

THE PRACTISE OF MANAGEMENT SCIENCE IN KUALA LUMPUR INTERNATIONAL AIRPORT (KLIA) DEVELOPMENT

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Abstract

Project Management is one of the most important MS/ OR techniques, which can be applied across many disciplines including engineering, construction, information systems development and manufacturing. The construction of commercial or non-commercial projects especially a highly and technically integrated project usually involves costs, management of resources in particular people, compliance to user and client specification and meeting dead-lines. It requires a well-planned and systematic project management to control complex activities and the entire components of an organization. The construction and completion of Kuala Lumpur International Airport (KLIA) within the specified date, user specification and budget is an example of how a huge project is managed successfully from inception to its operations. KLIA was designed to meet the demand from air-travelers who expected high standards as the existing Sultan Abdul Aziz Shah International Airport (SAAS) was thought to have reached its limits. The airport which had just turn two years old in July 2000, is ranked third worldwide for overall passenger satisfaction, and number one for overall business passenger satisfaction for airports in the 15 to 25 million passenger per annum category. It had also received the outstanding engineering award by the Institution Engineering of Malaysia. KLIA is an achievement from many perspectives as this is the first time Malaysian professionals: engineers, project managers, quantity surveyors, IT people, architects and others are involved in the fore-front to manage the construction of the huge international airport project. The construction of KLIA has created several new ways of doing projects, the foremost of which is the formation of a separate company, called as Kuala Lumpur International Airport Berhad (KLIAB). KLIAB is the developer, responsible for planning, designing, constructing, testing and commissioning all facilities before handling the airport to operation. One strategy applied by KLIAB in managing KLIA project was through building a capable organization structure and putting together a strong management team with the right personal chemistry and mix of skills. This was made possible by the implementation of a matrix structure known as KLIAB Management Matrix. The matrix structure applied by KLIAB follows the same concept of any other matrix structure where it was built up upon two basic lines: the project lines and the service lines. The key feature is that the authority for the project lines and the authority for the service lines are overlaid (to form a matrix), and decision-making responsibility in each unit (cell) of the matrix is shared between the project team manager and the service manager. The project lines have some responsibilities on the project's time, quality and cost while the service lines provide services to each package or a sub-project

in terms of preparing for the planning, tenders, awards, construction and commissioning. The first reason why the matrix structure was chosen is due to the nature of KLIA itself as a geographical airport. Being viewed as a geographical airport, the development required the project to be divided into many packages and to be built in parallel. The second reason was the need to complete the airport before the opening of 1998 Commonwealth Games in Kuala Lumpur. This need called-upon a procurement strategy that prioritized fast-track methods. These two reasons inevitably involved many local and international parties including contractors, consultants, expertise, users, product suppliers and facility suppliers. The phenomenon demanded a right mechanism to formally structure and wisely manages the project's components including the tasks and the people involved. The matrix structure adopted by KLIAB has brought some advantages to KLIA project management, including the encouragement of an efficient utilization of human resources as well as other resources, the creation of an effective communication environment through and across organization, and the promotion, among the team, the making trade-off decision on the basis of "what is the best option for the organization as a whole" instead of "what is the best for one's own interest". All of these advantages continuously encouraged good and healthy cooperation, consensus building, conflict resolution and coordination of any related activities in KLIA project management. Besides advantages, KLIAB matrix structure has also thought some lessons for Malaysia's future project management. The adoption of a matrix structure could give a strong impact by creating new ways of doing things such as the tuning of a working environment from a traditional organization structure into a new environment that requires people to work more aggressive, quick and even more pro active. To adopt the structure successfully, the company must be well prepared with plans and actions to give the whole team a clear description on the rational and nature of a new structure as well as on the employees' responsibilities and benefits, and the company's expectation on its employees. In overall, the implementation of KLIA project, especially for its first phase, was successfully managed with a set of well-defined goals and plans. The matrix structure used by KLIAB, together with other factors, has played vital roles in coordinating and orchestrating the project activities, from the planning phase to the completion phase. It is proven that the structure adopted by KLIAB was a powerful "strategic weapon" to manage the KLIA project management.

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