COMPETITIVE STRATEGIES FRAMEWORK FOR QUANTITY SURVEYING CONSULTING FIRMS IN KLANG VALLEY

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A project report submitted in partial fulfilment of the requirements for the award of Bachelor of Science (Hons.) Quantity Surveying

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April 2019

DECLARATION

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

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ABSTRACT

Globalization, technological, social and economic changes leading to competitive pressures and challenges among various organizations. Construction organizations especially quantity surveying (QS) consulting firms required an effective competitive strategy in order to survive in this highly competitive and globalized industry. Few previous studies had studied on the application of competitive strategies in the QS consulting firms. However, there was a lack of studies in focusing on application of competitive strategies that focused to both the Porter's 3 generic competitive strategies (cost leadership, differentiation, and focus strategy) and 5P's marketing mix (products, promotion, price, place and people). Therefore, this study aims to propose a competitive strategies framework for the QS consulting firms by incorporating Porter's 3 generic competitive strategies and 5P's marketing mix. A quantitative approach was adopted for this study, where literature review served to identify the various competitive strategies that could be applied in QS consulting firms. There were 16 competitive strategies parameters identified which included quantity and quality of basic quantity surveyors' services, additional services, time frame for producing services, client satisfaction, advertisements, public relations, branding and rebranding, cost effectiveness, flexible payment options, location of firms, Information and Communication Technology (ICT) and networking, geographical expansion, technical competencies, behavioural competencies, codevelopment and partnership agreement and the last was professional and client relationship. A set of questionnaire survey was distributed to 230 QS consulting firms to evaluate the relative importance on the competitive strategies parameters. 51 sets of questionnaires were returned and analyzed. The relative importance on each competitive strategy parameter was analyzed by using arithmetic mean ranking. The finding showed that the highest 4 competitive strategies focused by QS consulting firms are quantity and quality of basic quantity surveyors' services, professional and client relationship, time frame for producing services and behavioral competencies. Kruskal-Wallis Test was conducted and the results revealed that there was a significant difference in term of competitive strategies parameters across different size of QS consulting firms. A competitive strategies framework was developed after the data were analyzed. The proposed framework could be referred by the different sizes of QS consulting firms and appropriate competitive strategies could be established based on the nature of the firms. This study is intended to make contributions to the QS consulting firms to allow them to gain competitive in the construction industry for survival and growth.

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LIST OF SYMBOLS / ABBREVIATIONS

ADR	Alternative Disputes Resolutions
ANOVA	Analysis of Variances
APC	Assessment of Professional Competence
BQSM	Board of Quantity Surveyor Malaysia
CIDB	Construction Industry Development Board
CQS	Consultant Quantity Surveyors
DOSM	Department of Statistics Malaysia
GDP	Gross Domestic Product
ICCQS	International Conference on Construction and Quantity Surveying
ICT	Information and Communication Technology
LCCA	Life Cycle Cost Analysis
Μ	Mean
MR	Mean Rank
Ν	Number
PERT	Program Evaluation and Review Technique
PQS	Professional Quantity Surveyors
PR	Public Relations
QS	Quantity Surveying
RICS	Royal Institution of Chartered Surveyor
RISM	Royal Institution of Surveyors Malaysia
SME	Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences
Sr.	Surveyors

APPENDIX A: Questionnaires

CHAPTER 1

INTRODUCTION

1.1 Introduction

The purpose of this chapter is to develop a background of the study. It begins with a review to the current issues related to this study. The research gap of the previous studies is investigated. Besides, the aim of the study is identified to solve the research gap from previous studies. Furthermore, the objectives that need to be achieved in this research are formulated. Moreover, the methodology and research scope of study are briefly discussed. Last but not least, the contents of each chapter of whole research are briefed.

1.2 Background of the Study

The construction industry in Malaysia plays a very significant role in aggregating the economy. It has integrated with other sectors of the economy through backward and forward linkages and thus contributed to huge employment in the economy (Khan, Liew and Ghazali, 2014). According to Department of Statistics Malaysia (DOSM), the construction industry accounted 4.2% of Gross Domestic Product (GDP) Malaysia in Q4 2018, which had a growth rate of 2.6% against 4.6% in Q3 2018 (DOSM, 2019). The total value of gross output from construction sector was RM204.4 billion with an annual growth rate of 7.2% (DOSM, 2019).

The characteristics of the construction industry have been investigated in past studies. Commonly, construction industry has been perceived as a "dirty, difficult and dangerous" sector. Polat (2010) mentioned that the construction project is bulky, unique, expensive and hazardous. Besides, Alarcón and Mesa (2012) stated that construction project involves multidiscipline parties and complex procurement process. Arditi, Polat and Makinde (2008) also pointed out that the construction activities are fragmented and highly influenced by economics and geographical factor. Moreover, Kangari (1988) further highlighted that the construction field is highly competitive.

Due to the unique characteristics of the construction industry, there are various issues and challenges arisen out. For example, the fragmentation of construction industry leads to poor performances of projects as the works are undertaken by diverse parties in isolation (Chan, Tam and Cheung, 2005). Besides, high exposure of hazard in the construction industry imposes a threat to the safety and health of construction parties. As a result, the issues and challenges tend to incur additional cost and bring impact to the quality of construction works.

The construction industry is evolving rapidly. Impact and evolution of technology in construction industry has changed the requirements and demand from the client. Clients required a more sophisticated and quality of project (Chew, 2015). Therefore, the construction professionals face challenges in meeting the client's expectation. Mostly, the cost of the project is prioritized by clients (Cunningham, 2017). Among the various construction personnel, quantity surveyors are engaged as a specialist in costing of a building during whole construction process (RICS, 2015). Therefore, the quantity surveyors play significant roles to offer professional services to achieve client's satisfaction in term of cost aspect.

The roles of quantity surveyors are changing. During the past, quantity surveyors were responsible in performing quantification and preparing the Bill of Quantities. However, the traditional quantity surveyors' services are not longer being satisfied by the clients in this modern economics. Many clients request a wider range of services offered by modern quantity surveyors (RICS, 1998). Not only a wider range of services, the clients are also demanded to have a customer-orientated and proactive approaches provided by modern quantity surveyors (Page, Pearson and Pryke, 2004).

The competitiveness highlights the importance of strategies adoption of Quantity Surveying (QS) consulting firms. The technology advancement is not only escalating the expectation of clients to the construction professionals, it also stimulates the globalization of construction trade and thus triggers the development of construction firms by expanding their business. As a result, it brings negative effect on the survival of the small and medium enterprises (SME) construction firms (Ogbu, 2018). On the other hand, the nature of firms also encourages to the exercising of management practices (Ogunsemi, Awodeleand Oke, 2013). QS consulting firm is a service-based firm that provides consultancy on financial and procurement aspects to the clients (Abidin, et al., 2010). It emphasizes on the involvement of client during the project procurement (Grönroos, 2007). The ultimate aim of QS consulting firm is to provide professional services that attempt client's satisfactions throughout the whole life cycle of the project (Hoxely, Knight and Grada, 2007). Besides, QS consulting firm is known as knowledge-based firm as the quality of services delivered to client rely on the knowledge and competencies of quantity surveyors in the firm. The technical expertise and ability in maintaining client relationship of quantity surveyors are significantly contributed to the reputation of firms (Murphy, 2011). Thus, it is essential for QS firms to administer the organization and apply appropriate strategies into organizations in order to gain competitive advantage and encourage the growth of firms. This study dedicates the focus on this topic in view of the importance of competitive strategies for QS consulting firms in this highly competitive industry.

1.3 Problem Statement

There were a few related previous studies focused on the application of competitive strategies in the QS consulting firms (Abidin, Adros and Hassan, 2014; Olubunmi et.al, 2014 and Abidin et.al, 2010). These studies were focused on the application of Porter's 3 generic competitive strategies which include cost leadership strategy, differentiation strategy and focus strategy (Porter, 1985) within the QS consulting firms of varying sizes. The ultimate aim that achieved from the previous studies was the identification of the factors that influencing the choice of competitive strategies by evaluating the business performance of firms (Olubunmi et.al, 2014 and Abidin et.al, 2010).

On the other hand, marketing strategies can be adopted to strengthen the competitive advantages in the industry. There were few studies focused to the marketing strategy to be applied in QS consulting firms which was "4Ps Marketing Mix" (Low and Kok, 1997; Yankah, 2015; Ogbu, 2015). The "4Ps Marketing Mix" was defined as strategies which combined the marketing components when marketing a product. The main 4 elements of marketing mix that have been highlighted include product, promotion, price and place. These studies had identified the suitable marketing tactics to be adopted in QS firms which corresponded to each element of marketing mix and determined the relative relevance for each tactics.

Based on the previous studies, a conclusion had drawn. The earlier studies were concentrated on either the Porter's generic strategies or "4Ps Marketing Mix". There is lacking of study focused on the integration of both competitive strategies and marketing mix. The competitive strategy is the way on how a product is being presented to the public. On the other hands, the marketing mix refers to the factors to

be taken into account when planning the strategies such as target customers, product benefits, pricing strategy and marketing methods. Ferraioli (2018) clarified that a business requires the integration of both competitive strategies and marketing mix in order to be successful. It leads to problems if the marketing mix elements are applied without consideration to an overall strategy.

It is imperative for QS consulting firms to manage and apply appropriate strategies in order to sustain in the competitive construction industry. This research attempts to incorporate the 5Ps Marketing Mix and Porter's 3 generic competitive strategies by developing a competitive strategies framework. With the presence of a framework, QS consulting firms can use the framework as guidance to apply those marketing mix when implement the marketing strategies to establish the competitive advantage in the firms. On the contrary, if without the framework, QS firms will face difficulties in analysing the suitable strategies that can be applied by the firms. Lack of a systematic competitive strategy will bring challenges to those firms in meeting sophisticated demand from clients (Bower, 2003).

1.4 Research Aim

This study seeks to propose a competitive strategies framework for Quantity Surveying consulting firms.

1.5 Research Objectives

In order to achieve the research aim, three research objectives are formulated:

- i To identify parameters of competitive strategies that can be adopted by Quantity Surveying consulting firms.
- ii To evaluate parameters of competitive strategies that can be adopted by Quantity Surveying consulting firms.
- iii To propose a competitive strategies framework that can be referred by Quantity Surveying consulting firms.

1.6 Research Methodology

Figure 1.1 demonstrates the research methodology applied to achieve the research objectives in this study. Firstly, the research problem is defined and the previous literatures and studies related to the topic are reviewed. Quantitative approach is conducted by distributing questionnaire surveys. Next, the data are gathered and analysed by using three (3) statistical tests which included arithmetic means, Cronbach's Alpha Reliability Coefficient, and Kruskal-Wallis test. Last but not least, a competitive strategies framework for QS consulting firms is developed based on the findings.

Phase 1	Phase 2	Phase 5	Phase 6	Phase 7
Problem	Literature	Data	Data	Framework
Definition	Review	Collection	Analysis	Development
Objective 1		Objective 2		Objective 3
To identify parameters of		To evaluate the competitive		To propose a
marketing strategies that can		strategies that can be		competitive strategies
be applied by Quantity		adopted by Quantity		framework that can be
Surveying consulting firms		Surveying consulting firms.		referred by Quantity
				Surveying consulting
				firms

Figure 1.1 : Summary of Approached Methods

1.7 Research Scope

The scope of this research is narrowed to QS consulting firms located within Klang Valley due to the time and budget constraints. The targeted respondents are the employees who working in the QS consulting firms.

1.8 Chapter Outline

This research is designed to have five chapters. The chapter outlines are further described. Chapter 1 describes the background of study which consists of background of construction industry and competitiveness in the construction industry. Next, the problem statement reviews the previous related studies and identifies the research gap and research problem. The research aim and objectives are identified in this chapter. Moreover, the research scope and research method is explained. Chapter 2 is the literature review which provides an overview of the competitive strategies and theories of marketing mix from previous studies. A framework of competitive strategies is developed and discussed.

Chapter 3 identifies how the research design is constructed. It also includes the data collection and data analysis approaches for this research. Chapter 4 shows the result of findings obtained through questionnaire and online survey. The analysis of this research is supported by secondary data to verify the reliability. Lastly, Chapter 5 summarizes the entire research study with refer to corresponding research objectives. The limitation and recommendations for future research are highlighted.

1.9 Chapter Summary

In a nutshell, this chapter had identified the competitive strategies that can be adopted by QS consulting firms by studied the background of the construction industry. The research problem had addressed. Moreover, the research aims and objectives had clarified to resolve the research gap. Next, the methodology of this research was discussed briefly. The research scope was defined which limited to QS consulting firms in Klang Valley. Last but not least, the chapter outline was elaborated to map a clear structure on each chapter in the research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter includes the review of literature and studies which associated to the competitive strategies adopted in the construction industry. Firstly, the definition of competitive strategy has been defined. Next, the theories of Porter's 3 generic competitive strategies have further discussed. The 5Ps marketing mixes involved in each strategy are investigated and evaluated in detail. Last but not least, the parameters are applied to develop a conceptual framework for evaluating the competitive strategies that can be applied in the Quantity Surveying (QS) consulting firms. A framework is illustrated at the end of this chapter.

2.2 Competitive Strategy in Construction Industry

The construction industry in Malaysia has contributed in the development of economy. Thus, the involvement of professional personnel into the construction industry is important. The construction industry can be defined as a source of employment. According to Department of Statistic Malaysia (DOSM), there are about 1.3 millions of workforces involved in the construction industry (DOSM, 2019). The construction personnel comprises of architect, engineers, quantity surveyors and contractors. Among the profession, quantity surveyors play a vital role as they are responsible in monitoring on the project finances and handle contractual issues. By referring to statistics from Board of Quantity Surveyor (BQSM), there are total of 3,750 of quantity surveyors and 355 registered consultant QS firms in 2018 (BQSM, 2018) are registered with the board. Besides, due to the globalisation, there are more foreign professionals who start up their business or joint venture with the local firms in Malaysia (MIDA, 2018). This shown that the competition is no longer localized.

The competition among the QS firms getting intense due the globalisation, economics, technological and social changes. Clients are demanding high quality and effective services provided by QS profession. For instance, client requires professional quantity surveyors to give accurate estimate within the shorter time. It is noted that a healthy competition between firms promotes productivity and leads to

growth and improvement of firms (Cann, 2016). However, an excessive of competition brings adverse threat to firms. Thus, QS firms have to adopt suitable competitive strategies for survival and growth. Competitive strategy is defined as a plan of a company to compete with their competitors or rivals in the long term period (Marketing Dictionary, 2018). Before planning a competitive strategy, all the strengths, weaknesses, opportunities and threats should be evaluated in order to select the appropriate strategies. The firms need to understand their strengths and weaknesses in order to further improve themselves and gain advantages in the construction industry. Through knowing their strengths, the firms can determine the direction that leads to the firm's success. On the other hand, they could learn from past experience and avoid repeating the same mistakes through knowing their weaknesses (Singh, 2009).

2.3 Porter's 3 Generic Competitive Strategies

In the year 1980, Michael Porter introduced Porter's 3 generic competitive strategies which consisted of (1) cost leadership strategy, (2) differentiation strategy and (3) focus strategy (Porter, 1985). The focus strategy has 2 alternatives which are (3a) cost focus and (3b) differentiation focus. Figure 2.1 illustrated the Porter's 3 generic strategies. It can be observed that there are 2 competitive scopes. The focus strategy aims in narrow scope of market, while cost leadership and differentiation strategies aim in broader scope.



Figure 2.1 : Porter's 3 Generic Competitive Strategies (Source: Porter, 1985)

2.3.1 Cost Leadership Strategy

Cost leadership is a strategy that focused on the cost reduction. This strategy emphasises on how the firms can offer a lower price while providing the equal quality of services to the customers as compared to the competitors. QS consulting firms can apply this strategy by reducing the cost to increase the productivity and manage the administration of firms. This strategy is suitable for smaller QS consulting firms. This is because this strategy does not require strong financial resources. Besides, there is lower risk when applying this strategy (Warszawski, 1996; Olubunmi, et al, 2014; Abidin, et al, 2010; Abidin, Adros and Hassan, 2014).

According to Abidin, Adros and Hassan (2014), there are 3 elements included in this strategy which are human resources, costs and usage of technology (as shown in Figure 2.2). This may related to three marketing mixes which are price, people and place. The first marketing mix is price. QS consulting firms should work diligently in order to achieve cost effectiveness. The second marketing mix is people. QS consulting firms should put effort in managing the human resources and provide training to employees in order to increase the productivity of the service delivery. The last marketing mix is place. The application of Information and Communication Technology (ICT) assists the firms to expand their services to different location.

2.3.2 Differentiation Strategy

Differentiation strategy focuses on the unique and diversification of services. This strategy highlights the ability of firms to expand their organizations and thus broaden their services (Abidin, Adros and Hassan, 2014). The differentiation strategy is recommended for good reputable firms in the construction industry. This is because this differentiation strategy requires stable foundation of firms in term of financial, technical and credibility (Warszawski, 1996). The risk for adopting this strategy is higher as compared to cost leadership and focus strategies. QS consulting firms which have strong public relationship and financial performance are able to overcome the risk. Although there is a higher risk as compared to other strategies, but this strategy enables QS consulting firms to improve and expand the scope of services. Thus the firms can stand out in the industry (Olubunmi, et al, 2014; Abidin, et al, 2010; Abidin, Adros and Hassan, 2014).

There are 5 elements that focused in differentiation strategy which include marketing, reputation, branding, relationship and innovation (as illustrated in Figure

2.2). The 5 elements are related to 2 marketing mixes which include promotion and people (Abidin, Adros and Hassan, 2014). The first marketing mix is the promotion. This strategy requires the capability of firms in order to promote their extraordinary of services. Branding is one of the elements of promotion that able to draw the attention of customers. The other marketing mix is people. QS consulting firms should maintain and strengthen the relationship with clients in order to enhance the confidence of clients.

2.3.3 Focus Strategy

Focus strategy is the capability of a firm to compete in the industry by maintaining loyal clients and concentrate on a specific market of customers. Focus strategy is not aimed for a larger volume and size of market, but endeavored to a particular market of customer (Olubunmi, et al, 2014). The focus strategy could be suitable for smaller QS firms as the risk for this strategy is quite low as compared to the other strategies. Moreover, this strategy does not require heavy usage of resources such as labour and cost.

As displayed in Figure 2.2, the focus strategy focuses on 3 elements which are strong networking, expertise and specific projects. The 3 elements are interrelated to 3 marketing mixes which include people, place and product. First marketing mix is people. This strategy requires the involvement of professional quantity surveyors to be able in handling multiple tasks. Besides, QS consulting firms who wish to adopt this strategy should reinforce the relationship between the client and consultants (Abidin, et al, 2010; Abidin, Adros and Hassan, 2014). Second marketing mix is place. QS firms should study and investigate the particular market of customer and thus decide the location of firm in order to achieve the efficiency and effectiveness of services delivered to clients. The other marketing mix is product. QS consulting firms should pay more attention in delivering the standard quality of work to clients in order to obtain client satisfactions.

2.3.4 Summary of Porter's 3 Generic Competitive Strategies

Figure 2.2 describes the competitive strategies that can be applied in QS consulting firms and the elements included in each strategy. The figure demonstrates that how each element is related to each marketing mix. Firstly, the cost leadership strategy focused on 3 elements which are human resources that relates to "people", cost that

relates to "price" and technology usage that relates to "place". Secondly, the differentiation strategy focused on 5 elements which are marketing, reputation, branding, relationship and innovation. Marketing, reputation, branding and innovation relate to "promotion" marketing mix while relationship relates to "people". Lastly is focus strategy. There are 3 elements included which are specific project that relates to "product", networking that relates to "place" and expertise that relates to "people".

Porter's 3 Generic Strategies	Elements	Marketing Mix
Cost Leadership	Human Resources Cost Usage of Technology	People Price Place
Differentiation	Marketing Reputation Branding Innovation	Promotion
	Relationship	People
Focus	Specific Project Networking Expertise	Product Place People

Figure 2.2 : Competitive Strategies for QS Consulting Firms (Source: Abidin, Adros and Hassan, 2014)

2.4 Marketing Mix

In 1949, the concepts of marketing mix had been introduced by Neil Borden (Borden, 1964). There had 12 elements of marketing being established. In the year 1960, the original marketing mixes were modified by Edmund Jerome McCarthy (McCarthy, 1960). McCarthy (1960) clustered the 12 parameters into 4 main categories and named as "4P's Marketing Mix". The 4P's included product, price, promotion, and place. In the year 1961, there was another set of marketing mix developed by Albert Frey. Frey (1961) had classified the marketing mix into 2 categories which were offering and process. In the year 1981, the 4P's marketing mix was modified to 7P's marketing mix. The 7P's marketing mix included the existing 4P's which were

product, price, promotion, place and the addition of 3P's which were people, physical evidence and process (Booms and Bitner, 1981). The evolution of marketing mix is illustrated as Figure 2.3.

12 elements (Borden, 1964)	4P's Marketing Mix (McCarthy, 1960)	2 Categories of Marketing Mix (Frey, 1961)	7P's Marketing Mix (Booms and Bitner, 1981).
Product Planning	Product	Offering	Product
Pricing	Price	Product	Price
Branding	Place	Service	Place
Channels of distribution	Promotions	Packaging	Promotions
Servicing		Brand	People
Physical Handling		Price	Physical Evidence
Fact Finding and Analysis		Process	Process
Promotions		Advertising	
Personal selling		Promotion	
Packaging		Sales Promotion	
Display		Personal Selling	
Advertising		Publicity	
- 75		Distribution Channels	
		Marketing Research	
		Strategy Formation	
		New Product Development	

Figure 2.3 : Evolution of Marketing Mix (Source: Baalbaki, 2015)

In this research, there are 5 dimensions of marketing mixes used. The 5 dimensions include the 4P's which are price, promotion, place and people and the fifth "P" which is people. Arditi et al. (2008) acknowledged that the addition of the fifth "P" people into the 4P's marketing mix is crucial especially in the context of construction marketing. The fifth "P" people concentrated on the relationship networks between the professional and client (Smyth, 1999). For QS consulting firms, there is a high degree of interaction with client during the professional service delivery (Maister, 1982). QS consulting firms should ensure their consultants quantity

surveyor in maintaining a good relationship with the client in order to achieve client's satisfaction.

2.4.1 Product

The first marketing mix is the product, also known as services. The services of quantity surveyors play a very important role in every construction project. Quantity surveyor offers comprehensive services throughout the whole life cycle of a project from inception, design, construction and maintenance. Quantity surveyors are vital to involve themselves from the beginning to the completion of the project as they are responsible in advising client and consultants in term of costing and value of the project and they also involve in dispute resolution (Maidin & Sulaiman, 2011). However, modern quantity surveyors need to provide more extraordinary services to satisfy clients and compete among various QS consulting firms in the industry.

2.4.1.1 Quantity and Quality of Basic Quantity Surveyors' Services

The quantity and quality of basic services provided by professional quantity surveyors is the most vital criteria to reach client's satisfaction. The following are the services provided by quantity surveyors during various stages of construction which include preparation, design, pre-construction, construction, and post construction phase. The services refer to the RIBA Outline Plan of Work 2007 (RICS, 2018).

During preparation phase of project, quantity surveyors will communicate with client and consultants and produce project brief based on client's initial requirement and construction regulations. Next, quantity surveyors are responsible for advising on the preliminary cost according to architect and engineer's design and set a budget plan for client. Next, quantity surveyors will carry out feasibility studies on the project to examine practicability of the project. Quantity surveyors assists client in selecting the most suitable procurement of project delivery (Hazwan, 2012; RICS, 2018).

In design phase, quantity surveyors get involved with the design team and help to develop the brief into drawing and specification. Quantity surveyors play very important role in this stage as they act as a coordinator between client and design consultants. Besides, quantity surveyors are important for advising on the cost based on the design proposals. Quantity surveyors have to produce cost plan and advice on the cost variances and allowances (RICS, 2018).

During pre-construction phase, there are several activities which include tendering stage and contracting stage (RICS, 2018). In the tendering process, quantity surveyors are responsible for the preparation of tender documentation, tender interviews, preparation of Bill of Quantities, production of tender reports and assessment of tender comparison. Besides, quantity surveyors are liable to recommend on the procurement methods based on client's requirements. Professional quantity surveyors should offer client-oriented services during this stage. According to Haener (2018), quantity surveyors should act in the best interest of client in the tendering process. For example, quantity surveyors should analyse the ability and qualification of contractors on behalf of client. Besides, quantity surveyors should be impartial and follow the code of ethics and rule of conduct. Moreover, quantity surveyors have the responsibility to negotiate with the contractors to achieve "value for money". In the contracting process, quantity surveyors are responsible for advising on the construction related insurances, performance bonds, building contracts and regulations. Besides, quantity surveyors act as financial advisors of clients to monitor client's budget, cash flow and their financial status.

During the construction phase, quantity surveyors are focused on the cost management. The services offered by QS consulting firms include interim payment, site valuation, valuation of progress payment, evaluation of variation order, preparation of financial statement and forecasting of cash flow (Mbachu, 2015). Furthermore, quantity surveyors are liable in advising on the rights and obligations of the parties (RICS, 2018). After the construction completed, quantity surveyors are required to prepare a statement of final accounts which summarized all the cost incurred during the whole construction process. Besides, quantity surveyors are required to prepare recommendations for the payment of retention funds and liquidated and ascertained damages (RICS, 2018).

2.4.1.2 Additional Services

Nowadays, clients are demanding a variety of services from quantity surveyors (RICS, 1998). Page, Pearson and Pryke (2004) further justified that client's demand included customer-orientated and proactive approaches provided by modern quantity surveyors. Therefore, the roles of quantity surveyors had to be developed with more focus towards meeting the client's needs.

Due to the technology revolution, there are a few extended services can be offered by the modern quantity surveyors. The previous studies had proved that modern QS consulting firms who branched into other professional fields are more favoured by clients, such as law, project management, construction management, dispute resolution, risk management, civil engineering, asset advisory, facilities consultancy, risk mitigation and property taxation (Reddy, 2015; Nnadi, Okeke and Alintah-Abel,2018).

One of the examples of additional services offered by quantity surveyors is dispute resolution. The occurrences of disputes and conflicts become a common phenomenon in the construction industry due to events such as delay and late payment. As a result, there is a need of an expert to resolve the disputes. The process of resolving the disputes is called as Alternative Disputes Resolutions (ADR) which includes mediation, arbitration and adjudication. During ADR process, quantity surveyors can assist in choosing the suitable ADR for the parties by analysis the risk and outcome of the dispute resolution process. Besides, quantity surveyors are qualified in advising on the delay analysis, defect rectification and claims computations (Lim and Azman, 2003).

2.4.1.3 Time Frame for Producing Services

There are 3 criteria that targeted to achieve the project success which are time, cost and quality. Time can be considered as an important criterion as the time will influence to the cost and quality of the work in the construction project (Bowen, et al, 2012; Adesi, Owusu-Manu, 2018; Frei, Mbachu and Phipps, 2013; Low and Kok, 1997).

Each party involved in the construction project should equip themselves with good time management skills especially quantity surveyors. This is because quantity surveyors are the one who deal with the deadlines during the construction development process. The roles of quantity surveyors are important to achieve the client's goal and objectives of project (Osubor, 2017). However, quantity surveyors often face challenges to complete the work within the time frame offered during the project service delivery. There is lack of adequate time offered to quantity surveyors to produce the quantities. This causes to the reduction of productivity and the risk of making quantification errors become higher (Nani and Adjei-Kuni, 2007). Therefore,

quantity surveyors should apply time management approaches in order to complete the work within the time.

There are several techniques of time management that commonly used in QS consulting firms which include Gantt bar chart, critical path model, milestone date programming techniques and Program Evaluation and Review Technique (PERT). Besides, there are some software packages that help in scheduling the construction activities. Examples of software packages are Primavera Project Planner, Microsoft Project and Microsoft Excel (Memon, et.al, 2014). Moreover, reports such as progress reports, labour allocation reports, and equipment records should be prepared for clients monthly or quarterly to update the clients on the project's progress. The reports should be kept and stored neatly for further references and tracking. The preparation of construction progress report is aimed to gather and organize the information and thus lead to a smooth flow in planning and managing the construction activities. At the same time, a regular reporting to client can ensure that the clients understand to the status of construction progress. Clients can have more involvement in the project delivery and monitoring to the construction progress. As a result, the construction activities can be executed according to the schedule and completed within the time frame (GenieBelt, 2017). Therefore, the risks of delay and time constraints can be minimized (Lok and Hamid, 2015).

2.4.1.4 Customer Satisfaction

The above criteria which include the quantity, quality and time taken to deliver the services by professional quantity surveyors are to gain confidences and satisfaction from the clients. In the construction industry of Malaysia, the globalization has caused to the high competitive among QS consulting firms in Malaysia (Abidin, Adros and Hassan, 2014). Therefore, QS firms need to achieve customer satisfaction in order to survive in the competitive environment (Ogbu, 2015; Yankah and Dadzie, 2015; Schieman and Mlambo, 2016; Adesi, Owusu-Manu and Murphy, 2018; Frei, Mbachuand Phillips, 2013; Musa-Haddary and Olanyi, 2015; Nnadi, Okeke and Alintah-Abel, 2016; Ogbu, 2017; Low and Kok, 1997). Customer satisfaction is achieved when the perceived performance of the firms reaches the performance standard expected by customer (Kärnä, 2004).

Olatunji (2006) highlighted the benefits in measuring the customer satisfactions. Through measuring the customer satisfactions, consultant quantity

surveyors are able to communicate with clients and strengthen their relationship. It enables a mutual consensus and agreement between the parties. Therefore, the conflicts can be minimized. Besides, consultant quantity surveyors can ensure the works are adhering with the client's requirement. There are few methods that can be used by QS consulting firms to collect the client's feedback such as hand and electronic customer survey, feedback form and live chat on company website and customer interview. QS consulting firms can increase the interest of client to fill the survey or feedback form by using incentives. For example, clients are able to get a free gift or stationeries with company logo. This is not only aimed to attract more potential clients, but also promote the company (Ciotti, 2018; Hall, 2019).

2.4.2 Promotion

Most of the previous studies pointed out "promotion" is the important marketing elements that should be applied by QS consulting firms with the intention to stand out between various competitors (Ogbu, 2015; Yankah, 2015; Yankah and Dadzie, 2015; Schieman and Mlambo, 2016; Adesi, Owusu-Manu and Murphy, 2018; Frei, Mbachu and Phillips, 2013; Musa-Haddary and Olanyi, 2015; Owusu-Manu et.al, 2015; Nnadi, Okeke and Alintah-Abel, 2016; Ogbu, 2017; Low and Kok, 1997).

Promotion includes the technique which being expressed in terms of advertising, public relations, reputations, and communication to publicize the product or service offered (Khan, 2014). An effective publicizing and advertising becomes a crucial key that leads to success of firms. Appropriate advertising can help to increase the exposure of firms to the public and thus gain the competitive advantage (Wallace, 2016). The following elaborates the promotion techniques that can be implemented by QS consulting firms.

2.4.2.1 Advertisement

Advertising is defined as any non-personal presentation and communication of services (Kotler and Armstrong, 2011). Due to the competitive industry, it is necessary for QS consulting firms to expose themselves to the public for business opportunities. However, there are arising problems on the marketing of QS consulting firms. Macnamara (2007) had stated that the construction firms have lack of awareness and appreciation on the importance of applying marketing strategies into their business. According to BQSM (2007), there is a guideline on advertising

and publicity for the registered quantity surveyors. QS consulting firms should perform the advertisement with integrity. They should not deceive the fact and spread the negative comments of other competitors. Besides, the advertisement should not include the statement that may attack and bring negative effects to other QS practices and public.

There are few major types of medium for QS firms to promote their business, which include printed media, support media, and social media (Kokemuller, 2018). For professional consulting firm, the most suitable advertisement to be used is printed media (Ogbu, 2015; Yankah, 2015; Musa-Haddary and Olaniyi, 2015). Examples of printed media are article, pamphlets and brochure. However, the shortcoming of printed media is that there had been difficulties in reaching out to the audiences. This is because most of people prefer obtaining the information through the digital devices such as mobile phone and computer due to the development of technology. Therefore, the applications of support media and social media to promote the professional consulting firm are gradually increased.

Support media such as the directories and trade publications are able to attain wider range of audiences. The business directory such as yellow page is an effective marketing media. It is highly targeted to the potential customer and help in increasing the frequency of message exposure to targeted client. Yellow page can help in enhancing the reputation of the firms. Next, the trade publication is a useful advertising media which focused on the audience at particular industry. For example the trade publication of the construction industry in Malaysia which is Construction Industry Development Board (CIDB) Heights. The purpose of CIDB Heights is to discuss the latest trends and practises in construction industry. Moreover, social media play a crucial role in networking and communication platform. QS consulting firms can gain marketing opportunities if they are able to utilize the social media effectively and efficiently. For example, QS consulting firms can create a company website to help in advertising (Ogbu, 2015; Ogbu, 2017; Yankah and Dadzie, 2015). The social media is a cost-effective approach to connect the gaps between the consultants and client. With the help of social media platforms, QS firms can be familiar to the client's interest and preferences and thus offer the services which can achieve to the customer satisfaction (Nelson, 2018).

2.4.2.2 Public Relations

Public relation (PR) is an important marketing technique for the organization in order to build up relationship with other organizations, gain the reputation and established a good corporate image by carrying out various advertisement and events. Public relations are able to bring a stronger impact than advertising. There are few programmes such as press conference, trade show, charity and events that can be performed by PR department in the organization (Kotler and Armstrong, 2011).

First, QS consulting firms should actively attend the conferences and seminars related to construction industry (Musa-Haddary and Olaniyi, 2015). Example of international research conferences held in Kuala Lumpur, Malaysia which is the ICCQS 2017: 19th International Conference on Construction and Quantity Surveying. The conferences act as a platform for construction professional and researchers to share their knowledge and study to the trends and issues occurred in the construction industry (WASET, 2017). QS consulting firms may participate in the events such as construction trade shows. Examples of some famous trade shows held in Malaysia are International Construction Week (ICW) and Archidex. Through the trade shows and events, QS consulting firms not only can maintain the relationship with the local or international construction companies, they also can develop the association with the government authorities and legislators (Kotler and Armstrong, 2011).

2.4.2.3 Branding and Rebranding

Based on the previous literature, company branding and rebranding is a contemporary competitive strategy to QS firms to promote themselves and survive in the construction industry (Ogbu, 2015; Yankah, 2015; Nnadi, Okeke and Alintah-Abel, 2016; Ogbu, 2017; Low and Kok, 1997).

Branding is a marketing method which helps to promote and introduce the company and services to the customers. Branding acts as trademark for client to recognize the company. The example of branding is labelling the logo to the products. Firstly, QS firms should design an attractive company logo with eye-catching colour and design to grab the attention of clients. Next, QS firms may give the products with logo such as stationeries and books as gifts to clients (Lakra, 2018). However, company branding is not enough. There is a need of rebranding for those companies which had faced some circumstances such as change of targeted customer or market,

threaten from the competitors and introduction of new services (Butcher, 2016). In order to maintain existing clients and grab new potential clients, QS firms should rebranding as it helps to bring new image into company. Besides, rebranding creates opportunity for company to improve themselves (McQuerrey, 2017). Moreover, rebranding can help to raise the public awareness to the quantity surveyor's profession and erase the misunderstanding of public to QS profession.

2.4.3 Price

Price is defined as the amount of money charged for a product or a service. Historically, price has become a major factor affecting the customer choice. At the same time, pricing is a huge problem facing by many organizations. If the organizations are able to manage the pricing, it will become an effective marketing tool for gaining customer value and build customer relationship (Kotler and Armstrong, 2011).

Traditionally, quantity surveyors are construction professionals who are qualified and trained to handle all the matters related to price. QS responsible in managing the cost and advising the financial and contractual administration (RISM, 2018). The prices include in the construction project such as land cost, building development cost, professional fees and other legal authorities fees. Therefore, the ultimate aim for QS consulting firm is to offer the services which is "value for money". Smyth (2000) hypothesized that most of the client will not decide a particular consulting firm as their first choice. As long as the other firms are able to offer a cheaper price to them, the client may switch to their preference firms. For example, most clients prefer to award the project to contractor who offered the lowest price. The same theory applied when client awards the project to the consultant. Clients will choose the consulting firms that charge the lowest professional fees. There are few pricing techniques that can be applied by QS consulting firm to help in gaining favourability from client.

2.4.3.1 Cost Effectiveness

Cost effectiveness of construction project is observed as one of the vital criteria of QS services that are concerned by clients (Schieman and Mlambo, 2016; Adesi, Owusu-Manu and Murphy, 2018; Musa-Haddary and Olanyi, 2015; Low and Kok, 1997). Cost effectiveness is a term that used to measure whether the product or

services are productive in relation to the cost. In the other word, it represents value for money (Phillips and Thompson, 1997). In the construction industry, a building design is considered to be cost effective when the quality of project is equal to the construction cost, and has a lower whole life cost (WBDG, 2016). For QS consulting firms which want to be outstanding among the competitors, they need to ensure that the client are able to receive the quality of services that are worthy of how much they paid. Ogunsemi (2015) articulated that the principle of value for money is the best possible satisfaction from the services offered. The best value is not the lowest of the cost. The ultimate aim is to meet the requirement of clients. The followings are the suitable approaches in order to achieve cost effectiveness.

First approach is value management. Value management is a systematic and effective process in analyzing the objectives and achieving the function of products or services at the lowest cost (WBDG, 2016). Folorunsol and Awodele (2004) discovered that client has the greatest expectation on the professionals to conduct value engineering in order to reduce the cost by optimizing the available feasible alternative. Second approach is the life cycle cost analysis (LCCA). In the assessment of life cycle cost, all cost involved throughout the whole life cycle of construction project will be taken into accounts. LCCA is important to evaluate the alternative solutions of building design (Fuller, 2016). Through the LCCA, the unnecessary and non-monetary benefits costs may be eliminated if costs are overrun such as aesthetics, historical value, safety, resiliency, and sustainability (Fuller, 2016). The above approaches have shown that the roles of quantity surveyors are very significant to reach cost effectiveness. Quantity surveyors have competences to advise on the alternative solutions to clients and other professionals.

2.4.3.2 Flexible Payment Options

There are few types of consultant payment options available in the construction industry. QS consulting firms should be flexible to accept different types of payment that are suitable for client. Example of payment options are lump sum basis, hourly basis, unit rate basis, results based, and share based (Consulting Success, 2009).

Among the various types of payment options, the most common used in the Malaysia construction industry is lump sum basis. The lump sum basis ensures the amount is fixed and favour to client. Besides lump sum basis, clients are preferred to
have unit rate basis. This is because the consultants will only get paid when they completed the required work. Clients are able to ensure the quality of work by consultant by having unit rate basis. If QS consulting firms are willing to encounter the unit rate payment method, it will bring strong business opportunities to the firms.

2.4.4 Place

Place can be described as the geographical expansion of the firm's resources (Arditi, Polat and Makinde, 2008). Brown (2014) declared that the geographical expansion is not only opening an office at a new location. The expansion also includes the additional form of channel to delivery services to the customer, or joint venturing in a new market. A good location of firms play significant role in achieving success in the competitive environment.

2.4.4.1 Location of Firms

The locations of the firms should be considered the accessibility of client to achieve client's satisfaction (Ogbu, 2015; Yankah and Dadzie, 2015; Musa-Haddary and Olaniyi, 2015; Ogbu, 2017; Low and Kok, 1997). The location of the QS consulting firms is not a very important factor of client to choose the particular firm. This is because the clients will not visit to the QS consulting firms frequently (Low and Kok, 1997). The client prefers the consultants in taking the initiative to contact them rather than approaching consultant themselves.

There are a few practices that can be implemented by QS consulting firms in order to approach the client. Firstly, QS consulting firms can choose to set their firm's location at the urban areas to obtain more job opportunities and potential projects. This will bring greater sales and profits to the firms. Besides, the firms are able to save more on the time and cost of travelling. However the disadvantage is the firms required to pay a higher rental for the offices in the city centre area (Low and Kok, 1997). As the alternative options, QS consulting firms may develop a new office at that particular location which closer to those existing clients if they have batch of existing clients who maintain a good relationship with them. This will bring win-win situation to both parties. QS consulting firms are able to gain competitive advantage compared to others firms at such locations. Besides, the productivity of work can be improved because QS firms can approach to client easier and less travel time is required (Mochtar, 2004).

2.4.4.2 ICT and Networking

In present, the advancement of modern technology encourages the usage of technological innovation in the construction industry which is Information and Communication Technology (ICT) (Reddy, 2015). ICT is a platform which allows user to record, convey and control the information through the medium such as computers, software and audio visual systems by network linking (Agyekum, Ayarkwa and Acheampong, 2015). In the construction industry, the application of ICT is progressively increasing as it is able to enhance the interactions between client and project team members through networking. The parties are able to share the information through both hardware and software computer networking resources. Examples of hardware resources are printer and fax machines.

Besides, there are much networking performance software packages being introduced to assist the work of the construction team members. The software packages that can be used by QS consulting firms include Atlespro, AutoCAD, Binalink, Buildsoft, CostX, Cubicost, Vico and Revit. The performance of quantity surveyor will enhance by using the latest software. For example, the software can boost the professionalism of quantity surveyors as client will have more confidence to those QS consulting firms who are able to follow the pace of technology. Next, the application of software assists in achieving the time and cost efficiency of works. By using latest software such as CostX and Cubicost, quantification can be produced instantly and Bill of Quantities (BQ) can be completed within shorter time as compared to conventional approach. Moreover, the software helps to store all the record in a systematic and central place for future tracking. Furthermore, software could assist quantity surveyors to produce an accurate and consistent estimate. This is because software packages help to keep the database such as construction price and rates. This accelerates quantity surveyors in their works and also maintains the consistency of works. Thus, QS consulting firms can utilise the latest software to stay competitive and gain advantage (Cartwright, 2017). There is a risk of being left behind if they didn't utilise the latest software as compared to the rivals.

2.4.4.3 Geographical Expansion

For QS consulting firms who have stronger financial position and stable performance in the construction industry, they are encouraged to expand their business by branching their firms to different locations (Owusu-Manu, et al, 2015). Geographic expansion brings lot of benefits to the company. Firstly, it can help to attract more potential clients and access to new customer markets. Besides, the risks are diversified if firms were operating under different environment. Moreover, the growth of company acts as an attraction point to clients. Therefore, QS firms are able to grab more competitive advantages as compared to other QS firms (Kokemuller, 2018). However, there are plenty of challenges to QS firms for business expansion. Not only the financial issue, QS firms will also face challenges on the resources inadequacy. Besides, there is difficult to integrate among each branch of business. This will result to the loss of concentration and control on the business and cause the quality of services being reduced (Heibutzki, 2017).

2.4.5 People

People is the most important element in any delivery of services as human is greatest resources for an organization (Friesner, 2014). They are important because they are representatives and assets of the firms. Their behavior and attitudes will affect to the image of firms from the perspective of client (Low and Kok, 1997). Therefore, QS consulting firms should ensure the professional ethics of their employees to accomplish client's satisfaction. Customer satisfaction is achieved when the perceived performance of the firms is fulfilled to the performance standard expected by customer (Kärnä, 2004). In the other words, in order to be more outstanding among plenty of QS consulting firms in the industry, they have to keep improve their performance and services provided that exceed the expectation of client. There are few approaches that can be carried out by QS consulting firms in managing the quantity surveyors' professional performance and attitude.

2.4.5.1 Technical Competencies

In the competitive environment of construction industry, clients are demanding greater assurance to the performance of the professionals who work at the highest standards (RICS, 2017). Thus, QS consulting firms should ensure the consultant quantity surveyors to equip themselves with professional competencies in gaining the confidence to client. The following describes the level of technical competencies should be equipped by professional quantity surveyors, which include education and qualifications (Ogbu, 2015; Yankah, 2015; Yankah and Dadzie, 2015; Adesi, Owusu-Manu2018; Frei, Mbachu and Phillips, 2013; Musa-Haddary and Olanyi,

2015; Ogbu, 2017; Low and Kok, 1997). Due to the increasing demand on the professional services by clients, the education level and qualification becomes a very significant standard to measure the level of knowledge and skills of quantity surveyors (Hassan, et al, 2011; Chan et al., 2002).

It is a compulsory step for becoming a quantity surveyor in pursuing a qualified Quantity Surveying course in any institutions or universities. According to BQSM (2018), there are 23 public and private universities which offer diploma and degree programme of Quantity Surveying (QS) being accredited by Board of Quantity Surveyor Malaysia (BQSM). In the recent years, due the increasing demand of client towards the quality of services delivered by the QS graduates, the institutions and universities are putting effort to offer programme which cover multiple aspects of learning components. As a result, QS students learnt to demonstrate the fundamental principle of quantity surveying and obligate to the professional moral values in the industry. Moreover, these students are trained to practice interpersonal skills and abilities during service delivery (Hassan, et al, 2011).

Qualification is an element which can improve the services contributed by quantity surveyors. Professional qualification can be defined as the level of professional development which is fulfilling to the responsibility on the position of professional (Schneider, 2018). According to the Quantity Surveyors Acts Amendment 2015, there have 3 types of quantity surveyors registry in Malaysia. Firstly is provisional quantity surveyor. The students who freshly graduated from the institutions or someone who registered to the board for the first time are eligible to register as a provisional quantity surveyor. Next, the provisional quantity surveyors will be subjected to 2 tier of registration in order to become fully registered with the Board. The first tier of registration is professional quantity surveyors (PQS). They have to undergo an assessment which is Assessment of Professional Competence (APC) in order to become a PQS. The second tier of registration is consultant quantity surveyors (CQS). A PQS is eligible to register as a CQS once passing the further test. Both PQS and CQS are qualified to practise the basic works of quantity surveyors such as sign of documents and payment. However, there is only CQS being qualified to open a firm. A Sr. (surveyor) title will be given to quantity surveyors who are registered with the board (BQSM, 2015).

2.4.5.2 Behavioural Competencies

Apart from technical competencies, professional quantity surveyors must have interpersonal soft skills in order to survive in the competitive environment. Schulz (2008) proved that the technical skills are ineffective without soft skills. There are some vital behavioural competencies should be possessed by quantity surveyors being studied at previous researches (Shafie, Khuzzan and Mohyin, 2014; Hassan, et al, 2011). The competencies include communication skills, critical thinking, adaptability to job, discipline, professional ethics, work independently and teamwork.

Behaviour competencies act as the yardstick to evaluate the performance of quantity surveyors in terms of attitude and soft skills. Quantity surveyors who have excellent behavioural competencies are easier to succeed at either career or personal development. They are favoured by client as they have the abilities to perform the work in a healthy and harmony environment and thus achieve the client needs and satisfaction (Ogbu, 2015; Yankah, 2015; Adesi, Owusu-Manu, 2018; Frei, Mbachu & Phillips, 2013; Musa-Haddary and Olanyi, 2015; Ogbu, 2017).

2.4.5.3 Co-development and Partnership Agreements

A successful project requires the combined discipline from all parties such as client, consultant, contractor, and developer. However, communication and interpretation gaps appeared between the parties due to the fragmentation of work during the construction process (Crespin-Mazet and Ghauri, 2007). Therefore, partnership procurement and co-development exercise are suggested for client and consultant who wish to shorten the gaps and encourage integration and collaboration between the parties (Love, 2000).

Co-development is different from the partnership agreements even though both approaches emphasize the cooperation between client and consultants. For codevelopments, consultants have full right and control to the decisions of design. Clients are the participants who monitor and advise works of consultants during the design stage. As a result, consultants can more understand and accomplish the client's needs (Crespin-Mazet and Ghauri, 2007; Garel and Midler, 2000).

On the other hand, partnership agreement is the procurement strategy which allowed two or more parties managing the project or business together to their mutual advantage. The parties shared the profit and liabilities of the business. In Malaysia, partnership is one of the procurement strategies being widely adopted by construction stakeholders apart from traditional procurement (Rahman, Memon and Zulkiffli, 2014). Partnership is believed to strengthen the relationship between client and consultant as the parties able to create trust and good faith to each other (Owusu-Manu, et al, 2015). Since there is a healthy relationship between the parties, it will bring plenty of benefits such as cost and time effectiveness of project and improvement in quality and productivity (Owusu-Manu, et al, 2015).

2.4.6 Professional and Client Relationship

According to Policy Publications (1997) in USA, person-to-person relationship with potential client is one of the most significant factors in winning a project. Every consultant is responsible in managing client relationships in order to compete with other consulting firms (Barca, 2016). There are few attributes to guide QS consulting firms in building effective client-consultant relationships.

Firstly, QS consulting firms must have a constant communication with their clients (Barca, 2016). It is because there is a knowledge gap between the consultant and client. Consultants need to understand the client expectation. On the other hand, client should let the consultant know about their expectations. Thus, both client and consultant should share their views to develop the relationship during early stage of a construction project. Through the communication, consultant quantity surveyors are able to understand client's needs and thus meet to their expectations effectively. Secondly, there must have trust between the client and consultant (Johnson, 2017). Mutual trust allows stronger and longer client-consultant relationship. Besides, trust is also able to resolve the conflict occurred during the construction process. Once the relationship and trust had been established, both client and consultant should manage and maintain the relationship (Johnson, 2017). QS consulting firms can gain with strong relationship with clients because the client is more confidence to the services provided by the trusted consulting firms.

2.5 Conceptual Framework of Competitive Strategies

This study further develops the framework by adding the suitable competitive strategies that can be adopted by the QS consulting firms (see Figure 2.4). Previous studies (Table 2.1) were reviewed and a list of relevant competitive strategies was identified. The integration of Porter's 3 generic competitive strategies and 5P's



marketing mixes clarified the approaches and practises involved when adopting the competitive strategies.

Figure 2.4 : Conceptual Framework of Competitive Strategies

Firstly, QS consulting firms can focus on "people" dimension through enhancing the technical and behavioural competencies of professional consultants quantity surveyors. Besides, the "people" dimension focuses in maintaining the professional and client relationship between professional and encouraging QS consulting firms to practise co-development and partnership agreement with client. Secondly, the competitive strategies included in "promotion" dimension are advertising, public relations, branding and rebranding. Next, the locations of firms, geographical expansion and networking are included in "place" dimension. Furthermore, in "price" dimension, cost effectiveness and flexible payment options are identified in this dimension. Lastly, in "product" dimension, quantity and quality of services delivered by quantity surveyors, additional services, time frame for producing service and client's satisfaction are discovered as competitive strategies to be adopted by QS consulting firms.

No	Parameters	Previous Studies										
		Ogbu (2015)	Yankah (2015)	Yankah and Dadzie (2015)	Schieman and Mlambo(2016)	Adesi, Owusu-Manu (2018)	Frei, Mbachu, and Phipps (2013)	Musa-Haddary, and Olaniyi(2015)	Owusu-Manu, Badu, Yeboah , Darko (2015)	Nnadi, Okeke, and Alintah-Abel (2016)	Ogbu (2017)	Low and Kok(1997)
1	Product											
a)	Quantity and Quality of Basic											
	Quantity Surveyors' Services	V		✓	✓	V	•	✓		V	V	V
b)	Additional Services	\checkmark	\checkmark	\checkmark	\checkmark						\checkmark	
c)	Time Frame for Producing					✓	~					\checkmark
	Services					•	•					•
d)	Client Satisfaction	\checkmark	√								\checkmark	\checkmark
2	Promotion											
a)	Advertisements	\checkmark	\checkmark	\checkmark	\checkmark					\checkmark	\checkmark	\checkmark
b)	Public Relations		\checkmark	\checkmark				\checkmark	\checkmark		\checkmark	\checkmark
c)	Branding and Rebranding	✓	✓							√	\checkmark	√
3	Price											
a)	Cost Effectiveness	✓			\checkmark	\checkmark		\checkmark			,	√
b)	Flexible Payment Options	~									✓	\checkmark
4	Place											
a)	Location of Firms	✓			✓			✓	√	\checkmark	✓	\checkmark
b)	ICT and Networking	√		\checkmark	\checkmark	\checkmark		\checkmark	,		√	
c)	Geographical Expansion	✓							~		✓	
5	People											
a)	Technical Competencies	√	✓	\checkmark		✓	√	√	,	,	√	\checkmark
b)	Behavioral Competencies	\checkmark	\checkmark			\checkmark	\checkmark	√	√	\checkmark	\checkmark	
c)	Co-Development and	\checkmark	✓						✓		\checkmark	
	Partnership Agreement											
d)	Professional and Client				\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
	Relationship											

Table 2.1 : Literature Map of Parameter of Competitive Strategies

2.6 Chapter Summary

In a nutshell, this chapter presented the review for the competitive strategies that can be applied by QS consulting firm. The competitive strategies were investigated by reviewing the existing competitive strategies which is Porter's 3 generic strategies. The Porter's 3 generic strategies include cost leadership, differentiation and focus strategy. In each strategy, different marketing mixes are focused. There are 5 dimensions of marketing mixes included which are product, promotion, price, place and people (5P's). The approaches for each dimension had investigated and studied in detail. Last but not least, a conceptual framework of competitive strategies had developed.

CHAPTER 3

RESEARCH METHODOLOGY AND WORK PLAN

3.1 Introduction

In this chapter, the research method is studied and decided. Besides, a diagram of research flow is depicted to present the procedures of conducting the research. Moreover, the instrument used for quantitative data collection is determined. The method to determine the sampling is discussed in this chapter. Last but not least, the statistical tests used to analyse the data is discussed and identified.

3.2 Research Method

Research is a scientific and systematic study for relevant information on a specific area or topic. Research embraces the problem defining, hypothesis constructing, data collecting and analysing, conclusion formulating and the last examining the conclusion to validate the hypothesis (Kothari, 2004). There are 2 basic types of approaches to research which are quantitative approach and qualitative approaches. Both the approaches are described in details at following sections.

3.2.1 Qualitative Research

Quantitative research is associated with the numerical data and statistics. It is based on the positivity inquiry research method. Positivity method is a method of collecting the data based on observation through the experimental research. The data is obtained by using close-ended question. The data collected then analysed using statistical procedure (Fellows and Liu, 2015; Chua, 2012). In quantitative research, the theory is used as the support for entire study with the objectives to test the hypothesis and validate the theory.

The quantitative research brings advantages that the approach is controlled and standardized as the theory had been validated. The results from quantitative research are reliable and consistent. Furthermore, the quantitative findings are likely to be generalized to the whole population as a huge amount of sampling had been collected (Carr, 1994). However, there are few disadvantages for quantitative research. Since the definition of theories for the topic is predetermined in the quantitative research, it had restricted a deeper exploration of underlying theories and explanations (Denzin & Lincoln, 2011). Another limitation of quantitative research is that the positivity of quantitative research does not take account to the factors such as human perceptions and life experiences when analyzing the variable. The quantitative research is unable to explore on what factors that caused the sampling be distinguished to each other (Blaikie, 2007).

3.2.2 Qualitative Research

Qualitative research is an interpretive research approach which exploring and understanding the perspective and opinions of each individual to the phenomenon (Creswell, 2009). Qualitative research always being adopted when the numerical data collected from the quantitative research are unable to demonstrate the occurrence of the issue. Therefore, there is a need to collect qualitative data to ensure the accuracy of the findings. The belief, understanding, opinion and view of an individual are being investigated in the qualitative research (Fellows and Liu, 2015). Qualitative data is collected through the open-ended interviewing and in-depth observations. After data collection, the data is analysed and interpreted on the opinion of individual from the data collected (Creswell, 2009).

There are some advantages of using qualitative approaches in the research. Qualitative researches can generate the findings which have a detailed description based on the respondent's opinions and viewpoints. Qualitative research considers the factors such as human experiences and perceptions that able to influence the findings (Denzin and Lincoln, 2002). The data collected is subjective and detailed as there are more information and point of views being shared during the face-to-face interview that conducted in qualitative research. Furthermore, the qualitative research is flexible as the research design can be built and recreated to a more noteworthy degree (Maxwell, 2012). However, the shortcoming of qualitative approaches is that a small amount of data can be collected through the interview. The smaller size of sampling may not able to achieve the generalization to the whole population of research (Harry and Lipsky, 2014). Besides, the reliability of result cannot be guaranteed as the qualitative data is subjective. Moreover, the qualitative research is complicated and time consuming to collect and analyze the data (Flick, 2015).

3.3 Justification of Selection

In this research, quantitative method was selected as a suitable method to achieve the research objectives. The main objective of this research is to develop a competitive strategies framework that can be referred by Quantity Surveying (QS) consulting firms. The quantitative approach was selected because a huge numerical data is required to be collected to obtain the preferences of respondents on different competitive strategies. A huge amount of quantitative data can be gathered by using the questionnaire surveys. The questionnaire survey can be distributed to many respondents at the shorter time. After the data collected, the numerical data can be analyzed in an effective way by using the Statistical Package for the Social Sciences (SPSS). In this research, a huge amount of respondents are targeted to evaluate the competitive strategies parameters that can be adopted in QS consulting firms in Klang Valley. The perceptions from large samples are able to represent the perceptions of the whole populations.

A qualitative research method is less suitable for this research. This is because it takes time to conduct the interview if large amount of responses are needed. The research intended to develop the competitive strategies framework for the reference of QS consulting firms. Therefore, there is need of different perspectives toward the adoption of competitive strategies from plenty QS consulting firms. It is difficult and takes time to collect the opinions from each respondent through interview method. This will result to little amount of data collected from respondents and the results obtained are unable to generalize to the whole populations.

3.4 Research Flow

Figure 3.1 illustrates the phases during the research process. There are 8 phases of research process that carried out in this research. The research process is modified from the Kothari (2004) and customized based on this research. The research objective may be achieved during the research process.

Phase 1	Problem Definition	<u>Objective 1</u> To identify parameters of			
Phase 2	Literature Review	applied by the QS consulting firms			
Phase 3	Research Design				
Phase 4	Sampling Determination				
Phase 5	Data Collection	Objective 2 To evaluate parameters of			
Phase 6	Data Analysis	competitive strategies that can be adopted by the QS consulting firms			
Phase 7	Framework Development	<u>Objective 3</u> To propose a competitive strategies framework that can be referred by the QS consulting firms			
Phase 8	Report Writing				

Figure 3.1 : Research Flow (Source: Kothari, 2004)

The **phase 1** of the research is defining the research problem clearly and precisely. At the beginning of the research, the area of topic interested was decided. After the topic is decided, the previous cases or incidents related to the topic are investigated in order to highlight the research problem. Next, a solution is examined before setting up the research problem to ensure the feasibility of studies (Kothari, 2004). After the research problem is formulated, a review of literature is undertaken at **phase 2**. The concepts and theories about the existing competitive strategies in the industry are discussed which include Porter's 3 generic strategies and 5P's marketing mixes. The secondary sources of literatures are the majority used in the literature review. The secondary sources include journals, books and publications. Through the research problem identification and literature review, the first research objectives is achieved which aimed to identify parameters of competitive strategies that can be applied by the QS consulting firms.

The **phase 3** of research is research design. A suitable design of research is very important in order to obtain the data and achieve the research aim. During the

research design, the research flow is constructed to describe how the research will be conducted. There are a few considerations during the process of research design. The considerations include the method of acquiring information, the skills of researcher, the duration for research and the financial allowance for the research (Kothari, 2004). In this research, the non-experimental research design is selected. Next, **phase 4** is the sampling determination. A sample size is designed from the populations of respondents before collecting the data. The sample size is depending on few factors include the research objective, size of populations, and margin of sampling error. An excellent selection of sample is able to represent the populations and achieve the reliability of result for the research (Sarmah and Hazarika, 2012). In this research, the simple random sampling procedure is applied to select the sample. There are total 146 samples of QS consulting firms from the total populations of 230 firms.

Phase 5 is data collection. The method of data collection influences to the result of the surveys. In this research, the questionnaire survey is used to collect the data. In majority, the questionnaires are distributed to the respondents by using email. The respondents were allowed to fill the questionnaire in order to secure the privacy of respondents. After the data are collected, the data analysis is conducted at **phase 6**. Few relevant and suitable tests are chosen and conducted at this phase. The results are presented in table. Previous literatures are used to support and justify the results in discussion session.

A conceptual framework of competitive strategies for QS consulting firms in Klang Valley is produced at **phase 7**. The framework is designed by including a list of competitive strategies parameters after literature review and data analysis. Last but not least, the **phase 8** of the research is report writing. The report is presented at a level of quality standard. The presentation of the report should be tidy and precise. Besides, the report should have a clear coverage of all relevant aspects that required. There should not have obvious mistake and typing error in the report.

3.5 Data Collection Approach

The quantitative methods applied in the research can be designed by focusing either the experimental design or non-experimental design. The experimental research design aims to test the impact of an intervention of theory or treatment to an outcome. The experimental design is less suitable for this study because the experimental research is carried out within the laboratory and suitable for scientific research (Surbhi, 2016). As a result, the non-experimental research design is applied to represent the survey design. A survey design is popular as it possesses plenty of advantages. A survey design is able to help the researcher to collect and analysis the data easily and quickly (Chua, 2012). The sampling of survey design is wider range compared to experimental design. The survey design is suitable in field research to examine the effectiveness of a programme (Surbhi, 2016). The survey design is able to fit the objective of this research which is to evaluate the applicable competitive strategies for QS consultant firms by collecting a huge amount of perceptions from respondents.

3.6 Quantitative Data Collection

During questionnaire collection, the different modes of questionnaire administration will bring significant differences on the quality of data collected (Bowling, 2005). First, there is a must to obtain the consent from respondents before the questionnaire being distributed. Therefore, it is important to contact the respondents and methods of contact such as letter, face-to-face contact, email and telephone communication. Next, the methods of distributing the questionnaire are significantly influencing to the quantity and quality of data collected and response rates from the respondents. The questionnaire can be delivered to respondents by hands, by telephone, by post or electronically such as email. Lastly, there are 2 approaches of administrating the questions of the survey. First is interview mode through verbal communication. The survey questions are asked to the respondents through face-to-face contact or telephone. Second is self-administration mode. The respondents need to answer and fill up the questions by themselves. There is no verbal communication between 2 parties.

3.6.1 Questionnaire Design

Firstly, there is a need to identify the steps to construct the questionnaire. There are 3 steps that should take into the consideration when design the questionnaire. First, the preliminary questions are identified from the literature review. Next, the preliminary questions should be categorized into few fundamental sections. The sections in the questionnaire refer to the research objective (Naoum, 2007).

Next, the types of questions include in the questionnaire are decided. There are 2 types of questionnaire questions which are open-ended questions and closed

ended questions. Open-ended questions allow the respondent to give their answers in completed and detailed words. However, most of the respondents cannot offer completed answer and thus increase the difficulty in data analysis. On the other hand, the close-ended questions provide convenience to researcher to analyse the data. This is because there are limited numbers of responses to be set by researcher in the close-ended questions. The disadvantage of close-ended question is the rigidity of close-ended question had constrained the answers from the respondents. Moreover, the question included in the questionnaire should be factual and fulfil to the objective of the study (Fellow and Liu, 2015).

In this research, the close-ended structured question is chosen to present the survey questions in the questionnaire. The respondents were given a few options to answer the questions. The questionnaire consists of three sections. Section A is designed to obtain the information of the QS consulting firms. The locations of firms and the numbers of employees were asked in this section. Section B is the respondent's profile. The respondents were requested to fill the information with regards to their job title in firms, years of experiences in construction industry and years of experiences in current firms. Multiple choices of options were provided for each question in both Section A and Section B. Section C composes of a list of competitive strategies parameters which served as dependent variable of this research. The relative importance of each competitive strategy parameter was evaluated in this section by the respondents. The questions in this section were designed using a five-point Likert scale where 1= strongly disagree, 2= disagree, 3= neutral, 4=agree 5= strongly agree. There were total 25 sub-parameters of competitive strategies to be evaluated by the respondents based on their perception.

3.6.2 Sampling Determination

Sampling is the process of selecting the individual from the populations to become the research respondent (Chua, 2012). The sampling process is important because this will affect to the quality of the research findings. If unsuitable samples had been chosen, unnecessary problems such as inaccuracy findings will be occurred.

Firstly, there is necessary to identify the population of the respondents in the study. The targeted population of respondents in this study is the QS consultant firm in the Malaysia. According to BQSM, there are total 356 QS consultant firms are registered in Malaysia (BQSM, 2018). The populations of QS consultant firms are

heterogeneous as there are few categories of firms in Malaysia such as the size and location of firms. Therefore, it is important to select the specify samples among the populations. In this research, the research respondents are focused to those consulting firms which are located within Klang Valley. As the result, 231 QS consulting firms which located in Selangor and Wilayah Persekutuan Kuala Lumpur are targeted to conduct the survey.

There are 2 types of sampling procedures which are probability and nonprobability sampling procedure. In this research, the probability sampling procedure is selected because all the samples in this study had possessed the characteristics of the populations. Among various types of the probability procedure, the simple random sampling procedure is used in this research (Chua, 2012). For simple random sampling procedure, the Slovin's formula is used to calculate the sampling size (n)given the population size (N) and a margin of error (e). The Slovin's formula is computed as Equation 3.1 (Sevilla, et al., 1992):

$$\mathbf{n} = \frac{N}{(l+Ne^2)} \tag{3.1}$$

Where,

n = sampling size N = population size e = margin of error

The population size for this research is 231 QS consulting firms which located within Klang Valley, Malaysia. According to Hunter (2012), the industry standard of confidence level should be 95 %. Therefore, the margin error is 5%. Thus, the sampling sizes for this research are computed as 146 QS consulting firms based on the equation.

3.6.3 Questionnaire Distribution

After designing the questionnaire and the determination of sampling size, the questionnaires were distributed to the targeted respondents by emails. The questionnaires were created by using Google Form. The surveys were embed as hyperlinks and attached in the email with a formal cover letter that highlighting the objectives of research. The questionnaires were distributed to the respondents who are working in the QS consulting firms in Klang Valley, Malaysia. Respondents are

given around 2 weeks to answer the questionnaires. A gentle reminder was sent after 2 weeks if no response from the respondents. The online email surveys tends to have higher response rates compared to paper surveys as the respondents require little effort to answer. Respondents were given freedom in filling out questionnaire at anytime and anywhere through various ways include mobile devices, laptops and tablets (Kierczak, 2018). The data collection for this study is around 5 weeks.

3.7 Data Analysis

A few analytical software packages can be used in quantitative data analysis such as Microsoft Excel and SPSS (Research Methodology, 2018). In this research, SPSS software will be used to analyse quantitative data.

There are various numbers of statistical tests that can be performed by using SPSS. The statistical tests are categorized into 2 major types which are parametric test and non-parametric test. Parametric tests are the test that made assumptions that the data are normally distributed. Parametric tests often used when there is no skewed data or outliners. Besides, the parametric tests are suitable for a larger sample size which more than 30 (n>30) (Marshall and Boggis, 2016). Since there is a larger size of sampling, there is easier to detect the differences and relationship between the independent groups. Examples of parametric tests are t-tests, Analysis of Variances (ANOVA) and regression. On the other hand, non-parametric tests make no assumptions on the distribution of data. Non-parametric tests are encouraged to use when there is a smaller sample size because it is difficult to detect the differences and normality. The examples of non-parametric tests are Mann-Whitney test and Kruskal-Wallis test (Marshall and Boggis, 2016). In this research, three (3) statistical tests were chosen and carried out which include arithmetic means, Cronbach's Alpha (α) Reliability Coefficient and Kruskal-Wallis test.

3.7.1 Cronbach's Alpha (α) Reliability Coefficient

Cronbach's Alpha is used to measure the reliability or internal consistency of data. This test is commonly applied when Likert scale is used in the questionnaire. Theoretically, the result computed from Cronbach's alpha test will range from 0 to 1. According to rule of thumb of Cronbach's Alpha as depicted in Table 3.1, the result of above 0.70 is considering good and this can prove the data from the Likert scale is reliable (Statistics Solutions, 2019; Stephanie, 2014).

Cronbach's Alpha is computed by compared the score from each scale of Likert scale with the total score for each respondent. Next, the score is taken out to compare with the variance of each item score. The formula of Cronbach's Alpha is computed as follows:

$$\alpha = \frac{N \,\mathrm{x}\,\bar{c}}{\bar{v} + (N-1)\,\mathrm{x}\,\bar{c}} \tag{3.2}$$

Where,

N = number of scale items

 \bar{c} = average of all covariances between items

 \bar{v} = average variance of each item

Table 3.1 demonstrates that how the internal consistency is described based on the rule of thumb in interpretation of result. The greater Cronbach's Alpha value indicates that the higher of the internal consistency of items in the test. The items in the test are highly correlated (Stephanie, 2014).

Table 3.1 : Description of Internal Consistency based on Rule of Thumb ofCronbach's Alpha (Source: Stephanie, 2014)

Cronbach's alpha	Internal consistency
$0.9 \le \alpha$	Excellent
$0.8 \le \alpha < 0.9$	Good
$0.7 \le \alpha < 0.8$	Acceptable
$0.6 \le \alpha < 0.7$	Questionable
$0.5 \le \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

3.7.2 Arithmetic Means

Arithmetic means is the easier and most commonly used method to measure the central tendency. The central tendency is the statistical measure that works out the means which denoted to the whole distribution (Manikandan, 2011). It is suitable to be used for both discrete and continuous data. In this research, the measure of central tendency is carried out to calculate the means of each competitive strategy. The means are thus ranked accordingly in order to examine the relative importance of each competitive strategy ranked by the respondents from different size of QS

consulting firms. The arithmetic mean is computed by summing up all the value in the data set and thus divided by the total numbers of observations.

The formula given for arithmetic mean is

$$\overline{x} = \frac{\sum x}{n} \tag{3.3}$$

Where,

 \bar{x} = Mean of an item

 $\sum x =$ Sum of an item

n = Total numbers of observations

3.7.3 Kruskal-Wallis test

The Kruskal-Wallis test is used to detect the differences in means of 2 or more independent variables on ordinal or continuous dependent variables. This is to determine whether there has any significance difference between different groupings of respondents.

In this research, Kruskal-Wallis test is used to analyze the data and evaluate according to the respective mean rank of different QS firm size towards the competitive strategies parameters. Kruskal-Wallis test allows the measurement of dependent variables which are the parameters of competitive strategies to be adopted by QS consulting firms at ordinal level which is Likert scales. Besides, Kruskal-Wallis test is used when there have 2 or more independent groups of variables. For this research, the independent variables are the 4 different sizes of QS consulting firms which include micro, small, medium and large firm.

There are two hypotheses formulated in order to detect the significance differences between the QS firms size. The null hypothesis, (H_0) indicates there is no significant difference between the groups whereas the alternative hypothesis (H_1) indicates there is a significant difference between the groups. The formula for calculating H-value is shown as below:

$$H = \left[\frac{12}{n(n+1)}\sum_{j=1}^{c} \frac{T_j^2}{n_j}\right] - 3(n+1)$$
(3.4)

Where:

n =sum of sample sizes for all samples,

c = number of samples,

 T_i = sum of ranks in the jth sample,

The calculated H-value is used to determine the hypothesis by comparing with the critical chi-square value. If the calculated H-value is less than the critical chi-square value, then the null hypothesis (H_0) is failed to reject. In vice versa, if the calculated H-value is more than the critical chi-square value, then the alternative hypothesis (H_1) is accepted. The critical chi-square value can be obtained by depending on the alpha value (p) and degree of freedom as tabulated in Table 3.2.

Degree of		P-value		
Freedom	0.10	0.05	0.025	0.01
1	2.706	3.841	5.024	6.635
2	4.605	5.991	7.378	9.210
3	6.251	7.815	9.348	11.345
4	7.779	9.488	11.143	13.277
5	9.236	11.070	12.832	15.086
6	10.645	12.592	14.449	16.812

Table 3.2 : Chi-square Table (Source: Vaughan, 2009)

3.8 Chapter Summary

Quantitative research approach was used for this research. Questionnaire survey was conducted to collect the quantitative data. The questionnaire was distributed through email. The simple random sampling method was adopted to decide the sampling. A total 146 sample of QS consulting firms Surveyors was selected as the targeted respondents of the questionnaire. Three (3) statistical tests were used which included arithmetic means, Cronbach's Alpha Reliability Coefficient and Kruskal-Wallis test. The statistical tests were performed by using SPSS software.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents and discusses the data obtained from questionnaire surveys. It begins with a summary of demographic background of respondents from Quantity Surveying (QS) consulting firms. Next, the data are analysed with the Cronbach's Alpha Coefficient Reliability method to verify the reliability of results. The arithmetic means of competitive strategies parameters are computed and ranked. Subsequently, Kruskal-Wallis Test is carried out to determine the significance relationship of competitive strategies parameter across different size of QS consulting firms. In the last part of the chapter, conclusion is drawn to provide a concise and comprehensive summary of result to the study.

4.2 Demographic of Respondents

A total of 230 sets of questionnaires had been distributed to QS consulting firms through email. The duration of collecting data was around 5 weeks which started from 8th February 2019 to 15th March 2019. There were only 51 sets of questionnaires returned. The response rate of survey was computed as 22 %. The data from survey was gathered and tabulated in Table 4.1.

Characteristics	Frequency (n)	Percentage (%)
Companies' Profile		
Location of firms		
Selangor District of Petaling	22	43.1
Federal Territory of Kuala Lumpur	15	29.4
Selangor District of Hulu Langat	6	11.8
Selangor District of Klang	4	7.9
Federal Territory of Putrajaya	2	3.9
Selangor District of Gombak	2	3.9
Number of Employees		
From 5 to 29 employees	24	47.1
Less than 5 employees	10	19.6
More than 75 employees	9	17.6
From 30 to 75 employees	8	15.7

Table 4.1 : Demographic of a Sample of 51 QS Consulting Firms

Characteristics	Frequency (n)	Percentage (%)
Respondents' Profile		
Respondents' Job Title		
Project Executive	27	52.9
Director	8	15.7
Team Leader	5	9.8
Quantity Surveyors	4	7.8
Senior Project Executive	3	5.9
Others	3	5.9
Associate Director	1	2.0
Technical Director	0	0.0
Year of Experiences in Construction Industry		
Less than 5 years	25	49.1
More than 20 years	10	19.6
11-15 years	8	15.7
6-10 years	4	7.8
16-20 years	4	7.8
Year of Experiences in Current Firms		
Less than 5 years	32	62.8
6-10 years	7	13.7
11-15 years	6	11.8
More than 20 years	4	7.8
16-20 years	2	3.9

Table 4.1 demonstrates the frequencies and percentages of QS consulting firms on various categories of characteristics. Firstly, the profiles of firms are investigated in the aspect of location and number of employees in the firms. The findings show that there are majority of the respondents (43.1%) are from QS consulting firms which located at Petaling Jaya, Selangor. The second highest frequency of the location of QS consulting firms is Kuala Lumpur (29.4 %). The next followed by Hulu Langat, Selangor (11.8 %) and Klang, Selangor (7.9 %). The frequencies of QS consulting firms located at Putrajaya and Gombak, Selangor are the lowest, which take up a percentage of 3.9 % each. In aspect of employees numbers in firms, there are almost half of the firms have a range of 5 to 29 numbers of employees, which are 24 firms among the 51 QS consulting firms (47.1 %). Next, there have 10 firms that have employees which less than 5 peoples (19.6 %), 9 firms that have more than 75 employees (17.6 %) and 8 firms that have a range of 30 to 75 numbers of employees (15.7 %).

After investigated the background of firms, the respondents' demographic information are examined which include respondents' job title, year of experiences in both construction industry and current firms. Among the 51 respondents, there are more than half of the respondents are working as project executives in the QS consulting firms, which are 27 respondents (52.9 %). The rest 14 respondents are worked in the position such as directors, team leaders, quantity surveyors, senior project executives and associate directors. Apart from the job title of respondents, the respondents' years of experiences in both the construction industry and current firms are investigated. In the aspect of respondents' working experiences in the construction industry, there are almost half of respondents who have the 5 years of experiences (49.1 %) and there are around 20% of respondents that involved in the construction industry for more than 20 years. The rest are the small portions of respondents who are working in the construction industry in a range of 6 to 20 years. In the aspect of respondents' working experiences in the construction industry, there have 32 out of 51 respondents (62.8 %) who are working less than 5 years in current firms. The next followed by the respondents who have 6-10 years of experiences in current firms (13.7 %). The rest of the respondents have more than 10 years of experiences in current firms.

4.3 Cronbach's Alpha Reliability Coefficient

By conducting the Cronbach's Alpha reliability test, it shows that value of Cronbach's Alpha is 0.895 based on the 25 sub-parameters of competitive strategies evaluated by QS consulting firms (refer Table 4.2).

Cronbach's Alpha	onbach's Alpha Cronbach's Alpha Based on Standardized Items	
0.895	0.900	25

Table 4.2 : Reliability Statistics of Competitive Strategies

The value of Cronbach's Alpha is used to measure the internal consistency in the survey. The higher of the Cronbach's Alpha value, the higher of the reliability of sampling from the respondents. The Cronbach's Alpha value of 0.895 is considered to be a good result which indicated that the data is reliable to be used for analysis purpose (Stephanie, 2014).

4.4 Arithmetic Means of Competitive Strategies Parameters

Table 4.3 depicts the codes and competitive strategies parameters that can be adopted by QS consulting firms. The parameters are classified into 3 levels. The first level is the 5 dimension (A to E) of marketing mix which includes product, promotion, price, place and product. The second level is 16 main parameters (A1 until E4) which correspond to each marketing mix. The third level is 25 sub-parameters (A1a until E4a) that are diversified from the 16 main parameters. The 25 sub-parameters of competitive strategies had been evaluated by the QS consulting firms through the questionnaire survey.

Code	Competitive Strategies
Α	Product
A1	Quantity and Quality of Basic Quantity Surveyors' Services
Ala	Offer full and completed professional QS basic services from preparation
	phase to post construction phase
A2	Additional Services
A2a	Provide additional QS services apart from basic services
A3	Time Frame for Producing Services
A3a	Practice time management to ensure the project can be delivered on time
A3b	Prepare monthly or quarterly work schedules/ progress reports to clients
A4	Client Satisfaction
A4a	Offer client-oriented services according to client's preferences
A4b	Collect feedback from clients
B	Promotion
B1	Advertisement
Bla	Use different types of advertising methods to increase firm's reputation or
	image
B1b	Use company website as platform to provide information to public
B2	Public Relations
B2a	Participates in the events to build good reputations
B3	Branding and Rebranding
ВЗа	Designs and creates products with company logo
B3b	Rebranding the products to grab attention from existing and new potential
	client
С	Price
C1	Cost Effectiveness
Cla	Apply value management process during the feasibility study of a project
Clb	Implement life cycle cost analysis (LCCA) during cost estimation.

Code	Competitive Strategies
C2	Flexible Payment Options
C2a	Accepts various payment options of consulting fees that can suit to client's
	preferences
D	Place
D1	Location of Firms
Dla	Choose the location of new firm closer to existing clients
Dlb	Choose the location of new firm closer to urban areas
D2	ICT and Networking
D2a	Use networking system or equivalent methods to share information with
	client
D2b	Adopt modern QS software to perform measurement and quantification
D3	Geographical Expansion
D3a	Have intentions to expand businesses
Ε	People
E1	Technical Competencies
Ela	Employ QS who have graduated from tertiary education of Quantity
	Surveying
Elb	Hire QS with professional titles such as Sr.
E2	Behavioral Competencies
E2a	Encourages and provide support for employees to attend training for self-
	development
E2b	Educate employees to have good attitudes and professional ethics
E3	Co-Development and Partnership Agreement
E3a	Allows the involvement of client during the design stage of a project
E4	Professional and Client Relationship
E4a	Builds trust and good faith with client

4.4.1 Mean Ranking of 5P's Marketing Mix

The means of 5P's Marketing Mix are ranked by overall and compared across the firm size. Firstly, the overall mean ranking of 5P's Marketing Mix is examined. Table 4.4 depicts the mean ranking of the 5P's marketing mix evaluated by QS consulting firms. The 5 dimensions of marketing mix include product, promotion, price, place and people. The higher rank of means indicates that the particular marketing mix is more preferred by QS consulting firms to apply in their firms' competitive strategies.

Code	Marketing Mix	Mean	Ranking
Α	Product	4.14	1
Ε	People	4.05	2
С	Price	4.03	3
D	Place	3.93	4
В	Promotion	3.69	5

Table 4.4 : Overall Mean Ranking of 5P's Marketing Mix

By referring to Table 4.4, the marketing mix "product" has the highest mean ranking (mean value = 4.14) among the 5 dimensions of marketing mix. Most of the respondents are strongly agreed that being professional and reputable QS consulting firms should be focused in delivering comprehensive services throughout the whole life cycle of a project and ensure the project to be completed within the time scope in order to achieve client's satisfaction. On the other hand, the lowest ranking of means is marketing mix "promotion" (mean value = 3.69). It showed that there is only a smaller group of respondents aware of the importance of advertisement and public relation to the growth of QS consulting firms in the construction parties put inadequate priority and attention to advertise their organizations (Yisa, et al., 1995). Next, the mean ranking of 5P's marketing mix are ranked and compared according to different size of QS consulting firms as illustrated in Table 4.5.

Firm Sizo	Micro		Small		Med	ium	Large	
FITII Size	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Product	4.15	1	4.02	1	4.13	1	4.46	1
People	4.03	2	3.98	3	4.04	4	4.28	2
Price	4.03	2	4.00	2	4.08	3	4.07	3
Place	3.80	5	3.91	4	4.09	2	3.97	4
Promotion	3.84	4	3.61	5	3.78	5	3.69	5

Table 4.5 : Mean Ranking of 5P's Marketing Mix by Firm Size

Undoubtedly, the means of marketing mix "*product*" is the highest ranking of 5P's marketing mix across all the firm sizes since it places at the first position at overall means ranking (refer to Table 4.5). It proves that the quantity and quality of services delivered by QS consulting firms is very essential regardless of the firm sizes. Among the 4 different sizes of firms, the large firms are the firms that pay the

most attention to the marketing mix "*product*". This is because the larger firms have higher corporate reputations in the industry while the responsibility is corresponding with the reputations of firms (Vitezić, 2011). Hence, a larger firm has a higher responsibility to offer the services that satisfy the clients' expectations.

On the contrary, the marketing mix "*promotion*" has the lowest mean ranking of 5P's marketing mix across all the firm sizes except micro size of firms. Most of the QS firms put the lowest priority to advertise their organizations compared to other strategies except micro firms. From the perspective of respondents from micro QS firms, they believe that the "*place*" have the least priority among the 5P's marketing mix. This can be deduced that the micro QS firms do not have sufficient resources such as financial and manpower to expand their services to different locations. They are more preferred to promote themselves and enhance their reputation in the particular market niche. Thus, the marketing mix "*promotion*" places at the 4th precedence in the viewpoint of micro QS firms.

4.4.2 Mean Ranking of Competitive Strategies Sub-Parameters

The means of 25 competitive strategies sub-parameters are ranked by overall and compared across the firm size. Firstly, the overall means of competitive strategies sub-parameters are tabulated in Table 4.6. The higher rank of competitive strategies sub-parameters indicates that the particular strategy is more preferred by QS consulting firms to apply into their firms' practices.

Code	Parameters of Competitive Strategies	Mean	Rank
A1a	Offer full and completed professional QS basic services	4.43	1
	from preparation phase to post construction phase		
A3b	Prepare monthly or quarterly work schedules/ progress	4.33	2
	reports to clients		
E4a	Builds trust and good faith with client	4.32	3
E2b	Educate employees to have good attitudes and	4.27	4
	professional ethics		
E2a	Encourages and provide support for employees to attend	4.18	5
	training for self-development		
C1b	Implement life cycle cost analysis (LCCA) during cost	4.16	6
	estimation.		
D2a	Use networking system or equivalent methods to share	4.16	7
	information with client		

Table 4.6 : Overall Mean Ranking of 25 Competitive Strategies Sub-Parameters

Code	Parameters of Competitive Strategies	Mean	Rank
D2b	Adopt modern QS software to perform measurement and quantification	4.16	7
A3a	Practice time management to ensure the project can be delivered on time	4.12	9
A4b	Collect feedback from clients	4.12	9
E1a	Employ QS who have graduated from tertiary education of Quantity Surveying	4.08	11
B2a	Participates in the events to build good reputations	4.04	12
C1a	Apply value management process during the feasibility study of a project	4.04	12
B1b	Use company website as platform to provide information to public	4.02	14
A4a	Offer client-oriented services according to client's preferences	3.96	15
D3a	Have intentions to expand businesses	3.96	15
C2a	Accepts various payment options of consulting fees that can suit to client's preferences	3.90	17
A2a	Provide additional QS services apart from basic services	3.88	18
E3a	Allows the involvement of client during the design stage of a project	3.80	19
D1a	Choose the location of new firm closer to existing clients	3.71	20
D1b	Choose the location of new firm closer to urban areas	3.69	21
E1b	Hire QS with professional titles such as Sr.	3.67	22
B1a	Use different types of advertising methods to increase firm's reputation or image	3.61	23
B3b	Rebranding the products to grab attention from existing and new potential client	3.41	24
B3a	Designs and creates products with company logo	3.39	25

Based on the Table 4.6, it shows that the top 2 mean ranking of competitive strategies parameters are categorized under marketing mix $\mathbf{A} = "product"$ which are $\mathbf{A1a} = "Offer full and completed professional QS basic services from preparation phase to post construction phase" and <math>\mathbf{A3b} = "Prepare monthly or quarterly work schedules/ progress reports to clients" with mean value of 4.43 and 4.33 respectively. This represents that most of QS firms have general awareness to deliver a quality and professional services within the time stipulated in order to achieve client's satisfaction and thus gain competitive in the industry.$

The parameter E4a = "Builds trust and good faith with client" is placed atthe third highest mean ranking among the 25 sub-parameters of competitivestrategies and at the same time, it placed the highest in marketing mix "people" with the mean value of 4.32. Trust is the catalyst in encouraging the cooperation and strengthening the relationship between clients and professionals (Patton & Jösang 2004). In the presence of trust, clients will have more confidence to the services offered and believe that the QS professionals have the intention to meet the client's needs and bring the project to success (Jaakkola & Halinen, 2006).

On the other side, the parameters of competitive strategies which placed at the lowest (mean value: 3.39) and second lowest position (mean value: 3.41) in the mean ranking of competitive strategies parameters respectively, which are B3a ="Designs and creates products with company logo" and **B3b** = "Rebranding the products to grab attention from existing and new potential client". Both the parameters are corresponding to the marketing mix $\mathbf{B} = "promotion"$ and the main parameter B3 = "Branding and Rebranding". The reason of why QS consulting firms tend to put less effort in managing the branding and rebranding of the organization is because they may face enormous challenges during the process of branding and rebranding. Belser and Klocek (2015) explained that the nature of professional firms is offering the services according to the client's needs. Commonly, the professionals will understand to the client's needs and thus design the services model according the needs. However, it will lead to an inconsistent of services delivered and ultimately lose the confidence from the client if the branding and rebranding are applied in the organization (Belser and Klocek, 2015). The application of branding and rebranding are not only influenced to the clients, but also influenced to the employees in the organizations. Most of the professionals in the QS firms have formed their own services delivering mode (Miller, 2015). It is difficult and time-consuming for them to adopt new working styles and new positioning of firms (Garcia, 2018). Therefore, most of the QS firms have low adherence to adopt the branding and rebranding in their firms.

Next, the means of 25 parameters of competitive strategies for different QS firm sizes are ranked and compared as depicted in Table 4.7. By referring to Table 4.7, it shows that the parameter A1a = "Offer full and completed professional QS basic services from preparation phase to post construction phase" has the highest mean ranking of the competitive strategies parameters for both micro and small firms, with the mean value of 4.60 and 4.29 respectively. On the contrary, the highest mean ranking of the competitive strategies parameter for both medium and large firms is parameter A3b = "Prepare monthly or quarterly work schedules/ progress reports to

clients" with the mean value of 4.50 and 4.89 respectively. There is a difference among the different size of firms in term of the priority of competitive strategies. The differences can be inferred that smaller firms are able to provide a more comprehensive and specialized services to client compared to larger firms as they intended to get closer with the clients (Salaman, 2001). More projects are handling by the larger firms at the same time. Therefore, the larger firms put most attention and efforts in the preparation of work schedule and progress report which aimed to achieve the completion of project without delay.

Code	Micro		Small		Medium		Large	
Code -	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
A1a	4.60	#1	4.29	#1	4.38	3	4.67	3
A2a	3.90	16	3.92	12	3.63	21	4.00	16
A3a	4.00	14	3.92	12	4.38	3	4.56	6
A3b	4.10	6	4.17	3	4.50	#1	4.89	[#] 1
A4a	4.10	6	3.79	18	3.88	17	4.33	8
A4b	4.20	2	4.04	8	4.00	13	4.33	8
B1a	3.90	16	3.29	*25	3.63	22	4.11	14
B1b	4.00	14	3.88	16	4.25	7	4.22	12
B2a	4.10	6	3.96	11	4.25	7	4.00	16
B3a	3.70	21	3.46	23	3.25	*25	3.00	*25
B3b	3.50	*23	3.46	23	3.50	24	3.11	24
C1a	4.10	6	4.00	10	4.00	13	4.11	14
C1b	4.10	6	4.08	7	4.38	3	4.22	13
C2a	3.90	16	3.92	12	3.88	17	3.89	19
D1a	3.50	*23	3.67	21	4.00	13	3.78	21
D1b	3.50	*23	3.79	18	3.88	17	3.44	23
D2a	4.10	6	4.13	4	4.50	#1	4.00	16
D2b	4.10	6	4.04	8	4.00	13	4.67	3
D3a	3.80	19	3.75	20	4.13	10	4.56	6
E1a	4.20	2	3.92	12	4.13	10	4.33	8
E1b	3.70	21	3.58	22	3.63	22	3.89	19
E2a	4.20	2	4.13	4	4.13	10	4.33	8
E2b	4.10	6	4.13	4	4.38	3	4.78	2
E3a	3.80	19	3.88	16	3.75	20	3.67	22
E4a	4.20	2	4.25	2	4.25	7	4.67	3

Table 4.7 : Mean Ranking of Competitive Strategies Sub-Parameters by Firm Size

Notes = Code A1a to E4a (variables) refer to Table 4.3

[#] indicate the highest mean rank of competitive strategies parameters

* indicate the lowest mean rank of competitive strategies parameters

From the Table 4.7, it shows that the medium QS firms not only emphasizes to the preparation of work schedule and progress report (parameter **A3b**), but also focused to the application of networking system during the service delivery (parameter **D2a**). The parameters **D2a** and **A3b** have equal mean value of 4.50 and it ranked the first place in the mean ranking of 25 sub parameters of competitive strategies by firm size. By comparing to 3 other firm groups, the parameter **D2a** placed at the 6th, 4th and 16th position for micro firms, small firms, and large firms respectively. The reason of parameter **D2a** has the highest ranking for medium firm is due to the security threat in the networking. For a medium organization, there have a huge amount of data that stored in the networking such as client's profiles, project's information, confidential letter and financial statements. It will become abominable andbring risk to the large organization if the valuable data are stolen by hackers for their own benefit (Jayakody, 2018). The security threat brings less impact to the large firms as the large firms have more stable financial ability to bear the high cost for installing the firewall for networking.

For the micro QS firms, the parameters D1a = "Choose the location of new firm closer to existing clients", and D1b = "Choose the location of new firm closer to urban areas" have the lowest preferences for micro QS firms with the mean value of 3.50 equally) when adopting the competitive strategies into their firms. This might cause by the insufficient of financial and human resources for micro QS firms to expand their business in different locations. They are preferred to reinforce their quality of services and enhance the employees' competences as the small firms are more efficient in specialized services (Glassdoor Team, 2018). It can be proved by the mean ranking of the competitive parameters as shown in Table 4.8. The parameters include A4b= "Collect feedback from clients", E1a = "Employ QS who have graduated from tertiary education of Quantity Surveying", E2a = "Encourages and provide support for employees to attend training for self-development" and E4a = "Builds trust and good faith with client" have the second highest mean ranking among the 25 competitive strategies parameters.

From the Table 4.7, it identifies that both the parameters B3a = "Designs and creates products with company logo" and <math>B3b = "Rebranding the products to grab attention from existing and new potential client" place at lower position in the mean

ranking of the competitive parameters for all sizes of QS consulting firms. There is no significant difference on the mean ranking for both parameters B3a and B3b for all sizes of QS consulting firms. The parameter **B3a** places at the lowest position for both medium and large OS firms with the mean value of 3.25 and 3.00 respectively. Besides, the parameter **B3a** places at the second lowest position for both micro and small QS firms with mean value of 3.70 and 3.46 respectively). At the same time, the parameter **B3b** places at the lowest position for small QS firms (mean value of 3.50) and the second lowest position for the other 3 firm sizes (mean of small firms: 3.46; mean of medium firms: 3.50 and mean of large firms: 3.11). The reason of why branding and rebranding have the lowest adherence in all sizes of QS consulting firm is because the firms positioning are more important than the branding of firms for professional consulting services (Mlicki, 2012). In marketing term, branding is that how services offered by organization define the perception in the general customer market. However, positioning strategy in the firm emphasizes on how the firms develop their services according to specific market niche and how the services differed from other competitor's offering (Richards, 2016; Wahm, 2019). Positioning focuses in satisfy customer's demand.

4.4.3 Mean Ranking of Main Competitive Strategies Parameters

The mean of the 16 main parameters of the competitive strategies are computed by average the means of the corresponding sub-parameters. The means of 16 main parameters are ranked and tabulated as shown in Table 4.8.

Code	Competitive Strategies	Mean	Rank	Overall
				Rank
Α	Product			
A1	Quantity and Quality of Basic Quantity	4.43	1	1
	Surveyors' Services			
A3	Time Frame for Producing Services	4.23	2	3
A4	Client Satisfaction	4.04	3	7
A2	Additional Services	3.88	4	11
B	Promotion			
B2	Public Relations	4.04	1	7
B1	Advertisement	3.81	2	13
B3	Branding and Rebranding	3.40	3	15

 Table 4.8 : Mean Ranking of Main Competitive Strategies Parameters

Code	Competitive Strategies	Mean	Rank	Overall
				Rank
С	Price			
C1	Cost Effectiveness	4.10	1	6
C2	Flexible Payment Options	3.90	2	10
D	Place			
D2	ICT and Networking	4.16	1	5
D3	Geographical Expansion	3.96	2	9
D1	Location of Firms	3.70	3	15
Ε	People			
E4	Professional and Client Relationship	4.31	1	2
E2	Behavioral Competencies	4.23	2	3
E1	Technical Competencies	3.87	3	12
E3	Co-Development and Partnership Agreement	3.80	4	14

Table 4.8 depicts the mean ranking of 16 main competitive strategies parameters in overall and each marketing mix respectively. The top 1 competitive strategy parameter in overall mean ranking and mean ranking in marketing mix "product" is A1 = "Quantity and Quality of Basic Quantity Surveyors' Services" with the mean value of 4.43. This followed by parameter E4 = "Professional and Client Relationship" with the mean value of 4.31. Parameter E4 has the second highest ranking in overall mean ranking and the highest mean ranking in marketing mix "people. The other 3 competitive strategies parameters which have the highest mean ranking in each marketing mix are D2 = "ICT and Networking", C1 = "Cost Effectiveness" and B2 = "Public Relations" that place at the 5th, 6th and 7th position in overall mean ranking. On the other hand, the parameters B3 = "branding and rebranding" and D1 = "location of firms" have the lowest mean ranking in overall mean ranking mix.

4.4.4 Refined Competitive Strategies Framework

Figure 4.1 depicts the refined competitive strategies framework which modified from the preliminary competitive strategies framework that illustrated in Chapter 2 (refer to Figure 2.4). The modified framework integrates the arithmetic means of each competitive strategies parameter into the preliminary framework. The means of each marketing mix and competitive strategies parameter are computed and tabulated from to Table 4.5 and Table 4.8.



Figure 4.1 : Refined Competitive Strategies Framework

The refined competitive strategies framework consists of 5P's of marketing mix which include product, people, promotion, price and place and 16 competitive strategies parameters corresponded to each marketing mix. The arithmetic means of each marketing mix can be observed in the refined framework. It can show that marketing mix "product" has the highest mean value of 4.14 among the 5P's marketing mix. The next follow by "people" (mean value: 4.05), "price" (mean value: 4.03), "place" (mean value: 3.93) and the last marketing mix is "promotion" with the mean value of 3.69. Furthermore, the arithmetic means of each competitive strategies parameter can be observed in the refined framework. The competitive strategies parameters are arranged from the highest to lowest of mean value.

4.5 Kruskal-Wallis Test

The Kruskal-Wallis test is used to appraise the significant differences on the competitive strategies parameter by different sizes of QS consulting firms. In order to identify the significant differences between the different sizes of QS consulting firms, the critical chi-square is computed by examining the p-value and degree of freedom. The degree of freedom is computed by deducting 1 from the numbers of groups of sample size. There are 4 different groups of respondents being compared, thus the degree of freedom is figured as 3. On the other hand, the p-value is 0.05. Thus, the critical chi-square value is figured as 7.815 as shown in Table 4.9.

Degree of	P-value			
Freedom	0.10	0.05	0.025	0.01
1	2.706	3.841	5.024	6.635
2	4.605	5.991	7.378	9.210
3	6.251	7.815	9.348	11.345
4	7.779	9.488	11.143	13.277
5	9.236	11.070	12.832	15.086
6	10.645	12.592	14.449	16.812

Table 4.9 : Chi-square Table (Source: Vaughan, 2009)

As a result, the 2 hypotheses are formulated as follow:

Null hypothesis (H_o): If the H-value is less than 7.815, there is no significant difference across the QS firm sizes. The null hypothesis is failed to reject.

Alternative hypothesis (H_1): If the H-value is more than 7.815, there is a significant difference across the QS firm sizes. The alternative hypothesis is accepted.

Table 4.10 is the summary of the parameters which show the significance in the Kruskal-Wallis test towards the perception of competitive strategies parameters across different size of QS consulting firms which sorted to 4 main groups (Gp1= micro, n=24; Gp2= small, n=10, Gp3= medium, n=9, GP4= large, n=8).

Table 4.10 : Summary of Kruskal-Wallis test in SPSS on Firm Size

		Chi-	Asymptotic
		square	Significance
Α	Product		
<i>A3</i>	Time Frame for Producing Services		
*A3b	Prepare monthly or quarterly work	8.740	0.033
	schedules/ progress reports to clients		
D	Place		
D3	Geographical Expansion		
*D3a	Have intentions to expand businesses	8.437	0.038
E	People		
<i>E2</i>	Behavioral Competencies		
*E2b	Educate employees to have good attitudes	8.410	0.038
	and professional ethics		
Note:	* Indicates there is a significant difference	between the	group for each
parame	eter		
There are three competitive strategies are examined to have asymptotic significance that less than 0.05 and chi-square value that more than 7.815. The 3 competitive strategies include A3b = "*Prepare monthly or quarterly work schedules/ progress reports to clients*", D3a = "*Have intentions to expand businesses*", and E2b = "*Educate employees to have good attitudes and professional ethics*". The mean of the 3 competitive strategies are computed through Kruskal-Wallis test and further used to explain the differences on the perception across different size of QS firms. The means are tabulated as shown in Table 4.11.

Code	Competitive Strategies	Firm Size	Ν	Mean Rank
A3b	Prepare monthly or quarterly	Micro	24	[#] 19.80
	work schedules/ progress	Small	10	23.63
	reports to clients	Medium	9	29.06
		Large	8	*36.50
D3a	Have intentions to expand	Micro	24	22.75
	businesses	Small	10	[#] 22.69
		Medium	9	28.00
		Large	8	*36.67
E2b	Educate employees to have	Micro	24	[#] 20.85
	good attitudes and professional	Small	10	23.67
	ethics	Medium	9	27.31
		Large	8	*36.78

Table 4.11 : Mean Rank of Competitive Strategies Parameters on Firms Size

Notes = * indicate the highest mean rank of firm size on the respective competitive strategy

[#] indicate the lowest mean rank of firm size on the respective competitive strategy

Firstly, there is a significant difference of the perspectives between the large QS firms and micro QS firms onto the parameter A3b = "Prepare monthly or quarterly work schedules/ progress reports to clients". The mean values of large firms and micro firms are 36.50 and 19.80 respectively. It can be inferred that a larger firm will have more projects on-hands at the same time compared to a smaller firm. Besides, a larger firm has a greater responsibility in maintaining their reputations and corporate images. Therefore, there is crucial for large firms to prepare the work schedules in order to enhance the time management when the project execution. Moreover, the reporting of work schedules and working progress may facilitate the trust and

confidence from the clients and thus lead to career growth and increase of reputation (Kashyap, 2018).

The second competitive strategies parameter which has a significant difference of the perspectives between the QS firm is D3a = "Have intentions to expand businesses". The group of large QS firms has a mean value of 36.67 which is the highest rank while the group of small QS firms has a mean value of 22.69 which is the lowest rank. It can be deduced that a small firm does not have sufficient human resources for allocating to other locations. The average numbers of employees for a small firm is 5 to 29 employees. Moreover, a small firm may not have a stable financial status. Therefore, the business expansion is not a prime tactic for small firm to gain competitive in the industry. On the other hand, a larger firm has more intention to expand business as they have stable financial position and reputations in the industry. There will have a greater chance of making profit when large firms extend their business to several locations (Kokemuller, 2018). The large firm can gain competitive in the industry as the market niche is large.

Lastly, there is a noteworthy difference of the perspectives between the large QS firms and micro QS firms onto the parameter E2b = "Educate employees to have good attitudes and professional ethics". The mean values of large firms and micro firms are 36.78 and 20.85 respectively. The reasons of why the large firm are more emphasize on the attitude and ethics of employees as they need to maintain their corporate image and reputation in the industry. Since the large firms have a huge number of employees which more than 75 employees in the firms, it is difficult for human resources manager to supervise on the behavior and actions of each employee (Roberts, 2012). Besides, the large firms have sufficient resources to provide education and training to the employees. Therefore, the education of employees is an ideal competitive strategy to be adopting in the large QS firms.

4.6 Chapter Summary

This chapter had discussed comprehensively on the perception of the QS consulting firms towards the adoption of competitive strategies in their firms. A total 51 sets of questionnaire surveys were collected and used to analyze data by using the statistical tests include Cronbach's Alpha Reliability Coefficient, arithmetic mean, and Kruskal Wallis test. In order to develop a deeper understanding on the pattern from different group of respondents, all the respondent's demographic backgrounds were Through the arithmetic mean ranking among the 5 dimensions of marketing mix, the marketing mix "product" has the highest mean ranking across all the size of QS firms. On the other hand, the marketing mix "promotion" has the lowest mean ranking across all the size of QS firms except micro QS firms. The lowest mean ranking of marketing mix in micro QS firm is "place". Among the 25 competitive strategies parameters, the top three (3) of the competitive strategies are A1a = "Offer full and completed professional QS basic services from preparation phase to post construction phase", A3b = "Prepare monthly or quarterly work schedules/ progress reports to clients" and E4a = "Builds trust and good faith with client". On the other side, B3a = "Designs and creates products with company logo" and B3b = "Rebranding the products to grab attention from existing and new potential client" have the lowest and second lowest mean ranking respectively.

The outcome from Kruskal-Wallis test shown that there were 3 competitive strategies parameters found to have significant differences between the different sizes of firms. The 3 parameters include A3b = "*Prepare monthly or quarterly work schedules/ progress reports to clients*", D3a = "*Have intentions to expand businesses*", and E2b = "*Educate employees to have good attitudes and professional ethics*".

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This final chapter summarizes the overall chapters of the study. The chapter begins with the overview of the chapters to explain the research approaches in meeting the research objectives and the outcome of findings. Limitations of the research are acknowledged and recommendations for future research are suggested. Lastly, the contributions of research are highlighted.

5.2 Summary of Chapter

The globalization and technology advancement caused to the rapid evolution in all industries included construction industry. The evolution in the construction industry had made more clients in demanding a better and faster service from the consultants. The competitiveness among the firms are gradually increased. As an expert in costing during the project delivery, quantity surveying (QS) consulting firms have vital responsibilities to achieve the client satisfaction and expectation. At the same time, QS firms are needed to stay competitive with other rivals. Therefore, it is very important for QS firms to adopt competitive strategies into their firms. This research aimed to propose a competitive strategies framework that can be referred by QS consulting firms. The research objectives, research methodology and research scope were discussed in **Chapter 1**.

This research began with a review of literatures as discussed in **Chapter 2**. There were various parameters of competitive strategies which had been identified after reviewing the previous studies. Most of the studies were focused on either Porter's 3 generic competitive strategies or 5P's marketing mix adopted in QS consulting firms. There was lacking of study which integrated both the theories. Hence, this research intended to investigate the relationship between the Porter's 3 generic competitive strategies and 5P's marketing mix. Besides, the research focused in discussing on the competitive tactics which correspond to the 5P's marketing mix. There were 16 competitive strategies parameters being identified through literature review. A conceptual framework had been developed that listed out the parameters of competitive strategies.

Chapter 3 demonstrated the research flows in order to achieve the research aim and objectives. A quantitative method was chosen due to large number of responses needed. Questionnaire surveys were designed and distributed to 230 QS consulting firms. The total numbers of questionnaire returned from the respondents were 51 sets and the response rate generated was 22%. After the data gathering, there were 3 statistical tests carried out via Statistical Package for the Social Sciences (SPSS) to analyse the result, which include arithmetic means, Cronbach's Alpha Reliability Coefficients and Kruskal-Wallis test. Arithmetic means was computed to identify the precedence ranking of competitive parameters. The reliability and viability of data collected from the survey was tested by using Cronbach's Alpha reliability test and Kruskal-Wallis test was carried out to examine whether there is any significant difference between the different sizes of QS consulting firmson the competitive strategies parameters.

The findings of surveys were presented in **Chapter 4.** Firstly, the demographic backgrounds of respondents were analyzed and explained in detail. Next, the arithmetic means of competitive strategies parameters were computed. From the findings in arithmetic means, it showed that the strategy *"quantity and quality of basic quantity surveyors' services"* had the highest mean ranking among 16 competitive strategies parameters. In contrary, the strategies *"location of firms"* and *"branding and rebranding"* had the lowest mean ranking among 16 competitive strategies parameters. Furthermore, Kruskal-Wallis Test was conducted in this research. The findings from Kruskal-Wallis Test showed that there was a significant difference in term of competitive strategies parameters across different size of QS consulting firms.

Chapter 5 provided a summary to the whole research that included the chapter outline and overall findings in this research. Besides that, the limitations of research were identified to identify the problem and challenges faced during conducting the research. Besides, the recommendations were highlighted that served as an assistance to the future researches. Lastly, the contributions of research to both construction practices and body of knowledge were identified in the last part of this chapter.

5.2.1 Objective 1 – To Identify Parameters of Competitive Strategies That Can Be Adopted by Quantity Surveying Consulting Firms

The application of competitive strategies had been acknowledged as potential solution to assist QS consulting firms in gaining competitive advantage in their profession. Therefore, this research attempted to identify the competitive strategies parameters through the review of literature related to 5P's marketing mix. The parameters of competitive strategies that can be adopted by QS consulting firms were tabulated in Table 5.1.

 Table 5.1 : Summary of Competitive Strategies Parameters

Code	Competitive Strategies		
Α	Product		
A1	Quantity and Quality of Basic Quantity Surveyors' Services		
Ala	Offer full and completed professional QS basic services from preparatio		
	phase to post construction phase		
A2	Additional Services		
A2a	Provide additional QS services apart from basic services		
A3	Time Frame for Producing Services		
A3a	Practice time management to ensure the project can be delivered on time		
A3b	Prepare monthly or quarterly work schedules/ progress reports to clients		
A4	Client Satisfaction		
A4a	Offer client-oriented services according to client's preferences		
A4b	Collect feedback from clients		
В	Promotion		
B1	Advertisement		
Bla	Use different types of advertising methods to increase firm's reputation or		
	image		
B1b	Use company website as platform to provide information to public		
B2	Public Relations		
B2a	Participates in the events to build good reputations		
B3	Branding and Rebranding		
ВЗа	Designs and creates products with company logo		
B3b	Rebranding the products to grab attention from existing and new potential		
	client		
С	Price		
C1	Cost Effectiveness		
Cla	Apply value management process during the feasibility study of a project		
Clb	Implement life cycle cost analysis (LCCA) during cost estimation.		

Code	Competitive Strategies		
C2	Flexible Payment Options		
C2a	Accepts various payment options of consulting fees that can suit to client's		
	preferences		
D	Place		
D1	Location of Firms		
Dla	Choose the location of new firm closer to existing clients		
Dlb	Choose the location of new firm closer to urban areas		
D2	ICT and Networking		
D2a	Use networking system or equivalent methods to share information with client		
D2b	Adopt modern QS software to perform measurement and quantification		
D3	Geographical Expansion		
D3a	Have intentions to expand businesses		
Ε	People		
E1	Technical Competencies		
Ela	Employ QS who have graduated from tertiary education of Quantity		
	Surveying		
Elb	Hire QS with professional titles such as Sr.		
E2	Behavioral Competencies		
E2a	Encourages and provide support for employees to attend training for self-		
	development		
E2b	Educate employees to have good attitudes and professional ethics		
E3	Co-Development and Partnership Agreement		
E3a	Allows the involvement of client during the design stage of a project		
E4	Professional and Client Relationship		
E4a	Builds trust and good faith with client		

From Table 5.1, it showed that the competitive strategies parameters were classified into 3 levels. The first level is the 5P's marketing mixes which include product, promotion, price, place and people (A until E). The concept of 5P's marketing mix was proposed by McCarthy (1960) and further modified by Booms and Bitner (1981). Next, the second level is the 16 main parameters (A1 until E4) of competitive strategies which corresponded to each marketing mix. The third level is 25 sub-parameters (A1a until E4a) that were diversified from the 16 main parameters.

5.2.2 Objective 2 – To Evaluate Parameters of Competitive Strategies That Can Be Adopted by Quantity Surveying Consulting Firms

Objective 2 was achieved through distributing questionnaire surveys. The 25 subparameters of competitive strategies which identified from literature review were evaluated by the QS consulting firms in the survey.

The parameters of competitive strategies were ranked by using arithmetic means. Table 5.2 depicts the top 3 competitive strategies parameters among the 16 main parameters that ranked by QS consulting firms. There were 2 parameters (A3 and E2) ranked similar at third highest rank among the 16 main parameters of competitive strategies. On the other hand, the arithmetic means of 5P's marketing mix were ranked, which include product, promotion, price, place and people. The highest mean ranking of marketing mix is product. Contrary, the lowest mean ranking of marketing mix is promotion.

Table 5.2 : Top 3 Competitive Strategies Parameters

Code	Competitive Strategies	Rank
A1	Quantity and Quality of Basic Quantity Surveyors' Services	1
E4	Professional and Client Relationship	2
A3	Time Frame for Producing Services	3
E2	Behavioral Competencies	3

Besides, Kruskal-Wallis test revealed that 3 competitive strategies parameters were found across different sizes of QS firms. The 3 competitive strategies parameters include A3b = "*Prepare monthly or quarterly work schedules/ progress reports to clients*", D3a = "*Have intentions to expand businesses*", and E2b = "*Educate employees to have good attitudes and professional ethics*".

5.2.3 Objective 3 – Propose a Competitive Strategies Framework That Can Be Referred by Quantity Surveying Consulting Firms

A preliminary competitive strategies framework was constructed through the literature review as demonstrated in Chapter 2. After the data collection and analysis, a refined competitive strategies framework was thus developed as illustrated in Figure 5.1. The third objective of research was achieved. The competitive strategies framework in Figure 5.1 illustrated the relationships between the Porter's 3 generic competitive strategies (cost leadership, differentiation and focus strategy) and 5P's

marketing mix (promotion, people, price, place and product). Each marketing mix and competitive strategies parameters have its corresponding mean value and ranked accordingly.



Figure 5.1 : Refined Competitive Strategies Framework

5.3 Research Limitation

There are a few limitations identified during conducting the research. In this research, a total of 230 sets of questionnaires had been distributed to the respondents and 51 sets had returned. The response rate was computed as 22% which considered low. The low response rate will influence the results of Kruskal-Wallis tests.

Moreover, the proposed framework is unable to be verified by the professional practitioners in the construction industry. The validation of the proposed framework is time-consuming and it requires few cases studies to be conducted in order to examine the applicability of the framework in the construction industry especially for QS consulting firms.

Besides, quantitative data collection has a few limitations such as it only provides numerical descriptions rather than detailed elaboration as compared to qualitative data collection. Further, the respondents who answer the survey may not possess sufficient knowledge in competitive strategies adopted in the firms.

5.4 Recommendation

In order to solve the research limitations as discussed in the above subsection 5.3, few recommendations are proposed. The scope of research is recommended to be expanded in order to collect more data. The scope of the research should not limit to QS consulting firms which located in Klang Valley. In order to enhance the framework, more data can be collected across different states. Besides, the extent of research can be broadening across different professionals in the construction industry such as architect, contractors, and engineers. Different competitive strategies framework can be proposed for different professions.

Further studies can be conducted to validate the proposed competitive strategies framework. The validation of framework can be achieved through interviews, focus group discussion or case studies to confirm the applicability of the proposed framework in QS consulting firms. Besides, interviews can be conducted after identifying a list of competitive strategies from literature review. The purpose of conducting the interviews is to filter the existing strategies and ensure the applicable competitive strategies in Malaysia context. At the same times, it also allows more relevant competitive strategies to be identified from interview sessions which could not obtained from literature review. By adopting interview method, interviewees who are knowledgeable in this topic can be selected to ensure reliability of the data.

5.5 Contribution

The proposed competitive strategies framework provides a guideline for QS consulting firms when adopting the competitive strategies into the firms. By referring to the framework, QS firms can have a better understanding on the competitive strategies that corresponded to each marketing mix. Besides, relevant strategy either cost leadership, differentiation or focus strategy can be identified based on the firm sizes and availability of resources. Moreover, QS firms can establish the marketing mix that should be adhered to by referring to the ranking of the competitive strategies parameters. For example, QS firms can more concentrated to the marketing mix "Product" and "People" as both of them had higher mean ranking among the 5P's marketing mix. The ultimate contribution of the framework is to assist the QS firms to stay competitive with other competitors.

This research contributes a framework to the body of literature by integrating the existing theories which are Porter's 3 generic competitive strategies and 5P's marketing mix. The competitive strategies framework can be further improved by other researchers from different countries by adding more parameters of competitive strategies after considering the geographical, cultural and practice differences. Moreover, different competitive strategies framework can be proposed for different professions in the construction industry by refining the proposed framework.

5.6 Chapter Summary

The chapter had summarized the overall chapters and the way in achieving all research objectives. Besides that, the limitations of research were identified to analyze the problem and challenges faced during conducting the research. In order to resolve the limitations, there were few recommendations highlighted which benefited to the future researches. Lastly, the contributions of research were identified in the last part of this chapter.

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APPENDICES

APPENDIX A: Questionnaires

Section A: Firm Profile

Please tick ' \checkmark ' in the checkbox and fill in the information where appropriate.

Region / Location of Firm

- □ Federal Territory of Kuala Lumpur
- □ Federal Territory of Putrajaya
- □ Selangor District of Petaling
- □ Selangor District of Klang
- □ Selangor District of Gombak
- □ Selangor District of Hulu Langat

Number of Employees in Firm

- \Box Less than 5 people
- \Box From 5 to 29 people
- \Box From 30 to 75 people
- \Box More than 75 people

Number of Branches across Malaysia

- □ None
- \Box 1-2 branches
- \Box More than 2 branches

Number of Branches across international

- □ None
- \Box 1-2 branches
- \Box More than 2 branches

Years of Firm Operation

- \Box Less than 5 years
- \Box 5-10 years
- □ 10-15 years
- □ 15-20 years
- \Box More than 20 years

Section B: Respondent Profile

Please tick ' \checkmark ' in the checkbox and fill in the information where appropriate.

Respondent's Job Title

- Director
- □ Technical Director
- □ Associate Director
- □ Team Leader
- □ Senior Project Executive
- □ Project Executive
- □ Other, please specify _____

Years of Experiences in Construction Industry

- \Box Less than 5 years
- □ 6-10 years
- □ 11-15 years
- □ 16-20 years
- \Box More than 20 years

Years of Experiences in Current Company

- \Box Less than 5 years
- \Box 6-10 years
- □ 11-15 years
- □ 16-20 years
- \Box More than 20 years

Section C: Parameters of Competitive Strategies

Please tick ' \checkmark ' at the options which you agreed that it is a competitive strategy to QS consulting firm to apply into the business in order to survive in the construction industry

Str	rongly Disagree Neutral	Agree	e	Strongly			
Di	sagree			Agree			
1	2 3	4			5		
	Competitive Strategies		1	2	3	4	5
1	Offer full and completed profession	nal QS basic					
	services from preparation phase to pos	t construction					
	phase						
2	Provide additional QS services apart	t from basic					
	services such as risk management, arb	itration, asset					
	advisory and property taxation						
3	Practice time management such as pre-	oject planning					
	and project scheduling to ensure the I	project can be					
	delivered on time						
4	Prepare monthly or quarterly wor	k schedules/					
	progress reports to clients to update the	clients on the					
	project's progress						
5	Offer client-oriented services f	or example					
	personalize the contract according	to client's					
	preferable procurement method						
6	Collect feedback from clients to un	derstand their					
	actual needs and so that can improve fu	rther.					
7	Use different types of advertising	methods to					
	increase firm's reputation or	image such					
	as brochures, directories and trade publ	ications					
8	Use company website as platform	to provide					
	information to public						

9	Participates in the events such as conferences,			
	seminar, trade shows, and charity events to build			
	good reputations			
10	Designs and creates products with company logo			
	such as stationeries and notes books			
11	Rebranding the products such as changes of design			
	of logo or slogan to grab attention from existing and			
	new potential client			
12	Apply value management process during the			
	feasibility study of a project			
13	Implement life cycle cost analysis (LCCA) during			
	cost estimation.			
14	Accepts various payment options of consulting fees			
	such as lump sum basis, hourly basis, unit rate basis			
	or others that can suit to client's preferences			
15	If there is a chance to expand business in future,			
	choose the location of new firm closer to existing			
	clients who have good relationship with firms			
16	If there is a chance to expand business in future,			
	choose the location of new firm closer to urban areas			
	such as Kuala Lumpur and Petaling Jaya to obtain			
	more job opportunities and potential projects			
17	Use networking system or equivalent methods to			
	share information with client and other project			
	consultants to demonstrate the ability to update the			
	project team instantly.			
18	Adopt modern QS software such as Glodon, and			
	CostX to perform measurement and quantification			
19	Have intentions to expand businesses if there are			
	opportunities and stable financial performance.			
20	Employ QS who have graduated from tertiary			
	education of Quantity Surveying or other related			
	courses			

21	Hire QS with professional titles such as Sr.			
22	Encourages and provide support for employees to attend training for self-development			
23	Educate employees to have good attitudes and professional ethics			
24	Allows the involvement of client during the design stage of a project			
25	Builds trust and good faith with client			