

# Analysis on the Influencing Factors and Countermeasures of Management of Prefabricated Construction Project

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**Abstract:** The development trend of the construction industry in China is rapid, and it is important to conduct research on it. The relatively new prefabricated construction project in the construction industry is a work with controllable cost, short construction period and low energy consumption. However, the construction of prefabricated building projects is relatively more complicated, and it will involve hoisting procedures, and the hidden safety risks are greater. The author introduces the prefabricated building briefly, then analyzes the main influencing factors in the management of prefabricated building engineering, and finally formulates the corresponding countermeasures for the influencing factors of management of prefabricated building engineering.

## 1. Introduction

The modern construction industry is gradually tending to choose new design concepts, combining new materials and new construction methods, making construction projects more convenient and faster. Under this development mode, prefabricated construction projects are gradually derived. The quality assessment of prefabricated construction projects is relatively immature, but its convenient construction method, energy saving and consumption reduction, short construction period, and low cost have been recognized and respected in the industry. The immaturity of quality assessment makes large differences in the quality assessment of prefabricated construction projects. The traditional engineering quality assessment has low applicability in prefabricated construction projects, so it is necessary to conduct in-depth research on prefabricated construction projects.

## 2. Prefabricated Building

The pace of life of modern residents is getting faster and faster, and their living standards are constantly improving. Traditional houses have more load-bearing walls, making space constraints not satisfying the actual needs of modern residents. Based on this situation, prefabricated buildings are gradually emerging. The prefabricated building is a building that can realize flexible division of areas. It can be designed as a large living room or a small living room or a large living room and a small living room. Its lightweight partition wall can provide more space for the interior of the building. Specifically, the external wall panel of the prefabricated building is selected to be produced in the factory at the same time. After baking and spraying, the external wall panel can greatly improve the appearance and will not fade. Under the development of science and technology, we choose advanced production technology to design all kinds of metal connection devices. The remaining materials, including gypsum boards and coatings, are also produced in an assembly line in the factory. The current production technology has achieved conventional requirements such as sound insulation, fire prevention and thermal insulation. The prefabricated building is already a combination of technology and architecture. It better realizes the function of science and technology. Firstly, it can prepare good sound insulation materials, and set a thermal insulation layer in the wall.

The insulation materials can help to isolate the sound to a large extent, and the gap between doors, windows and walls is small, which can help to reduce the external sound. The overall indoor environment is very quiet and comfortable, and it can isolate the hustle and bustle, which is loved by modern young people. The second is to save energy consumption. The insulation layer can achieve warm winters and cool summers on the basis of proper indoor temperature control. For example, after the indoor air conditioning is selected in summer, the insulation layer can extend the indoor low temperature time without the need to turn on the air conditioning for a long time, which realizes the concept of energy conservation and consumption reduction. The third is fire performance. The materials in the wall are flame-retardant or flame-resistant, and dry in winter, and special materials can reduce the probability of fire.

### **3. The Main Influencing Factors in Management of Prefabricated Construction Project**

Based on the author's own experience and literature review, it is found that there are four important factors in the management stage of the prefabricated construction project, which focus on the influence of management coordination, management awareness and management ability of the management personnel, the influence of pre-construction preparation and the influence of accessories.

#### **3.1 Influence of Management Coordination**

Compared with the traditional cast-in-place building, the prefabricated building engineering has the advantages in technology, and this progress is worthy of affirmation. Technological breakthroughs also make management keep pace. The construction site needs multi-party coordination, such as consultation and communication on component production, accessory production and quality, disclosure and communication on drawings and technology, communication between the supervisor and the owner when accepting the project quality, and communication on labor protection contract. In order to ensure the orderly progress of all works, all matters need to be discussed in detail in combination with the words of hundreds of experts. There should also be special technical personnel on the construction site to guide the technology on the site, track the progress of the prefabricated construction project in real time, and do a good job of phased acceptance and feedback. These things need detailed communication of construction enterprises, which means that management coordination is needed to ensure that the prefabricated construction project can move forward steadily according to the plan.

#### **3.2 Management Awareness and Management Ability of Management Personnel**

Prefabricated construction engineering has its own strong characteristics. In the process of construction management, managers need to be responsible for relevant management. As a relatively new means of construction engineering, the management of prefabricated construction engineering itself is not perfect. In addition, the ability of management personnel is relatively ordinary, the management consciousness still follows the traditional management thinking, and the lack of new management means and management concept leads to a series of problems. The management ability of the management personnel is low, the ability to deal with and coordinate various matters in time is not available, and the management consciousness cannot be updated in time, which will have a great negative impact on the management system of the prefabricated construction project, and then hinder the management of the prefabricated construction project and affect the construction period and quality.

#### **3.3 Influence of Pre-construction Preparation**

A good beginning is half the success. If you want to carry out the construction work of prefabricated construction smoothly, the preparation before construction is important. In the prefabricated construction project, the preparatory work before the construction needs to be more managed. In this process, the enterprise should have foresight. From a scientific point of view, the construction schedule should be reasonably formulated to ensure that the number of components

and accessories is sufficient and the size and the storage is correct, which will not affect the later use. This requires high professional quality of construction personnel, comprehensive overall construction level, scientific and complete quality planning and construction, and finally can make the management of prefabricated construction project be completed on schedule or ahead of schedule.

### **3.4 Influence of Accessories**

The obvious difference from traditional buildings is that prefabricated construction projects need to use more abundant and diverse structural components, and these components have a greater impact on the quality of the entire project. Therefore, we should pay more attention to building management. Floor slabs or shear walls are factory-specific productions, but the production scale in the domestic market is relatively limited, production experience is lacking, and there are obvious levels of uneven quality. Managers need to do a good job of coordination in the early stage. After ensuring that the factory can successfully produce the structural parts, the transportation process is also important. During the transportation, it is ensured that the structural parts are protected by corresponding measures, and there will be no quality problems during transportation to the site. The storage and maintenance of the structural parts that exist on the site also need to be considered by the management staff to avoid external factors or other reasons causing damage to them. The structural parts that do not meet the standards must be returned immediately after being delivered to the site, otherwise the maintenance costs will be wasted and economic losses will be caused. If they are used accidentally, they will also cause hidden safety hazards and serious economic losses.

## **4. Corresponding Countermeasures for Influencing Factors of Management of Prefabricated Construction Project**

### **4.1 To Update Management Concept**

Construction project management is important in the entire prefabricated construction project. It directly determines whether the building is correct, whether the quality is qualified, whether there are hidden dangers to safety, and whether the enterprise can make a profit. Compared with traditional construction project management, the management of prefabricated construction projects should update the management concept in a timely manner. From the actual point of view, it should focus on the construction process and details of the construction, and management personnel should restrict the construction personnel. The renewal of the management concept is imperative in prefabricated construction projects. If it is still “boarding a new passenger ship with an old ship ticket”, it will hinder the smooth construction of the building. Based on this reality, companies can provide relevant training to managers in advance, so that managers can change their thinking, update their ideas, build a management concept suitable for this prefabricated building project, and work out relevant management details, so that the entire modern management of prefabricated construction project has been well advanced.

### **4.2 To Improve Management System and Strengthen Quality Issues**

As mentioned earlier, the management of modern prefabricated construction projects is not mature enough. Under this background, enterprises should focus on the accumulation of various management tasks, integrate typical cases at home and abroad, and gradually improve the management system. The management concept of prefabricated construction projects abroad has been relatively updated. They have already a relatively comprehensive management blueprint. On this basis, according to China's actual situation and actual construction conditions, the management system of prefabricated construction engineering with universality has gradually developed. It can be carried out from the establishment of organizational structure, the division of departmental work, and adjustment of work content. It is necessary to have clear powers and responsibilities, and think about the employment system and distribution system to ensure manpower. While the system is gradually forming, the quality of the on-site building should be strengthened. The building is full of

people in the end, so the safety and quality issues are only zero and one. The management of each work should be improved and adjusted to ensure the quality on the basis of basically meeting the design requirements. Management should put quality in the first place and improve building quality.

The special components of prefabricated construction also make the transportation work more important. The transport vehicle can be equipped with component transport frame for reinforcement to ensure that the components and parts will not be damaged by shaking and collision during transportation. With the components, the vehicle can be backed up, and can be supported in the side direction by the manipulator, so as to ensure the safety of transportation to a large extent.

## 5. Conclusion

The core of the management of prefabricated construction project is that the quality management of the whole project must be put in the first place. In addition, there are still some problems. In the management work, the management personnel should strengthen their management thinking, improve the management ability, do a good job in the preparation work, transportation work and later storage work for the matching components, and help to form a certain management system in the gradual exploration, so that the whole management work can gradually form universality. Only in this way can we really promote the development of the industry and enable enterprises to achieve profits.

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