig. 3 Resource Allocation of Real Estate Project Cost Plan

Configuration and Cost Planning of Real Estate Project Cost Optimization

To optimize the allocation of real estate resources from the project's future value direction, and guide all aspects of the cost of real estate project investment to achieve the best efficiency, is the research direction of modern real estate enterprises management. It sets up the project initial investment cost planning framework of implementation science, reasonable, effective.

Cost planning framework sets up in real estate projects, allocates the limited resources according to the value of real estate projects reasonably, improves efficiency in the use of resources. It will be the basic process resource optimization configuration cost management and carry out to every link and process of project management, in order to achieve the overall aim of enterprises.

Building cost planning framework of project management organization structure, is very important to set up the system total cost of risk management, mainly through the following aspects dominate the flow of resources, traffic and consumption intensity (Fig. 4).

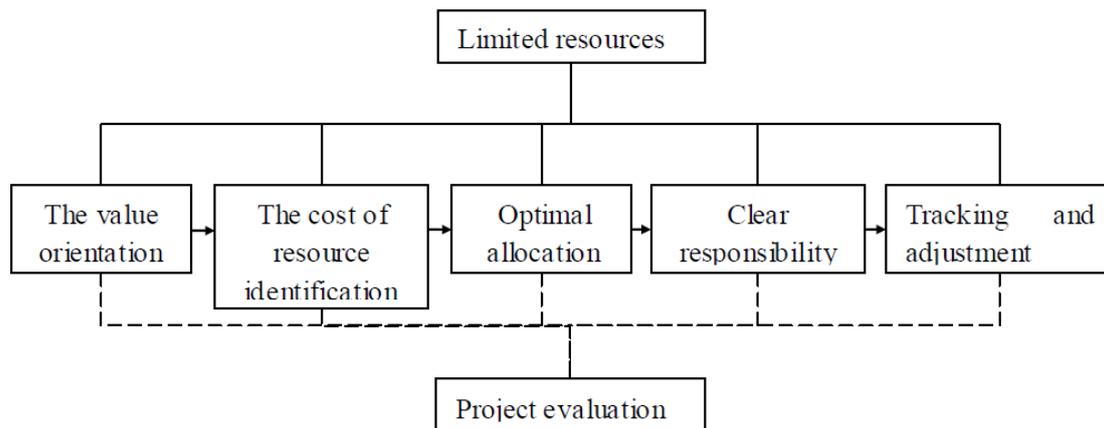


Fig. 4 Real Estate Project Cost Plans to Build

(1) Identification and selection of different cost resources. The allocation of resources include the enterprise internal financial and material resources, people, technology, information and other resources, including the allocation of resources related to social scope. When the optimal allocation of project resources, real estate enterprises to identify and select the cost of resources, effective use. Then the enterprise of scarce resources can take alternative measures, efforts to reduce consumption, sustainable development.

(2) Rational allocation of resources according to the situation. Resource allocation methods are mainly focused on the regulation of coordinating configuration and configuration. Among them, the overall configuration of the enterprise's overall business objectives-oriented project play a fundamental role in the allocation of resources, focusing on the regulation of the configuration according to the project value proposition, according to characteristics of the project to ensure that the key part of the need for resources, the organic integration, take and give, receive overall optimal, so that systematic cost management, forward-looking and planning.

(3) Through the development of cost-control targets clear target cost responsibility department. Real estate enterprises adjust the internal control system, in the framework of program management costs, through the development of cost-control targets clear target cost responsibility department, making the whole process and implement full control of the project.

(4) Organize regular track and adjust the project cost plan. Real estate companies track to detect problems, and analyze the causes of problems, propose solutions, and ensure the realization of the target cost.

Under conditions of limited resources, real estate projects in resource allocation is reasonable or not, has an important impact on the real estate project and its stakeholders concerned. Optimal allocation of resources based on the cost of real estate projects planned application is the limited resources at the beginning of the construction of real estate projects, real estate projects through cost plan, according to some principle of distribution, optimal allocation of forward-looking, rational

allocation of resources to process each user units. This will solve this problem we offer an effective way.

Conclusion

Real estate development project cost management is a complex systems engineering. Real estate enterprises should enhance risk awareness, strategic predictability and integration capabilities. Companies from their own actual situation, should be established based on the cost of real estate projects planned system optimal allocation of resources, risk management framework built in line with its own characteristics, improve risk information management system, establish a scientific cost risk management mechanism to strengthen the management of projects and control, enterprise management, scientific and standardized, so that enterprises get a good economic and social benefits.

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