

**CRITICAL SUCCESS FACTORS FOR INTERNAL STAKEHOLDER
MANAGEMENT IN MALAYSIAN CONSTRUCTION PROJECTS**

By

TUNG YEW HOU

A dissertation submitted to the Department of Build Environment,

Faculty of Engineering and Science,

Universiti Tunku Abdul Rahman,

in partial fulfillment of the requirements for the degree of

Master of Science in Project Management

October 2014

ABSTRACT

CRITICAL SUCCESS FACTORS FOR INTERNAL STAKEHOLDER MANAGEMENT IN MALAYSIAN CONSTRUCTION PROJECTS

Tung Yew Hou

Client, consultant and contractor are considered as internal stakeholders in the construction projects. Undoubtedly, managing construction stakeholders is one of the important significant factors for project success. The aim of this research is to identify the critical success factors of internal stakeholder management in Malaysian construction projects. By doing so, the stakeholder management processes, issues, and critical success factors in the industry were examined as well. Seven (7) processes, eight (8) issues and fifteen (15) critical success factors of stakeholder management were identified, in order for the respondents to determine their level of importance. The questionnaire was distributed to 106 persons; the response rate was 58.5% or 62 persons responded. From the respondents, there were 16 persons (25.8%) from Client, 26 persons (41.9%) from Consultant, and 20 persons (32.3%) from Contractor. Kendall's Coefficient of Concordance was used and produced the rankings for stakeholder management processes, issues and critical success factors respectively. The top three stakeholder management processes were: (1) identify stakeholders, (2) gather information on stakeholders, and (3) identify stakeholder mission. As for stakeholder management issues, the top three were: (1) demonstrate good leadership, with clear vision and direction, (2) manage highly effective communications, and (3) identify, prioritize and engage key

stakeholders. Furthermore, the top four critical success factors were: (1) communicate with and engaging stakeholders properly and frequently, (2) identify stakeholders properly, (3) keep and promote a good relationship, and (4) formulate a clear statement of project missions. The Kruskal-Wallis test was used to determine any significant differences between client, consultant and contractor, on the stakeholder management processes, issues, and critical success factors respectively. The results of Kruskal-Wallis test indicated that the client, consultant and contractor, do not have significant differences on stakeholder management processes, issues, and critical success factors respectively because the value p was bigger than 0.05 ($p > 0.05$).

Specially dedicated to my wife and daughter

ACKNOWLEDGEMENT

I would like to express my appreciation to everyone who had contributed to this final year project especially to my research supervisor, Dr. Ir. Lee Wah Peng for his advice, supervision and patience throughout the development of this research.

**FACULTY OF ENGINEERING AND SCIENCE
UNIVERSITI TUNKU ABDUL RAHMAN**

Date: _____

PERMISSION SHEET

It is hereby certified that **TUNG YEW HOU** (ID No: **12UEM05777**) has completed this dissertation entitled “**CRITICAL SUCCESS FACTORS FOR INTERNAL STAKEHOLDER MANAGEMENT IN MALAYSIAN CONSTRUCTION PROJECTS**” under the supervision of Ir. Dr. Lee Wah Peng (Supervisor) from the Department of Surveying, Faculty of Engineering and Science.

I have given permission to the University to upload softcopy of my dissertation in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

()

APPROVAL SHEET

This dissertation entitled “**CRITICAL SUCCESS FACTORS FOR INTERNAL STAKEHOLDER MANAGEMENT IN MALAYSIAN CONSTRUCTION PROJECTS**” was prepared by **TUNG YEW HOU** and submitted as partial fulfilment of the requirements for the degree of Master of Science in Project Management at Universiti Tunku Abdul Rahman.

Approved by:

(Ir. Dr. Lee Wah Peng)

Date:.....

Assistant Professor/Supervisor
Department of Surveying
Faculty of Engineering and Science
Universiti Tunku Abdul Rahman

DECLARATION

I hereby declare that the dissertation is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

Name _____

Date _____

TABLE OF CONTENTS

| | |
|-------------------------|-------------|
| ABSTRACT | ii |
| DEDICATION | iv |
| ACKNOWLEDGEMENTS | v |
| PERMISSION SHEET | vi |
| APPROVAL SHEET | vii |
| DECLARATION | viii |
| LIST OF FIGURES | xii |
| LIST OF TABLES | xiii |

CHAPTER

| | |
|------------------------------------|-----------|
| 1.0 INTRODUCTION | 1 |
| 1.1 Background | 1 |
| 1.2 Problem Statement | 2 |
| 1.3 Aim and Objective | 4 |
| 1.4 Research Scope | 4 |
| 1.5 Significance of Study | 5 |
| 1.6 Research Methodology | 5 |
| 1.7 Chapter of Dissertation | 8 |
| 1.8 Summary | 9 |
| | |
| 2.0 LITERATURE REVIEW | 10 |
| 2.1 Stakes and Stakeholders | 10 |
| 2.2 Types of Stakeholders | 11 |
| 2.3 Stakeholder Management Process | 14 |

| | | |
|------------|--|-----------|
| 2.4 | Stakeholder Management Issues during Project Life Cycle | 15 |
| 2.4.1 | Initial Stage | 16 |
| 2.4.2 | Pre-design Stage | 16 |
| 2.4.3 | Design Stage | 16 |
| 2.4.4 | Tendering Stage | 17 |
| 2.4.5 | Construction Stage | 17 |
| 2.4.6 | Completion and Operation Stage | 18 |
| 2.5 | Critical Success Factors (CSF) for Stakeholder Management | 18 |
| 2.5.1 | Precondition Factor | 20 |
| 2.5.2 | Stakeholder Estimation | 20 |
| 2.5.3 | Information Inputs | 21 |
| 2.5.4 | Decision-making | 22 |
| 2.5.5 | Sustainable Support | 23 |
| 3.0 | METHODOLOGY | 24 |
| 3.1 | Introduction | 24 |
| 3.2 | Qualitative Research | 24 |
| 3.3 | Quantitative Research | 25 |
| 3.4 | Questionnaire | 26 |
| 3.5 | Analysis of Data | 27 |
| 3.5.1 | Cronbach's Alpha | 28 |
| 3.5.2 | Kendall's W | 29 |
| 3.5.3 | Kruskal-Wallis | 30 |
| 3.6 | Statistic – Statistical Package for Social Sciences (SPSS) | 31 |
| 3.7 | Result Summarisation and Discussion | 32 |

| | | |
|------------|--|-----------|
| 4.0 | RESULTS AND DISCUSSION | 34 |
| 4.1 | Introduction | 34 |
| 4.2 | Company and Respondent Profile | 35 |
| 4.3 | Cronbach's Alpha Test | 39 |
| 4.4 | Kendall's W Test | 40 |
| | 4.4.1 Stakeholder Management Processes | 41 |
| | 4.4.2 Stakeholder Management Issues | 43 |
| | 4.4.3 Critical Success Factors for Stakeholder Management | 45 |
| 4.5 | Kruskal-Wallis Test | 47 |
| | 4.5.1 Roles in the Project and Stakeholder Management Processes | 47 |
| | 4.5.2 Roles in the Project and Stakeholder Management Issues | 49 |
| | 4.5.3 Roles in the Project and Critical Success Factors (CSFs) For Stakeholder Management | 51 |
| | | |
| 5.0 | CONCLUSION | 53 |
| 5.1 | Conclusion | 53 |
| 5.2 | Limitation of the Research | 55 |
| 5.3 | Future Research | 56 |
| | | |
| | REFERENCES | 57 |
| | | |
| | APPENDICES | 67 |

LIST OF FIGURES

| FIGURE | TITLE | PAGE |
|--------|------------------------------------|------|
| 2-1 | The Flow of Research Mythology | 7 |
| 2-2 | Interplay between Key Stakeholders | 12 |

LIST OF TABLES

| TABLE | TITLE | PAGE |
|--------------|--|-------------|
| 4-1 | Summary of Company and Respondent Profile | 36 |
| 4-2 | Reliability Test of Stakeholder Management Processes | 39 |
| 4-3 | Reliability Test of Stakeholder Management Issues | 39 |
| 4-4 | Reliability Test of Critical Success Factors for Stakeholder Management | 40 |
| 4-5 | Ranking of the Seven (7) Stakeholder Management Processes | 42 |
| 4-6 | Ranking of the Eight (8) Stakeholder Management Issues | 44 |
| 4-7 | Ranking of the Fifteen (15) Critical Success Factors for Stakeholder Management | 46 |
| 4-8 | Relationship between Roles in the Project and Stakeholder Management Processes | 48 |
| 4-9 | Relationship between Roles in the Project and Stakeholder Management Issues | 50 |
| 4-10 | Relationship between Roles in the Project and Critical Success Factors for Stakeholder Management | 52 |

CHAPTER 1

INTRODUCTION

1.1 Background

Economically, Malaysia is one of the fastest growing construction industries in the world.

The construction industry inherently has many different problems and requirements. Generally, there are some important elements for the successful management of a construction project such as project management philosophies, processes, methods, and tools, and the capability of the project manager. However, numerous studies have recognised the need for managing construction stakeholder management. Ministry of Housing and Local Government reported that the lack of having the competent PMs and mismanagement are still critical problems in Malaysian construction industry, such that 514 and 95 abandoned housing projects were reported in 2000 and 2012 respectively. From the records, it was shown that nearly 90% of

abandoned projects were caused by management problems faced by the developer. Only a few of the causes are due to technical matters and failure in the company's performance.

Stakeholders are individuals or organizations that are either affected by or affect the deliverables or outputs of a specific organization (El-Gohary et al., 2006). Stakeholder management is the process of appropriately managing stakeholders to support an organization in achieving its strategic objectives by addressing organizations and stakeholders' power, intentions, and values (Savage et al., 1991). Stakeholder management has been widely advanced in business practice and in theory relevant to strategic management, corporate governance, and corporate social responsibility (CSR), since the milestone work, 'Strategic Management: A Stakeholder Approach' by Freeman (1984) was introduced. As construction project is characterized by the participation of a lot of stakeholders, such as client, stockholders, creditors, managers, employees, suppliers, customers, local communities, and the general public, project stakeholder management is widely appreciated in recent years (Leung et al., 2004).

1.2 Problem Statement

Stakeholder management is essential for project success. It is natural for the stakeholders to attempt to affect the project according to their individual interests (Olander and Landin, 2008). The diversity of interest is prominent especially when limited time and budget is afforded and may bring both problems and uncertainties to project implementation (Leung et al., 2004). Therefore, project stakeholder management is indispensable to control the negative impacts of stakeholders, maximize the perceived benefits, and achieve the preset mission (Olander and Landin, 2008). However, project stakeholder management is unsatisfactory through the past years due to the projects complication and ambiguity, insufficient engagement of stakeholders, project managers having unclear objectives of stakeholder management, difficulty to identify the “invisible” stakeholder, and insufficient communication with stakeholders (Loosemore, 2006).

1.3 Aim and Objective

The research's aim is to identify the key factors that contributing to the success of construction internal stakeholder management in this country. The aim could be achieved with below objectives:

- (1) To examine the stakeholder management processes
- (2) To examine the key issues in stakeholder management.
- (3) To explore the critical success factors of stakeholder management.

1.4 Research Scope

The scope of research will concentrate in the Malaysian construction industry. It involved three major construction players which are clients, consultants, and contractors. The questionnaire was distributed to 106 persons for obtaining their valuable feedback.

1.5 Significance of Study

This study intends to know the processes, main issues and key factors for managing internal stakeholder of construction successfully. This study could support the industry players in solving stakeholder management problems in construction projects.

1.6 Research Methodology

The research methodology is a guide for completing the study in a well-organised way to accomplish the research objectives. In this study, the research process generally consisted of four (4) levels as shown in Figure 1.1.

Level One included initial study and confirmation of research area. The approach was literature review only in this study. It attempted to trim down the research area. Consequently, the rough idea of research topic was established.

In Level Two, objective and scope of the research were decided. A research framework was prepared to find out the type of data are necessary for this study. Subsequently, research proposal was drafted and established.

Level Three included data analysis and interpretation. Research instruments were used for converting the collected data into information that were necessary for further examination. Basically, questionnaire survey was the main source of primary data collection. SPSS was used to carry out the data analysis. Since all the data in questionnaire were qualitative data, hence qualitative research was used in this study.

Level Four mainly included conclusion and recommendations for future research.

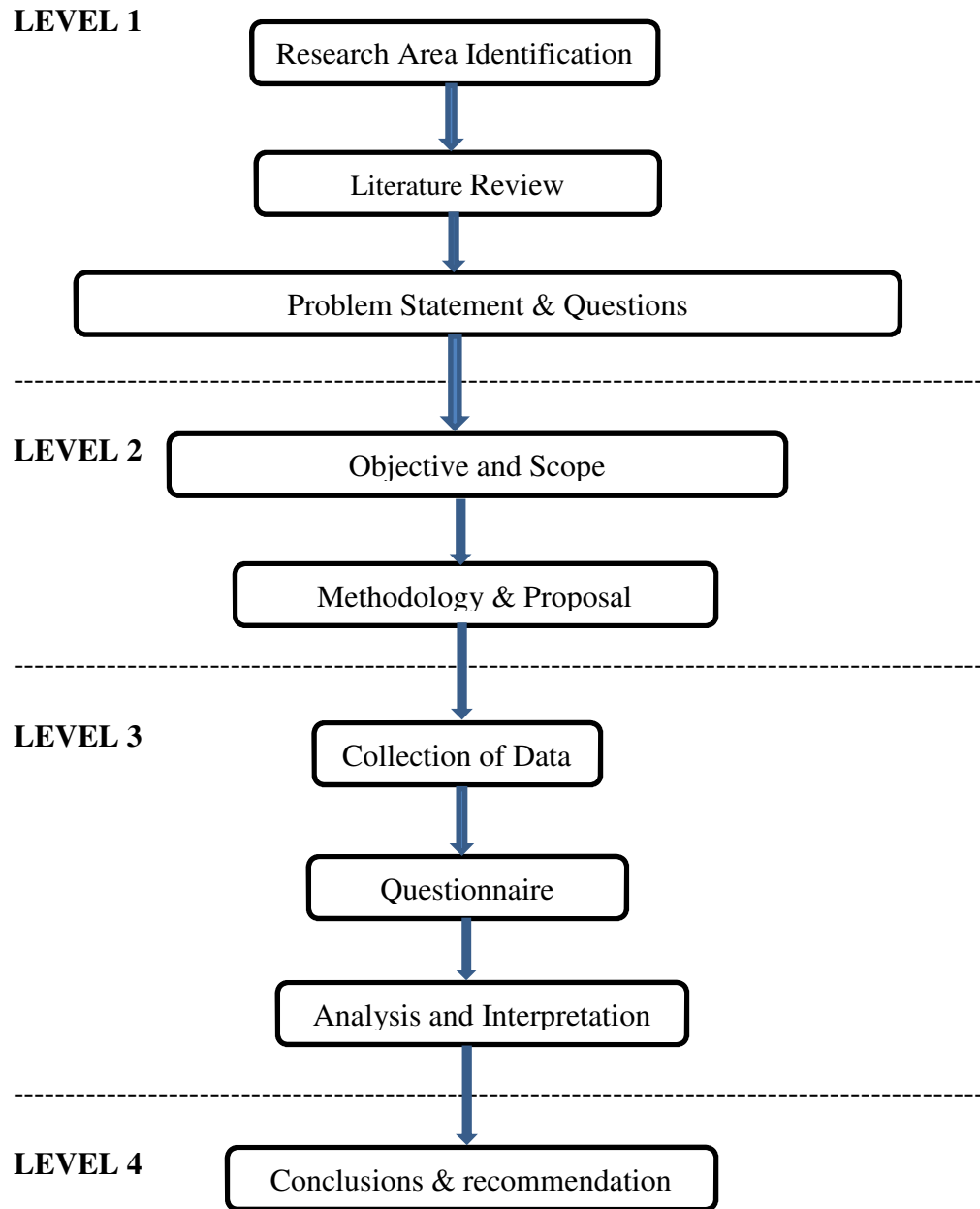


Figure 1-1. The Flow of Research Methodology

1.7 Chapter of Dissertation

The first chapter discusses some information about the definition of stakeholder, the stakeholder management process, the stakeholder management issues in construction, and the factors contributing to success of stakeholder management. The aim and objectives of the study are defined for the study to ascertain the next course of works to be carried out for completing the research. The scope of the study is demarcated. The significance of study will indicate the research conducted would be benefited the construction industry to overcome the shortfall of stakeholder management.

The second chapter will focus on the literature review. The previous studies from journals and books would be discussed in this chapter. This chapter will provide an understanding of construction stakeholders and stakeholder management relating practices, challenges and critical success factors.

Chapter three is about research methodology. The method to be applied in the research would be described in detail in order to provide a better understanding in what way the research come out a conclusion by analyzing the data.

In fourth chapter, the result of the analysis would be presented. The outcome of the research could be easily interpreted as the analysis result would be organised in a systematic manner. The achieved result will certainly be discussed.

The fifth chapter is about conclusion and recommendation. The final finding of the research would be reiterated in this part. The research limitation and recommendation for future study would be highlighted and discussed.

1.8 Summary

This chapter described some information about construction stakeholders and stakeholder management processes, issues, and success factors in this country. The aim of this research is to identify the key factors for managing internal stakeholder of construction successfully. The outcome from the study would provide better understanding, knowledge and guideline to construction players when dealing with differ stakeholders.

CHAPTER 2

LITERATURE REVIEW

2.1 Stakes and Stakeholders

A stake is an interest or a share in an undertaking while a stakeholder is an individual with a stake (Weiss, 2006). Moloney (2006) argues that stakeholders are individuals or groups that benefit from an organisation. Stakeholders affect and are affected by an organisation and its activities. Therefore, stakeholders have power to be either a threat or a benefit to an organisation (Gibson, 2000); or could support or obstruct an ongoing project. Their influences could be minor or major and could be exercised either intentionally or incidentally.

Organisations frequently rely on external stakeholders for resources, services, information, and so on. Interaction with several stakeholders is essential as organization operation is going on. The argument is that stakeholders have claims, rights and expectations that should to be pleased and

not taken lightly (Carroll and Buchholtz, 2006). Thus, stakeholders must be managed in each undertaking to avoid any of their negative influences, especially those that could be contrary to a firm's objectives.

2.2 Types of Stakeholders

The stakeholders in a project can be divided into internal stakeholders that are those who are members of the project coalition or who provide finance; and external stakeholders, that is those affected by the project in a significant way (Winch and Bonke, 2002).

There are diverse stakeholders are involved in each particular project and throughout the project life cycle. Stakeholders in construction could be classified into five main groups: clients, consultants, contractors, external public parties and external private parties. Clients, consultants and contractors could be categorised as internal stakeholders, whereas the external public and private parties are considered as external stakeholders. The interplay of project stakeholders are shown in Figure 2-1.

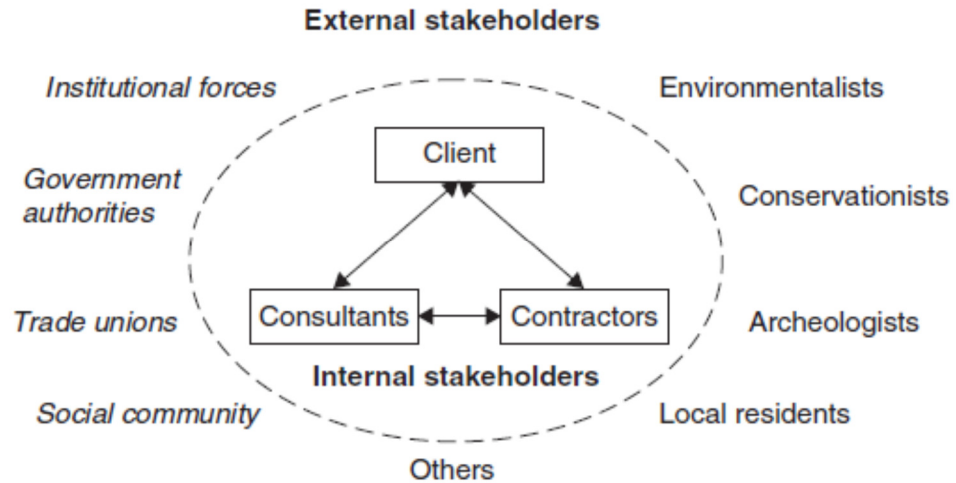


Figure 2-1. Interplay between Key Stakeholders

All construction projects are initiated by the clients. Since the project would be funded by client, therefore the project’s requirements and objectives are always vital in order to make the project successfully. In fact, the so-called basic requirements are not always adequately explained, agreed or make clear.

Construction projects usually required various consultants’ involvements, such as town planners, architects, civil engineers, structural engineers, mechanical and electrical engineers, and quantity surveyors. Consultants as professional parties, are important because of their technical expertise in supporting client and contractor throughout the project life cycles.

During construction phase, the contractors or suppliers is recognised as one of the important internal stakeholders. They are required to ensure that the works are completed within schedule and value, and in compliance with quality as stipulated in the contract, while the suppliers such as manufacturers, materials and equipment suppliers, need to committed for delivering material and equipment on time for carrying out the work on site, with ensuring that the quality standard of material and equipment must be consistent and reliable.

External public parties including government authorities and agencies, local councils, government linking company, and other public sector related industries. The roles, functions or influences of this parties could be varied. For instance, every construction project needs to obtain the Approval of Development Order (DO) and Building Plan (BP) as granted by local council before any commencement of works could be allowed at site.

External private parties very hard to compare with public parties especially in term of authorities. For ensuring sustainable development in society and public interest is protected, the dialogue with external private parties should not be disregarded by the project developer.

2.3 Stakeholder Management Process

Stakeholder management involves dealing with interactions and inspiration of stakeholders to act for backing the purposes of an organisation. A number of studies have been conducted to explore how to apply stakeholder management in the construction industry. For instance, Karlsen (2002) suggested the processes such as identify stakeholders; analyse stakeholders' characteristics; communicate and share information with stakeholders; develop strategies; and follow up. Elias et al. (2002) proposed that to develop a project stakeholder map; prepare a specific stakeholders' chart; identify stakeholders' stakes; prepare a power versus stake grid; conduct stakeholder analysis; determine stakeholder management capability; and analyse the dynamics of stakeholder interactions.

Furthermore, Young (2006) recommended that the stakeholder management processes are identify stakeholders; gather information about stakeholders; and analyse stakeholders' influence. Bourne and Walker (2006) stated that managing stakeholders by identification and prioritisation; and developing a stakeholder engagement strategy. Olander (2006) and Cleland (1999) proposed that the processes including identify stakeholders; gather information on stakeholders; identify stakeholder mission; determine stakeholder strengths and weaknesses; identify stakeholder strategy; predict stakeholder behavior; implement stakeholder management strategy.

Moreover, Walker et al. (2008) suggested that managing stakeholders by identification, prioritisation, visualization and engagement; and monitoring effectiveness of communication. Jepsen and Eskerod (2009) recommended that to identify important stakeholders; characterise stakeholders with their needed contribution and expectation. Project Stakeholder Management has been introduced as the tenth (10th) Knowledge Areas of PMBOK® Guide, 5th Edition which was published in 2013. According to PMBok® Guide (2013), Project Stakeholder Management processes are including identify stakeholders; plan stakeholder management; manage stakeholder engagement; and control stakeholder engagement.

2.4 Stakeholder Management Issues during Project Life Cycle

The record shown that project internal stakeholders were not managed properly in the construction industry, due to the complexity and uncertainty of projects, (Loosemore, 2006).

2.4.1 Initial Stage

Clients endeavor to explain their needs clearly; it is still very hard to itemise all the requirements precisely. Furthermore, clients' needs frequently alter and this would disturb the project progression.

2.4.2 Pre-design Stage

Project information provided at this stage still not clear and insufficient, budget projection become not easy. Apparently, all the consultants concentrate to their own area without proper coordination, conflicts and discrepancies among consultants may occur.

2.4.3 Design Stage

Project consultants to sort out all the issues and discrepancies encountered. Any delay in client's confirmation might make the project in dilemma, as all the drawings will have to be submitted to all relevant authorities departments for official approval.

2.4.4 Tendering Stage

The consultant team to check the tender documents and drawings carefully to confirm it is in order; and to make clear any design discrepancies. Relevant consultants have to verify any technical question highlighted, evaluate the tender documents submission by the tenderers, and prepare tender report for recommending potential contractor. Tender interviews usually conducted between tenderers, consultants and client for ensuring the tenderers understand and clear about the project conditions and specifications.

2.4.5 Construction Stage

As the clients' representative, project managers and project consultants to monitor contractors' performance work regularly for ensuring the project is on the right track. The changes, errors or discrepancies especially in terms of design during this stage, the project managers and consultants should manage any variation order with the contractors. If any major change cannot be avoided, client's approval is required.

2.4.6 Completion and Operation Stage

Upon completion of the projects, proper inspection and handover process and procedure to be executed between client, consultant and contractor. If there are any defects due to contractors, the contractors have to carry out the rectification within the defects liability period. Building facility management team is responsible for maintaining the building during the operation stage.

2.5 Critical Success Factors (CSFs) for Stakeholder Management

Critical success factor (CSF) is necessary for an organisation or project to achieve its mission. It is a critical factor or activity prerequisite for confirming the success of an organisation or project (Rockart, 1979).

Several studies have investigated the success factors for project stakeholder management. According to Jergeas et al. (2000), effective stakeholder communication; and project common goals, objectives and priorities setting could improve the project stakeholder management performance. Aaltonen et al. (2008) stated that management of the

relationships between the project team and its stakeholders is critical for project stakeholder management.

Jepsen and Eskerod (2009) considered that identification of sufficiently important stakeholders, and warranting information gathering concerning expectations is critical to meet the challenge of project stakeholder management.

Comprehensively, Yang et al. (2009) identified fifteen (15) critical success factors for project stakeholder management by adopting an approach integrating literature review, interview, and questionnaire. The 15 critical success factors were categorized into five (5) groups: precondition factor, stakeholder estimation, information inputs, decision-making, and sustainable support.

2.5.1 Precondition Factor

This group consists of one (1) critical success factors namely managing with social responsibilities.

Awareness of pollution and environmental issues become increasingly important. Nowadays, project developers cannot just think of making huge profit margin from the projects but need to consider the environmental expectation as well. Therefore, sustainable development become important gradually to ensure the balancing between economic and environmental.

2.5.2 Stakeholder Estimation

This group consists of four (4) critical success factors namely stakeholders' attributes, stakeholders' behavior, stakeholders' potential influence, and conflicts encountered as well as coalitions formed.

It is crucial for project management team to perceive the stakeholders' attributes from the perception of power, urgency, and proximity, so that different level of attention could be considered. It is important for project

managers to assess the stakeholder reactions and behaviours; to analyse the potential impact of stakeholders to understand how the stakeholder exerting influence; and to know the potential conflicts arising due to differing interest of stakeholders during the project progression, so that the next course of action could be planned.

2.5.3 Information Inputs

This group consists of four (4) critical success factors namely project goals, stakeholders identification, stakeholders' interests and stakeholders' wants and limitations to the project.

It is important to identify a well-defined goals especially at the early or beginning of every project phase in order to achieve project objectives or deliverables. Project managers in a project must have knowledgeable and logical skills to identify of the stakeholders who are related to the project and try to work with them within the project. The nature of construction is complex because of various stakeholders' interest to be fulfilled such as return on investment, project deliverables with high quality, project completed within budget and schedule, and so on. To realize the stakeholders' needs and their constraints to the project at the early stage of project is critical for enabling the project manager to plan project resources to sustain the project.

2.5.4 Decision-making

This group consists of three (3) critical success factors namely compromising conflicts, formulating appropriate strategies, and predicting the reaction of stakeholders.

Conflicts among stakeholder cannot be avoided due to different stakeholders having different needs and expectations, therefore project manager required to negotiate with stakeholders to find out the win-win compromise solution to minimise the negative impacts from the stakeholders. Different kinds of strategies to be adopted by project managers by considering the project organisation's culture and resources available and understanding the stakeholders' level of power and importance in the project. By predicting and observing the reactions of stakeholders, project management team would be able to prepare themselves to adjust the strategy to tackle the stakeholders.

2.5.5 Sustainable Support

This group consists of three (3) critical success factor namely change of stakeholders' influence and relationships, steady relationship with stakeholders, and communicating with and engaging stakeholders properly and frequently.

The stakeholders' influence and relationships between stakeholders are changing throughout the project life cycle, therefore project management team required to monitor these to-be changings regularly in order to manage the uncertainty arising. No doubt insufficient communication with stakeholders will not be to engage stakeholder properly. Good relationships with stakeholders would not able to build up without trust and commitment among stakeholders. Therefore, regular communication with stakeholders have to be maintained in order to meet their expectations and address their concerns.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The design of the research has two types generally (Creswell 2008) namely 1) qualitative research and 2) quantitative research. The research design to be selected depending to the research nature.

3.2 Qualitative Research

For this method, wide question to be asked, and the data collected would be in verbal, pictures, or video forms. The question does not need to be quantifiably value or search for potential relationships in the variables. This method is expensive and time consuming (Michael, 2006). Usually, interview would be used for collecting data. Interviews allow taping the conversation, taking notes, relying on interview memory or providing answers for

interviewee to choose (DiCicco et al., 2006). The questions are allowed to be closed ended question or open ended questions, or even mixture (Gina, 2007). Closed ended questions encourage receiving fixed facts such as personal details. The answers of closed ended questions are easily to manage and allow quantifying the responses easier. On the other hand, open ended questions allow the interview gather variety idea and feelings from the person.

3.3 Quantitative Research

Quantitative method is a systematic approaches which gathering data of relationships and the phenomena. This method will ask narrow question to collect numerical data and analyse using the utilising statistical. The quantitative research is designing to collect data from correlation, experiment and/or survey (or descriptive) (Creswell, 2008). Statistics from the data able to derive from quantitative research which allow to be used for check the relationships between variables. The data collection method is relying on various sampling, and the structured data is collected and fit into predetermined response categories (Pekrun & Stephens, 2010). The results from quantitative methods are easily to categorize, compare and summarize (Michael, 2006). The core of quantitative research is testing hypotheses gather from estimation of the phenomenon and/or various theory. The participants allow to be randomly assigned to give different treatments. These will help to

characteristics it statistically which control for the external variable or influence.

3.4 Questionnaire Survey

For this research, questionnaire survey was used for collecting data. The reason questionnaire survey was selected because it could remove the bias from the interviewer (Chauncey, 2013).

The questionnaire was distributed to respondents by e-mail mainly and some by manually. The questionnaire only targeted to construction industry players and expecting hundred sets of reply from respondents. The questionnaire was divided into four sections.

The section A was consisted of ten questions pertaining the company background and profile of the respondents. Respondents were required to choose one answer only that most suitable and correlated to them.

The section B was comprised of seven (7) questions related to project stakeholder management processes. The section C was consisted of eight (8) questions associated to issues in stakeholder management. The section D was comprised of fifteen (15) questions related to key factors for managing stakeholder successfully. Respondents were required to rate each question on a five-point Likert scale that required a ranking of one (1) to five (5); where one (1) represented for strongly disagree, two (2) represented for disagree, three (3) represented for neutral, four (4) represented for agree, and five (5) represented for strongly agree.

3.5 Analysis of the Data

Three stages of data analysis test were conducted. Firstly was to test the reliability of the questionnaire by using Cronbach's Alpha test. Secondly was to rank the data. The data was converted into means and ranked by using Kendall's W. Finally was to identify differences between independent groups by using Kruskal-Wallis test.

3.5.1 Cronbach's Alpha Test

Cronbach's alpha test is the most common measure of internal consistency or reliability of a set of items and used when the multiple Likert scale is adopted in a questionnaire survey. The analysis was carried out using SPSS software

George and Mallery (2003) provide the following rules of thumb: “ ≥ 0.9 – Excellent, ≥ 0.8 – Good, ≥ 0.7 – Acceptable, ≥ 0.6 – Questionable, ≥ 0.5 – Poor, and < 0.5 – Unacceptable”.

If the Cronbach Alpha value is less than 0.7, it is recommended to try to delete one variable at a time from the questionnaire list of survey. By doing this, the consequences or changes on the Cronbach Alpha could be observed. For instance, if the Cronbach Alpha value become improving and more than 0.7 after one of the variables had been deleted, then it suggests that the variable should be excluded from the construct.

3.5.2 Kendall's W (aka Kendall's Coefficient of Concordance)

Kendall's W is a non-parametric statistic. It is a normalization of the statistic of the Friedman test.

Non-parametric tests are sometimes named distribution free statistics. For this kind of test, the data does not require to fit a normal distribution or it is actually require less restrictive assumptions about the data.

One significant reason of this test is allowing for the analysis of categorical as well as rank the data. If the measurement scale is nominal (true/false, good/bad) or ordinal (ratings made on a scale), then non-parametric statistic is applied. However, parametric statistic is applied if interval or ratio scale is used.

When this study was using ordinal ratings, such as five-point Likert scale ratings on a scale of 1 - 5, Kendall's W, which take ordering into consideration, are usually more appropriate statistics to determine association than Cohen's kappa alone. Cohen's kappa is applied only if one of the following two conditions is true: two appraisers each evaluate one trial on each sample or one appraiser evaluates two trials on each sample.

Kendall's W can be used for assessing agreement among raters. It ranges from 0 (no agreement) to 1 (complete agreement). Kendall's W calculates agreements between 3 or more rankers as it ranks a number of subjects according to a particular characteristics (Siegel and Castellan, 1988). The analysis was carried out using SPSS software.

3.5.3 Kruskal-Wallis Test

The Kruskal-Wallis test is a non-parametric test that used to determine statistically significant differences between two or more groups of an independent variable. It is significant to recognise that the Kruskal-Wallis test is a collection test statistic and cannot tell which specific groups of the independent variable are statistically significantly different from each other; it only tells that at least two groups were different.

If the p value is less than 0.05 ($p < 0.05$) then the finding considered as significantly difference between the several independent groups. Otherwise, if the p value is more than 0.05 ($p > 0.05$), then considered no significantly difference between the several independent groups (Field, 2005). The limitation of the test is if no significant difference is found in the data, cannot say that the samples are the same. However, if significant difference is found

then there is a difference between the highest and lowest median. A non-parametric multiple comparison test must then be used to ascertain whether the intermediate shore also is significantly different. The analysis was carried out using SPSS software.

3.6 Statistic – Statistical Package for Social Sciences (SPSS)

Statistics is a method of collection, analysis, organization, interpretation and presentation of data (Dodge, 2006). The data collection can be done by doing surveys or experiments (Dodge, 2006).

After the data has been collected, the data will be analysis using SPSS software. SPSS software is a software package to analysis statistic (Levesque, 2007). SPSS software is one of the powerful software which can generate the statistic result by saving all the data into the software. SPSS software can accept non-normally distributed data or non-parametric (Field, 2005).

These research statistics results will be generated using SPSS software are:

- 1) Cronbach's Alpha
- 2) Kendall's Coefficient of Concordance
- 3) Kruskal-Wallis

3.7 Result Summarisation and Discussion

By applying the Kendall's Coefficient of Concordance, the suggested ordered sets of stakeholder management processes, issues, and critical success factors were determined. Basically, these kind of ordered sets could be the general guidelines for the local construction players in managing internal stakeholders throughout the project life cycle. By understanding the importance level of these processes, issues, and critical success factors, the construction players would be able to manage the internal stakeholders by playing strategy of prioritisation in order to fulfil the stakeholders' expectation and interests.

In addition to Kendall's W, Kruskal-Wallis test was used to determine any significant differences between the groups of client, consultant and contractor on rating the stakeholder management processes, issues, and critical success factors. In general, if the significant differences found between the

groups, it may suggest that the groups rated the processes, issues, and critical success factors different significantly and the construction players are recommended to look into the opinions or considerations of the groups of client, consultant and contractor.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

The questionnaire was distributed to 106 persons, the response rate was 62 persons or 58.5% and there was 44 persons no response or equivalent to 41.5%. From the respondents, there were 16 persons (25.8%) from Client/Owner, 26 persons (41.9%) from Consultant, and 20 persons (32.3%) from Contractor.

In the survey questionnaire, the questions were divided into four (4) sections as below:

Section A : Company and Respondent's Profile

Section B : Stakeholder Management Processes

Section C : Issues in Stakeholder Management

Section D : Critical Success Factors for Stakeholder Management

The data were collected according to Section B, C and D and tested by using Cronbach's Alpha in order to check the reliability of the collected data. Subsequently, the results were analysed according to the questionnaire sections by using Kendall's Coefficient of Concordance, and followed by Kruskal-Wallis test.

4.2 Company and Respondent Profile

The result and overall information of the company and respondent profile was indicated in Table 4-1. This section consisted of ten (10) questions.

The questions related to as following:

- 1) Gender
- 2) Construction working experience
- 3) Area of specialisation
- 4) Role in the project
- 5) Position in the project organisation
- 6) The project type
- 7) The project owner
- 8) The project cost (as budgeted)
- 9) The project duration (as planned)
- 10) The project workforce (average during construction stage)

Table 4-1. Summary of Company and Respondent Profile

| Descriptions | Number of Respondents | Percentage |
|---|------------------------------|-------------------|
| 1) Gender: | | |
| Male | 46 | 74.2 |
| Female | 16 | 25.8 |
| 2) Construction working experience: | | |
| Less than 2 years | 3 | 4.8 |
| 2 - 5 years | 1 | 17.7 |
| 6 - 10 years | 12 | 19.4 |
| More than 10 years | 36 | 58.1 |
| 3) Area of specialisation: | | |
| Construction management | 13 | 21.0 |
| Architectural | 11 | 17.7 |
| Civil & Structure (C&S) | 11 | 17.7 |
| Mechanical & Electrical (M&E) | 9 | 14.5 |
| Quantity Surveyor (QS) | 10 | 16.1 |
| Others | 8 | 12.9 |
| 4) Role in the project: | | |
| Client/Owner | 16 | 25.8 |
| Consultant | 26 | 41.9 |
| Contractor | 20 | 32.3 |
| 5) Position in the project organisation: | | |
| Project Director | 9 | 14.5 |
| Project Manager | 14 | 22.6 |
| Contract Manager | 3 | 4.8 |
| Project Architect | 8 | 12.9 |
| Project Engineer | 11 | 17.7 |
| Quantity Surveyor | 7 | 11.3 |

| | | |
|---|----|------|
| Others | 10 | 16.1 |
| 6) The project type: | | |
| Building works | 34 | 54.8 |
| Civil works | 13 | 21.0 |
| Mechanical & Electrical works | 9 | 14.5 |
| Others | 6 | 9.7 |
| 7) The project owner: | | |
| Government | 10 | 16.1 |
| Private | 52 | 83.9 |
| 8) The project cost (as budgeted): | | |
| Less than RM50 million | 25 | 40.3 |
| RM50 million - RM100 million | 18 | 29.0 |
| More than RM100 million | 19 | 30.6 |
| 9) The project duration (as planned): | | |
| Less than 1 year | 23 | 37.1 |
| 1 year - 3 years | 24 | 38.7 |
| More than 3 years | 15 | 24.2 |
| 10) The project workforce (average during construction stage): | | |
| Less than 50 workers | 12 | 19.4 |
| 50 – 100 workers | 4 | 6.5 |
| 101 – 200 workers | 19 | 30.6 |
| More than 200 workers | 27 | 43.5 |

In the summary of the result, majority of the respondents are holding the position of project manager in the project organisation. Most importantly, about half of the respondents have ten (10) years and above of working experience in construction industry. With this information, it can increase the reliability of the survey result. This is because they have vast experience and have better knowledge on Project Stakeholder Management in the industry for many years.

There are one more important information is majority of the respondents are involving in construction management as the area of specialisation. This information is important because the research is about key factors for managing construction stakeholder successfully. This research cannot be continued if the respondents do not have the exposure and understanding about the practices and issues in managing the diverse stakeholders in construction projects, which are highly tough and challenging.

4.3 Cronbach's Alpha Test

The Cronbach's Alpha test result shown in Table 4-2 was reliability test of Stakeholder Management Processes. Cronbach's Alpha test value in Table 4-1 was 0.832 which shown this study had the good internal consistency.

Table 4-2. Reliability Test of Stakeholder Management Processes

| Cronbach's Alpha | N of Items |
|-------------------------|-------------------|
| 0.832 | 7 |

The Cronbach's Alpha test result shown in Table 4-3 is reliability test of Issues in Stakeholder Management. Cronbach's Alpha test value in Table 4-2 was 0.835 which shown this study had the good internal consistency.

Table 4-3. Reliability Test of Issues in Stakeholder Management

| Cronbach's Alpha | N of Items |
|-------------------------|-------------------|
| 0.835 | 8 |

The Cronbach's Alpha test result shown in Table 4-4 is reliability test of Critical Success Factors for Stakeholder Management. Cronbach's Alpha test value in Table 4-3 was 0.910 which shown this study had the excellent internal consistency.

Table 4-4. Reliability Test of Critical Success Factors for Stakeholder Management

| Cronbach's Alpha | N of Items |
|-------------------------|-------------------|
| 0.910 | 15 |

4.4 Kendall's W (aka Kendall's Coefficient of Concordance)

Kendall's W is a measure of agreement among raters. This test is particularly useful for evaluating various readings on the same set of variables. The test converted primary data into ranks, displays the ranks, and do the calculations.

4.4.1 Stakeholder Management Processes

This section is to summarise the result of ranking and Kendall's W for stakeholder management processes as shown in Table 4-5. The calculated means for the seven (7) practices ranging from 3.55 to 4.44. The highest ranking by all respondents was "identify stakeholders" (mean = 4.44), which therefore was considered as an extremely importance process for stakeholder management. The second and third ranked importance process were "Gather information on stakeholders" (mean = 4.26) and "identify stakeholder mission" (mean = 4.13). The fourth and fifth ranked importance process were "identify stakeholder strategy" (mean = 3.97) and "implement stakeholder management strategy" (mean = 3.95). These five (5) processes were considered as the top five importance processes for managing construction internal stakeholder based on the respondents as the industry players as well. Apparently, these respondents recognised "determine stakeholder strengths and weaknesses" and "predict stakeholder behaviour" as the two least influential processes.

Kendall's W was computed for determining the agreement of respondents on the rating of stakeholder management processes. If Kendall's W equivalent to zero (0) suggests no agreement, otherwise if Kendall's W equivalent to one (1) suggests perfect agreement.

Kendall's W is 0.188, the suggestion was significant agreement could not be demonstrated due to the sample size not big enough, only 62 respondents for this study.

Table 4-5. Ranking of the Seven (7) Stakeholder Management Processes

| Stakeholder Management Processes | | Mean | Rank |
|---|--|-------------|-------------|
| B1 | Identify stakeholders | 4.44 | 1 |
| B2 | Gather information on stakeholders | 4.26 | 2 |
| B3 | Identify stakeholder mission | 4.13 | 3 |
| B5 | Identify stakeholder strategy | 3.97 | 4 |
| B7 | Implement Stakeholder Management strategy | 3.95 | 5 |
| B4 | Determine stakeholder strengths and weaknesses | 3.92 | 6 |
| B6 | Predict stakeholder behaviour | 3.55 | 7 |

N = 62; Kendall's W = 0.188.

4.4.2 Stakeholder Management Issues

This section is to summarise the result of ranking and Kendall's W for stakeholder management issues as shown in Table 4-6. The calculated means for the eight (8) issues ranging from 3.73 to 4.50. The highest ranking by all respondents was "demonstrate good leadership, with clear vision and direction" (mean = 4.50), which therefore was considered as an extremely critical issue for stakeholder management. The second and third ranked critical issues were "manage highly effective communications" (mean = 4.35) and "identify, prioritise and engage key stakeholders" (mean = 4.34). The fourth and fifth ranked critical issues were "build and maintain mutual trust relationships" (mean = 4.26) and "aware of all stakeholders' power and influences" (mean = 4.02). These five (5) issues were considered as the top five critical issues for managing construction internal stakeholder based on the respondents as the industry players as well. Apparently, these respondents recognised "attend to all stakeholders' interests and concerns", "understand organisational cultures, styles and structures" and "change of stakeholder impact and participation throughout project life cycle" as the three least critical issues.

Kendall's W was computed for determining the agreement of respondents on the rating of stakeholder management issues, where zero (0) means no agreement at all among the respondents; conversely, one (1) means perfect agreement.

Kendall's W is 0.245, the suggestion was significant agreement could not be demonstrated due to the sample size not big enough, only 62 respondents.

Table 4-6. Ranking of the Eight (8) Issues in Stakeholder Management

| Issues in Stakeholder Management | | Mean | Rank |
|---|--|-------------|-------------|
| C7 | Demonstrate good leadership, with clear vision and direction | 4.50 | 1 |
| C6 | Manage highly effective communications | 4.35 | 2 |
| C1 | Identify, prioritize and engage key stakeholders | 4.34 | 3 |
| C5 | Build and maintain mutual trust relationships | 4.26 | 4 |
| C3 | Aware of all stakeholders' power and influences | 4.02 | 5 |
| C2 | Attend to all stakeholders' interests and concerns | 3.92 | 6 |
| C8 | Understand organisational cultures, styles and structures | 3.84 | 7 |
| C4 | Change of stakeholder impact and participation throughout project life cycle | 3.73 | 8 |

N = 62; Kendall's W = 0.245

4.4.3 Critical Success Factors for Stakeholder Management

This section is to summarise the result of ranking and Kendall's W for stakeholder management success factors as shown in Table 4-7. The calculated means for the fifteen (15) critical success factors ranging from 3.60 to 4.15. The top rating by all respondents were "well engaging and communicate with stakeholders regularly" (mean = 4.15) and "identify stakeholders properly" (mean = 4.15), which were reflected as the exceptionally critical factors for stakeholder management. The second ranked critical factors were "keep and promote a good relationship" (mean = 4.13) and "formulate a clear statement of project missions" (mean = 4.13). The fifth and sixth ranked critical factor were "develop suitable stakeholder strategies" (mean = 4.03) and "assess attributes of stakeholders" (mean = 3.95). Subsequently, all respondents recognised "compromise conflicts among stakeholders effectively", "analyse the shift of stakeholders' power and interactions during the project development" and "assess stakeholders' behavior" as the three least significant factors.

Kendall's W was computed for determining the agreement of respondents on the rating of critical success factors for managing stakeholder, where zero (0) means no agreement at all among the respondents; conversely, one (1) means perfect agreement. Kendall's W is 0.112, the suggestion was significant agreement could not be demonstrated due to the sample size not big enough, only 62 respondents.

Table 4-7. Ranking of the Fifteen (15) Critical Success Factors for Stakeholder Management

| Critical Success Factors for Stakeholder Management | | Mean | Rank |
|--|--|-------------|-------------|
| D13 | Well engaging and communicate with stakeholders regularly | 4.15 | 1 |
| D7 | Identify stakeholders properly | 4.15 | 1 |
| D15 | Keep and promote a good relationship | 4.13 | 2 |
| D6 | Formulate a well-defined project goals | 4.13 | 2 |
| D12 | Develop suitable stakeholder strategies | 4.03 | 5 |
| D2 | Assess stakeholders' attributes | 3.95 | 6 |
| D1 | Manage stakeholders with social responsibilities | 3.89 | 7 |
| D9 | Explore stakeholders' wants and limitations to projects | 3.82 | 8 |
| D8 | Understand the area of stakeholders' interests | 3.76 | 9 |
| D10 | Predict stakeholders' respond for executing strategies | 3.74 | 10 |
| D4 | Predict the influence of stakeholders accurately | 3.73 | 11 |
| D5 | Analyse conflicts and coalitions among stakeholders | 3.66 | 12 |
| D11 | Compromise conflicts among stakeholders effectively | 3.63 | 13 |
| D14 | Analyse the shift of stakeholders' power and interactions during the project development | 3.60 | 14 |
| D3 | Assess stakeholders' behaviour | 3.60 | 14 |

N = 62; Kendall's W = 0.112.

4.5 Kruskal-Wallis Test

Kruskal-Wallis was used to test the following:

- 1) Roles in the project and stakeholder management processes
- 2) Roles in the project and stakeholder management issues
- 3) Roles in the project and critical success factors for stakeholder management

4.5.1 Roles in the Project and Stakeholder Management Processes

Kruskal-Wallis was used to test and find any significant difference between the roles playing in the project (client, consultant and contractor) on the stakeholder management processes.

If the p value is less than 0.05 ($p < 0.05$) then the finding considered as significantly difference between the several independent groups. Otherwise, if the p value is more than 0.05 ($p > 0.05$), then considered no significantly difference between the several independent groups (Field, 2005).

The result of the test suggested that all the different roles in the project (client, consultant and contractor) do not have any significant difference on the stakeholder management processes because the p value was more than 0.05 ($p > 0.05$). The results shown in Table 4-8:

Table 4-8. Relationship between Roles in the Project and Project Stakeholder Management Practices

| Stakeholder Management - Practices | Roles in the project | |
|---|-----------------------------|----------------|
| | Chi-Square | p value |
| B1 Identify stakeholders | 0.433 | 0.805 |
| B2 Gather information on stakeholders | 0.192 | 0.908 |
| B3 Identify stakeholder mission | 0.414 | 0.813 |
| B4 Determine stakeholder strengths and weaknesses | 2.326 | 0.313 |
| B5 Identify stakeholder strategy | 1.131 | 0.568 |
| B6 Predict stakeholder behaviour | 0.793 | 0.673 |
| B7 Implement Stakeholder Management strategy | 3.276 | 0.194 |

4.5.2 Roles in the Project and Stakeholder Management Issues

Kruskal-Wallis is used to test and find any significant difference between the roles playing in the project (client, consultant and contractor) on the stakeholder management issues.

If the p value is less than 0.05 ($p < 0.05$) then the finding considered as significantly difference between the several independent groups. Otherwise, if the p value is more than 0.05 ($p > 0.05$), then considered no significantly difference between the several independent groups (Field, 2005).

The result of the test suggested that all the different roles in the project (client, consultant and contractor) do not have any significant difference on the stakeholder management issues because the p value was more than 0.05 ($p > 0.05$). The results shown in Table 4-9:

Table 4-9. Relationship between Roles in the Project and Issues in Stakeholder Management

| Stakeholder Management - Issues | | Role in the project | |
|--|--|----------------------------|----------------|
| | | Chi-Square | p value |
| C1 | Identify, prioritize and engage key stakeholders | 1.390 | 0.499 |
| C2 | Attend to all stakeholders' interests and concerns | 4.642 | 0.098 |
| C3 | Aware of all stakeholders' power and influences | 2.861 | 0.239 |
| C4 | Change of stakeholder impact and participation throughout project life cycle | 1.099 | 0.577 |
| C5 | Build and maintain mutual trust relationships | 0.652 | 0.722 |
| C6 | Manage highly effective communications | 1.628 | 0.443 |
| C7 | Demonstrate good leadership, with clear vision and direction | 2.692 | 0.260 |
| C8 | Understand organisational cultures, styles and structures | 2.843 | 0.241 |

4.5.3 Roles in the Project and Critical Success Factors for Stakeholder Management

Kruskal-Wallis was used to test and find any significant difference between the roles playing in the project (client, consultant and contractor) on the key factors for managing stakeholder successfully.

If the p value is less than 0.05 ($p < 0.05$) then the finding considered as significantly difference between the several independent groups. Otherwise, if the p value is more than 0.05 ($p > 0.05$), then considered no significantly difference between the several independent groups (Field, 2005).

The result of the test suggested that all the different roles in the project (client, consultant and contractor) do not have any significant difference on the critical success factors for stakeholder management because the p value was more than 0.05 ($p > 0.05$). The results shown in Table 4-10.

Table 4-10. Relationship between Roles in the Project and Critical Success Factors for Stakeholder Management

| Stakeholder Management - Critical Success Factors | | Role in the project | |
|--|--|----------------------------|----------------|
| | | Chi-Square | p value |
| D1 | Manage stakeholders with social responsibilities | 2.933 | 0.231 |
| D2 | Assess stakeholders' attributes | 0.681 | 0.712 |
| D3 | Assess stakeholders' behavior | 0.782 | 0.676 |
| D4 | Predict the influence of stakeholders accurately | 0.189 | 0.910 |
| D5 | Analyse conflicts and coalitions among stakeholders | 0.244 | 0.885 |
| D6 | Formulate a well-defined project goals | 2.485 | 0.289 |
| D7 | Identify stakeholders properly | 2.079 | 0.354 |
| D8 | Understand the area of stakeholders' interests | 1.371 | 0.504 |
| D9 | Explore stakeholders' wants and limitations to projects | 0.459 | 0.795 |
| D10 | Predict stakeholders' respond for executing strategies | 4.522 | 0.104 |
| D11 | Compromise conflicts among stakeholders effectively | 1.218 | 0.544 |
| D12 | Develop suitable stakeholder strategies | 0.928 | 0.629 |
| D13 | Well engaging and communicate with stakeholders regularly | 0.295 | 0.863 |
| D14 | Analyse the shift of stakeholders' power and interactions during the project development | 0.579 | 0.749 |
| D15 | Keep and promote a good relationship | 1.146 | 0.564 |

CHAPTER 5

CONCLUSION

5.1 Conclusion

The aim of this research is to identify the key factors for managing internal stakeholders of construction in Malaysian successfully. By doing so, the stakeholder management processes, issues, and critical success factors in the industry were examined as well.

The contributions from this research are suggesting the ranked set of processes, issues and critical success factors for managing stakeholders of construction in Malaysia successfully. Seven (7) processes, Eight (8) issues and fifteen (15) critical success factors were identified through literature review, in order for the respondents to determine their level of importance.

Kendall's W produced the rankings for stakeholder management processes, issues and critical success factors respectively. The top three stakeholder management processes were: (1) identify stakeholders, (2) gather information on stakeholders, and (3) identify stakeholder mission. As for stakeholder management issues, the top three were: (1) demonstrate good leadership, with clear vision and direction, (2) manage highly effective communications, and (3) identify, prioritize and engage key stakeholders. Furthermore, the top four critical success factors were: (1) communicate with and engaging stakeholders properly and frequently, (2) identify stakeholders properly, (3) keep and promote a good relationship, and (4) formulate a clear statement of project missions.

The Kruskal-Wallis test was used to determine any significant differences between client, consultant and contractor, on the stakeholder management processes, issues, and critical success factors respectively. The results of Kruskal-Wallis test indicated that the client, consultant and contractor, do not have significant differences on stakeholder management processes, issues, and critical success factors respectively because the value p is bigger than 0.05 ($p > 0.05$).

5.2 Limitations of the Research

Each research has its own limitation (Ionnidis 2007). This research also has its own limitation. This research has two limitations. The first limitation is the insufficient sample size. The second limitation is the answer provided by the participant.

The first limitation of this research is the sample size for the survey. The sample size was not big enough even though focus on construction players only. Thus, the insufficient sample size will cause inaccuracy in the result.

Other limitation of the research is the attitude of answering the question. The participants of the recipients were found simply filling in the survey. This problem may be the participant does not fully understand the questionnaire or may have different understandings about the statements, and this may bias the scoring of respective practices, issues and factors. Also, the main respondents are from project owners, consultants and main contractors. We might neglect the responses from the sub-contractors. Most of them refuse to fill up the questionnaire due to low literacy. Therefore, this sample might not be able to represent the whole structure of construction industries.

Conclusion, the first problem can be eliminated by distribute the questionnaire through online survey such as Monkey Survey in order to increase the sample sizing in the industry to ensure that the result of the research is able to represent their industry. A larger sample size will also increase the precision of the result. The second problem can be reduced by providing some scenarios or inserting some indicator. For example picture, a picture worth a thousand words (Arthur, 1911).

5.3 Future Research

Based on the research findings, there is one area could be studied for benefiting the construction players especially the internal stakeholders. The area would be how to manage the stakeholders for both internal and external stakeholders for managing fast track or timely completion projects of construction.

When the project is fast-tracked, which means it needs to be completed within a specific period that is outside the norm. For instance, the construction duration reduces from twelve (12) months to nine (9) months. Obviously, to manage the stakeholders of fast track project definitely not easy as their expectation and interests needs to be taken care. Furthermore, most of the project activities require to be carried out concurrently because most of the activities have to be compressed and become part of the critical path in order to achieve the project deliverables.

REFERENCES

Arthur, B., 1911. Speakers Give Sound Advice. *Syracuse Post Standard*. The

Advertiser 28 March, p. 18.

Bourne, L., 2005. *Project Relationship Management and the Stakeholder*

CircleTM. PhD Thesis, RMIT University. Australia.

Briner, W., Hastings, C. and Geddes, M., 1996. *Project Leadership*. Aldershot,

Gower.

Carroll, A. B. and Buchholtz, A. K., 2006. *Business & Society: Ethics and*

Stakeholder Management. 6th edn. Mason: Thomson South-Western.

Carroll, A. B., 1979. A three-dimensional conceptual model of corporate

social performance. *Academy of Management Review* 4(4): 497–506.

Carter, S. M., 2006. The interaction of top management group, stakeholder, and situational factors on certain corporate reputation management activities. *Journal of Management Studies* 43(5): 1145–1176.

Chauncey, W., 2013. Questionnaires and Surveys. *Credible Checklists and Quality Questionnaires*, pp. 29-79.

Cleland, D. I., 1999. *Project Management – Strategic Design and Implementation*. 3rd edn. McGraw-Hill.

Creswell, J.W., 2008. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. 3rd edn. Upper Saddle River: Pearson.

DiCicco, B. B. and Crabtree, B. F., 2006. The qualitative research interview.

Dodge, Y., 2006. *The Oxford Dictionary of Statistical Terms*. 6th edn. Oxford University Press, USA.

El-Gohary, N. M., Osman, H., Ei-Diraby, T. E., 2006. Stakeholder management for public private partnerships. *International Journal of Project Management* 24(7): 595–604.

Field, A., 2005. *Discovering statistics using SPSS*. 2nd edn. Sage, London.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Boston: Pitman Inc.

Freeman, R. E., Harrison, J. S. and Wicks, A. C. 2007. *Managing for Stakeholders – Survival, Reputation, and Success*. Louis Stern Memorial Fund, US.

Frooman, J., 1999. Stakeholder influence strategies. *Academy of Management Review* 24(2): 191–205.

Gibson, K., 2000. The moral basis of stakeholder theory. *Journal of Business Ethics* 26(3): 245–257.

Gina, W., 2007. *The Postgraduate Research Handbook: Succeed with your MA, MPhil, EdD and PhD Palgrave Study Skills*. 2nd edn. Palgrave, Macmillan.

Goodijk, R., 2003. Partnership at corporate level: The meaning of the stakeholder model. *Journal of Change Management* 3(3): 225–241.

Hartmann, F.T., 2002. The role of trust in project management, in *Frontiers of Project Management Research*. D. P. Slevin, D. I. Cleland and J. K. Pinto. Newtown Square, Pennsylvania, PMI, 225–235.

Hill C. W. L. and Jones T. H., 1992. Stakeholder – Agency theory. *Journal of Management Studies*, vol. 29, n°2, pp. 131-153.

Jepsen, A. L. and Eskerod, P., 2009. Stakeholder analysis in projects: Challenges in using current guidelines in the real world. *International Journal of Project Management* 27(4): 335- 343.

Jergeas, G. F., Williamson, E., Skulmoski, G. J. and Thomas, J. L., 2000.

Stakeholder management on construction projects. *AACE International Int. Transactions* 12: 1-5.

Karlsen, J. T., 2002. Project stakeholder management. *Engineering*

Management Journal 14(4): 19-24.

Landin, A., 2000. *Impact of Quality Management in the Swedish Construction*

process. PhD thesis, Department of Construction Management, Lund

University.

Leung, M. Y., Thomas, N. S. and Cheung, S. O., 2004. Measuring

construction project participant satisfaction. *Construction Management*

and Economics 22(3): 319-331.

Levesque, R., 2007, *SPSS Programming and Data Management: A Guide for*

SPSS and SAS Users. 4th edn. SPSS Inc., Chicago.

Logsdon, J.M. and Wood, D.J., 2000. Introduction. In: Logsdon, J.M., Wood, D.J. and Benson, L.E. (eds) *Research in Stakeholder Theory, 1997–1998: The Sloan Foundation Minigrant Project*. Toronto: Clarkson Centre for Business Ethics pp. 1–4.

Loosemore, M., 2006. Managing project risks, in *The Management of Complex Projects: A Relationship Approach*. Blackwell, UK: Pryke, S., and Smyth, H.

Love, P. E. D.; Irani, Z. and Edwards, D. J., 2004. Industry-centric benchmarking of information technology benefits, costs, risks for small-to-medium sized enterprises in construction. *Automation in Construction* 13(4): 507–524.

Lynch, R., 2006. *Corporate Strategy*. 4th edn. Harlow: Pearson Education Limited. *Medical Education*, vol. 40, pp. 314–321.

Michael, A.W., 2006. What counts as “good” quantitative research and what can we say about when to use quantitative and/or qualitative methods? *New Ideas in Psychology*, vol. 24, no. 3, pp. 263-274.

Mitchell, R. K., Agle, B. R., Wood, D. J., 1997. Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts. *Academy of Management Review* 22(4): 853–887.

Moloney, K., 2006. *Rethinking Public Relations: PR Propaganda and Democracy*. 2nd edn. London: Routledge.

Olander, S. and Landin, A., 2008. A comparative study of factors affecting the external stakeholder management process. *Construction Management and Economics* 26(6): 553

Olander, S., 2007. Stakeholder impact analysis in construction project management. *Construction Management and Economics* 25(3): 277–287.

Pajunen, K., 2006. Stakeholder influences in organizational survival. *Journal of Management Studies* 43(6):1261–1288.

Pekrun, R. and Stephens, E.J., 2010. Achievement Emotions: A Control-Value Approach', *Social and Personality Psychology Compass*, vol. 4, pp. 238–255.

PMI, 2013. *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*. 5th edn. USA: Project Management Institute, Inc.

Prager, K. and Freese, J., 2009. Stakeholder involvement in agri-environmental policy making – Learning from a local and a state-level approach in Germany. *Journal of Environmental Management* 90(2): 1154–1167.

Rocco, T. S., Hatcher, T. & Creswell, J. W., 2011. *The Handbook of Scholarly Writing and Publishing*. San Francisco: John Wiley & Sons.

Rwelamila, P. D., 2010. Impact of Procurement on Stakeholder Management.

In: Chinyio, E. and Olomolaiye, P. (eds). *Construction Stakeholder Management*. UK: Wiley-Blackwell.

Salam, M. A. and Noguchi, T., 2006. Evaluating Capacity Development for Participatory Forest Management in Bangladesh's Sal Forest based on '4Rs' Stakeholder Analysis. *Forest Policy and Economics* 8:785-796.

Savage, G. T., Nix, T. W., Whitehead, C. J. and Blair, J. D., 1991. Strategies for assessing and managing organisational stakeholders. *Academy of Management Executive* 5(2): 61-75.

Schwager, H. P., 2004. *Organizational strategies to address stakeholder relationships: A customer portal perspective*. PhD thesis. Auburn University.

Walker, G.A., 2002. *Common Statistical Methods for Clinical Research with SAS Examples*. 2nd edn. SAS Institute, North Carolina.

Weiss, J.W., 2006. *Business Ethics – A Stakeholder and Issues Management*

Approach. 4th edn. Mason: Thomson Higher Education.

Winch, G. and Bonke, S., 2002. Project stakeholder mapping: Analysing the

interests of project stakeholders. *The Frontiers of Project Management*

Research, Project Management Institute (PMI) Chapter 23, pp. 385–

403.

Yang, J., Shen, G. Q. P., Ho, M. F., Drew, D. S. and Chan, A. P. C., 2009.

Exploring critical success factors for stakeholder management in

construction projects. *Journal of Civil Engineering and Management*

15(4): 337-348

Yang, J., Shen, G. Q. P., Ho, M. F., Drew, D. S. and Xue, X. L., 2010.

Stakeholder management in construction: An empirical study to

address research gaps in previous studies. *International Journal of*

Project Management.

Young, T. L., 2006. *Successful Project Management*. London: Kogan Page.

APPENDICES

SURVEY: Critical Success Factors for Stakeholder Management in Malaysian Construction Projects

This questionnaire consists of THREE (3) sections:-

- Section A : Company and Respondent's Profile**
- Section B : Stakeholder Management Processes**
- Section C : Issues in Stakeholder Management**
- Section D : Critical Success Factors for Stakeholder Management**

Dear Sir/Madam,

You are invited to take part in a research study about Critical Success Factors for Stakeholder Management in Malaysian Construction Projects.

Please be assured that your answers will be treated with confidentiality. Your frank and honest opinions in this questionnaire are sought and the information obtained will be strictly used for academic purposes and statistical analysis only. The identity of respondents will not be revealed.

I would be grateful if you could take a few minutes of your time to fill in this questionnaire.

Your cooperation is very much appreciated.

Thank you.

Tung Yew Hou

Master of Science (Project Management)

Universiti Tunku Abdul Rahman

Faculty of Engineering and Science

Email: tungyewhou@yahoo.com

SECTION A

COMPANY AND RESPONDENT'S PROFILE

Please tick (✓) ONE (1) answer only that you think most suitable and correlated to you for each question below. Thank you.

Name :

Company :

Email Address :

1) Gender:

- Male
- Female

2) Construction working experience:

- Less than 2 years
- 2 - 5 years
- 6 - 10 years
- More than 10 years

3) Area of specialization:

- Construction management
- Architectural
- Civil & Structure (C&S)
- Mechanical & Electrical (M&E)
- Quantity Surveyor (QS)
- Others. Please specify:

4) Role in the project:

- Client/Owner
- Consultant
- Contractor

5) Position in the project organization:

- Project Director
- Project Manager
- Contract Manager
- Project Architect
- Project Engineer
- Quantity Surveyor
- Others. Please specify:

- 6) The project type:**
- Building works
 - Civil works
 - Mechanical & Electrical works
 - Others. Please specify:
- 7) The project owner:**
- Government
 - Private
- 8) The project cost (as budgeted):**
- Less than RM50 million
 - RM50 million - RM100 million
 - More than RM100 million
- 9) The project duration (as planned):**
- Less than 1 year
 - 1 year - 3 years
 - More than 3 years
- 10) The project workforce (average during construction stage):**
- Less than 50 workers
 - 50 – 100 workers
 - 101 – 200 workers
 - More than 200 workers

SECTION B

PROJECT STAKEHOLDER MANAGEMENT PROCESSES

Listed below are project stakeholder management processes. Please choose your answer according to the scale of 1-5

- (5) = Strongly Agree (2) = Disagree
(4) = Agree (1) = Strongly Disagree
(3) = Neutral

| | Project Stakeholder Management Processes | 5 | 4 | 3 | 2 | 1 |
|----|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. | Identify stakeholders | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Gather information on stakeholders | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | Identify stakeholder mission | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Determine stakeholder strengths and weaknesses | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Identify stakeholder strategy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Predict stakeholder behaviour | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Implement Stakeholder Management strategy | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SECTION C

ISSUES IN STAKEHOLDER MANAGEMENT

Listed below are issues in stakeholder management. Please choose your answer according to the scale of 1-5

- (5) = Strongly Agree (2) = Disagree
 (4) = Agree (1) = Strongly Disagree
 (3) = Neutral

| | Issues in Stakeholder Management | 5 | 4 | 3 | 2 | 1 |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. | Identify, prioritize and engage key stakeholders | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Attend to all stakeholders' interests and concerns | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | Aware of all stakeholders' power and influences | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Change of stakeholder impact and participation throughout project life cycle | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Build and maintain mutual trust relationships | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Manage highly effective communications | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Demonstrate good leadership, with clear vision and direction | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | Understand organisational cultures, styles and structures | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SECTION D

CRITICAL SUCCESS FACTORS FOR STAKEHOLDER MANAGEMENT

Listed below are critical success factors for stakeholder management. Please choose your answer according to the scale of 1-5

- (5) = Strongly Agree (2) = Disagree
 (4) = Agree (1) = Strongly Disagree
 (3) = Neutral

| | Critical Success Factors | 5 | 4 | 3 | 2 | 1 |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 | Manage stakeholders with social responsibilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Assess stakeholders' attributes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Assess stakeholders' behavior | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | Predict the influence of stakeholders accurately | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | Analyse conflicts and coalitions among stakeholders | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | Formulate a well-defined project goals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | Identify stakeholders properly | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | Understand the area of stakeholders' interests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | Explore stakeholders' wants and limitations to projects | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | Predict stakeholders' respond for executing strategies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | Compromise conflicts among stakeholders effectively | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | Develop suitable stakeholder strategies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | Well engaging and communicate with stakeholders regularly | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | Analyse the shift of stakeholders' power and interactions during the project development | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | Keep and promote a good relationship | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |