

**IN-SUCCESS FACTOR FOR PROJECT MANAGEMENT IN HIGH-RISE
BUILDING PROJECT**

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DEDICATION

First, I would like to announce my appreciation to Allah Almighty for this grace, guidance and protection of me during Master study. I dedicate this dissertation with countless appreciation to my beloved father & mother who had supporting me throughout my study life and to my beloved family members (brothers & sisters).



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ABSTRACT

Success of each project and efficiency is required to achieve a greater advantage over the firms in construction industry today. Effective project management overcomes these types of challenges such as good communication and good planning and scheduling. Each big construction project company strives to achieve the most efficient and effective project management processes. The success factors which are important for project management in high rise building project success to prevent the project delay, however the main issues that can lead the project to fail is lack of communication among the project team. This study identifies the project management practices in high rise building, success factor for project management on high rise building and un-success factor for project management. The methodology of this study uses questionnaire method and the targeted are G7 contractors' firms in Johor Bahru with number of 60 respondents. This study uses descriptive statistical analysis which is frequency and mean by SPSS software. The dominant practice from the analysis for the first objective is comprehensive understanding of the work and process. While, the dominant success factor from the analysis for the second objective are project manager ability to coordinate and motivate team. Finally, the dominant factor from the analysis for the third objective un-success factor which is financial difficulties faced by the contractor. Further study can be performed regarding this topic in different ways or methods such as other provinces or cities of Malaysia; another type of construction projects, such as highways construction project, dam construction project, using another grade of contractors such as G6, G5 and etc.

ABSTRAK

Kejayaan setiap projek dan kecekapan diperlukan untuk mencapai kelebihan yang lebih besar terhadap firma dalam industri pembinaan hari ini. Pengurusan projek yang berkesan dapat cabaran seperti komunikasi yang baik dan perancangan dan penjadualan yang baik. Setiap syarikat projek pembinaan yang berusaha untuk mencapai proses pengurusan projek yang paling cekap dan berkesan. Faktor kejayaan yang penting bagi pengurusan projek dalam kejayaan projek bangunan tinggi ialah mengelakkan kelewatan projek, namun isu utama yang boleh menyebabkan projek gagal ialah kurangnya komunikasi di antara pasukan projek. Kajian ini dilaksanakan bagi pengurusan projek dalam bangunan bertingkat tinggi, faktor kejayaan untuk pengurusan projek bangunan tinggi dan faktor kegagalan untuk pengurusan projek. Metodologi kajian ini menggunakan kaedah soal selidik dan yang menyasarkan adalah firma kontraktor G7 di Johor Bahru dengan sebanyak 60 orang. Kajian ini menggunakan analisis statistik deskriptif iaitu frekuensi dan bermakna oleh perisian SPSS. Amalan yang dominan daripada analisis untuk objektif pertama adalah pemahaman yang komprehensif tentang kerja dan proses. Walaupun, faktor kejayaan yang dominan dari analisis untuk tujuan kedua adalah kemampuan pengurus projek untuk menyelaras dan memotivasi pasukan. Akhir sekali, faktor dominan dari analisis untuk faktor kegagalan adalah masalah kewangan yang dihadapi oleh kontraktor. Kajian lanjut dapat dilakukan mengenai topik ini dalam berbagai cara atau metode seperti provinsi atau kota lain di Malaysia; satu lagi projek pembinaan, seperti projek pembinaan lebuhraya, projek pembinaan empangan, menggunakan kontraktor lain seperti G6, G5 dan sebagainya.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The construction industry is crucial since rapid economic development has increased the requirement for construction of infrastructure around the world. The construction manufacture also supplies the basic living conditions for the sustainability and development of human life on the earth. To cope with an ever-increasing population, pressure on land, and growing economic activity, construction projects are in increasing demand and activities are booming in much countries (Zhang et al. 2014) . In addition, projects and initiatives are implemented to ensure sustainable growth of nation economy and to establish extensive connections within the economy. To implement these projects successfully and to meet the functional goals of the projects within their service time, an efficient project management (PM) practice needs to be adopted from the planning stage to end.

Frequently, those that are involved in the project handling, fail to take a proactive approach to overcoming the sudden problems such as the safety on the site (Hyvari, 2006). As a result of this, project delays and budget overruns are usually encountered due to an overlook of potential risk. Insufficient information and ineffective management of project not only caused project cost overrun, completion delays but also termination before completion and negatively impact the project team's reputation. To improve the chance of success and reduce the potential failures, the success criteria, and

uncertain factors should be carefully identified, assessed and monitored (Kuo et al. 2013).

The Malaysian construction industry plays a vital role in the country's economy, yet it has been plagued with bad publicity of cost overruns, uncontrolled and unrealistic schedules, accidents, poor workmanship, conflict among project team members, abandoned and unfinished private and public construction projects (Ting et al. 2009). It is now widespread to see construction collapsing, roads cracking, bridges toppling and what could be next, show some down pit condition for the construction industry in Malaysia as has left a foul impression on the minds of the public. There is a need and urgency to block the failure of projects particularly due to poor project management practice in the construction industry.

Today, projects are far more complicated than ever before due to large capital investments, embrace several disciplines, extensively scattered project participants, tighter schedules, stringent quality standards, escalating cost, environment shocks, increasing stakeholders' power and advancement in construction project management (Irefin, 2013). Project success can be judged based on how the end product or service supports organizational governance. The project manager must understand the company/organization's governance policies and procedures related to the product or service topic.

To ensure the success of the project, project managers must have the necessary knowledge of project management. The twelve successful factors ordinarily related to the achievement of project success identified from a study on 136 European projects that were executed between 1994 and 2004 are categorized into three major region: project management success, individual project success, and corporate success (Low, 2012).

1.2 Research Background

High rise building of project for project management has become increasingly important in the development of any nation. several communities have applied project management techniques as a means of bridging the gap between failure and success in the accomplishment of high rise building project. Despite this increasing awareness of project management by organizations, projects still fail. The purpose of

this research is to systematically examine the causes that ensure the project success of high rise building for project management and how the managers are undertaking the project knowledge areas like project integration management, project scope management, project time management, project cost management, project quality management, project human resource management, project communication management and project stakeholder management (Salleh et al., 2014).

In order to implement high rise building projects, there should be a particular organization which has the integrated management ability of controlling the entire process from the planning stage to the maintenance stage based on a thorough understanding and experiences of restrictions and key construction technologies of high rise buildings. For a successful management of high rise project, the organization has to create a smooth information flow, collect various technical data and opinions, lead the decision making process, and to have the ability of viewing and managing the full project in each project stage and by each participant. However, this has not been activated in Malaysia because of the shortage of clients' admission of its importance and the backwardness of related laws and regulations to support it (Norman, 1993).

Timely decision making is one of the important key elements to a successful project of high rise building. It is difficult to make a right and timely decision in high rise building projects because the decision making group has a number of several participants and professionals who have various interests in the project. The delay of decision making led by the shortage of communication among the parties will result in claims, time retardation, cost rise, quality deterioration and partnership breakdown. Some cases of high rise projects explain that a timely decision effects greatly on the whole project and is one of the substance factors determining the successful management of the tower project (Kwon et al., 2004).

Generally, fast track management is one of the successful factors for the construction of high rise buildings because it reduced the project time and enables the project to reply flexibly to the alterations of market and the design. Moreover, fast track is the successful factor management and requires the total understanding of properties of planning, design and the maintenance of the project, the organized knowledge, and high level of management skills based on the experience in similar projects. In high rise building projects, the most important successful factor is to

prepare required design documents dealing to each project stage based on the milestone. Also, in the course of implementing the management, consistency and completeness should be ensured. In addition, changed facts should be used to related fields timely and carefully. In order for the process to be able to prevent possibility errors in the information transfer (Kwon et al., 2004).

1.3 Problem statement

Present high rise building projects in Korea as well as in Malaysia are experiencing extremely of trial-and-errors. The reason can be prolonged beyond external matters like the shortage of the experience and technology. This means that is not easy to understand and implement exactly throughout the whole process from the planning to the maintenance. Some local high rise building projects were planned by big-sized of construction companies of Malaysia and commenced after careful review and adjustment of risk management in their own approach, in considerable time, however they did not seem to show enough performance corresponding with original plans and aims (Kuo et al., 2013). Clear and standard qualification to identify a qualified manager or managing factor and how to guarantee that high rise building characteristics are managed in professional manner has yet to be established. the management factor in charge of high-rise management are also lacking in professionalism. Based on surveys conducted in Johor, Federal Territory Kuala Lumpur, Penang and Selangor various problems continue to arise in the site management of tower buildings due to lack of standard guideline and professionalism in tower management (Ta, 2006).

From the projects that have been implemented in Malaysia and South Korea they discovered the problems that effect the success of high rise projects management and summarized as firstly, the lack of understanding of design management results in an inefficient project performance in relation to design completeness, cost control in each design phase, and project time management. Secondly, adopting various options considering business profit and sale yields delays in decision makings and low constructability. Third , there is a limit in the role and the work scope of project consultants in the planning stage. Fourth, decision making processes do not seem to be managed in the right time. Fifth, an insufficient design

and delivery strategy shows up the lack of the coordination within each field of the project. Sixth, is often a design change on core elements such as that of the structural system after the design development is almost finished. And finally, the difference between the reality and the plan breeds the secession of the schedule cycle (Ting et al., 2009).

Most project around the world keep failing, causing organizations to lose millions of dollars (Ibrahim et al., 2010). This enduring challenge has let too many project management professionals to try to study the success factors for project management on high rise building that need to be addressed in order to produce successful high rise project management results. There exist literatures on success factors of project management for particular industry sectors or specific country situation, and also very few empirical studies on the success factors for project management of particular organizational operational units (Norman, 1993).

Several of the high rise construction projects in Malaysia especially in project management reputed the constraints, particularly for quality management, time management and cost management. In general, those projects were not prepared duly according to the project managers, the project stages and stakeholders of those projects have shortage of knowledge for the management of knowledge area. As a conclusion, based on (Ta, 2006), (Ting et al., 2009), (Ibrahim et al., 2010) and (Norman, 1993), show that the issues of project management for high rise building is a crucial. Therefore, this research study and examines the main success factors for project management on high rise building project.

1.4 Research questions

The success factors for project management and the team's efficiencies on project knowledge areas management in handling the high rise construction project is very important of this research. In order to achieve study objectives, the following research questions are formulated:

1. What project management practices on high-rise building project implemented?

2. What the success factors for project management on high-rise building project identified?
3. What the un-success factors for project management on high-rise building project identified?

1.5 Research objectives

Realize how the managers are undertaking the project management functions in high rise building project. The aim of this research is to carry out appraisal on the causes of project success and un-success. This aim is intended to be achieved with the following objectives.

The main objectives of the research are:

1. To study project management practices on high rise building project.
2. To examine the success factors for project management on high rise building project.
3. To examine the un-success success factors for project management on high rise building project.

1.6 Significance of research

At present, the develop of contractor's and site worker's encouraged ministries to follow rules and procedures when implementing projects. However, various ministries still have some limiting factors that restrict project preparation, such as the lack of professionals who prepare project plans, budget constraints, and limited project management knowledge. Anywise, this study contributes to the body of knowledge and study by:

1. Give the responsible parties in construction industry to study project management practices on high rise building project.
2. Investigating about the success factors for project management on high rise building project.

3. To examine un-success factors for project management on high rise building project.

It is hoped that these findings will guide efforts to improve the performance of the high-rise building construction industry and will be useful to the construction players. Therefore, these findings might encourage the practitioner to focus on project management problem that might have existed in their present or future projects. Other than that, this study is expected to provide a better ways and methods in delivering construction projects by minimize the major causes on project management. An important variable which influence success factor of project management on high rise building construction project and produce the statistical result can be identified. The result of the study provides a guideline to the parties that involve in high rise construction project.

1.7 Research Scope

This research concentrates to study a project management practices on high rise building project, examined the success factors for project management on high rise building project and examine un-success factors for project management on high rise building project. This study considered the public companies in construction industry in Johor. These contractors' companies were categorised by grade. In total there about 400 of G7 construction companies registered with CIDB in Johor state alone (CIDB, 2013). Therefore, the sample size is 200 respondents which are 30 presents from overall population and the minimum of 60 returned questionnaire from 200 G7 construction company registered CIDB in Johor (Blair, 2013). These companies are selected because it can deal with such project, has unlimited target in terms of the finance and closed to my place and easy for me to visit them and sent the questionnaire to them.

Based on issues that raced out by Ta (2006), this research work is concentrated on recognizing the factors that effect on the success for project management on high rise building in Johor, Malaysia. The methodology of the study was conducting by the quantitative method throughout using SPSS software to analyse data. furthermore, the respondents in this study are project manager,

professional engineer, and contractor and construction manager at those companies so as to assist the factors that affect the success for project management success in high rise building and help to identify the critical factors that can cause cost and time overrun in project management (Ibrahim et al., 2010).

1.8 Research Methodology

The purpose of this research is to establish the success factors that lead to mitigate issues and enhance the construction productivity practice for project management in high rise building project in Johor. To investigate this study, there is an existing literature review have been used and concentrates on success factors for project management in other developing countries, it was possible to identify the success factors for project management practice in high rise building project. In other hand, the similar past literature review in such study also seek to distinguish the factors and categories, research methodology and analysis of data.

In this study, there are three objectives for the high-rise building and each of them is needed to be justified. Hence, quantitative method will be carried out in this research. For the study population, the research study depends of respondents in the construction companies in Johor Bahru public companies. In total there about 400 of G7 construction companies registered with CIDB in Johor state alone (CIDB, 2013). This is because G7 construction companies doing large scale of construction and have more responsibility samples where that questionnaire is answered by project manager, professional engineer, contractor and construction manager where they involve in more success factors and project management practices in high rise building project (Ibrahim et al., 2010). A sampling technique for this research is to select respondents, and the sampling method will be used random. Types of data are mainly about the background of respondents, study project management practices in high rise building project and studied the success factors for project management in high rise building project (Walker et al., 2015).

1.9 Thesis structure

The research encompasses five (5) main chapters, namely; Introduction, literature review, research methodology, data analysis and discussion, then conclusion and recommendations. Details and explanation to every chapter will be discussed below:

Chapter 1: Introduction

The chapter focuses on introduction of the research topic. It encompasses the research background, the research problem, research questions, Objectives of the research, significance of research, scope of the study, Research Methodology and Thesis Structure.

Chapter 2: Literature Review

The chapter discusses the relevant literature review extensively from previous writing researches in line with the scope such as projects, construction success, success factors management hierarchy, site management practices in tower building project, success factors for site management in tower building project and main success factors for site management in tower building project.

Chapter 3: Research Methodology

The chapter will pay attention to the research approach and strategies, and research methodology that will be employed in carrying out the research. This encompasses the research process and design, population and sampling techniques to be used. The method used in data collection and analysis of data.

Chapter 4: Data Analysis and Discussion

Data obtained, presented and analysed in the chapter. The result of the survey findings and results of the analysis were discussed in the same chapter. Finally, it also includes the discussion about the result obtained during analysis and formed the basis of recommendations.

Chapter 5: Conclusion and Recommendation

The chapter presents conclusion and recommendations which were driven by the data analysis and discussion of the findings obtained. The chapter summarises the entire research work to be conducted where conclusion would be made. The recommendation is given based on the research subject matter for possible action to be taken. Moreover, it ends with highlighting the limitations in the research and conclusion remarks.



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In Malaysia, construction industry has been developed since the independence, and it was considered as a major productive sector in Malaysia (Ibrahim et al., 2010). This industry is made up of many components including thousands of contractors, workers, developers, client organizations (government and private), management, engineering, architectural, and surveying consultants, manufacturers, material suppliers, plant hirers.

The Malaysian construction industry is divided into two areas that comprise general construction and special trade works. For general construction, it involves the residential construction, non-residential construction and civil engineering construction. Meanwhile, for special trade works, it consists of several activities like metal works, electrical works, plumbing, sewerage and sanitary work, refrigeration and air-conditioning work, painting work, carpentry, tiling and flooring work, and glass work (Ibrahim et al., 2010).

This chapter comprises of a comprehensive review of literature relating to the success factors for project management in high rise construction project and evaluation & definition of success management practices in high rise building project. Construction projects success is an important issue for most of the governments, users and communities especially in Malaysia. However, there are significant challenges in modern construction projects for both the contractors and clients to deliver the project successfully due to increasing complexity in the

involvement of stakeholders and design. In the project management literature, many researchers have extensively discussed the success of the project. Most of the researchers in success project have been concentrating on dimensions in how it is measured and other specific factors effecting the success of construction project. For architects, a project is based on the success of aesthetic performance, and for contractors, when the contractor benefits from the project, the project will be successful (Ramlee, 2016).

2.2 Project management

Project management in the local context, normally involves the site management team (Project Manager) in managing the works contract, ensuring full compliance with the terms and conditions of contract by both the contractor and employer. Project management should ideally begin with the inception of the project, meaning, commencing from the master planning right through to sketch design, detailing, contract documentation, contract procurement and construction. In so doing, the project manager has to manage the tasking and scheduling of the design and documentation phase of the project and subsequently, control the quality of the works as specified in the contract, monitor the completion schedule and assisting the contractor to manage the time schedule. The project manager should also be in a position to advice on the appointment of consultants and site staff, and recommend contractual arrangements and certify entitlement of cost variations and time claims by contractor. These tasks can only be accomplished successfully with the able assistance of the other key consultants, such as architects, structural engineer and the site supervisors (Walker et al., 2015).

2.2.1 Background of project management

The foundation of project management can be traced back to civilization itself. But the roots of modern project management lie in the Second World War and were developed in the construction and defense industries during the Industrial Revolution. Recently, as the number of projects has increased dramatically in all

walks of life, the demand for project management has also increased (Cooke-Davies et al, 2003).

2.2.2 Project management definition

Project management refers to the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project management is accomplished through the application and integration of the project management processes of commencing, planning, implementing, monitoring, controlling, and closing (Khazanchi et al, 2004).

According to Ohara (2005) project management is also expressed as the ability of professionals to perform specific tasks through the organization of dedicated project teams through effective due diligence, effectively combining the most appropriate technology and management methods and techniques and devising the most efficient and effective breakdown and implementation routes.

2.3 High-rise building

In line with (Yeang et al., 2007) define that high-rise building is a tall, continuously inhabitable building with more than 14 floors, primarily for office, commercial and residential use. Basically, the mechanism of loads distribution for both steel frame and reinforced concrete frame are similar, in which load from the beam was transferred to column, and finally to the foundation. Steel frame particularly function well under high lateral (wind) loading, because of its ductility, and that's make it preferable in high-rise structure. More than that, steel frame has capability to bend without breaking and absorb the energy acting on it. Steel frames were able to carry the weight of more floors, so walls became simply cladding for the purpose of insulating and adorning the building (Akita, 2012).

2.3.1 High rise building projects

Construction project of high-rise buildings had long been sought by human beings and has been realized. The realization and development of high-rise buildings has

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