

## *Original Paper*

# Research on the Influence Mechanism of Construction Standardization on Project Economic Benefit (Note)

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### ***Abstract***

*In today's world, there is a significant trend of economic integration, information technology is constantly improving, and standardization plays a key role in the standardization of the industry, the acceleration of industrial development and the in-depth development of international trade. Many countries raise standardization to the strategic level. Engineering construction standardization is an important part of standardization, which has an important impact on the economic benefits of engineering projects. This paper will stand at the top of the project, from the perspective of project management analysis of the impact of engineering construction standardization on project economic benefits.*

### **1. Analysis of the Impact of Construction Standardization on Project Management**

In the construction of engineering projects, the role of engineering construction standardization does not directly affect the economic benefits of the project as it affects cost control. It can also accelerate the construction speed so that the project can be put into operation and use as soon as possible, and indirectly promote the improvement of the economic benefits of the project. It can be seen that the impact of construction standardization on project economic benefits needs to be transmitted through the media. Project around "progress, quality, cost," the construction of the three objectives and economic benefits of the project is based on the three targets as required to complete, on the basis of the three major goals are implemented by the project management, as a result, the project management can be assumed to be the analysis of the influence of engineering construction standardization of project economic benefit medium.

First, the impact of construction standardization on schedule control. Progress control is one of the three objectives of project management. An effective progress control system ensures the completion of

the project within the deadline and determines the economic benefit of the project. Engineering construction standardization by influencing the cooperated-building parties of the project progress control, thus influence on the project construction period, mainly displays in: standardization work efficiency of each cooperated-building parties significantly raise of the actual project construction period shortened obviously, make the total project schedule and each subsystem planning more scientific and practical progress closer to the project schedule, each working procedure in time to have a good arrangement, significantly reduce the phenomenon of shutdown of the dead. Of course, if excessively strict quality and safety standards are used in the construction, it may take more time and lead to a prolonged construction period. Therefore, the quality and safety standards of the project should be set according to the needs in the design, and the relevant standards can be met in combination with the local conditions.

Second, the influence of engineering construction standardization on quality control. Standardization of engineering construction is an important guarantee of project quality, which determines the economic benefit of the project to a certain extent by influencing the quality of the project. Establish effective in engineering construction standardization system and strict implementation of the construction market mainly reflected in the standardization, provide greater security for the engineering quality, improve the construction speed, reduce the project cost, improve the utilization rate of resources, reduce the life and property safety hidden trouble, promote enterprise and social and economic benefits of ascension, is more advantageous for the enterprise's competitive position. The quality management of project construction must be based on national standards and minimum requirements. National mandatory standards have a legal nature, and the "mandatory provisions of project construction standards" adopted and implemented by relevant departments must be implemented in project construction, which is the most basic requirement. The standard provides a comprehensive, objective and reasonable judgment basis for the project quality. Engineering quality problems should not be solved after the outbreak, but should be taken active control means, strengthen quality supervision and detection in the process of engineering construction, take the standardization system of engineering quality as the requirement and reference, and evaluate the quality of engineering construction.

Third, the impact of engineering construction standardization on cost control. Cost control is one of the three objectives of project management, which has a direct effect on project cost and directly affects project economic benefit. Engineering construction standardization is helpful to reduce the production cost of construction project, for the construction project whole life cycle of each link to provide services, project examination and approval stage, the feasibility study on the standardization of scientific nature, rationality of technical and economic argumentation, can lower the difficulty of project estimation and improve the estimation precision and so on so as to reduce the cost of the stage; In the design stage, engineering standardization is a reasonable design that has been tested. It can not only reduce the investment of money and time in design, but also provide more choices for structural parts and reduce the later maintenance workload and cost investment. In the construction stage, once

the project enters the acceptance procedure and has standardization as the basis, it is equivalent to giving a quantitative index and reference to the acceptance work, improving the acceptance quality and helping to find and solve problems in a timely manner. In the operation and maintenance stage, the engineering construction standardization system can not only reduce the investment cost of the project in the construction stage, but also provide a unified standard for the maintenance after completion, which plays a very important role in reducing the maintenance workload and cost.

## **2. Analysis of the Impact of Project Management on Project Economic Benefits**

First, the impact of schedule control on project economic benefits. The purpose of schedule control is to ensure that projects are completed on schedule so that problems can be identified and resolved as early as possible. From the point of view of the economic benefits of the project, the early completion of the project will certainly promote the improvement of economic benefits. Failure to complete the project before the deadline will inevitably result in economic losses. If the actual progress falls behind the planned progress, in addition to taking emergency measures, it is more important to determine the reasons leading to the delay and then increase the input of various construction resources, which will inevitably lead to the loss of economic benefits of the enterprise. If the actual progress exceeds the planned progress, there are two possibilities. One is that the resource input exceeds the expectation and the economic benefit is lower than the expectation. Measures must be taken to reduce resources as soon as possible. Second, the resource efficiency exceeds the predicted value. In other words, the value of resources is underestimated when the schedule is made. In this case, the overall economic benefit after the completion of the project will exceed the expected value. In project management, to ensure that the economic benefits of the project can reach the expected standard, it is necessary to carry out an all-round control of the project schedule, and solve the problems as soon as possible.

Second, the impact of quality control on project economic benefits. Project quality is directly related to the success or failure of the project, but also the project in economic, social, environmental and other aspects of the comprehensive benefits of an important factor. In practice, there are many factors that affect the quality of engineering projects, such as decision making, design, materials, project duration and personnel ability level. The importance of the quality of construction projects is not only reflected in the function of buildings. When quality problems are serious, accidents are likely to occur. Based on this reason, the factors of quality fluctuation should be reasonably controlled, so as to control the fluctuation within the range of modern times. Quality engineering involves a wide range of factors, as long as there is a problem in one of the factors, it will have a great impact on the quality of the whole. Based on this reason, the quality of construction engineering projects vary greatly. In addition, the construction project quality concealment is big, final inspection limitation is big. Improve the quality of the project, effectively reduce the operation cost in the later period. However, the higher the quality of the project, the longer the construction period and the greater the cost input will be, while the

excessively high quality will not have a great impact on the use and operation of the project products, nor will it bring excessive benefits.

Third, the impact of cost control on project economic benefits. The implementation of cost control on the project can monitor the project revenue and expenditure to ensure that the expected profit of the project can be achieved, and at the same time, the real-time profit and loss status information of the project can be presented to provide direction for the cost input in the process of continuing the project. In combination with the actual cost of each stage project and the change of procurement cost, the profit and loss level and ability of the project are predicted regularly to provide financial basis for the adjustment of the project plan. The implementation of cost control for engineering projects is very useful for accumulating cost management experience and providing an important cost basis for future engineering bidding. It is of great significance to check the difference between expected cost, planned cost and actual cost in the process of project construction.

### **3. Mechanism Analysis of the Influence of Engineering Construction Standardization on Project Economic Benefits**

In the construction process of engineering projects, it is very common not to establish a standardized system, which will greatly reduce the effective utilization of capital and time costs. Standardizing a series of work such as project management procedures, work rules and work templates can promote the improvement of the overall project management level and thus bring greater economic benefits to the project. In order to analyze the way of the influence of the standardization of engineering construction on the economic benefits of the project, we should first analyze the standardization of engineering construction activities to form a comprehensive and in-depth understanding. According to the contents of standardization activities in engineering construction, cognition and revision of standards, implementation of standards, implementation of supervision and inspection standards, and feedback and disposal of implementation, these four stages constitute standardization activities in engineering construction, and PDCA cycle principle can be established.

Planning phase (P) contains two aspects of content, the first thing to fully grasp the degree of execution of the current standard, so as to whether the evaluation standard for engineering construction to provide enough support, whether to need to redesign or change, if you can't meet the need requires the formulation of standards and revising plans, according to the standard system revision work plan; In the process of making and revising the standard, it may be interfered by external factors, which is one of the reasons why the compiled standard cannot meet the needs, and also one of the reasons why the standardization work needs PDCA cycle management. The implementation (D) stage is mainly the process of implementing the revised standards and collecting relevant data during the implementation process to provide a basis for the work in the next stage. The implementation of the standards directly affects the effectiveness of the standardization work. The inspection (C) phase is to monitor the implementation of the standards, compare the collected data with the planned values to see if they are

consistent, and if so, to keep the existing standards unchanged and continue to implement them; If there is A deviation, the need to clear whether the deviation in the can control range, if the deviation can be controlled within the scope of the analysis of the deviation, clear the influencing factors, and to analysis the information feedback, through effective means, to minimize the negative effects brought by the deviation, this is the disposal stage (A); In this stage, based on the influence factors obtained from the analysis, the existing standards in the inappropriate content is revised, and then begins another cycle of work. If the deviation is out of control, it is necessary to re-recognize the current status of standards, re-plan, develop new standards, and enter the next cycle.

In the content of the engineering construction standardization activities, analysis of the engineering construction standardization of these eight factors, establish the connection between the two, known engineering construction standardization mechanism of the impact of project economic benefit is: cognitive and, execution and revising standard, the supervision and inspection of the implementation of the standards, to feedback the implementation disposal cycle movement, constantly updated, constitutes the standardization of construction activity, the activity by acting on project schedule, quality, cost, safety, information, contracts, eight factors such as brand and organization and coordination, affect the economic benefits of the project.

#### **Note**

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