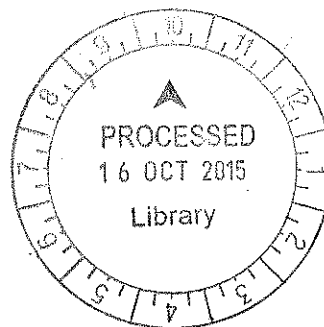


STUDY OF THE SUCCESS CRITERIA FOR QUANTITY SURVEYING FIRMS IN SELANGOR

FOR REFERENCE ONLY

BY

LIM HUI LIN



This report is submitted as a partial requirement for the degree
of

Bachelor of Science (Hons) in Quantity Surveying

**Faculty of Science, Technology, Engineering and
Mathematics**

INTI INTERNATIONAL UNIVERSITY

(April, 2015)

ACKNOWLEDGEMENT

I am glad that I am able to complete my dissertation successfully. There are few parties that I would like to thank them because they provided a lot of support for me to complete this dissertation.

Firstly, I would like to express my gratitude to my supervisor, Dr. Sam Man Keong for his patient guidance throughout the entire dissertation. Even though he has many other tasks to do, but he is still willing to spend time to guide me and give me suggestion when I met difficulties in my dissertation. He has also spent a lot of time and effort to read through my dissertation in each stage.

Secondly, I wish to express my sincere thanks to all the lecturers especially the final year project committee members for their assistance and arrangement which allows me to carry out and complete this research successfully. I would also like to thank to my examiners, Madam Suhaida and Madam Masidah. They spent their time and effort to examine my dissertation and provide valuable comments and suggestions to me. Next, I would like to thank all respondents who spent their time and effort to provide feedback and information for me to carry out the data analysis.

Finally, I express my thanks sincerely to my family and friends who gave me advice and provide support throughout the dissertation. Without the assistance from these parties, this dissertation will not be completed.

DECLARATION BY THE CANDIDATE

I, Lim Hui Lin, I11008408 hereby confirm that the work in this report is my own work and the appropriate credit has been given where references have been made to the work of other researchers.



Student Name : Lim Hui Lin

Student ID : I11008408

Date : 28/4/2015

ABSTRACT

Quantity surveyor is one of the important parties in construction industry. As Malaysia is a developing country, more construction projects are being carried out for the development, which causes the demand for quantity surveying firm increases. Thus, number of quantity surveying firms in Selangor is increasing to fulfil the demand in the market. Establishing a firm is not the critical part but the important one is to make the firm to be successful. The aim for this research is to provide understanding about how to increase the chance of success for the quantity surveying firms in a competitive market. Three objectives are achieved to accomplish the aim. The objectives are to define successful quantity surveying firms, to investigate the success criteria for quantity surveying firms in Selangor, and to analyse the major success criteria for quantity surveying firms in Selangor. The research method used in this study is the survey method. Online survey and unstructured interviews are carried out to collect information. The data obtained from the questionnaires are analysed using descriptive statistics and relevant significant t-tests. There are 33 respondents involved in giving feedback for this research. Successful quantity surveying firms is defined as the firms which provide the services that always achieve client's satisfaction. There are ten success criteria identified, which are (1) resources and finance, (2) code of ethics and the way of performing task, (3) competency of consultants, (4) location of firm, (5) technology used to perform task, (6) social network and client relationship, (7) strategic planning in operating the firm, (8) communication and sharing information, (9) size and nature of firm, and (10) client's satisfaction. The two major success criteria are (1) client's satisfaction and (2) code of ethics and the way of performing tasks. The outcomes from this study help the firm's owners to achieve success in a simpler way by understanding the success criteria. As a result, this study provides some understanding and guidelines to increase chance of success for the quantity surveying firms in Selangor.

TABLE OF CONTENT

Content	Page
ACKNOWLEDGEMENT	i
DECLARATION	ii
ABSTRACT	iii
TABLE OF CONTENT	iv
LIST OF TABLES	vii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	xii
CHAPTER 1: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	4
1.3 Aim	6
1.4 Objectives	6
1.5 Importance of Study	7
CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction for Literature Review	8
2.2 Success	8
2.3 Success Criteria	9
2.4 Competency of Consultants	14
2.4.1 Competency	14
2.4.2 Category of Competency	16
CHAPTER 3: RESEARCH METHODOLOGY	
3.1 Conceptual Framework	20
3.2 Research Design	21

CHAPTER 3: RESEARCH METHODOLOGY (cont'd)

3.3	Sampling Frame	22
3.4	Sampling Method and Sampling Size	26
3.5	Data Collection Method	29
	3.5.1 Online Survey	29
	3.5.2 Unstructured Interview	34
3.6	Data Analysis	35
	3.6.1 Data Obtained From Online Survey	35
	3.6.2 Data Obtained From Unstructured Interview	35

CHAPTER 4: DATA ANALYSIS AND FINDINGS

4.1	Introduction	36
4.2	First Stage Data Analysis	36
	4.2.1 Data Obtained from Online Survey	37
	4.2.2 Data Obtained from Unstructured Interview	56
4.3	Second Stage Data Analysis	62
	4.3.1 Data Analysis for Stratum A (Sole Proprietorship)	62
	4.3.2 Data Analysis for Stratum B (Partnership)	70
	4.3.3 Data Analysis for Stratum C (Body Corporate)	78
4.4	Third Stage Data Analysis	87
	4.4.1 Rank Correlation Test	87
	4.4.2 Hypothesis Test – Two Independent Sample Means	93

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1	Conclusion	100
5.2	Limitations of Study	101
5.3	Recommendations	102

LIST OF REFERENCES

103

APPENDICES

Appendix A – Value and number of projects awarded (2010 – 2014)	A-1
Appendix B – List of QS firms in Selangor	B-1
Appendix C – Online questionnaire (hardcopy)	C-1
Appendix D – Guideline to establish a QS firm (BQSM)	D-1
Appendix E – Checklist	E-1
Appendix F – Criteria for evaluation	F-1
Appendix G – Application form for award	G-1
Appendix H – Steps to conduct t-tests	H-1
Appendix J – T-distribution table	J-1
Appendix K – Work Programme	K-1
Appendix L – Turnitin Report	L-1

LIST OF TABLES

	Descriptions	Page
Table 1.1	Value of projects awarded in Selangor (2010-2014)	4
Table 2.1	Organization's needs	10
Table 2.2	Success Criteria from Difference Sources	11
Table 2.3	Categories of Competencies Required to Quantity Surveyors for Professional Competency (RICS)	18
Table 3.1	Number of registered quantity surveying firms in Peninsular Malaysia	23
Table 3.2	Number of quantity surveying firms established in Selangor from 1992-2015	24
Table 3.3	Sample sizes for different sizes of population	27
Table 3.4	Number of respondents including non-response rate	28
Table 3.5	Success criteria listed in questionnaires	31
Table 3.6	Score for each choice	32
Table 3.7	Summary of online questionnaires	33
Table 4.2.1	Response rates of respondents out of their own population	38
Table 4.2.2	Period of firms established and operated	39
Table 4.2.3	Period of respondents obtained "Sr" title	41
Table 4.2.4	Number of full-time employees of the firms	42
Table 4.2.5	Responses towards each definition of successful quantity surveying firms	45
Table 4.2.6	Responses towards the aspects that affect the success of quantity surveying firms	48

LIST OF TABLES (cont'd)

	Descriptions	Page
Table 4.2.7	Responses towards each success criteria for quantity surveying firms	52
Table 4.2.8	Effects in establishing QS firm using different version of Quantity Surveyors Act	57
Table 4.3.1	Period of Stratum A established and operate	63
Table 4.3.2	Period of respondents obtain "Sr" title (Stratum A)	64
Table 4.3.3	Codes for each success criteria	68
Table 4.4.1	Period of Stratum B established and operate	71
Table 4.4.2	Period of respondents obtain "Sr" title (Stratum B)	72
Table 4.4.3	Codes for each success criteria	76
Table 4.5.1	Period of Stratum C established and operate	79
Table 4.5.2	Period of respondents obtain "Sr" title (Stratum C)	80
Table 4.5.3	Codes for each success criteria	85
Table 4.6.1	Summary for the output of rank correlation tests	92
Table 4.6.2	Mean and standard deviation value for each stratum	95
Table 4.6.3	Indication for strength of evidence	95
Table 4.6.4	Summary of the output for hypothesis test	99

LIST OF FIGURES

	Descriptions	Page
Figure 1.1	Number of Quantity Surveying Firms Established in Selangor (1992-2015)	3
Figure 1.2	Value of project awarded in Selangor (2010-2014)	5
Figure 1.3	Number of construction projects in Selangor (2010-2014)	5
Figure 3.1	Research procedure and framework	20
Figure 3.2	Number of registered quantity surveying firms in Selangor (1992 – 2015)	25
Figure 3.3	Nature of quantity surveying firms in Selangor	25
Figure 4.2.1	Percentage of each nature of firm	37
Figure 4.2.2	Participation of respondents in the survey	39
Figure 4.2.3	Period of firms established and operated	40
Figure 4.2.4	Period of respondents obtained “Sr” title	41
Figure 4.2.5	Number of full-time employees	42
Figure 4.2.6	Responses towards each definition	46
Figure 4.2.7	Average score for each definition	47
Figure 4.2.8	Ranking for each definition	47
Figure 4.2.9	Responses towards the aspects that affect success of quantity surveying firms	49
Figure 4.2.10	Average score for each aspect	50
Figure 4.2.11	Ranking for aspects that affect success of QS firm	51
Figure 4.2.12	Responses for each success criteria	53
Figure 4.2.13	Average score for each success criteria	54

LIST OF FIGURE (cont'd)

	Descriptions	Page
Figure 4.2.14	Ranking of success criteria	55
Figure 4.2.15	Category of quantity surveyor	58
Figure 4.3.1	Participation of Stratum A in survey	62
Figure 4.3.2	Period of Stratum A established and operate	63
Figure 4.3.3	Period of respondents obtain "Sr" title	64
Figure 4.3.4	Number of full-time employee in the firm	65
Figure 4.3.5	Average score for each definition (Stratum A)	66
Figure 4.3.6	Average score for each aspect (Stratum A)	67
Figure 4.3.7	Average score for each success criteria (Stratum A)	68
Figure 4.3.8	Ranking for success criteria (Stratum A)	69
Figure 4.4.1	Participation of partnership firms in survey	70
Figure 4.4.2	Period of Stratum B established and operate	71
Figure 4.4.3	Period of respondents in Stratum B obtained "Sr" title	72
Figure 4.4.4	Number of full-time employees in the firm (Stratum B)	73
Figure 4.4.5	Average score for each definition (Stratum B)	73
Figure 4.4.6	Ranking for definitions of successful quantity surveying firms (Stratum B)	74
Figure 4.4.7	Average score for each aspect (Stratum B)	75
Figure 4.4.8	Ranking for aspects that affect success of QS firm (Stratum B)	75
Figure 4.4.9	Average score for each success criteria (Stratum B)	77
Figure 4.4.10	Ranking of success criteria (Stratum B)	78
Figure 4.5.1	Participation of Stratum C in survey	79

LIST OF FIGURE (cont'd)

	Descriptions	Page
Figure 4.5.2	Period of Stratum C established and operate	80
Figure 4.5.3	Period of respondents obtain "Sr" title (Stratum C)	81
Figure 4.5.4	Number of full-time employee in the firm	81
Figure 4.5.5	Average score for each definition (Stratum C)	82
Figure 4.5.6	Average score for each aspect (Stratum C)	83
Figure 4.5.7	Ranking for aspects that affect success of QS firm (Stratum C)	84
Figure 4.5.8	Average score for each success criteria (Stratum C)	85
Figure 4.5.9	Ranking for success criteria (Stratum C)	86
Figure 4.6.1	Rank correlation procedure for testing $H_0; \rho_s=0$	89
Figure 4.6.2 (a)	Output when $\alpha = 0.05$	90
Figure 4.6.2 (b)	Output when $\alpha = 0.01$	91
Figure 4.6.3	Procedure to carry out hypothesis test	94
Figure 4.6.4 (a)	Results for Strata A vs B when $\alpha = 0.05$	96
Figure 4.6.4 (b)	Graph for Strata A vs B when $\alpha = 0.05$	96
Figure 4.6.4 (c)	Results for Strata A vs C when $\alpha = 0.05$	97
Figure 4.6.4 (d)	Graph for Strata A vs C when $\alpha = 0.05$	97
Figure 4.6.4 (e)	Results for Strata B vs C when $\alpha = 0.05$	98
Figure 4.6.4 (f)	Graph for Strata B vs C when $\alpha = 0.05$	98

LIST OF ABBREVIATIONS

BQSM	Board of Quantity Surveyors Malaysia
CIDB	Construction Industry Development Board
RICS	Royal Institution of Chartered Surveyors

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Malaysia is a developing country. There are many construction projects being carried out for the development, such as KLIA2, Penang Second Bridge, MRT and other structures. There are many parties involved in a construction project and one of them is quantity surveyor.

Board of Quantity Surveyors Malaysia (BQSM) defines quantity surveyors as the professionals who work within the construction industry concerned with building cost. BQSM is a statutory body which responsible for the registration of quantity surveyors and quantity surveying firms, regulations for quantity surveying profession in Malaysia, and securing the interests of public and registered quantity surveyors and their firms. The quantity surveyors who work in quantity surveying firm are also known as consultants.

Quantity surveying firm is a firm that provides professional services which concerned with the construction cost and contract in the construction industry. Quantity surveying firm is one of the consulting firm. According to *thefreedictionary.com*, consulting firm is a firm of experts providing professional advice to an organization for a fee. The services provided are giving cost advice, cost planning, value engineering, risk managing, assisting in tendering processes, cost management, contract administration and so on. The client of the firm could be public or private developer, architects, government body or financial institution. All quantity

surveying firms in Malaysia must be registered under BQSM in order to be established legally. The Quantity Surveyors Act 1967 or the current act enforced must be obeyed to establish a firm and the guidelines provided by BQSM can be referred to obtain further information about the procedure of establishing a quantity surveying firm in Malaysia. The details are shown in Appendix D.

The demand for the quantity surveying firm in the industry is increasing as there are development in our country. There are many plans for development such as Economic Transformation Programme (ETP), affordable housing and infrastructure development and so on. The number of firms in Selangor increases to fulfill the demand in the market.

According to the BQSM official website, Selangor has the largest number of registered quantity surveying firms among all the states and federal territories in Peninsular Malaysia, which are 129 firms. Even Terengganu and Pahang which have larger area of land have lesser firms than Selangor. Figure 1.1 shows the number of quantity surveying firm established in Selangor from 1992 until February 2015 and it is increasing.

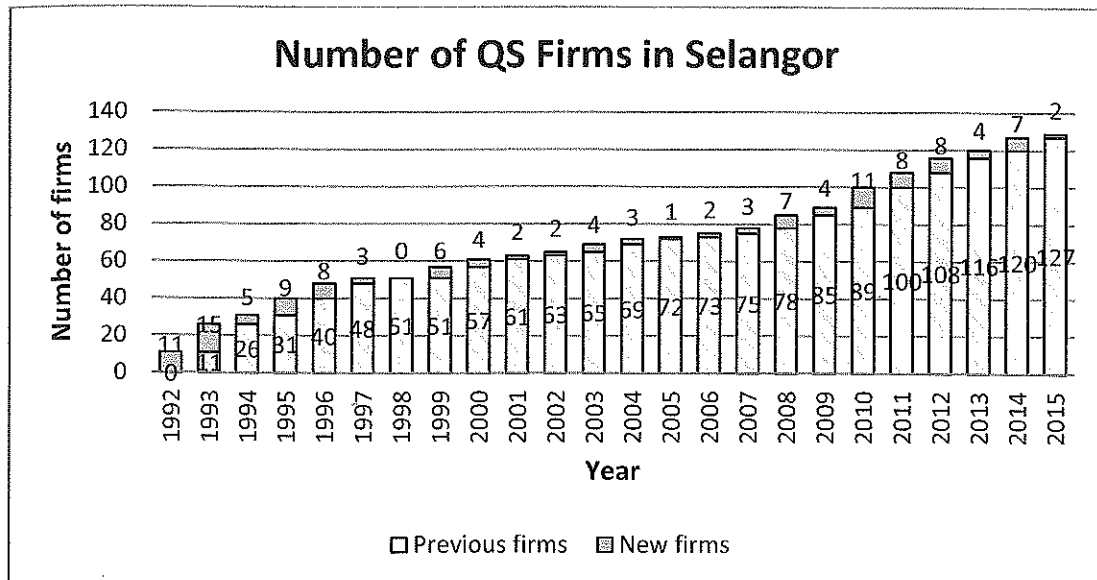


Figure 1.1: Number of Quantity Surveying Firms Established in Selangor (1992-2015)

Establishing a firm is not the critical matter; the important one is to make the firm successful. According to *Oxford Dictionaries.com*, “criteria” is a plural noun of criterion which is defined as principle or standard by which something may be judged or decided. It also defines “success” as a noun which carries the meaning of accomplishment of an aim or purpose. Success criteria are the standards or characteristics that allow someone to accomplish his aim or purposes. A firm can distinguish themselves with the other firms through the characteristics or criteria that it has. The examples of the criteria are productivity, reputation, and qualification and attitude of employees. A successful quantity surveying firm can be defined as the firm which able to provide the services that meet client’s satisfaction.

1.2 Problem Statement

Establishing a quantity surveying firm is only the first step. Established a firm does not guarantee it to sustain in the market and achieve success. In the market, the number of project is limited and the projects are not always available.

According to the Construction Quarterly Statistical Bulletin 2012 and 2014 from CIDB, the value for project awarded in Selangor from 2010 to 2014 is shown in the Table 1.1 and Figure 1.2. The value increased after 2011 but reduced after 2012 and reduced largely in 2013. The number of construction projects is also shown in Figure 1.3 where the number of projects largely reduced after 2013. Appendix A can be referred for further information. This situation creates competition between the quantity surveying firms. The number of firms increases but the number of projects available decreases. Thus, competitive market is created and the firms have to compete with each other to get the job especially when there are many competitors in an area.

Table 1.1: Value of projects awarded in Selangor (2010-2014)

Year	Value of projects awarded (RM mil.)
2010	23,554.56
2011	19,572.56
2012	32,937.39
2013	29,359.35
2014	19,382.36

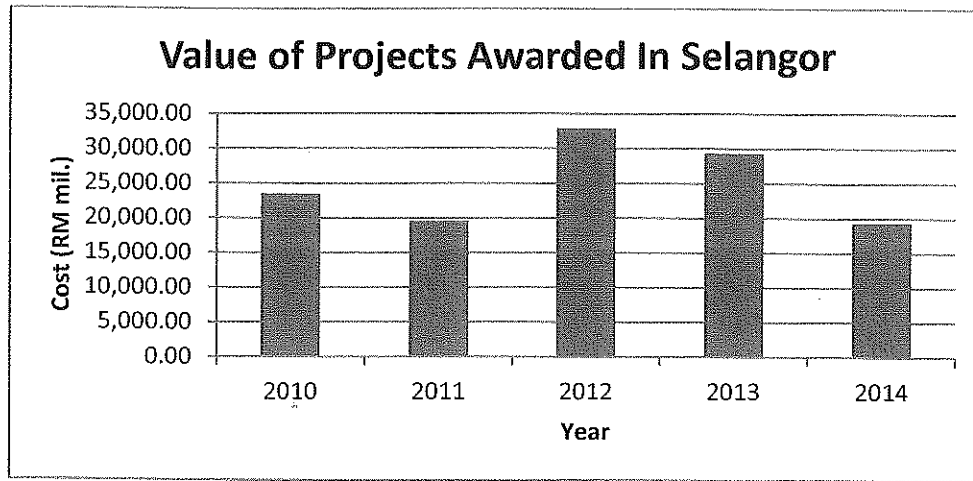


Figure 1.2: Value of project awarded in Selangor (2010-2014)

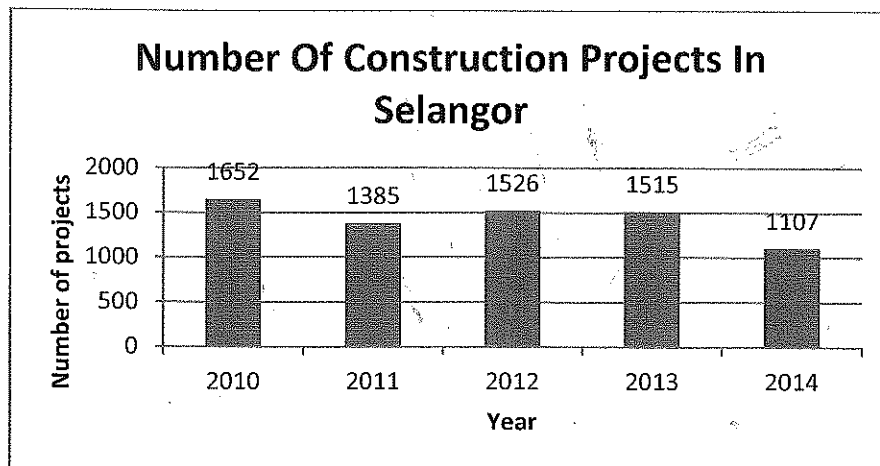


Figure 1.3: Number of construction projects in Selangor (2010-2014)

Competition leads to client high expectations. It also becomes the core of success and failure of the firms. Most of the time, the job will be awarded to the quantity surveying firm after evaluating some of the criteria of the firm. The criteria of the firm become more important in the competitive market in order for the firm to sustain in the market and achieve success.

In addition, construction industry has become a modern industry nowadays. The clients' needs become more complicated and the scope of work of quantity surveyor also becomes wider. If a quantity surveying firm wants to achieve success in the construction industry, it should be developed according to the trend in new generation. Nowadays, many aspects in construction industry are implementing the information technology system, Building Information Modeling, and advanced software to perform their work. Speed in procuring infrastructure and innovative procurement systems will dominate the modern construction industry. The firm which is unable to develop according to the trend will be driven out from the market easily.

1.3 Aim

To provide understanding about how to increase the chance of success for the quantity surveying firms in a competitive market.

1.4 Objectives

The objectives to conduct the studies are as below:

- 1.4.1 To define successful quantity surveying firms.
- 1.4.2 To investigate the success criteria for quantity surveying firms in Selangor.
- 1.4.3 To analyse the major success criteria of quantity surveying firms in Selangor.

1.5 Importance of the study

In a competitive market, the quantity surveying firm which does not know or does not have sufficient success criteria may be driven out from the market. If the firm is unable to compete for job, it might have insufficient budget to cover the basic expenses which will still be expended monthly such as employees' salary, electric bills of the firm, rental, and other expenses. Thus, it causes loss to the firm and may lead the firm to dissolve. This is the failure of the firm. The identification and application of success criteria can help to increase the chance of the firm to achieve success while improving the quality of the firms.

The results of this study can be used as a reference for the Registered Quantity Surveyors who have set up or who plans to set up a consultant firm so that they can know which aspects they should be prepared to avoid failure of firm and help him to shorten the path to achieve success. When a firm owner does not know which aspect he needs to improve, he may put afford on the incorrect aspect, and causing him to delay the success. Not only for the firms set up in Selangor, it also can be a reference for the owner who set up the firm at different state, but some of the criteria may be slightly different due to different environment condition.

The additional benefits that can be obtained from this study are as follow:-

- i) Help managers or owner to determine key factors
- ii) Forces manager to develop good measures
- iii) Allow to focus attention on data that is significant
- iv) Useful in planning process

(Nancy S. Forster, John F. Rockart, 1989, p. 84)

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction for Literature Review

The literature review is divided into three parts. The first part reviews generally about success; the second part reviews the success criteria for the firms while the third part is about the competencies of quantity surveyors, who are the employees in quantity surveying firms. The success factors of other firms or project are also reviewed because some success factors are applicable for the quantity surveying firm. The competencies of quantity surveyor are also very important because employees are one of the resources of the firm. Most of the time, the competency of consultant is representing the quality of services provided to client. The more skills the quantity surveyor has, the firm can provide services more effectively. Hence, competent employee can increase the firm's chance of success.

2.2 Generally About Success

From the literature review of Chuthamas Chittithaworn et al. (2011), success can be described in few ways, such as achievement of goals and objectives and a key term in management field. In business studies, concept of success often but not always refers to a firm's financial performance. Success can also either in long or short term. From the review, survival, profit, return on investment and happiness are forms of success. However, different people may define success differently. *Is definition of success? Follow Chuthamas as?*

2.3 Success Criteria

There are some researches done previously to determine the success factors, not only for consulting and advisory firms but also for business firms and construction project. ^{who?} Some factors in business firms are also applicable to quantity surveying firms as they are both carrying out business in the market. Sometimes, the success factors for a construction project are similar with the success factors for quantity surveying firm because if the project handled by the firm is failed, the firm cannot be considered as success. Success in the project contributes to the success of firm.

In every firm, regardless its size, has four or five key factors that affects its success. The key to profitability of the professional services organization are used to identify the aspects that are critical to the success of the organization. Those items are controlled in order to achieve success. The items critical to organisation's success are backlog, labour utilisation, labour burden, and cash flow (Nancy S. Forster, John F. Rockart, 1989, p. 91).

According to Total Success Center, the key success factors for an organization are directly related to type of organization and how it operates. Once the organization's needs for survive are known, the key success factor can be understood more. Table 2.1 shows five factors that an organization needs to survive. The success factors identified by Total Success Center are (1) managing and developing people, (2) strategic focus, (3) operation management, (4) physical resources, and (5) customer relations.

Table 2.1: Organization's needs

Factors	Explanation
People	Persons who make up the organization
Purpose	Reason for organizing and working together
Processes	Activities undertaken to fulfill their purpose
Physical resources	Place to work, equipment, capital, labours
Customer	People outside the organization who willing to pay for the products or services provided the organization

Customer is also considered under the success factors. Literature review of Hoang (2007) stated that client's success is part of advisory firm's success. Without customers, commercial firms cannot survive because customer is the party who brings the income and profit to firms. The Table 2.2 shows the success criteria from different sources.

Table 2.2: Success Criteria from Difference Sources

	Critical Success Factors: An Annotated Bibliography (Nancy S. Forster, John F. Rockart, 1989, p. 91)	Critical Success Factors for M&A project (Hoang, Thuy Vu Nga Lapumnuaaypon, Kamolrat, 2008, p.58-64)
1.	Backlog	Complete and clear objectives, goal and scope of project
2.	Labour utilization	Client consultation and acceptance
3.	Labour burden	Project manager's competence and commitment
4.	Cash flow	Project team members' competence and communication
5.	-	Communication and information sharing and exchange
6.	-	Project plan development
7.	-	M&A advisory firm's resource planning
8.	-	Time management and tight secrecy
9.	-	Price evaluation and financing scheme
10.	-	Risk management

The right column shows the critical success factor for the M&A project from the perspectives of advisory firms. There are some criteria applicable for the success of quantity surveying firm as well. Those similar factors are clear objectives, client acceptance, workers'

competency and commitment, communication and sharing among the firm members or workers, resource planning for the firms, time management, and risk management.

Based on the abstract of the research done by Hoang, Thuy Vu Nga (2007), seven out of the ten factors give positive effect to achieve success. The seven factors are (1) complete and clear objectives of project, (2) client consultation and acceptance, (3) project manager's competence and commitment, (4) project team member's competence and commitment, (5) communication and information sharing, (6) time management, and (7) price evaluation and financing scheme. One of the factors, client acceptance, is also identified and agreed as a success factor (Deltek.com, 2008, p.1). P D Rwelamila (2011) argues that sharing information is power in the construction industry.

The success for professional services firms, which includes the quantity surveying firms, can be categorized into short term and long term success. To achieve short term success, the firm should focus more on the operational success factors; for long term success, the firm should focus on the strategic success factor. The operational success factors are maintaining workflow and backlog, staffing to meet engagement demands, engagement controls, track and benchmark the key financial drivers for the firms. Those factors are supporting the research done by Nancy S. Forster, John F. Rockart, (1989) as they identified the similar success factors. To achieve long term success, the success factors are meeting client satisfaction, personal relationship-based marketing, retaining key employees, and retaining best practices. (Deltek.com, 2008, p.1)

Quantity surveying firms can be small sized, medium sized or large sized. A research about the factors affect business success of small and medium sized enterprise (SME) in

Thailand was done by Chuthamas Chittithaworn et al. in 2010. Although the factors are for the firms in Thailand, most of them are applicable for quantity surveying firm in Selangor as they involves commercial trades. The factors that have positive effect to success are SME characteristic, customer and market, the ways of doing business and cooperation, resources and finance, and external environment. One of the factors, the ways of doing business and cooperation, is similar with the factors identified by Kirk Paul Lafler and Charles Edwin Shipp (2012).

According to Kirk Paul Lafler and Charles Edwin Shipp (2012), code of ethics and client relationships are important to achieve success. Ethics is defined as “the study of standards of conducts and moral judgement” from the Webster’s New World Dictionary. According to *BusinessDictionary.com*, code of ethics is a written set of guidelines issued by an organisation to its workers to help them conduct their actions in accordance with its ethical standards.

Firm internal and firm external factors also affect the success of the firms. The examples of external environment factor are social network, government support and legality. Successful firms usually spend more time to communication with customer, suppliers, employees and partner, and accepting their suggestions (Chuthamas Chittithaworn et al., 2010). Afshin Pakseresht, Dr. Gholamreza Asgari (2012) agreed and proved the environment factor affects success through their research’s results.

Employees are one of the resources in the firms. Therefore, competent employees or consultants are essential for a firm to achieve success. From the literature review of Hoang, Thuy Vu Nga (2007), Jang and Lee (1998) arranged three sets of major variable for the critical success

factors for consulting projects, which are competence of consultant, consultation mode comprising clearly defined goals, and characteristics of client's organization. The first two variables are also agreed by Steven H. Appelbaum and Anthony J. Steed (2005) as those factors are two of the success factors for an ideal client-consultant engagement. The reviews about the competencies of consultant will be more detail in Section 2.3.

Knowing what the firms can provide to client is also one of the factors for success. In a competitive market, the services that the firms offered can be the adding value for themselves. The firm should list out, perform, rank, and categorize their services. Then, the comments, success, and failure of each service should be captured for the preparation of the promotional materials (Kirk Paul Lafler, Charles Edwin Shipp, 2012).

2.4 Competencies Of Quantity Surveyors

2.4.1 Competency

Employees are one of the resources in the firms. Based on the literature review of Steven H. Appelbaum and Anthony J. Steed (2005), Schaffers (2002) states that consultants must provide solutions to client and the client must achieve measurable improvement and sustain the improvement in order for the consulting project to success. Hence, it is important to have competent consultants to increase the chance of success for firm.

According to The Australian Institute of Quantity Surveyors, competency is defined as the ability to perform the activities with an occupation to the standard expected for employment.

Some competencies are very important so that a quantity surveyor can provide services that can meet client's needs (The Australian Institute of Quantity Surveyors, 1998, p.2). Lack of competent labours may cause failure of the firm.

The quantity surveyors should be competent and able to play their basic roles as the first step for the firm to achieve success. The basic abilities which lead the quantity surveyor to be competent are:-

- i) Measurement – Ability to quantify and numerate
- ii) Analysis
- iii) Evaluation
- iv) Communication
- v) Interpersonal skill – Ability to work effectively with others
- vi) Leadership
- vii) Self-development
- viii) Management – Ability to use the resources effectively
- ix) Documentation – Ability to prepare written information clearly
- x) Synthesis – Ability to combine facts or ideas
- xi) Computer literacy – Ability to understand and utilize some basic computer operations and skills

(The Australian Institute of Quantity Surveyors, 1998, p.5)

2.4.2 Category of Competency

Competency of quantity surveyors can be divided into few categories. The main categories for competencies of quantity surveyors are project cost management competencies, asset financial management competencies, specialized management competencies, and some other support competencies.

Under project cost management competencies, there are cost management, contract administration, procurement, financial audit, and resource analysis. Cost management includes the skills to establish and control the budget for a project, cost planning, prepare contract documentation, and give advice in variation and claims throughout the project. Contract administration involves effective cost management for the project, negotiation of claims, resolves disputes, and progressive reporting to client. Procurement is the processes carried out throughout the contract period to meet client's needs such as method of tendering, provision of bills of quantities and so on. A professional quantity surveyor should have the skills for financial audit. He should able to manage risk until certain degree to satisfy the client's needs, manage the construction resource, and monitor the performance.

The skills under asset financial management competencies are feasibility studies, life cycle cost analyses, tax depreciation, special assessment for tax and stamp duties, assessment of assets, technical due diligence and compliance issues.

Specialized management competencies include the project and value management, risk management, and quality assurance skills. There are also support competencies for quantity

surveyors in order to carry out those practices effectively. Support competencies are further grouped into core and specialist unit. The abilities for measurement, construction technology and law are the core unit while arbitration, expert witness, business management, and cost information are specialist unit. (The Australian Institute of Quantity Surveyors, 1998, p. 5-75)

Ilias Said et al. (2010, p. 108) divided the competency requirements of a quantity surveyor to be professional into few categories, which are basic competency, core competency and optional competency as shown in Table 2.3.