

CHAPTER 1

INTRODUCTION

The construction industry basically evolves around what is known as projects. A project refers to a particular task or a job that needs to be carried out to a predetermined set of specifications, within a pre-established budget and a required time frame. It differs from any other business operation in the sense that it is temporary and unique while a business operation is ongoing and repetitive. What is meant by temporary is, that every project has a definite beginning and a definite end, while unique means that the product or service differs in some distinguishing way from all similar products or service.

As in any business operation, a project would have pre-determined goals and missions which encompass the stakeholder's needs, wants and expectations. A project is just like an organisation, and how successfully it achieves its goals depends to a large extent on how well it is managed. Project management is the application of knowledge, skills, tools, and techniques, to project activities in order to meet or exceed the stakeholder's needs, wants and expectations of a project.

The management of a project is always a challenge, mainly because the business is dependent on the environment and its dynamic nature, and because it involves grouping resources from various backgrounds to form a temporary organisation, and managing this organisation until the goals of the project are achieved, and finally the organisation is dissolved.

Although much of the knowledge related to managing projects are unique, there are several basic underlying management principles which form the important core concepts of project management. These are derived from the core management process of planning, organising, leading and controlling in order to achieve the stated goals. The principles in each of these management processes are assimilated and applied in the project management context, throughout the project life-cycle.

A project goes through a project life-cycle which is divided into phases of the project. The project life-cycle serves to define the beginning and the end of each phase in a project. The life-cycle descriptions can either be very general or be very detailed, but most project life-cycle descriptions share a number of common characteristics;

- The cost and staffing levels are low at the start, and rise through the implementation stage, and drop rapidly towards the end when the project draws to an end. This pattern is illustrated in Figure 1.1.

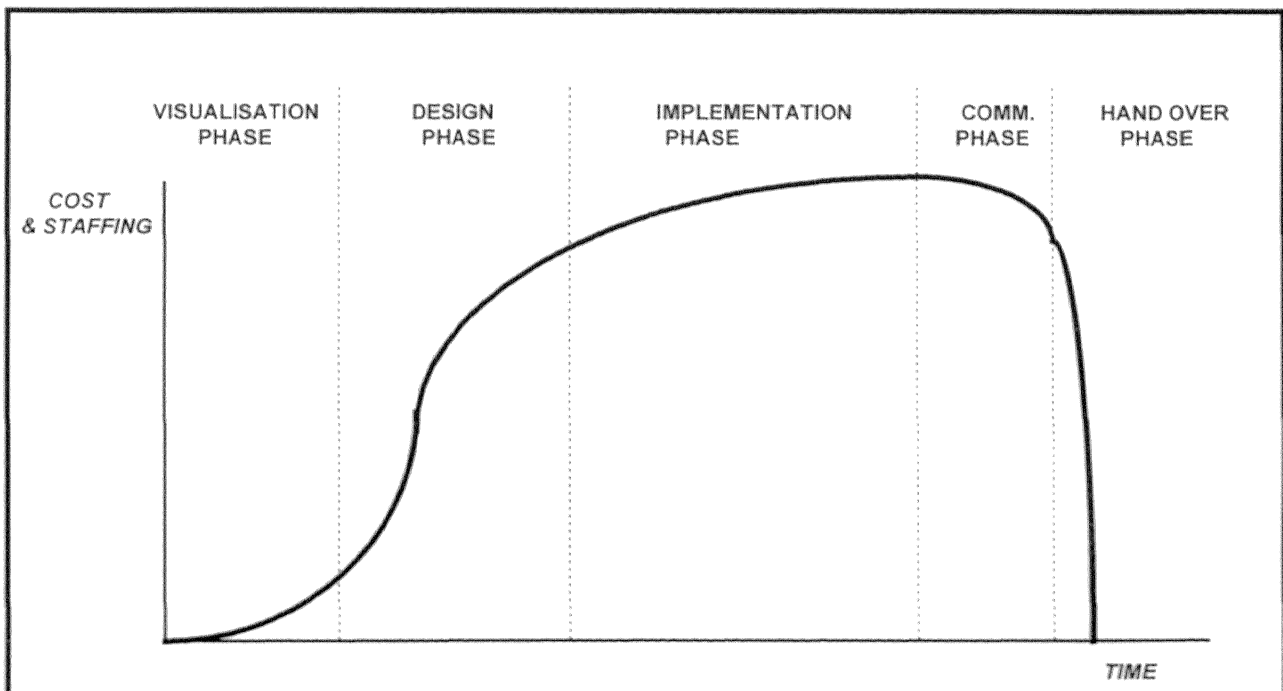


Figure 1.1 : PROJECT LIFE-CYCLE COST & STAFFING LEVELS

- The probability of completing successfully a project is lowest at the start when the uncertainty is high. The probability of a project being completed successfully increases as the project progresses when uncertainty decreases. This is reflected by the “S” curve in Figure 1.2.

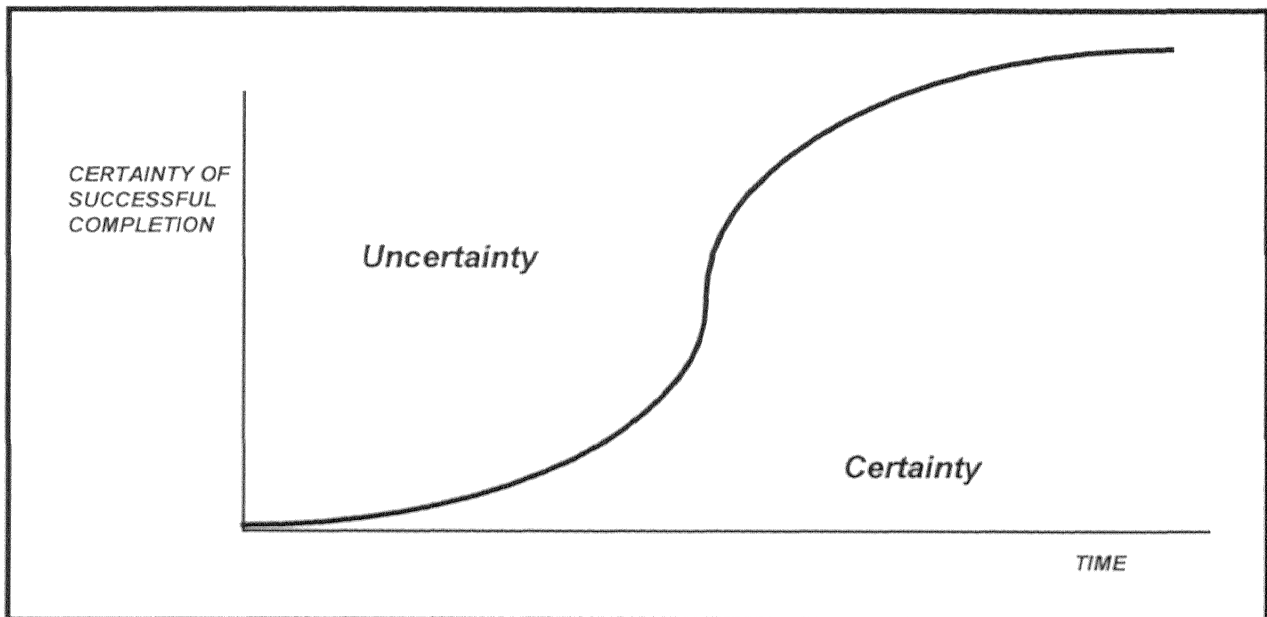


Figure 1.2 : LEVEL OF PROJECT CERTAINTY

- The ability of stakeholders to influence the final characteristics of the project is highest at the start, and reduces progressively towards the end. This is because the cost to make changes increases as a project progresses. This is illustrated in Figure 1.3.

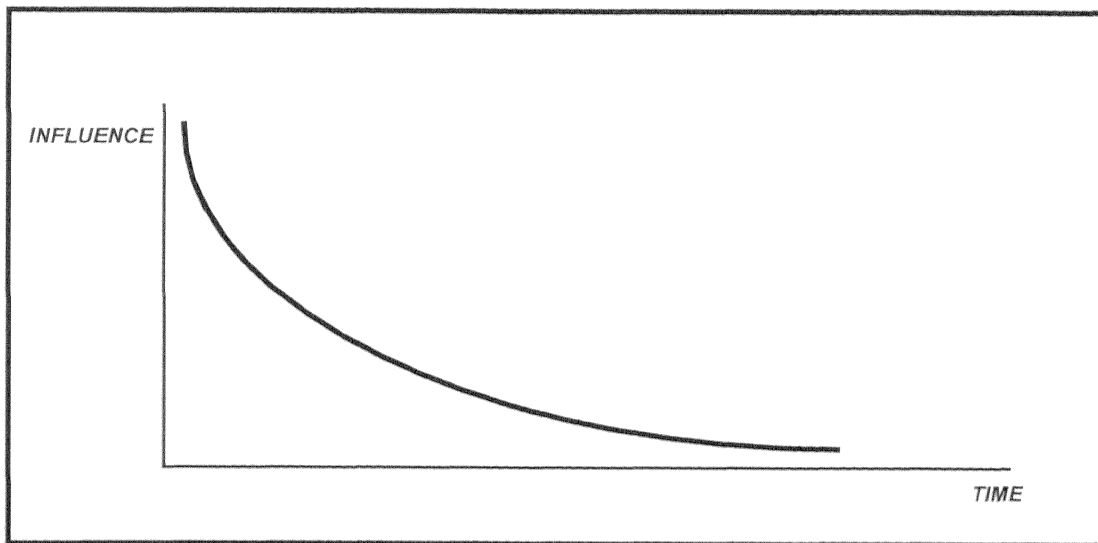


Figure 1.3 : STAKEHOLDER'S ABILITY TO INFLUENCE PROJECT CHARACTERISTICS

Most commonly, project life-cycle in the construction industry is divided into five (5) phases; project start or visualisation; conceptual and design; implementation (procurement and construction); completion and commissioning; and hand over at completion. Although the definition of these phases may vary from project to project, these phases are broadly applicable to most construction projects. It is evident that at different phases of a project, different levels of resources are employed in the project. This therefore calls for different management process approaches at different phases of the project.

1.1 PURPOSE AND SIGNIFICANCE OF THE STUDY

Although project management has not been viewed as a unique discipline by itself until recent years, it has been practised for decades in an informal way. In Malaysia the project management discipline remained unheard of until the early eighties. Since then the construction industry has become more sensitive to formal project management and is beginning to recognise the need for project management specialists. The significance of formal project management in the Malaysian construction industry can no longer be denied because there is a growing gap between the current level of skills and the skills needed to manage successfully, increasingly complex projects.

Traditionally, architects and engineers were expected to manage projects through to successful completion, while concurrently addressing the technical issues like design, construction quality, etc. However this method of informal project management is no longer acceptable for various reasons. The main reason is that architects and engineers are specialists in their own disciplines but have little exposure to general management practices. Their priorities will always lie with their discipline of specialisation, resulting in the neglect of other aspects of the project.

In view of the growing recognition of the need for formal project management in the Malaysian construction industry, it is only appropriate that more research and development in this field is needed. The discipline of project management has a central role to play in contemporary management concern; in the areas of organisational learning and development, and in inter-organisational network.

The purpose of this research paper is to study current project management practises of the Malaysian construction industry, how various management processes, theories and principles are applied in this industry, and to identify areas requiring change and further development, for the next millennium.

The management process of planning, organising, leading and controlling, is widely and repeatedly practised in project management. The applicability of the formal planning process and the suitability of planning tools such as the Gantt Chart and the Program Evaluation And Review Technique (PERT) in project management is reviewed in this research. Earnest Dale's five step process in organisational structure and the Environmental Approach in organisational design is studied for project organisation. Motivation theories such as the Expectancy and Equity theories are reviewed to explain problems in project organisations resulting from a lack of motivation. The contingency approaches to leadership are reviewed to explain leadership problems in project management.

The main significance of this study is to create an awareness among managers of projects on current management practises, and on the need to change for the next millennium. This study aims to provide an indepth understanding of current practices, by identifying the inefficiencies and weaknesses, in project management in the Malaysian construction industry.

The Malaysian construction industry experienced an accelerated boom in the last five years. However, the industry is very susceptible to business cycles and unexpected economic changes. Recently, towards the end of 1997, the industry experienced a sudden downward trend because of currency depreciation and stock market crisis. Projects were either abandoned, deferred or being slowed. The industry reacted unfavourably by retrenching staff, closing down some operations, or even winding up. Therefore, it is absolutely essential for project managers to have the skills to cope with economic changes. This study hopes to reveal measures that may help minimise the effects of changing environment on the organisation and staffing of projects.

Project management has always been isolated as a unique discipline with no links to general management. This study should help bridge the gap between the two disciplines.

1.2 RESEARCH QUESTIONS

This is an exploratory study based on several research questions on project management practices in the Malaysian construction industry. The following questions are explored in this research paper.

1. Are the following management processes applied in project management ?
 - The nine (9) steps in the Formal Planning Process (Stoner & Freeman, 1992); goal formation; identification of current objectives and strategy; environmental analysis; resource analysis; identification of strategic opportunities and threats; determination of extent of required strategic change; strategic decision making; strategy implementation; measurement and control of progress.
 - The application of planning tools and techniques such as the Gantt Chart and Program Evaluation and Review Technique (PERT) in planning for the future.
 - Earnest Dale's five step process in organising; listing the work; dividing the work; departmentalisation of work; coordination; and monitoring.
 - The application of the four steps in the control process (Mockler 1984); establishing measurement methods, measuring performance, matching performance with standards, and taking corrective action
2. What are the complications involved in project management, and how can management theories such as the following, be applied to address these complications ?
 - Environmental approach in organisational design.
 - Motivation theories to maintain human resources.
 - Leadership approaches in a project environment.
3. How can change be managed in a project environment, in the Malaysian construction industry ?

4. What changes in project management in the Malaysian construction industry, need to be considered for the next millennium ?
5. What areas are worthy of further study and research following this exploratory research ?

1.3 SCOPE OF THE STUDY

This study covers formal project management practices in the Malaysian construction industry where a project manager or a project management company is appointed to manage a project. In order to differentiate formal project management from informal project management, the characteristics of both formal and informal project management are discussed in this section.

In the Malaysian construction industry, when formal project management is practised, the stakeholders of the project will either appoint an in-house project manager from within their organisation, or appoint an external project management company to manage the project. In either situation, the project manager is responsible for the successful completion of the project according to the requirements of the stakeholders, by fulfilling the specified quality and operating within the budget and time schedule. The project manager will therefore apply his management skills in managing the project team which may consist of the stakeholders, architects, engineers, designers, quantity surveyors, and contractors, to achieve the project goals.

In informal project management, the stakeholder assigns either the architect or engineer to be responsible for administering the contract with the contractor, and to coordinate the work with the other consultants to complete the project successfully. The stakeholder holds the responsibility of controlling the consultants, budget, and time.

Informal project management is not included in the scope of this study because there is no manager for the project and therefore it is not possible to ascertain management practices applied.

For the purpose of this study, a large project management company in Malaysia would be used as the case study. This case study will be used to understand its current project management practices, and to identify its efficiencies and weaknesses. The case study will also become the basis for deriving solutions to complications and problems identified.

1.4 LIMITATIONS OF THE STUDY

The major part of this study is carried out by personal interviews and discussions with project managers. The main limitation of the study is the inability to generalise the findings to the industry. The findings are based on the experience of a limited number of people and the exposure to a limited number of projects.

The other limitations are the issue of confidentiality and the reluctance by some of the respondents in revealing pertinent information for this study. However, these reservations were overcome during the course of the study by highlighting the need and benefits of such a study and that their anonymity would be maintained.

1.5 ORGANISATION OF THE STUDY

Firstly a literature review of some articles and research papers is carried out and presented systematically in Chapter 2 of this paper. Then the research methodology is presented in Chapter 3. The case study of two projects and the findings are presented in Chapter 4 and 5. Chapter 6 is a discussion of pertinent managerial issues and finally the conclusions and recommendations are discussed in Chapter 7.