

Exploration of Efficient Project Management based on the Co-operation of Architects and Chief Consultants

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Abstract. The Sydney Opera House is a jewel in the history of architecture, a model of success in the project, and a feat of Danish architect Jon Wusong; but project management is also the responsibility of Wusong and another structural engineer, due to the uncompromising management of Wusong leading to the failure of the previous project management. After Wu Song's resignation, the project was completed and achieved great success. This is an experience and a lesson. This shows that the architect can guarantee the success of the project, but it does not necessarily guarantee the success of the project management! In order to improve project management performance, the general consultant came into being! In the whole process engineering consultation, the chief architect will plan the building, the chief consultant will plan the project; the chief architect will ensure the success of the project, and the chief consultant will ensure the success of the project management; the chief architect and the chief consultant will work together to add value to the project!

Keywords: Sydney Opera House; Chief Architect; Chief consultant; Whole process engineering consulting.

1. Introduction

From the perspective of the architect's practice scope and the university architect's training system, it is the architect's natural duty to provide the full-service design. The pre-project research and the whole project management are the shortcomings of the architect's professional practice. The "tragedy" of the Sydney Opera House was caused by the failure of project management. From this point of view, the architect can guarantee the success of the project, but cannot fully guarantee the success of the project management. In order to make up for this limitation, the general consultant came into being!

2. Project Management Failure Led to the "tragedy" of the Sydney Opera House

On January 29, 1957, in the hall of the N·S·W Art Gallery in Sydney, the jury announced that Jon Uson's plan defeated 231 competitors and won the first place. Wusong visited Sydney in 1957 to help oversee the project. In 1959, the opera house officially broke ground and started construction.

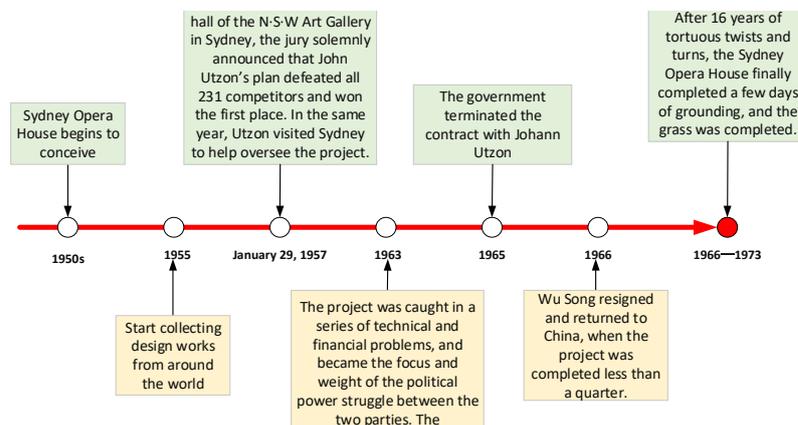


Fig. 1 Sydney Opera House Construction History

The opera house was rushed to work in 1959, which made the opera house in the state of design and construction. These uncertainties caused the project to be followed by large-scale repairs, which took five years. The biggest difficulty of the opera house comes from the "thin shell" structure originally designed by Wusong. In order to solve the problem, Wusong changed the roof design greatly, and revised from design to construction, rejecting the ready-made building products, regardless of cost and schedule. The approach ultimately led to high costs.

The ruling Labour Party lost in the new elections. The new government accused the former government of “doing a huge amount of money to build one of the world’s largest opera houses is a luxury and waste”, refusing to add a new budget to the project and ending the Ukrainian Song's contract, Wu Song resigned and returned to China in 1966, when the project was completed less than a quarter. The Australian Government continues to appoint three national architects to complete the remaining projects. Until 1973, the Sydney Opera House was completed. The total cost is more than A\$1 billion, which is 15 times the budget.

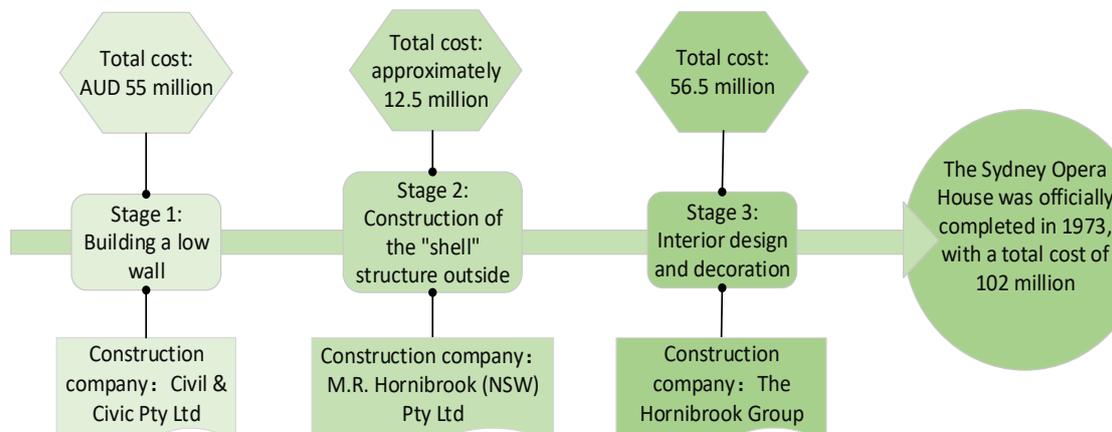


Fig. 2 Sydney Opera House Construction Stage

In 2007, the Sydney Opera House was listed as a World Heritage Site by UNESCO and became one of the most classic buildings in the world in the 20th century. A year later, 90-year-old Wu Song died in Denmark. At that time his eyes were almost blind. Before he died, he only looked deep into the direction of Sydney. It was the place to rewrite his life. Even though he had not set foot on the land until he died, he refused to take a look at his opera house. To commemorate the great architect, the Sydney Opera House extinguished the lights, and the Australian flag on the Sydney Bay Bridge also halved. This is Australia's most noble salute to a Dane.

The Sydney Opera House is a jewel in the history of architecture, a model of success in the project, and a feat of Danish architect Jon Wusong; but project management is also the responsibility of Wusong and another structural engineer, due to the uncompromising management of Wusong leading to the failure of the previous project management. After Wu Song’s resignation, the project was completed and achieved great success. This is an experience and a lesson.

This shows that the architect can guarantee the success of the project, but it does not necessarily guarantee the success of the project management! Regardless of the success of project management, people only remember the architect!

Who is responsible for project management? - The general consultant appears!

2.1 The Production of the Chief Consultant!

Guobofa [2017] No. 19 proposes to cultivate a group of internationally-advanced engineering consulting enterprises, and give full play to the leading role of architects in civil construction projects. Professor Yin Yulin believes that there is no “teacher” (post) in the field of engineering consulting, and then puts forward the concept of “general counselor”. There are now two provincial construction halls responding, in which the Henan Provincial Construction Department issued a document (Yu Construction Standard [2018] No. 1), stating that “the project consultant consultation model of the general consultants responsible for the construction project is actively promoted, and the registered

cost engineers are encouraged to pass the total. Consultant training to enhance the ability and status in the whole process engineering consulting business."

We position the general consultant as the person in charge of the whole process engineering consulting project, that is, the person in charge of the consulting agency construction project, which can be held by professionals with design, supervision, cost and other practical ability, and selected by the whole process engineering consulting unit. And appointed. The general consultant should lead the consulting services and process control of feasibility study, design management, bidding agency, construction management, operation management and life-time cost control. The important task is to pay attention to project planning in the early stage, and to implement and manage the project. It is the goal.

The general consultant is responsible for the whole process engineering consulting project, which is different from the starting point for the implementation of the architect responsibility system in the housing construction project. The architect is mainly responsible for facilitating the general contracting of EPC and DB projects. From the technical point of view, the architect is responsible for the two-stage task of design and construction, and the technology that is commonly used in DBB mode is turned into the integral technology of DB. The chief consultant is the person in charge of the project planning, design management, bidding agency, construction management, completion acceptance, and integration of investment management and control. The general consultant is the person in charge of the whole process engineering consulting project, and implements the whole process management of the proposed project on behalf of the owner.

2.2 Strong Alliance, a Total of Blueprints!

The architect assured the project that he wanted to plan and innovate the building. However, if it is judged that the architect responsibility system can be realized, it may be too optimistic, because most buildings are low-cost, and the architects who are willing to realize their dreams are costly and few, so the quota design is proposed. The limit design is for the architect to dance in a squat, and of course the jump is not good; but if the society provides a mechanism: the architect and the chief consultant will consult, the general consultant will passively propose the cost performance and benchmarking cost for the architect's plan. Architects take the initiative to strike a balance between design philosophy and cost-effectiveness. This is a harmonious mechanism.

3. Summary

In the whole process engineering consultation, the chief architect will plan the building, the chief consultant will plan the project; the chief architect will ensure the success of the project, and the chief consultant will ensure the success of the project management; the chief architect and the chief consultant will work together to add value to the project!

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