

FACTORS INFLUENCING THE PROJECT SUCCESS FROM THE
CONTRACTORS' PERSPECTIVE

TENKU NUR SHAHRUL IZAMI TENKU IZHAM

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This capstone project report is dedicated to all the people who inspired, supported and encouraged me

“To my mother and father, thank you for their love and support”

“To my sister and brother, thank you for their continuous support”

“To my housemate Ros Binti Md. Zain, thank you for her support and encouragement”

“To my friends and colleagues, thank you”

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ABSTRACT

Many factors influence project success and failure, including time, scope, budget, team satisfaction, customer satisfaction and quality of work. Defining success is very easy, but in practise different people define success in different ways. Project consider successful if it achieves all of the agreed project objectives like execute project on time and within budget, deliver what was agreed in the scope, meet the expected quality standards and the product produces by the project creates significant net value and return on investment for the owner or client after the project is completed. This study is to develop a better understanding, find and forecast to the actual problem. The basic study of this research on factors influencing project success was conducted through literature review. In this study, a quantitative method was used to conduct the relationship between factors of project success and project success criteria and also the impact of the factors on project successful criteria to the contractors. The results show that the analysed statistical result was processed and related to the four research objectives. The most significant factors identified as influencing project success from the contractors' perspective are: material, labour and equipment, contractor related factors, project management related factors, consultant related factors, procurement related factors, client related factors, project related factors and external factor. To overcome the problems, the contractors must oversee the construction and ensures that all necessary measures are taken to result in the completed finished product.

ABSTRAK

Terdapat banyak faktor yang mempengaruhi kejayaan dan kegagalan sesuatu projek, ini termasuklah masa, skop, jumlah peruntukan, kepuasan pasukan, kepuasan pelanggan dan kualiti kerja. Setiap orang mempunyai takrifan yang berbeza tentang kejayaan. Projek dianggap berjaya sekiranya ianya mencapai kesemua objektif seperti dapat disiapkan mengikut masa dan jumlah peruntukan yang telah ditetapkan, melaksanakan pembinaan mengikut skop kerja yang telah ditentukan, mencapai kualiti yang telah ditetapkan dan ianya dapat memberi manfaat dan pelaburan kepada pemilik atau pelanggan selepas projek disiapkan. Kajian ini dibuat adalah untuk memberikan pemahaman yang jelas serta mencari masalah sebenar yang menyumbang dan memberi implikasi kepada kejayaan sesebuah projek. Kajian asas penyelidikan ke atas faktor-faktor yang mempengaruhi kejayaan projek telah dijalankan melalui kajian literatur. Di dalam kajian ini, kaedah kuantitatif telah digunakan untuk mendapatkan hubungan di antara faktor-faktor kejayaan projek dan kriteria kejayaan projek serta mengkaji kesan faktor-faktor ini ke atas projek kriteria kepada kontraktor. Keputusan menunjukkan bahawa hasil kajian yang telah dianalisis adalah berkaitan dengan keempat-empat objektif kajian. Faktor-faktor yang paling mempengaruhi kejayaan projek dari perspektif kontraktor adalah: bahan, buruh dan peralatan, faktor-faktor yang berkaitan dengan kontraktor itu sendiri, faktor pengurusan projek, faktor-faktor yang berkaitan dengan perunding, faktor-faktor yang berkaitan dengan perolehan, faktor-faktor yang berkaitan dengan pelanggan, faktor-faktor yang berkaitan dengan projek dan faktor luaran. Untuk mengatasi masalah ini, kontraktor perlulah mengurus aktiviti pembinaan serta memastikan kesemua langkah pemantauan tapak dilakukan dengan sebaik mungkin supaya projek dapat disiapkan mengikut kontrak.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Problem

Project is a temporary group activity intended to produce a unique product, service or result. A project is temporary because it has a defined beginning and end in time, scope and resources. Project is unique because it is not a routine operation and it has a specific set of operations designed to accomplish a project goal. A project team usually involved different parties who don't usually work together and sometimes from different organizations and across multiple geographies. Each project team will have their own view of success. And all must be proficiently managed to deliver the on-time, on-budget results, learning and integration that organizations need.

Many factors influence project success and failure, including time, scope, budget, team satisfaction, customer satisfaction and quality of work. Defining success is very easy, but in practise different people define success in different ways. Project consider successful if it achieves all of the agreed project objectives like execute project on time and within budget, deliver what was agreed in the scope,

meet the expected quality standards and the product produces by the project creates significant net value and return on investment for the owner or client after the project is completed. If the organization's definition of success is wrong then the context within which decisions are made will be wrong and it can cause a failure. When a project cannot achieve its purpose, it is common to review the project to find out what made it fail in order to not repeat the mistake. It can be quite easy to determine reasons why an exact objective could not be achieved. To answer the question why a project went wrong is easy, but to answering the question why a project was successful is more difficult. There is never one single simple answer to this question. Still, the question is important and needs to be asked in order to continuously discuss what drives projects towards success.

1.2 Statement of the Problem

Project normally fails due to bad management and poor of planning, lack of coordination and communication. In construction project, it is very important to find and forecast to the actual problem. Sometimes silly and simple mistakes lead to frustration which again leads to bad management and wrong decisions. According to a survey conducted by Davidson and Maguire (2003), there are ten factors that will cause failure to the contractor which are growing too fast, obtaining work in a new geographic region, dramatic increase in single job size, obtaining new types of work, high employee turnover, inadequate capitalisation, poor estimating and job costing, poor accounting system, poor cash flow and buying useless stuff. Cost and time overrun, quality degradation, frustration, stress, low job satisfaction, low corporate market value and low public opinion are the impact of project failure. Kangari (1988) stated that more than half of business failures in construction were due to unrealistic profit margin.

According to the record from Minister of Housing and Local Government, MHLG, a total of 3,961 private housing projects being developed by housing developers in Peninsular Malaysia. From this amount, 3,735 projects (94.3%) is with the status of project succeeds, 39 projects (1.0%) is project delayed and balance of 187 project (4.7%) categorized as abandoned project (National Housing Department, 2013).

Until 31st of March 2013, there were 69 abandoned projects listed. From the 69 projects, 13 projects (18.8%) are in the early stages of recovery planning, 45 projects (65.2%) are still in the recovery process, and a total of 11 projects (15.9%) have completed or finished and subsequently removed from the list of abandoned housing projects. Table 1.1 shows the project abandoned by state until 31st of March 2013 (National Housing Department, 2013).

Table 1.1 : The project abandoned by state until 31st of March 2013

STATE	2013		
	NO. OF PROJECT	NO. OF HOUSE	NO. OF BUYER
SELANGOR	26	16,608	13,063
JOHOR	13	5,517	3,542
KEDAH	8	1,654	965
NEGERI SEMBILAN	5	1,392	1,110
PERAK	5	766	371
PULAU PINANG	4	2,261	1,600
KELANTAN	3	397	204
PAHANG	2	466	406
MELAKA	2	714	662
W.P. KUALA LUMPUR	1	936	550
JUMLAH	69	30,711	22,473

Source: *Bahagian Pemulihan Projek Terbengkalai, JPN (2013)*

Overall, the number of succeed private housing projects showed an increase of 17.7% in the first quarter of 2013. And total of delayed and abandoned private housing projects also decreased respectively by 27.8% and 16,1% in the quarter of 2013 compared to the first quarter of 2012. Table 1.2 shows the comparison of succeed, delayed and abandoned private housing project for the first quarter of 2013 and the first quarter 2012 (National Housing Department, 2013).

Table 1.2 : The comparison of succeed, delayed and abandoned private housing project for the first quarter of 2013 and the first quarter 2012

HOME CATEGORY	FIRST QUARTER 2012	FIRST QUARTER 2013	% ANNUAL CHANGE (YoY)
SUCCEED	3,173	3,735	17.7%
DELAYED	54	39	-27.8%
ABANDONED	223	187	-16.1%

Source: Bahagian Pemantauan Perumahan Swasta, JPN (2013)

The abandoned projects will result in adverse effects on the economy, society and the environment. It is a waste of a valuable resource. The construction industry plays an important role in the economy of a developing country like Malaysia; therefore, the abandoned project will give a significant impact to the country. Construction projects often involve many trades and participants, and it will affect other industries (Ng 2009b). The master thesis is based on contractors' perspective. The aim is further divided in two research questions:

- a) What are the key factors that influencing the successful of the project from the contractors' perspective?
- b) How the key factors can help the contractors in utilizing the time, cost and resources during construction stage?

1.3 Aim of the Study

The aim of this study is to develop a better understanding and to identify the relationship between factors of project success and project success criteria and also the impact of the factors on project successful criteria to the contractors by using statistical measurement.

1.4 Objectives of the Study

The objective of this study is to identify:

- i. Factors of project success as perceived by contractors.
- ii. Project success criteria as perceived by contractors.
- iii. Relationship between factors of project success and project success criteria.
- iv. Impact of the factors on project successful criteria to the contractors.

1.5 Scope of the Study

This study focuses on five factors of project success; project-related factors, procurement-related factors, project management factors, project participants-related factors and external factors and the success criteria; time, cost, scope and quality perceive by contractor in Kedah, Pulau Pinang and Perlis only.

1.6 Significance of the Study

1.6.1 For Contractor

Project Management skills, tools, technique and knowledge is very important in construction because contractors must plan, monitor and control the overall of the project. This study also will provide strong foundation to overcome the difficulties or delay or failure in future and improve the project management practice in construction.

If the contractors have a good Project Management skills, tools, technique and knowledge, they can ensure that the various project elements are effectively coordinated, all the work required (and only the required work) is included, provide an effective project schedule, identify needed resources and maintain budget control, ensure functional requirements are met, development and effectively employ project personnel, ensure effective internal and external communications, analyze and mitigate potential risks and obtain necessary resources from external sources. They can also take actions to avoid unsuccessful projects, identify good projects and identify problems on current projects and take corrective action.

1.6.2 For Client

If the project can complete on time, within budget and scope; it can give benefit to the client and their end user. The successful project can meet their acquisition goals, answering the operational need, reached the end user on time,

product has a substantial time for use, and meaningful improvement of user operational level and end user is satisfied the product.

1.6.3 For Construction Industry/Body of Knowledge

All the project participants can learn about the important factors that can contribute to project success for setting up an effective management system to run construction project with excellent performance. If the success criteria and success factors are well managed, the level of success will be higher, construction management can be enriched and project manager can be trained in the skills for managing the projects in an efficient and effective way.

1.7 Definition of Terms

1.7.1 Project

A project is a process to achieve a specific objective and every project objective should be recognized at the initial stage of the project. The uniqueness of a project comes together with its objectives. Kerzner (2006) stated that the project is a series of construction activity that has many functions and the activities have specific objectives that need to be implemented according to certain specifications, has a beginning and ending date is specified, the limit of financing, and use of human and non-human resources. Project is defined differently and J E Ruin (2011) state that a work is a project if : the work has a proper opening/beginning or start-point and a

definite closing or end-point, a group or team of people are involved and required to accomplish the work, the work is one off, not a repetitive, work or undertaking, it needs the support or interplay of few related activities for its completion and the finished product/service is delivered to the client based on specified or clearly stated requirements.

1.7.2 Project Success

Time, cost and quality are the three primary variables in the overall structure of a project. If one or more of these variables change, the ones remaining will also be changed. Verzuh, Eric (2011) defined that a project was successful if the product is delivered according to schedule, the project meets forecasted cost estimates and the outcome of the project must meet the customer's expectations for use. To accomplish a construction project successfully is a big challenge and has involved significant amount of literature the past couple of decades. Project success factors was first introduced by Rubin and Seeling [1967, cited in Belassi and Tukel (1996)]. Studies of project success factors are seen as one way to improve the effectiveness in projects (Chan et al., 2004). The success of a project in the field of project management is ordinarily considered as fulfilling the objective (Lim & Mohamed, 1999).

1.7.3 Success Criteria

The project is considered success if the product or service can deliver on time, on budget, achieved all the specific goals and accepted by all parties. Victor

Sanvido (1992) defined that success criteria is related to a building often changes from project to project depending on participants, scope of services, project size, sophistication of the owner related to the design of facilities, technological implications, and a variety of other factors. Common threads relating to success criteria often develop not only with an individual project but across the industry as we relate success to the perceptions and expectations of the owner, designer, or contractor. Differences in a person's definition of success are often very evident. Victor Sanvido (1992) has described success criteria as below:

a) Owner's criteria for measuring success:

For owner, the project was considered successful if its completed on time, on budget, built as per specification, meet the needs and satisfy users and clients, quality of workmanship, bring a return on investment, the building has aesthetic value, building must be profitable and no interruptions during the construction stage.

b) Designer's criteria for measuring success:

For designer's, the success of the project can be achieved if the clients satisfied with quality of the architectural product and the client give credence to them to work on other projects. The designer also considers the project is successful if the design fees received worthwhile, achieved profit goal, professional staff can gain experience and learn new skills, met project budget and schedule, the product can be marketed, minimum construction problems and easy to operate, constructible design, liability, building working as intended, accepted by the community, giving customers confidence and well defined scope of work (contract and scope and compensation match).

c) Contractor's criteria for measuring success:

For contractors, the project is considered successful if it can be completed on time, give profits to the company, the project was implemented using a minimum budget, meet the specification, achieve the required quality, no additional claim from owners and subcontractors, safety is achieved, customer satisfaction is met, have a good subcontractor, effective

communication during the construction stage and no surprises during the project.

1.7.4 Success Factors

According to Chan et al. (2004), project success factors could be divided into five main categories:

- a) Project related factors. These factors refer to common factors that describe the nature of the project. What type of project, size and complexity of the project.
- b) Project procedures factors. This category is characterized by two methods, procurement method and tendering method, e.g. design-bid build contract or design-build contract differs. These affect the projects preconditions differently, e.g. time to plan the project differs from choice of contract.
- c) External factors. Environment is a factor that influences the construction processes. Other examples of external factors are the political environment, level of technology and economical environment.
- d) Human related factors. This is the category that contains all involved or participating parties, such as clients, contractors, subcontractors, project managers, consultants and suppliers etc. The client influences the construction project's time and economical performance, according to Walker (1995). Walker (1995) further argues that the client's representative, e.g. a formal and strict client representative, can give the project difficulties. Other client related factors that have an influence, are the type of client, how well the client has defined the scope, the client's experience, client's knowledge in

financing construction projects, and the client's knowledge of construction projects or construction organizations (Chan & Kumaraswamy 1997). Other key players are the contractor and subcontractor's characteristics such as experience, management, supervision, cost-control, and information systems affect the construction phase of a project. Chan et al. (2004) further suggest that project success requires team spirit and team effort through all team members and participating parties. In other words, the atmosphere needs to be supportive towards team-working and applies to e.g. consultants, client, contractors and sub-contractors (Hassan, 1995).

- e) Project management factors. This group of factors is affected by previous management experience, but contain many other attributes that affect the project, e.g. communication systems, mechanisms for control, feedback, capabilities, safety programs, control of subcontractors, coordination, managerial actions etc. According to Hubbard (1990), the project management factor is the key for project success. Through communication, scheduling and project planning, the project manager is a "key stake holder" (Belassi and Tukel, 1996). Chan et al. (2004) state that variables in all groups influence variables in the other groups. There are specific characteristics in each main category, that if met may improve the preconditions for a successful project. Examples of these are: low complexity of the project, short project duration, effective project management, client experience, private funding, experienced leadership, and/or a stable environment.

1.8 Research Hypothesis

The hypothesis in this study is referring to the problem statement :

- H1 : There is relationship between overall factors of project success and overall project success criteria
- H2 : There is relationship between each factors of project success and overall project success criteria
- H3 : There is relationship between the overall factors of project success and each variable of project success criteria
- H4 : There is an impact of factors of project success and project success criteria

1.9 Limitation of Study

This study is limited to building and civil contractors who are qualified and registered with the Construction Industry Development Board (CIDB) Malaysia under the grade G7 only (projects greater than RM10 Million) and still active from the CIDB directory in year 2013. The study is limited to construction phase only.

The second limitation of this study is time constraint to distribute and collect back the questionnaire to the contractors. A total of 83 samples may not be sufficient to represent the whole spectrum of contractors in Malaysia.

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