

**CRITICAL SUCCESS FACTORS –
A STUDY OF PROJECT MANAGEMENT TECHNIQUES
USING PINTO’S MODEL IN THE MALAYSIA
HOUSING CONSTRUCTION COMPANIES
PERSPECTIVE**

ENG SWEE HUAT

OPEN UNIVERSITY MALAYSIA

2014

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ENG SWEE HUAT

A Master’s project submitted in partial fulfillment of the requirements for the degree of
Master of Project Management

Faculty of Science and Technology
Open University Malaysia

2014

DECLARATION

Name : Eng Swee Huat

Matric No. : CGS00603117

I hereby declare that this Master's Project is the result of my own work, except for the quotations and summaries which have been duly acknowledged.

Signature:

Date: 13rd December 2013

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ABSTRACT

Non-familiarity and not being well versed with project management knowledge areas and processes, the use of project management tools and techniques, standardizations, consistency and optimization of the project management processes implementation which lead to unnecessary schedule delays, cost overruns, poor quality, overlooked risks and scope creep are among the host of issues associated with Project Management over the project life cycle. Each housing construction company strives to achieve the most efficient and effective project management processes to achieve project success and each manages project management processes differently. This study investigates the importance placed by the respective stakeholders of the construction companies in managing project management processes in housing constructions projects based on the nine project management knowledge areas and ten elements of the “project implementation profile”. Data was collected through the questionnaires where the questionnaire used the Likert Scale to evaluate the data. Due to insufficient data, interviews with relevant personnel were conducted. Based on the questionnaires and interviews, there seem to be initiatives taken by the Company in attaining project success in constructions projects. The study finds that the stakeholders and Companies are practicing Project management processes in their construction projects. It is proposed that construction companies implement, standardize, institutionalize and optimize project management processes and usage in order to avoid financial losses, cost overruns, legal disputes and other problems to increase the probability of project success.

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ABSTRAK

Kurang arif dan kurang memahami secara menyeluruh kaedah dan bahagian pengetahuan pengurusan projek, penggunaan teknik pengurusan projek, tidak mengikuti piawaian, tidak melakukan secara konsisten dan optima dalam melaksanakan projek, menyebabkan kelewatan, peningkatan kos, kualiti yang rendah, risiko yang tidak dijangka, kerja di luar bidang kontrak di dalam jangka masa projek yang diperuntukan. Setiap syarikat pembinaan berusaha mencapai pengurusan projek secara lancar dan berkesan untuk mencapai kejayaan projek. Oleh itu, setiap syarikat berusaha menguruskan projek dengan lancar dan berkesan untuk mencapai kejayaan dalam projek. Bagaimanapun, setiap syarikat mempunyai cara tersendiri untuk melakukannya. Kajian ini menyelidik keutamaan yang diberikan oleh pengurusan syarikat dalam menguruskan pembinaan rumah berdasarkan sembilan elemen dalam pengetahuan pengurusan projek serta sepuluh elemen dalam profil melaksanakan projek. Data diperolehi melalui borang soal-selidik dan menggunakan skala Likert untuk penilaian. Oleh kerana kekurangan responden, kaedah temuduga dilakukan. Melalui borang soal selidik dan temuduga, didapati terdapat inisiatif yang dilakukan oleh syarikat tersebut untuk mencapai kejayaan dalam projek pembinaan bangunan. Kajian ini mendapati bahawa syarikat-syarikat tersebut mempraktikkan kaedah pengurusan projek untuk memastikan kejayaan dalam projek pembinaan perumahan, Adalah disyorkan supaya syarikat pembinaan perumahan melaksanakan pengurusan projek mengikut piawaian, kerja secara konsisten, menginsitisi dan optimakan penggunaan kaedah pengurusan projek untuk megelakan kerugian, peningkatan kos, tindakan undang-undang dan lain-lain demi meningkatkan kemungkinan mencapai kejayaan projek.

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CHAPTER 1

INTRODUCTION

1.1 Background to the study

Project Success, according to Kerzner's (2009), is to meet the customers' expectations regardless of whether or not the customer is internal or external. Success also includes getting the job done within the constraints of time, cost and quality. Project Success as suggested by Lewis J.P. (2008), the project is defined as a failure when it fails to deliver the cost, performance, time or scope (C, P, T, S,) objectives. However, De Wit (1988) postulated that in evaluating project success, considerations on all stakeholders' objectives must be weighted over the project life cycle and at all levels of the project organization. De Wit (1988) further commented, with the various objectives to be met, to evaluate a project success objectively is a daunting task and is hardly to be considered precise.

There is no guarantee that project success can be achieved by any

project teams that comprise of the various stakeholders which include owners, the project management teams, operators, end users, consultants, contractors and others. However, according to Munns and Bjeirmi (1996) who defined the role of project management in achieving project success, states that a project is one having to achieve a defined objective; A project has defined start and end working dates, including a series of work tasks and activities that uses resources, to be executed within the contract specifications; whereas project management is viewed as using companies' organizational structure and resources with the applications of project management tools and techniques as the process to control and to obtain the project objectives without interrupting the business operations severely. This concludes with the summary that there is an overlap between a project and project management, where it highlights that project management is planned to achieve the short-term and specific objectives which is in contrast to the long-term and broader needs of a project.

Angela Clarke (1998) suggested there are various methods and approaches which companies may utilize to optimize the project management processes and promote changes. The recommendations mentioned here refer to the identified critical success factors that drive the project management process, such as having a project mission, clear objectives, detailed plans, communications and, personnel and project management

techniques standardization. Concentrating on these few key critical success factors could deliver greater benefits.

Cleland and Ireland (2007) commented that current project management practices, which are still considered as imperfect, are being practiced to effect changes by efficient use of resources to attain the set project objectives. Continuous project management theory and practice improvements aimed towards increased control on efficiency and better change management has reduced risk and uncertainty. Cleland and Ireland further suggested that Internet Computer Technology and project management software have facilitated and increased the efficient control of projects over the project life cycle process and deliver greater benefits to the project.

According to Tan (2006), to achieve project success and deliver final construction projects, a concerted effort should come from the entire project team from various disciplines with appropriate project management processes. Tan (2006) further suggested that the strength of project managers apart from leadership skills, also include the people skills to manage and handle all sections of personnel. People-skills in project management are one of the most important components in critical success factor for project success.

In the process of achieving project success, there is a call for the involvement of many parties. The relationship between clients, consultants and contractors is vital, Tan (2004) said. Most studies agree that project failure is primarily due to the lack of funds or bad cost management. The secondary factors are leadership, communication management and teamwork problems. Project successes were attributed to teamwork; Project teams across the project should be inspired, motivated and provided with training. Resolving team conflicts that arise are just as important as promoting team work. Tan (2004) further suggested that the company finance managers and project technical managers are the key competent personnel responsible for project success or failure. Similarly, a successful housing construction project is always appreciated by stakeholders and other users knowing that a successful project will bring return on investment which is higher than the initial investment over the time. Some projects yield higher returns in monetary gains per year, while some projects are only profitable for a shorter period due to the needs and applications. When the project is not completed within the time-cost-quality criteria and time-cost-quality triangle, it is considered a failure.

In this study of private housing construction project success in Malaysia in general, the area of concern is to meet the project management objectives within the allowable time frame, given

budget, and required quality specified as primary criteria and other secondary criteria requirements of the project.

1.2 Problem Statement

According to Malaysia report 2012/2013. “The Construction industry has been referred to as the engine of growth for nation building. It is considered as a key sector in the Government’s efforts to stimulate domestic economic activities and to enhance economic growth resulting in the improvement of the quality of life and wellbeing of the citizenry.”

Under the Tenth Malaysia plan (2011-2015), “Economic growth will also be more targeted with efficient use of resources in sectors where Malaysia has a competitive advantage. Specific cities and urban clusters will be developed into vibrant, productive and liveable cities comparable to other cities in the world. This is critical in our mission to attract talent, firms and investments to Malaysia. Investments in infrastructure to connect rural areas to urban clusters will be increased to ensure inclusiveness in the sharing of economic benefit” Najib Razak’s (2010) government has allocated an estimated Ringgit 67.2 Billion for construction projects. RHB Invest (June 10, 2010)

Referring to *Italia Istituto Nazionale per il Commercio*

Estero in its overview of the Malaysian construction sector report (2010),“Overall, in the 10th MP, there is an allocation of RM230 Billion of development funds and RM20 Billion of facilitation funds where out of the RM230 Billion, 60% or RM138 billion will be spent on physical development to be undertaken directly by the construction sector.The RM20 Billion facilitation funds will open doors to the private sector and investments worth RM200 Billion are estimated to roll in which will involve the construction sector.The construction sector’s involvement in nation building has also increased tremendously from 4.6% in 2011 to forecast estimate of 11.2% in 2013”.

Table 1.1 **Gross Domestic Product** (GDP) by sector: 2011-2013
(At constant 2005 price)

	Change(%)			Share of	
	2011	2012	2013	2011	20
Agriculture	5.9	0.6	2.4	7.7	
Mining	-5.7	1.5	2.7	8.8	
Manufacturing	4.7	4.2	4.9	25.1	
Construction	4.6	15.5	11.2	3.0	
+Services	7.0	5.5	5.6	54.2	

						.8
GDP	5.1	4.5-5.0	4.5-5.5	100%	100%	10 0 %

Source : Department of Statistic and Ministry of Finance,
Malaysia / Economic report 2012/2013

Tan (2004) postulated that to realise Vision 2020, efficient and effective project implementation is a prerequisite to enhance and amplify project success, whereas, project failures only bring delays in construction goals and housing development objectives, apart from wasting time and resources. It also brings frustration and disappointment to the clients and the ultimate end-users.

However the percentage of delayed and sick projects has also increased and the number is not lessening. According to statistical figure released by Ministry of Housing and Local Government (2010, 2011), the figures are increasing year by year in terms of delayed and sick projects. This is mainly due to insufficient funds, project cost overruns, poor quality, delays in completion and various other reasons

Table 1.2: Delayed and Sick Private Project in Peninsular Malaysia (Mar. 2010).

	State	Number of Delayed	Number of
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1	Perlis	-	-
2	Kedah	7	12
3	Pulau Pinang	1	20
4	Perak	4	15
5	Selangor	25	83
6	Wilayah	10	14
7	Negeri	3	8
8	Melaka	3	11
9	Johor	5	27
1	Pahang	4	13
1	Terengganu	3	6
1	Kelantan	2	7
	Total	67	216

Sources: Ministry of Housing and Local Government March 2010

Table 1.3: Delayed and Sick Private Project in Peninsular Malaysia (Nov. 2011).

	State	Number of Delayed	Numt
1	Perlis	-	
2	Kedah	1	
3	Pulau Pinang	1	
4	Perak	-	
5	Selangor	17	
6	Wilayah	8	
7	Negeri Sembilan	4	
8	Melaka	1	
9	Johor	4	
10	Pahang	8	
11	Terengganu	-	
12	Kelantan	3	
	Total	47	

Sources: Ministry of Housing and Local Government November 2011

1.3 Objectives of the Study

There are three main objectives of the study:

1. Identify the core areas of Project Management that relate to project success.
2. Verify the level of importance perceived by stakeholders on Project Management knowledge area and its implementation over the project life cycle.
3. Verify and rank the most critical success factors according to these housing construction stakeholders in relation to project success.

In this study, the critical success factors are based on Slevin and Pinto's (1986) in The Project Implementation Profile, Project Management Journal 1986, Vol. 18; Issue 4; pp 57-71, where 10 elements are used as follows:

1. Project Mission
2. Top management Support
3. Project Schedule/Plans
4. Client Consultations
5. Personnel
6. Technical Tasks
7. Client Acceptance
8. Monitoring Feedbacks

9. Communication

10. Trouble Shooting

This study therefore refers to Slevin and Pinto's Project Critical Success Factors, the project implementation profile *et al* (1986) and uses the project implementation profile concepts to measure and verify the perceived importance of project management knowledge areas over project life cycles, and ranks critical success factors on obtained project success for housing construction projects through the following objectives:

1. To investigate the perceived importance of Project Mission and Vision as critical factors for project success.
2. To study the degree of importance on Top Management support as perceived by stakeholders on project success.
3. To examine the importance placed by stakeholders on Project schedule/plans that lead to project success.
4. To investigate the importance of client consultation processes placed by stakeholders in achieving project success.
5. To examine the level of importance on competencies of personnel involved in the project and their contribution to project success.
6. To investigate technical tasks importance in relation to resolving problems arising that lead to project success.
7. To investigate the importance of the client's acceptance in

relation to project success.

8. To evaluate the importance of monitoring and feedback for project success.

9. To investigate the importance on effective communication systems.

10. To evaluate the importance of Troubleshooting for project success.

1.4 Significance of the Study

As mentioned earlier, frequent sick and delayed housing projects deliverable in Malaysia could testify to financial losses and frustrations faced by various stakeholders in anticipating the usage and return on investment. The number of successfully completed housing projects in Malaysia has certainly improved over the years through experience, commitment and the project goal of relevant parties, contractors, individuals and organizations. Certainly, in comparison to project successes in America and other advanced countries, project successes in Malaysia still need a lot of improvement. All contractors should strive to improve the rate of project successes for housing projects in Malaysia.

This study is to find out the initiatives taken by companies in response to the objectives, issues and needs as

mentioned in the problem statement. It is also to give encouragement to companies and other construction industry stakeholders in general to strive to be more successful in their construction project performance and for further improvement. This study may reveal other issues that prevent housing construction projects from attaining success. Furthermore, it may reveal alternative methods developed by the industry stakeholders in attaining greater project success.

Ultimately, Project success is for all stakeholders and all stakeholders need to strive for project success. This study serves to improve awareness toward project success, especially for private housing construction companies concerned for their ultimate survival because most of the projects involve nation building and economic wellbeing of society and the people.

Using project management knowledge areas and project implementation profiles as measuring tools to verify the importance of project management knowledge area over the project life cycle, it will verify the critical success factors which will prevent project failure and enhance the probability of project success. This should be applied throughout the construction industry and related parties such as clients, developers, consultants, contractors, suppliers and all related third parties in improving the project being developed and implemented which

leads to higher chances of project success.

1.5 Scope of Study

The scope of this study is within private housing construction industry related companies in peninsular Malaysia in general, particularly in Kuala Lumpur and the Selangor area. The scope helps this study reveal the level of maturity for project management usage and initiatives taken by companies in implementing Project Management techniques to enhance project success. This scope also refers to the nine processes specified by the Institute of Project Management (PMI), *Project Management Body of Knowledge (PMBOK - 4th Edition)*. The specified nine processes and activities in project management are:

1. Integration Management
2. Scope Management
3. Time Management
4. Cost Management
5. Quality Management
6. Human Resources Management
7. Communication Management
8. Risk Management
9. Procurement Management

The nine processes and activities determine project objectives and responsibilities that will fulfill the scope of

projects for which it is undertaken. Also, this study will evaluate and verify the critical success factors used by the companies' project management teams as well as third parties such as consultants and other trade works related to the project.

The scope of study also covers personnel's involvement in the project. Personnel mentioned here refer to the company's top management, personnel and all those involved in the project directly such as The Developer, The Client, Consultants, The Main Contractor and sub-Contractors. In short, human resources management, personnel's attitude and perception in achieving project success are critically important.

The scope of this study will be based on the collected information from completed projects, on-going projects and projects under feasibility studies on feedback from the questionnaire answered by the various parties involved.

1.6 Definitions of Terms

Construction Project	Construction of Civil, Infrastructure, Housing, Building, Public Amenities and Utilities projects.
Critical Success Factors	Factors that contribute to Success Criteria.
Customer / Client	A person or organization who sponsors or finances the project.
End User	Individuals or organizations who use the project once it is fully completed.
Project Life Cycle	Life span of a project, from inception, planning, execution, hand over and closing.
Project management	Systems, Knowledge, Tools

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