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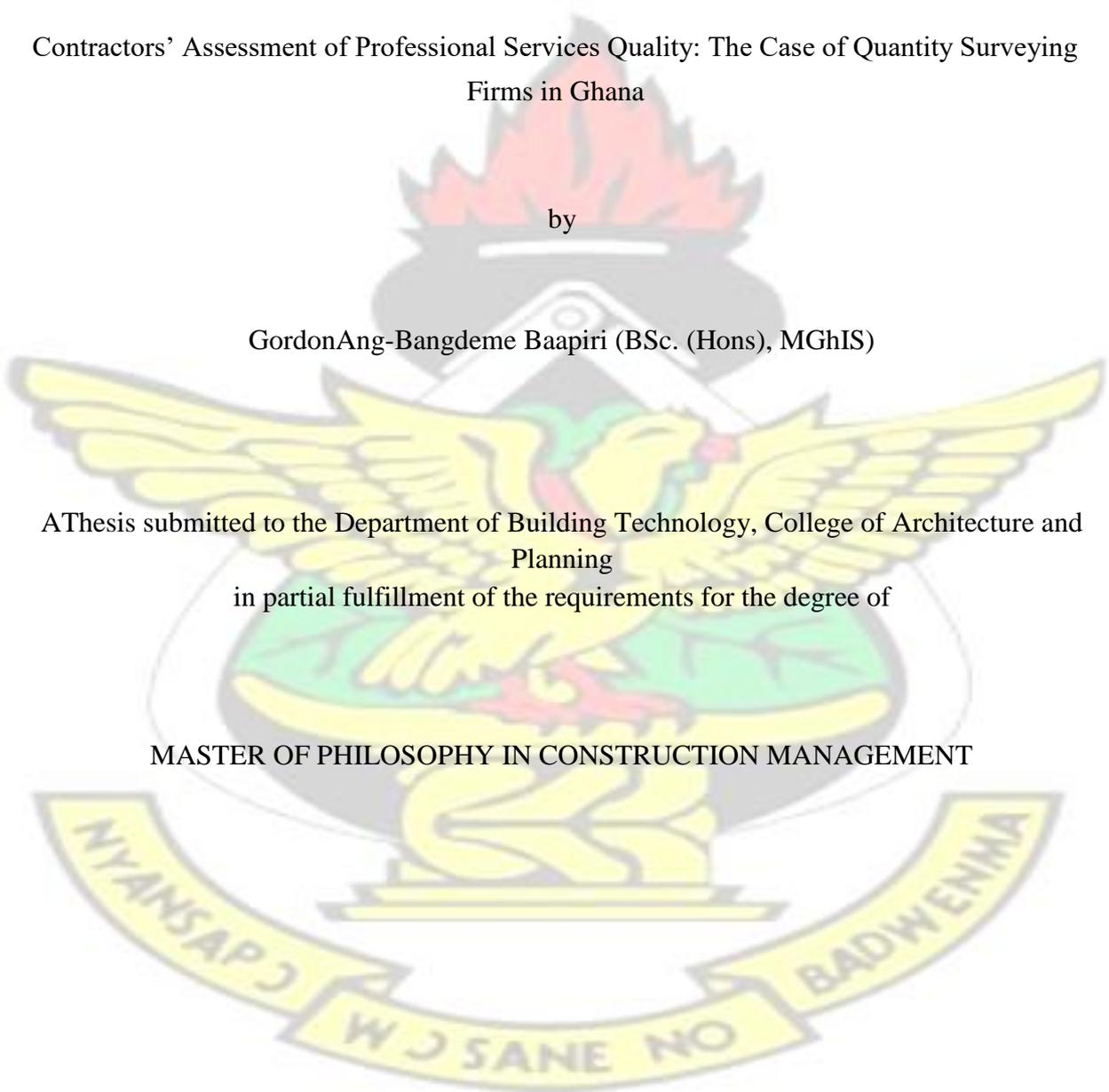
Contractors' Assessment of Professional Services Quality: The Case of Quantity Surveying  
Firms in Ghana

by

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A Thesis submitted to the Department of Building Technology, College of Architecture and  
Planning  
in partial fulfillment of the requirements for the degree of

MASTER OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT



OCTOBER, 2015

KNUST



## CERTIFICATION

I hereby declare that this submission is my own work towards the MPhil and that, to the best of my knowledge, it contains no materials previously published by another person, nor materials which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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## ABSTRACT

The subject of service quality has become a topical issue in many jurisdictions and industries largely due to its benefit of enhancing a firms' competitive advantage. In Ghana's construction industry, the professional quantity surveying service sector in particular, recent studies on perceived service quality in quantity surveying firms have often focused on the perspective other stakeholders in the industry. However, little emphasis is placed on contractors who are the direct beneficiaries of these services. This stems from the fact that contractors need the services of these professional firms on cost advice and other contract management related issues to ensure the physical realization of construction projects in this country. The development of guidelines for improving quality of services provided by professional quantity surveying firms based on contractors' service quality assessment was the main outcome of this study. This study adapted the use of the most widely utilized service quality measurement tool, SERVQUAL to assess contractors' expectations and perceptions of professional quantity surveying firm's service quality in the country. A mixed method research approach and a cross-sectional research design were adopted and the research found that, among the five differing dimensions of SERVQUAL framework; Reliability, Responsiveness, Assurance, Empathy and Tangibility, two dimensions (Responsiveness and Empathy) did not meet contractors' expectations in the Ghanaian construction industry. Based on the results, the study designed a guideline model for improving service quality in professional quantity surveying firms which featured two phases: the critical improvement phase and continuing improvement phase. This model formulated by the research was validated by Quantity Surveying experts who generally agreed with the overall construct of the model, content and logic.

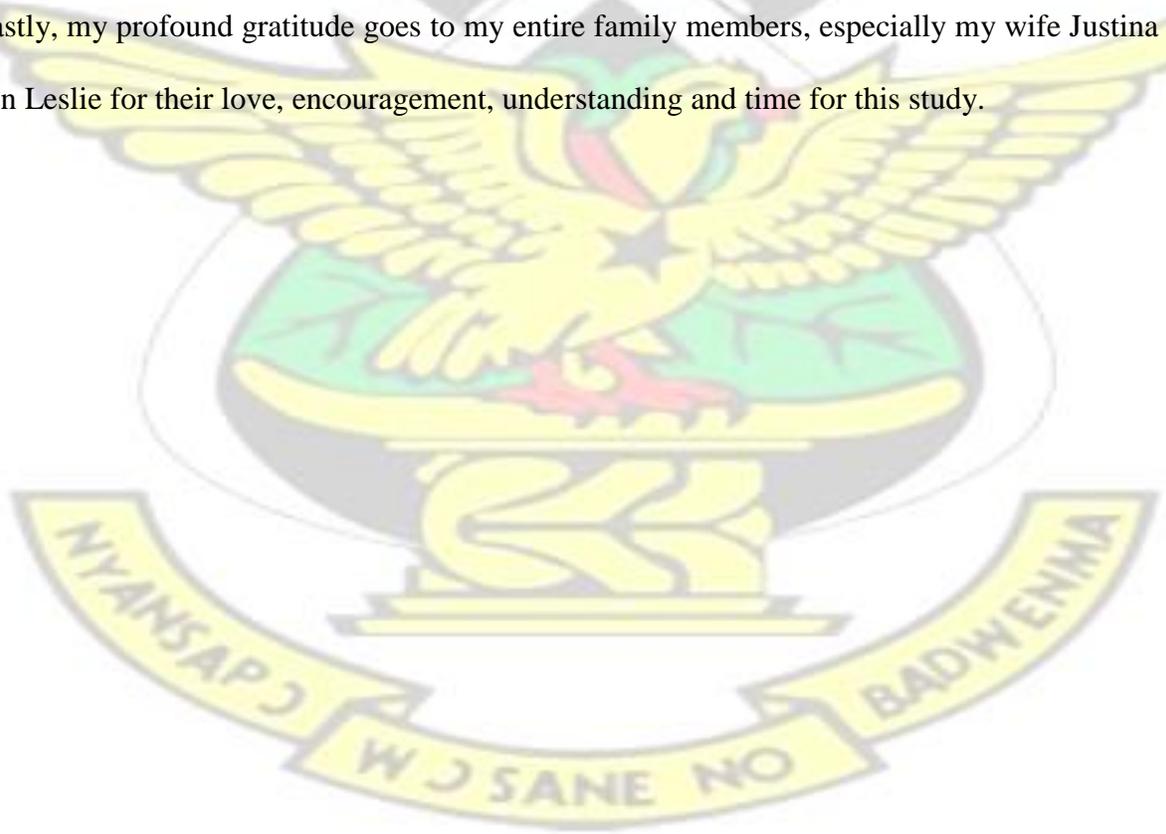
**Keywords:** Service Quality, SERVQUAL, Professional Quantity Surveying Firms, Contractors.

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## DEDICATION

This thesis is dedicated to all my family members and especially to my lovely wife Justina and son Leslie



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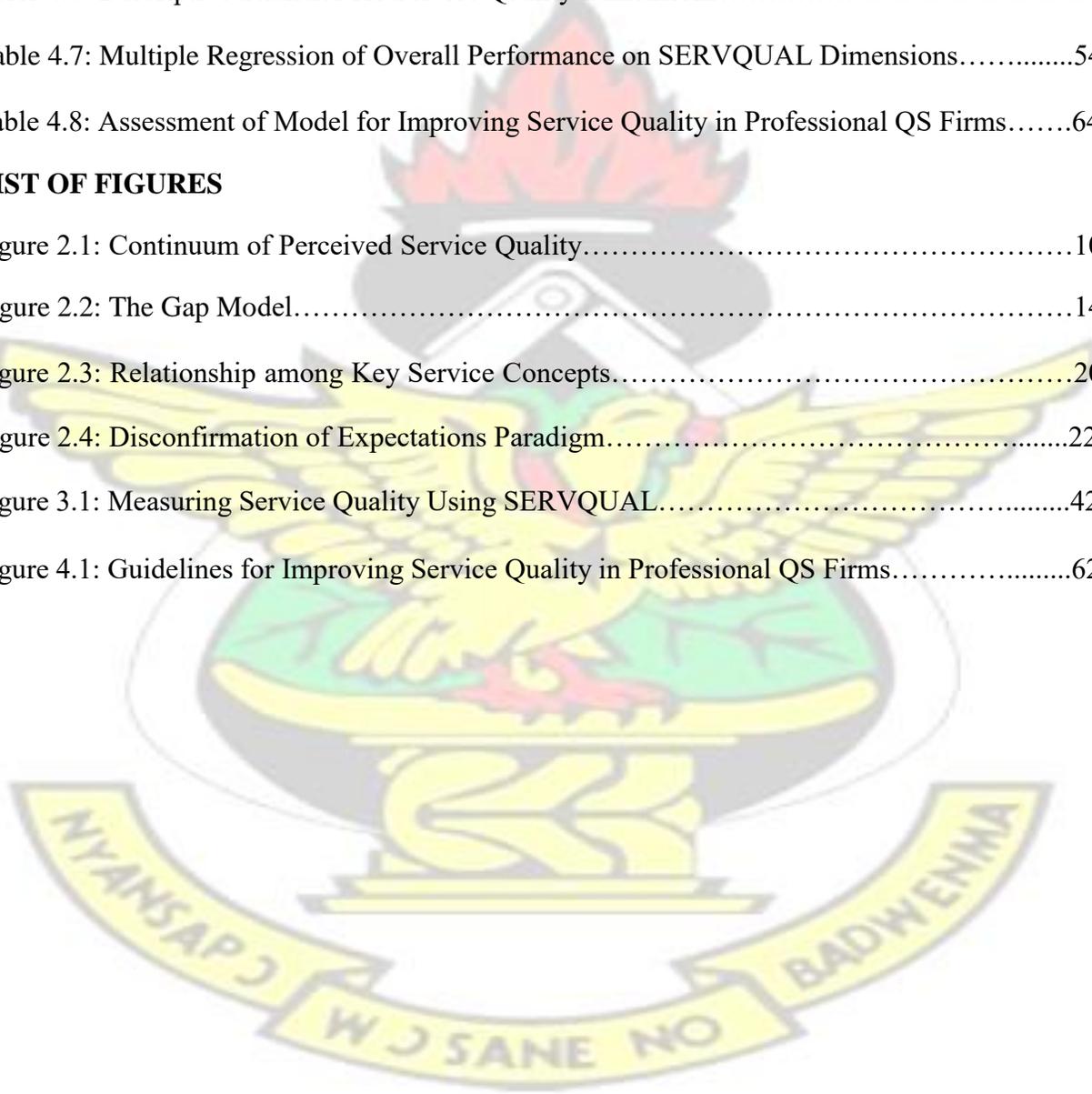
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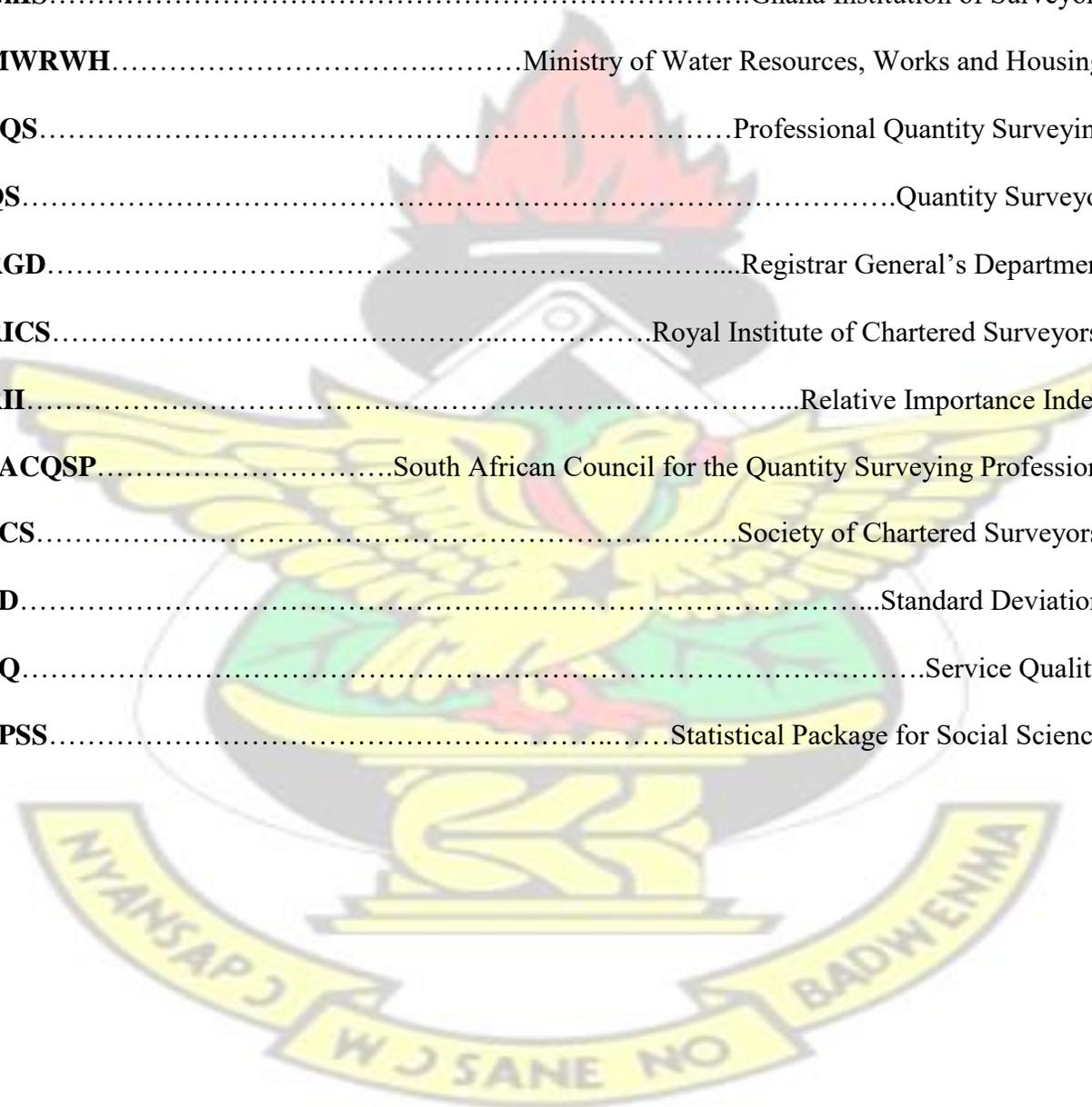
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## LIST OF ABBREVIATIONS



<b>FIDIC</b> .....	Federation Intertionale Des Ingenieurs-Conseils
<b>GCI</b> .....	Ghanaian Construction Industry
<b>GhIS</b> .....	Ghana Institution of Surveyors
<b>MWRWH</b> .....	Ministry of Water Resources, Works and Housing
<b>PQS</b> .....	Professional Quantity Surveying
<b>QS</b> .....	Quantity Surveyor
<b>RGD</b> .....	Registrar General's Department
<b>RICS</b> .....	Royal Institute of Chartered Surveyors
<b>RII</b> .....	Relative Importance Index
<b>SACQSP</b> .....	South African Council for the Quantity Surveying Profession
<b>SCS</b> .....	Society of Chartered Surveyors
<b>SD</b> .....	Standard Deviation
<b>SQ</b> .....	Service Quality
<b>SPSS</b> .....	Statistical Package for Social Science

## CHAPTER ONE

### GENERAL INTRODUCTION

#### 1.1 BACKGROUND OF THE STUDY

The landscape of the Ghanaian construction industry has experienced an upsurge in the numbers of professional services firms over the last decade largely due to a steady growth of the industry. Amongst this growing numbers are professional quantity surveying (PQS) firms who have become the main driving force in providing expert advice and professional solutions to clients both local and foreign alike. By definition, these are registered firms under the Quantity Surveying Division of the Ghana Institution of Surveyors (GhIS). They are often regarded as self-seeking and non-profit oriented (Hanlon, 1998) organizations who rely heavily on their expertise in performing their duties. The services rendered by these professional firms are tailored to meet the requirements of diverse client needs and demands (Nachum, 1999; Maister, 1993) in the built environment.

Undoubtedly, contractors in the built environment form a large chunk of the customer base of these PQS firms. Stemming from this, the expectations and perceptions held by these contractors with regards to service quality (SQ) as a result of their interactions with these firms greatly influence their attitudes. These attitudes to a large extent precipitate into either success or failures of developmental projects and the public image or branding of the particular professional firm concerned.

Meuter *et al.* (2000) pointed out that, customers of a particular service are more likely to engage in a positive word-of-mouth and repurchase when satisfied. A satisfied contractor is more likely to recommend the services of a particular PQS firm to others and would like to stay loyal. It is therefore not surprising that, every quantity surveying firm in Ghana

endeavors to exhibit a high sense of professionalism in their work in order to remain relevant in the industry.

Indeed, it has been that, the concept of professionalism as espoused in a particular firm revolves around character, status, standards and methods rather than laid down professional ethical knowledge and rules (Bell, 1990; Oates, 1993). As such professional firms are confronted with the challenge of making strategic decisions in order to remain competitive in business. Hence, the quality of decisions taken and services provided in solving a customer's problem (Bots and Bruijin, 2002) usually reflects the competence of the individual professional firm.

The definition of quality is subjective though, and may depend on a particular situation. (Cronin and Taylor, 1992; Oliver, 1993; Zeithaml et al., 1996) defined SQ as determining whether perceived service delivery meets, exceeds or fails to meet customer expectations. Parasuraman *et al.* (1988) also defines SQ as the degree and direction of discrepancy between the consumer's perceptions and expectations, or the extent to which a service meets or exceeds customer expectations. From both definitions, one can conclude that the degree of quality of service provided needs to meet the expectations of the customer at all times (Witt and Steward, 1996). The common ground however is that, once the customer is satisfied as a result of better quality service, relationship between the customer and the provider of the service will improve (Cronin and Taylor, 1992).

Ngai et al. (2002) has argued that, the construction industry is one of the main contributors towards a country's economy, often representing between 7-10 percent of its gross domestic product (GDP) value (Winch, 1995; Voordijk et al., 2000). According to UNHABITAT (2011), the Ghanaian construction industry (GCI) has seen some growth over the last decade,

expanding at a rate of 8.6% in 2008 and 9.3% in 2009, thus playing an important role to the economy through its contribution to gross national product (GNP). With this achievement, it is evident that contractors played a major role through the services of PQS firms in Ghana. However, despite these upward trends, the industry is still bedeviled with contract management problems often characterized by cost and time overruns and poor project implementation (see World Bank, 2003). This is largely blamed on the contractor arising from his/her functional role of ensuring the physical realization of the project. Non-performance that may result in delay or additional expenditure is often not budgeted for (Thomas et al., 1995 cited in Tuuli et al., 2007).

In recent times many of the studies on perceived SQ in quantity surveying firms have often focused on the perspective of other stakeholders in the construction industry with little emphasis on contractors who are the direct beneficiaries of these services. In the wake of all these management problems, literature is still silent on contractors assessment of the issue based on their perceptions and expectations regarding quality of service delivery by PQS firms in Ghana.

Indeed the main focus of this research is to investigate these perceived perceptions and expectations in order to develop guidelines for improving service quality in PQS firms based on contractors' quality assessment.

## **1.2 STATEMENT OF THE PROBLEM**

From the review presented above, it is evident that PQS firms by their nature owe it a professional duty to provide high quality services to contractors in Ghana. However, given recent contract management problems which are complemented by cost and time overruns

(see World Bank, 2003) and the corresponding challenges faced by the construction industry as a whole, one wonders if indeed the services provided by these PQS firms are up to the standard. It is therefore important to investigate the perceived perceptions and expectations of these contractors who are direct beneficiaries of the services provided by these firms in order to find ways of improving upon them.

### **1.3 RESEARCH QUESTIONS**

The context and framework of this study will be based on the following research questions.

- i. What are contractors' expectations of service quality as provided by professional quantity surveying firms in Ghana?
- ii. What are contractors' perceptions of service quality as provided by professional quantity surveying firms in Ghana?
- iii. What is the level of contractors' satisfaction based on their expectations and perceptions gaps?
- iv. Are there any guidelines to improving service quality in professional quantity surveying firms in Ghana?

### **1.4 AIM**

The aim of this study is to develop guidelines for improving quality of services provided by professional quantity surveying firms in Ghana based on contractors' service quality assessment.

### **1.5 SPECIFIC OBJECTIVES**

- i. To assess contractors' expectations of service quality by professional quantity surveying firms;

- ii. To assess contractors' perceptions of service quality by professional quantity surveying firms;
- iii. To determine contractors' level of satisfaction based on expectations and perceptions gaps; and iv. To develop guidelines for improving service quality in professional quantity surveying firms in Ghana.

## **1.6 RESEARCH METHODOLOGY**

The research adopted a mixed approach strategy, employing both closed-ended (quantitative) and open-ended (qualitative) questionnaires in the data collection process. Data for the study was collected through a cross sectional survey of D1 K1 contractors in the Ashanti and Greater Accra regions of Ghana. The reason for the choice of these two regions was that, majority of registered professional quantity surveying firms and contractors operate within these two locations.

Collection of primary data was based on 20 item SERVQUAL or RATER services quality framework which highlights the main components of quality service pertaining to PQS firms in Ghana. These items were categorized into five dimensions according to the research by Parasuraman *et al.* (1991). Using Statistical Package for Social Sciences (SPSS 16.0) for windows and Microsoft Excel 2013, Relative importance indices of the 20 factors spreading among the five SERVQUAL dimensions were calculated. Descriptive statistical methods were used to assess contractors' expectations and perception scores. Thereafter, two-tailed student t-tests were performed to test for the significant difference between the means of expectations and perceptions. Multiple regressions were also used to determine the relationship between the five service quality dimensions and contractor's general satisfaction. Qualitative data were analyzed using thematic narrative. Finally, the outcome of

the results obtained from the analysis led to the design and subsequent validation of guidelines model for improving service quality in PQS firms in Ghana.

### **1.7 CONTRIBUTION TO KNOWLEDGE**

Professional quantity surveying firms (PQS) play a major role in providing services to stakeholders in the GCI. However, evidence shows that there are no laid down guidelines for improving service quality in this sector. The findings can assist quantity surveying firms in the industry to improve on their service delivery and meet the expectations of contractors and other stakeholders in the long run. This will subsequently enhance contractors overall project delivery in Ghana.

### **1.8 SCOPE OF THE STUDY**

The research was undertaken exclusively in Ghana. The study covered only D1 K1 contractors due to financial constraints and more so because this category of contractors was well established, experienced and more organized in their operations. As such, they were in a better position to assess the service quality of PQS firms in Ghana. Accra and Kumasi were the two regions considered for the study largely due to the limited time available for the research and also due to the high concentration of these contractors in these regions.

### **1.9 LIMITATION OF THE STUDY**

As with all survey research related studies, the potential effect of sampling and measurement errors cannot be overruled. There is therefore the possibility of errors in data collected.

### **1.10 ORGANISATION OF CHAPTERS**

The study is organized into five chapters. Chapter One discusses and presents the problem to be investigated, the research questions, aim, specific objectives and methods to be used for the study. In Chapter Two, literature review is presented and describes other works and

previous research findings related to the problem. In Chapter three, methodology of the study is thoroughly discussed. It further briefly discusses the design and validation of the guidelines model. Chapter Four of the study is the analysis of data collected and the discussion of the results obtained together with a presentation of the guidelines model and its assessment process. Chapter Five discusses the conclusion arising from the analysis and also recommendations for industry.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter presents a critical overview of service quality (SQ) and how it is being measured. A review of various determinants of service quality such as customer satisfaction, service value, customer expectations and perception is undertaken to understand how they are instrumental in achieving SQ in firms. Secondly, professionalism as a concept is looked at, its relevance and expectations from quantity surveyors. This is followed by a brief presentation of the quantity surveying profession in Ghana. Thereafter, a critical look at the functions of a quantity surveyor is presented and why it is important for knowledge management in professional firms. The chapter concludes with a definition of a contractor and their classifications in Ghana.

#### **2.2 AN OVERVIEW OF SERVICE QUALITY**

The subject of service quality (SQ) came to prominence in the 1980s in the USA when large organizations realized the need for a paradigm shift in the measurement of SQ and programs

development (Hauser and Clausing, 1988). Since then, a search for a common definition for SQ has been a contentious one by various authors in the service industry. However, from the different perspectives, the conclusion drawn is that, it is about providing something of need in a way that the customer is pleased with and preferably gives some value to that consumer (Bryslan and Curry, 2001).

Malhotra et al. (2005) posited that, service engagements are first of all social encounters and as such, any rules and expectations relating to them vary considerably from one country to another. (Witkowski and Wolfinbarger, 2000) further that, customer perception of what SQ is, is subjective depending on the country of origin due to geographical differences in terms of economic achievement, political climate and socio-cultural environment.

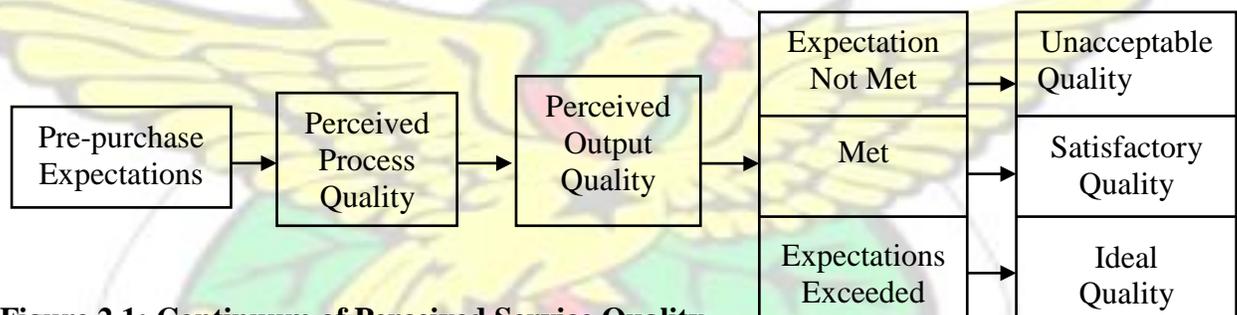
In the professional services sector in Ghana today, many consumers are willing to pay more for better quality of services. Indeed, some authors have argued that, organizations can get their competitive advantage by applying this mechanism for the purpose of enhancing SQ and gathering market demand (Parasuraman *et al.*, 1991). The challenge faced by many stakeholders and authors alike in the service industry, is the contextual framework within which to define and measure SQ due to its subjective nature. (Voss et al., 1985;

Edvardsson, 1988) acknowledged this challenge and agreed that, the difficulty in defining SQ results from the nature of service itself. They concluded that, service is an interaction between the customer and the service system which includes contact staff, equipment, service environment and facilities.

This notwithstanding, many authors over the years have developed their own understanding of how service quality should be perceived (Zeithaml, 2009, Ramsaran and Fowdar, 2007). For instance, Zeithaml and Berry (1990) viewed SQ as an extrinsically perceived attribution

based on the customer's experience about the service that the customer perceived through the service encounter. Chang (2008) concurred with this by stating that, SQ should be viewed from the customer's perspective because they may have differences in terms of their values, grounds of assessment and circumstances. Finally, Kumar (2008) observed that, SQ is not only involved in the final product and service but also involved in the production and delivery process. It is therefore evident from the views presented that, the assessment of quality of service provided by a particular service entity is left entirely to the judgment of the customer based on his/her experiences from the service encounter.

Parasuraman *et al.* (1990) describes this process of service encounter by a customer from the beginning to the end and subsequent assessment of the quality of service provided as a Continuum of Perceived Service Quality as illustrated in Figure 2.1 below.



**Figure 2.1: Continuum of Perceived Service Quality**  
 Source: Parasuraman *et al.* (1990)

### 2.3 MEASURING SERVICE QUALITY

Notable authors such as Grönroos and Parasuraman *et al.* helped shaped and influenced the discussion into the field of service quality (SQ) measurement. Grönroos for instance, first postulated a two service dimension model to measure SQ, namely: technical and functional quality (Grönroos, 1982, 1984). This model, according to the author places emphasis on what the customers are looking for and what they evaluate. He stated that, the technical quality

dimension takes a look at what is delivered or what the customer receives from the service. On the other hand, the functional quality portion refers to the manner in which the service is delivered or how it is delivered. Together with other authors, they defined SQ as the measure of how well the level of service delivered matches the customer expectation

(Grönroos, 1982; Lewis and Booms, 1983).

Taking a cue from Grönroos, many authors over the years saw the need to develop distinct and valid SQ measures (Kumar *et al.*, 2010). Some of these models *cited in* Kumar *et al.* (2010) includes: GAP model by Parasuraman *et al.* (1985); attributes service quality model by Haywood-Farmer (1988); synthesized model of service quality by Brogowicz *et al.* (1990); attribute and overall affect model by Dabholkar (1997); the P-C-P attributes model by Philip and Hazlett (1997); internal service quality model by Frost and Kumar (2000) etc.

It is therefore worth noting that, all these models were developed with the aim of unearthing the right quality measurement techniques and service quality determinants (Kumar *et al.*, 2010).

However, besides these achievements by various authors in the service industry, Kumar *et al.* (2010) held that the most popular SQ assessment tool is SERVQUAL, pioneered and developed by Parasuraman *et al.* (1985, 1988, 1990 and 1991). Indeed, according to Brown and Bond (1995) *cited in* Kumar *et al.* (2010) “*the GAP model is one of the best received and most heuristically valuable contribution to the service literature*”.

Parasuraman *et al.* (1985) conducted a research and developed the SERVQUAL instrument consisting of 22 quality items. A total of 12 focus groups were interviewed in the area of retail banking, credit card, security brokerage, and product repair and maintenance. Their findings from the interviews established a pattern of consistency (Zeithaml *et al.*, 1990). They then concluded that the 22 quality items can be spread among five differing quality

dimensions. Secondly, they pointed out that perceived SQ can be evaluated based on the degree and direction of discrepancy between customer's perceptions and expectations within a particular service entity for each of the quality dimensions. The five quality dimensions identified were;

- i. *Reliability*. The degree to which a promised service is performed dependably and accurately.
- ii. *Responsiveness*. It involves the willingness to help customers and provide prompt response.
- iii. *Assurance*. The extent to which employees are knowledgeable, courteous and their ability to inspire trust and confidence.
- iv. *Tangibility*. It involves the level of appearance and adequacy of physical facilities, equipment, personnel and communication materials.
- v. *Empathy*. The extent to which customers are offered caring and individualized attention. This includes, access, communication and understanding of the customer.

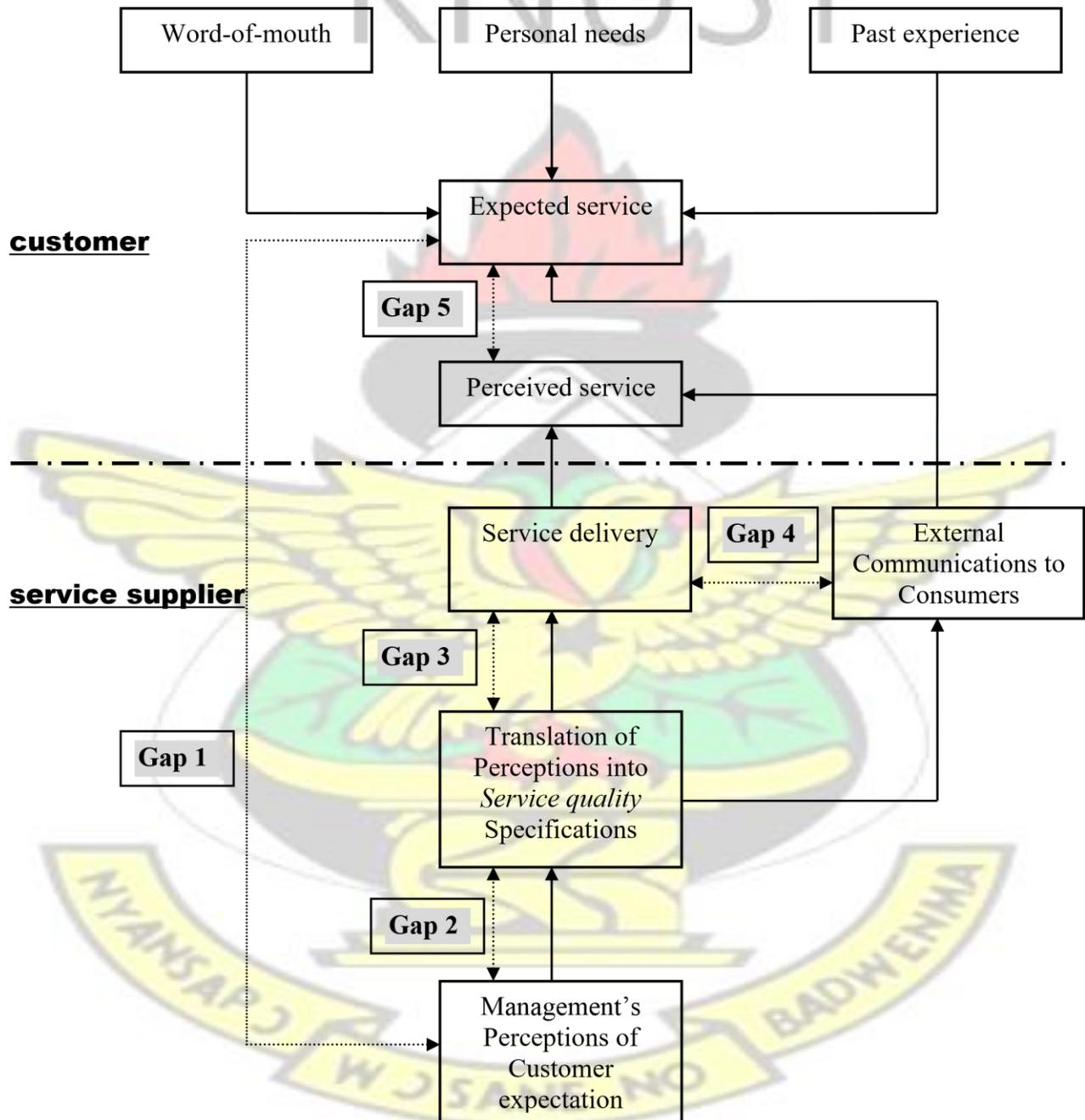
Furthermore, SERVQUAL defines customer's evaluation of quality as a function of the gap (difference) between expected service and perceived service (Tan and Pawitra, 2001). In light of this, (Parasuraman *et al.*, 1988) *cited in* Tan and Pawitra, (2001) identified five gaps that can result in unsuccessful delivery of SQ as thus;

- i. *Gap between customer expectation and management perception*: arising from lack of understanding of what customers expect from a particular service.
- ii. *Gap between management's perception and service quality specification*: this may come about when there is a discrepancy between what management perceives to be customer's expectations and the actual established service quality specifications.

- iii. *Gap between service quality specifications and service delivery*: Guidelines and specification for performing excellent service may be clearly defined; however its delivery may not be up to standard as a result of poor employee performance.
- iv. *Gap between service delivery and external communication*: This gap measures the consistency between the quality image portrayed by the service provider and the actual quality services rendered.
- v. *Gap between perceived service and delivered service*: this gap comes about when one or more of the above gaps occur.

Figure 2.2 below gives a diagrammatic representation of the gap model proposed by Parasuraman *et al.* (1985). It shows that service encounters begins with customers having some expectations in mind based on their past experience, personal needs and word of mouth communications. Services are delivered by the supplier according to the processes outlined in the diagram and symbolized in gap 1 to 4. Thereafter, on completion the customer assesses the service to see whether his/her expectations were met. To this extent, Forsythe (2008) argued that, perceived SQ is then conceived as being the gap (difference) between the perceived service at the end as against the expected service quality at the beginning, symbolized in gap 5 in the diagram below. Furthermore, according to Forsythe (2008) it is worth mentioning that, there is a direction associated with gap 5, since it is the combined result of the other four gaps as earlier alluded to. Forsythe (2008) pointed out that, a positive gap shows perceptions are better than expectations whilst a negative gap depicts worse perceptions as compared to expectations. Finally, a neutral gap is where perceptions are equal to expectations (Forsythe, 2008).

The main focus of this study therefore, is to use gap 5 as the basis of assessment of the level quality of services provided by professional quantity surveying (PQS) firms to Ghanaian contractors.



**Figure 2.2: The Gap model**  
 Source: Parasuraman *et al.* (1985)

### **2.3.1 Aims of the SERVQUAL Model Approach**

According to Brysland and Curry (2001), the aims of using SERVQUAL methodology in service quality measurement is to evaluate and help identify the following;

- Different customer's perceptions and expectations of service quality to highlight current performance levels, by customer segmentation;
- Resultant service quality gaps;
- How important each of the service quality dimension is to the customer, which assist in resource allocation and definition of action-planning priorities;
- An understanding of customer perceptions and expectations overtime, allowing further analysis as part of the monitoring process;
- How to manage customer expectation with regards to service planning, design and delivery;
- The impact of service improvement activities as a result of customer expectations and priorities;
- And above all, the results that provides a starting point and assist in the prioritization of service improvement activities.

### **2.3.2 Benefits of SERVQUAL**

Tan and Pawitra (2001) outlined the benefits derived from widespread applications of SERVQUAL model from various publications as listed below;

- It is good at eliciting the views of customers regarding service encounters e.g customer relative importance, expectations, and satisfactions.

- It is able to alert management to consider the perceptions of both management and customers.
- Addressing the service gaps can serve as a basis for formulating strategies and tactics in order to ensure the fulfillment of expectations.
- It is able to identify specific areas of excellence and weaknesses
- It is able to prioritize areas of service weaknesses
- It provides benchmarking analysis for organizations in the same industry.
- SERVQUAL can trace the trend of customer relative importance, expectation, and perception, if applied periodically.

#### **2.4 TOWARDS DEFINING CUSTOMER SATISFACTION**

In the global competitive market, the issue of customer satisfaction has become a topical subject especially in the construction industry in recent times (Cheng *et al.*, 2006). It has also attracted attention from stakeholders in the service industry who are seeking to improve products and service quality (SQ). Making a conscious effort to identify and satisfy the needs of contractors by professional quantity surveying firms is critical for their existence and relevance in the service industry (Cheng *et al.*, 2006). In the field of construction, customer satisfaction plays an integral role in determining the overall success of a project (Ashley *et al.*, 1987; Bresnen and Haslam, 1991). Despite its importance in successful project delivery, little attention has since been given to it in the construction business circles until now (Johnston, 2004).

A consensus towards defining customer satisfaction has been a difficult one (Oliver, 1981, 1997). Many researchers often focused on the concept that, the customer will always compare

the product or service delivered to him/her by a certain standard (Smith *et al.*, 1969; Churchill and Serprenant, 1982) *cited in* (Cheng, Proverbs and Oduaza, 2006). In the construction industry however Soetanto and Proverbs (2004) agreed that, measurement of customer satisfaction is related to performance and quality assessment in the context of the services received by the customer.

Many authors have tried to give a definite definition of customer satisfaction over the years. (Locke, 1970) for instance, defined satisfaction as a function of comparison between an individual's perception of an outcome and its expectation for that outcome. Oliver (1980) in his earlier studies posited that customer satisfaction is the difference between what is expected and perceived. Later, he added that it can be viewed as a response to an emotional experience for a specific service encounter (Oliver, 1997). Pizam and Ellis (1999) held that customer satisfaction can be determined by comparing a service entity performance against customer's expectations. (Churchill and Serprenant, 1982) *cited in* (Cheng, Proverbs and Oduaza, 2006) on the other hand posited that, it is a comparison of a customer's pre-purchase expectations and post-purchase product. From all perspectives, one can say that, the customer will always compare his/her expectations against the service delivered to determine his/her of satisfaction.

Gable (1996) added another dimension to this discussion; he argued that customer satisfaction can be conceptualized into transaction-specific and cumulative satisfactions. He explained that transaction-specific represents specific and individual experience satisfaction whilst cumulative satisfaction represents current experience, past experience and all future anticipated experience (Cheng, Proverbs and Oduaza, 2006). Generally however, researchers in the service industry have agreed that, customer expectations and perceived performance

of the service provider have a bearing on their satisfaction (Locke, 1970; Oliver, 1981; Parasuraman *et al.*, 1985).

#### **2.4.1 Linking Service Quality to Satisfaction**

Previous research suggests that, service quality (SQ) and customer satisfaction are positively related though different constructs. For instance, Parasuraman *et al.* (1988) stated that service quality is an overall evaluation of an entities excellence or superiority, and that this judgment or evaluation is similar to attitude and related to, but not equivalent to satisfaction. (Bastos and Gallego, 2008) collaborated this by intimating that SQ can be seen as an attitude, and is considered to be customer's general evaluation of a particular service whilst customer satisfaction is a measure of a specific transaction .

Furthermore, Zeithaml *et al.* (1990) and Fornell (1992) also that SQ is the degree and direction of discrepancy between customer's perception and expectation and is often viewed as an antecedent of customer satisfaction. Whilst agreeing with all the above definitions for the purpose of this study, the researcher is also of the view that SQ is a critical factor in determining customer satisfaction.

#### **2.4.2 Linking Service Quality to Service Value**

Service value and SQ are also said to be related though distinct constructs (Bolton and Drew, 1991). The definition of value for the purposed of this study is based on the context proposed by Zeithaml (1988) which says that value is the overall assessment of the utility of a product or service based on perceptions of what is received and what is given.

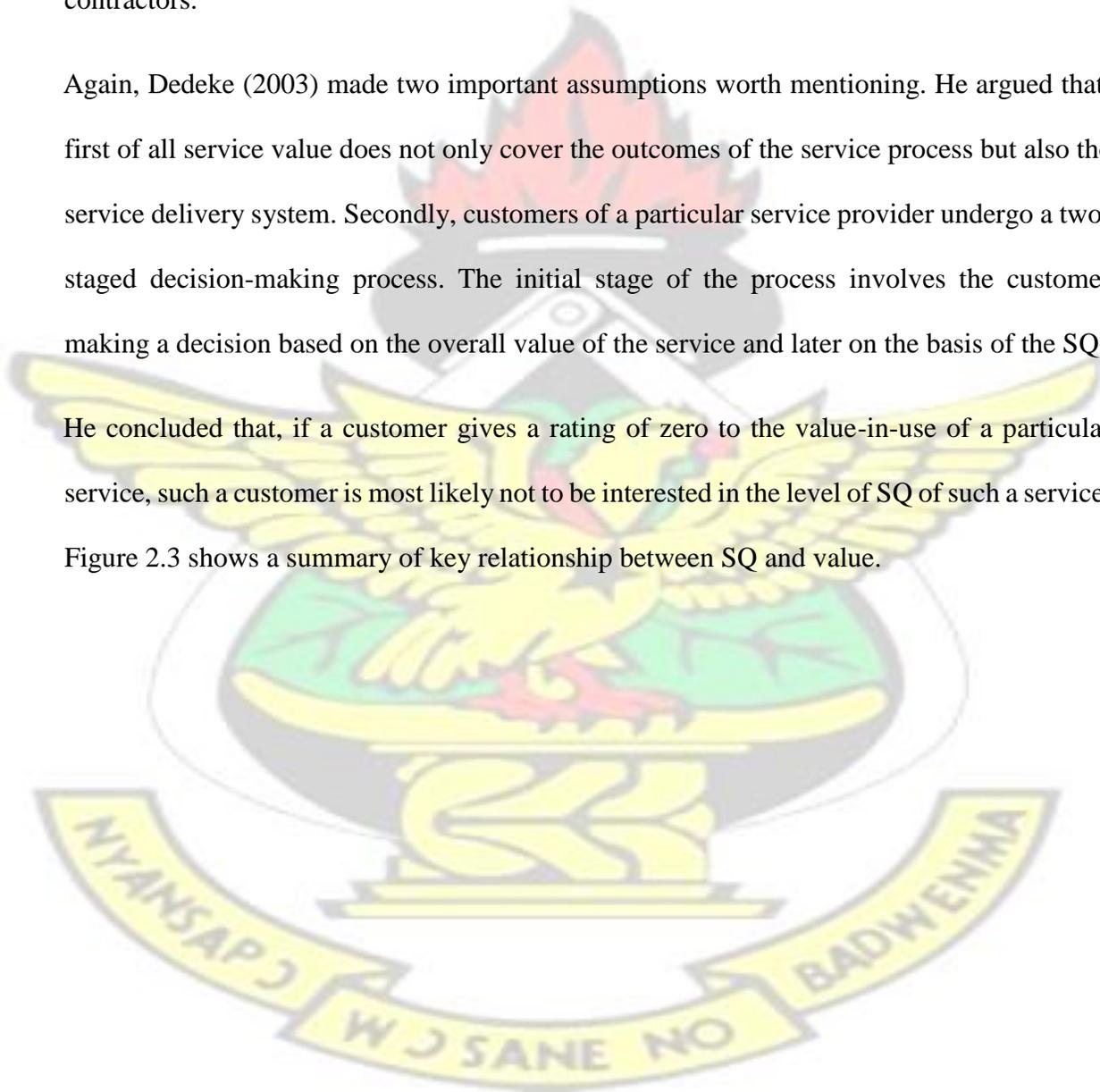
Heskett *et al.* (1990) defined service value as SQ (which comprises both results and service process) divided by all the cost of acquiring the service. Dedeke (2003) observed that an understanding of the value concept is in two folds. First of all, an entity is considered valuable

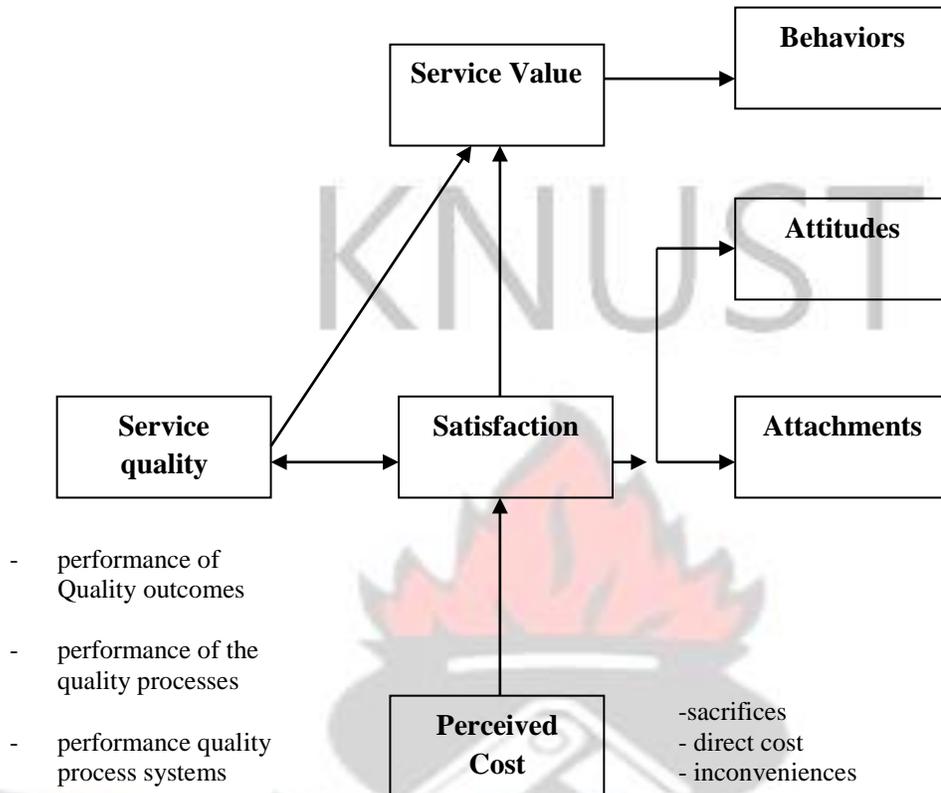
if it's rare, irreplaceable and non-substitutable resulting in high value-in-exchange estimates. Secondly, entities are valuable because of their inherent attributes to produce superior results, faster responses, lower costs and better customer satisfaction. These categories of entities are considered to be high value-in-use estimates and potentials (Dedeke, 2003). This latter observation falls within the framework of professional quantity surveying (PQS) services to contractors.

Again, Dedeke (2003) made two important assumptions worth mentioning. He argued that, first of all service value does not only cover the outcomes of the service process but also the service delivery system. Secondly, customers of a particular service provider undergo a two-staged decision-making process. The initial stage of the process involves the customer making a decision based on the overall value of the service and later on the basis of the SQ.

He concluded that, if a customer gives a rating of zero to the value-in-use of a particular service, such a customer is most likely not to be interested in the level of SQ of such a service.

Figure 2.3 shows a summary of key relationship between SQ and value.





**Figure 2.3: Relationship among key service concepts**  
 Source: Dedeke, (2003)

### 2.4.3 Customer Expectations and Perceptions

According to Forsythe (2012) customer satisfaction is typically conceptualized as an evaluation of post-purchased perception made relative to pre-purchased expectations. Subsequently, expectations act as a comparison standard. Thus, when perceptions are compared with expectations, a relative measure of the level of customer satisfaction is provided.

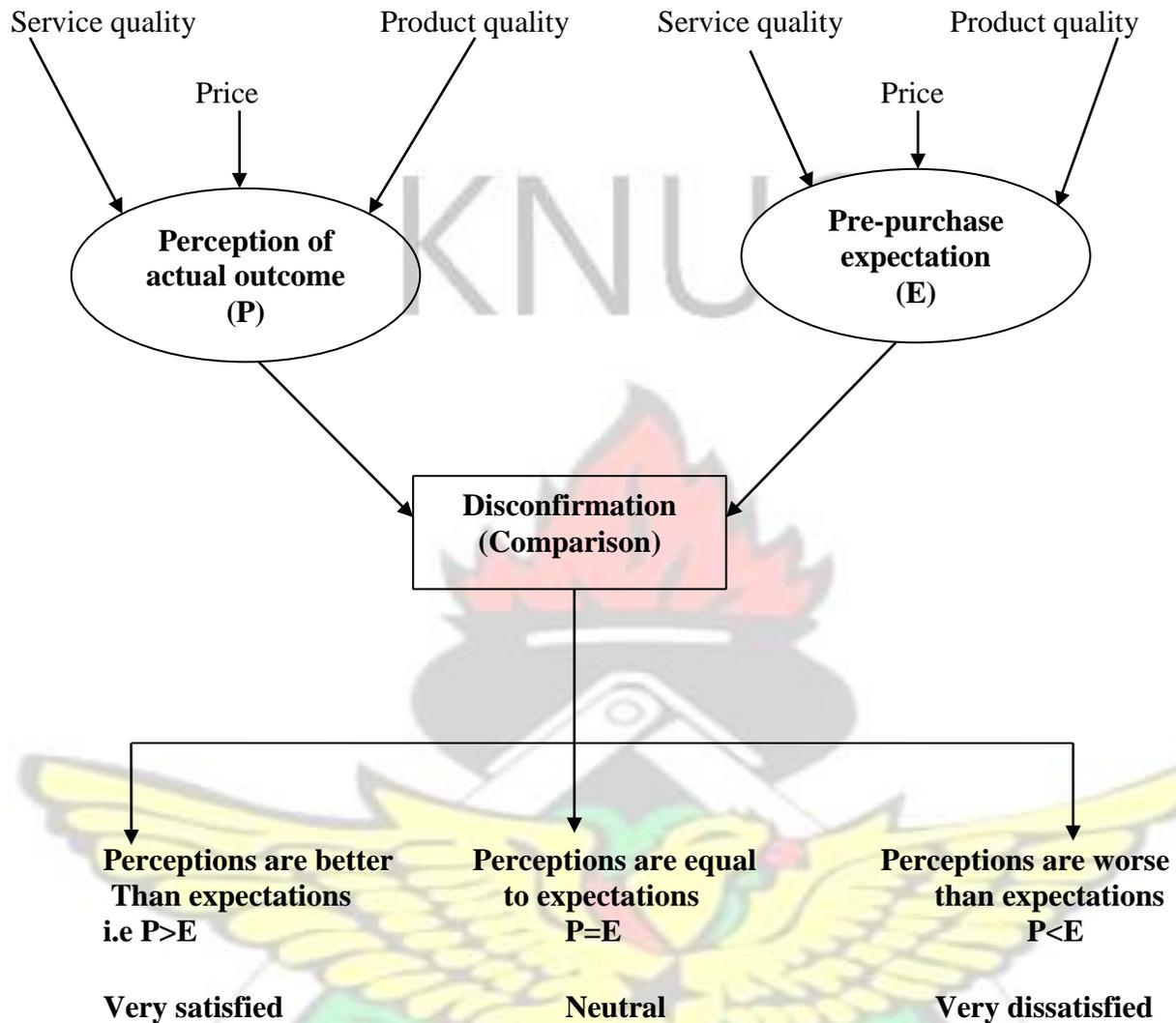
In comparing expectations and perceptions, Helson (1964) proposed the adaptation theory which looks at emotional (affective) evaluation of satisfaction underpinning Oliver (1980)

disconfirmation of expectations model which very much describes the objective of this study as shown in Figure 2.4.

Figure 2.4 shows that satisfaction is considered positive when customer perceptions are higher than expectations and negative where their expectations are better than perceptions (Oliver, 1993). It also illustrates the key constructs of expectations comprising of product quality, price and SQ.

Literature in construction management presents a significant amount of research in SQ with little focus on contractor expectations and perceptions of PQS firm's services. For instance, Maloney's (2002) research *cited in* Forsythe (2012) focuses on service encounters underpinning subjective themes such as customer-contractor relationship as significant. In the same vein, Nahmens and Ikumas (2009) work looked into detailed the different dimensions of SQ as perceived by customers from different demographic groups (Forsythe, 2012).

Similarly, this study takes a look at the processes contractors go through in accessing the services of PQS firms in order to profile their expectations and perceptions in determining SQ delivery.



**Figure 2.4: Disconfirmation of expectations paradigm**

**Source:** Oliver (1993) and Parasuraman *et al.* (1994)

## 2.5 THE CONCEPT OF PROFESSIONALISM

The concept of professionalism is seen as both an ideology and a mechanism used by a wide range of occupational groups in their claim for status and income (Evetts, 2003). It promotes the adaptation and change at the macro level as well as a disciplinary mechanism at the level of individual 'professionalized' practitioners and employees (Evetts, 2003).

According to Evetts (2003), history has shown that many social researchers have tried to give clear meaning and understanding of professionalism. Durkheim (1992) for instance, observed that professionalism is a form of moral community based on occupational membership. Tawney (1921) that it is a force capable of subjecting rampant individualism to the needs of the community. Carr-Saunders and Wilson (1933) perceived professionalism as a force for stability and freedom against the threat of encroaching industrial and governmental bureaucracies (Evetts, 2003).

Hanlon (1998), a leading author in this subject however conceptualizes professionalism as a symbol of power. He raised two important questions upon analyzing the struggle within professions and between professions and the rest of society - whether professional services are rendered for profit or because of need. He argued that professions see themselves as service groups or by law is classified as such. Hanlon further argued that, professions keep redefining professionalism in order to maintain their control over the service that they render. He emphasized that professionals by their training makes them self-seeking and profit oriented individuals which contradicts the real meaning of professionalism as a means of providing service to people in need.

The concept of professionalism as a symbol of power and the motivation behind its changing meaning has been further explored by Evetts (2003). She perceived two main factors, namely: normative motivation which emphasizes the positive role professions play in society and the ideological motivation, which is the practice defined as using professions to create a hegemonic belief system or market for the professionals. She contends that professions are elite group of powerful occupational workers interested in protecting their own market positions through license to practice controls and safeguarding elite group positions.

Nevertheless, Watkins *et al.* (1992) pointed out that professional culture and identity are characterized by three key foundation factors: autonomy, trust and relationships, and agreed (but implicit) standards of performance and behavior. The researcher shares the view that, in today's world of business where emphasis is on quality and the trends towards greater accountability in professional service practice makes these foundation factors explicit, engendering and bringing them under serious discussion (Matzdorf *et al.*, 2000).

### **2.5.1 Professionalism in Quantity Surveying Profession**

Professionalism is a process that requires professions to take responsibility for a prescribed body of knowledge by ensuring that professionals abide by its defined substantive field of knowledge and how that knowledge is applied (Hassal *et al.*, 1996). Murdoch and Hughes (2008) contend that construction professionals operate in a highly fragmented industry comprising of varying skills and professions where relationships and boundaries are not clearly defined. They posited that professions have four characteristics: a distinct body of knowledge, barriers to entry, serving the public and mutual recognition (Society of Chartered Surveyors, 2006). Cunningham (2011) sums this up when he stated that these characteristics shows that professionals are equipped with specialist skills and knowledge acquired through well planned education and training programs and being supervised by experience and qualified practitioners.

Murdoch and Hughes (2008) again emphasized that the primary aim of professions is to serve the public. Cunningham (2011) concurred with this, and observed its consistency with professional standards provisions in the Society of Chartered Surveyors (2006) which states that “*the true professional places the public good before mere financial rewards*”. The

delivery of professional service may therefore be regarded as providing a set of technical skills competently to the expectation of society (Cunningham, 2011).

According to Ashworth and Hogg (2007), the work of the quantity surveyor (QS) has rapidly changed overtime. Factors they attributed to these changes include: changes in business environment, the industry, customer needs, the professions and IT (Cunningham, 2011). They concluded by being critical on construction inefficiencies and a call for an urgent improvement in construction performance (Cunningham, 2011).

### **2.5.2 Relevance of Professional Bodies to Quantity Surveying Profession**

It is important to a professional service like quantity surveying that a professional body be formed to maintain competence and control standards of conduct of the profession (Bennion, 1969). Thus, the title of a Member, Chartered or Fellow of a particular professional institution is regarded as professional competence. To maintain competence and standards, activities of professionally qualified quantity surveyors are regulated by professional institutions (Fong and Choi, 2009) like the Ghana Institution of Surveyors (GhIS), South African Council for the Quantity Surveying Profession (SACQSP) or The Royal Institute of Chartered Surveyors (RICS). Undoubtedly, strict admission guidelines and rules of membership for all categories of the institution are spelt out and followed.

Fong and Choi (2009) contented that though in the construction industry many practitioners claim to be quantity surveyors, the title of a chartered quantity surveyor is only awarded to those who have passed professional competence tests set by the institutions. They concluded that with this mechanism, clients or customers of quantity surveyors are assured of the intangible service they are purchasing.

### 2.5.3 Competency Requirement of Quantity Surveying Professionals

Competence and trust were identified as central ingredients in generating confidence in professions (Cunningham, 2011). To this extent, they form an integral part of ethical principles to which people uphold and also forms the basis upon which people rely on professional bodies (Society of Chartered Surveyors, 2006).

Indeed, many authors have defined competence over the course of time. Stewart and Hamlin (1992) for instance, define competence as something which a person who works in a given occupational area should be able to do. Holmes and Joyce (1993) sees competency as a description of an action, behavior or outcome which a person should be able to demonstrate, or the ability to transfer skills and knowledge to new situations with the occupational area. Meyer and Semark (1996) further describe it as the demonstration of an integration of knowledge, skill, personal attributes and value orientation. At the professional level, Roggema-Van Heusden (2004) held that, competence is the ability to perform well in a professional situation that involves the accomplishment of a certain task or the dealing with a problem, in a manner that can be observed and judged by others.

The Royal Institution of Chartered Surveyors (RICS) (1998) outlined the competencies requirement of professional quantity surveyors in three broad categories: basic competencies, core competencies and operational competencies as shown in table 2.1.

**Table 2.1: Competencies Requirement of Professional Quantity Surveyors**

*Basic Competencies*

*Core Competencies*

*Operational Competencies*

- |                                                         |                                                               |                                                                     |
|---------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------|
| - <i>Personal &amp; Interpersonal Skills</i>            | - <i>Construction contract Practice</i>                       | - <i>Arbitration and other dispute Resolution Procedures</i>        |
| - <i>Business skills</i>                                | - <i>Construction technology &amp; environmental services</i> | - <i>Developmental Appraisal</i><br>- <i>Facilities Management</i>  |
| - <i>Data, information &amp; information Technology</i> | - <i>Economics of Construction</i>                            | - <i>Insolvency</i><br>- <i>Insurance</i>                           |
| - <i>Professional Practice</i>                          | - <i>Procurement and Financial management</i>                 | - <i>Project Management</i><br>- <i>Property Investment funding</i> |
| - <i>Law</i>                                            |                                                               | - <i>Research Methodologies &amp; Techniques</i>                    |
| - <i>Measurement</i>                                    |                                                               | - <i>Taxation Allowance &amp; Grants</i><br>- <i>Valuation</i>      |
| - <i>Mapping</i>                                        |                                                               |                                                                     |

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**Source: The Royal Institution of Chartered Surveyors (1998)**

#### **2.5.4 Ethics in Quantity Surveying Profession**

Professional ethics refers to the study of values and customs of individuals or groups and can cover the analysis and employment of the concepts of right or wrong and those of responsibility (Mansfield, 2008). Professions are guided by ethics that reflects their philosophies and moral beliefs of their practices (Mansfield, 2008). In the quantity surveying profession in Ghana, the actions and activities of members are largely guided by the tenets of their professional ethics.

According to Mansfield (2008) the hallmark of every profession is its ability to accept responsibility and act in accordance with the interest of the general public and with its membership subjecting itself to the personal advancement of this responsibility. Whilst it a fact that responsibility to public interest varies depending on the activities of a particular

profession, the focal point is that each profession is to have due regard to the legitimate interest of its clients, employers and employees who rely on their objectivity and integrity (Mansfield, 2008).

Longstaff (1999) argued that the landscape of professional's ethics involves choices, decisions and the practical application of shared core values and principles. As such the need for members to reflect on their own professional practice and where necessary compare their choices against their own code of practice developed within the profession is of utmost importance. Fundamentally, it is argued that the key principles of most professional bodies are likely to include: integrity, objectivity, competence and care, confidentiality and behavior (Mansfield, 2008).

#### **2.5.5 Code of Conduct in Quantity Surveying Profession**

According to Mansfield (2008) Core values and principles of professions are well articulated in specific codes of practice or codes of ethics. They represent a formalized document which gives professions the opportunity to peer-impose regulations that express best practice standards within the profession. Codes of conduct may also serve as a benchmark against which practitioners within a profession measure themselves (Sease, 1998).

Besides established categories of membership, it is incumbent on every member of a professional institution to have a copy of the code of conduct and professional ethics as a guide. According to Fong and Choi (2009) since quantity surveyors are at the forefront in managing confidential information, such as tender sums submitted by contractors in construction projects, valuations and subsequent payments of works executed on site, they have to be aware and fully abide by all rules and regulations provided in the code of conduct and professional ethics.

## **2.6 AN OVERVIEW OF THE QUANTITY SURVEYING PROFESSION IN GHANA**

The Ghana Institution of Surveyors (GhIS) which was established in February 1969 is the main professional institution that regulates the activities of surveyors in Ghana (Ghana Institution of Surveyors, 2010) *cited in* (Obeng-Odoom and Ameyaw, 2011). It comprises of three categories of surveyors, namely quantity surveyors (QS), land surveyors (LS) and valuation and estate surveyors (VES). Among other criteria including education, experience and service to GhIS, surveyors can be fellows, members (often referred to as professional associates) or technician members (Obeng-Odoom and Ameyaw, 2011).

The GhIS has a total membership of 1,245 surveyors working in 114 registered firms. Of this total, there are about 461 quantity surveyors, of whom 10 percent represents members who are fellows, 64 percent are professional members, whilst 26 percent represent technician members (Ghana Institution of Surveyors, 2012). Under the Professional Bodies Registration Decree 1973 (National Redemption Council Decree No. 143, section 18:20) only those affiliated to the quantity surveying division of the GhIS are permitted to practice quantity surveying in Ghana (Badu and Amoah, 2004).

Indeed, it takes a lot of commitment and competence from a candidate to become a professional member of the Institution. According to Badu and Amoah (2004), the process towards becoming a professional member requires a candidate to first register as a probationer and then go through training in an approved office for two years upon completion of his/her National Service. Thereafter, the candidate is required to pass a test on “Practical Application of Quantities”. This test is in four folds, comprising of written papers in: Measurement; Building Economics; Professional Practice Procedure and Building Contracts, Claims and Arbitration. Finally, a candidate is supposed to obtain an average score of 55

marks and a score of not less than 45 marks in any of the four papers taken (Badu and Amoah, 2004).

It is evident from the above discussion that, the competence of a professional quantity surveyor in Ghana cannot be in doubt.

### **2.6.1 Functions of the Professional Quantity Surveyor**

According to Bennion (1969), a professional must possess six (6) cardinal attributes to be qualified as such. These he stated as;

- i. Requirement of an intellectual body of knowledge
- ii. Work of an advisory nature
- iii. Existence of a private practice
- iv. A tradition of service
- v. A suitable code of conduct
- vi. A governing professional institution(s)

The professional quantity surveyor in Ghana who practices his profession to the standards required by the Ghana Institution of Surveyors (GhIS) possesses the above mentioned attributes and provides *inter alia* cost advice to clients and works to ensure that projects are completed within agreed budgets. Pheng and Ming (1997) outlined the functions of a professional quantity surveyor from the feasibility stage of a construction project to the completion of the project and defect liability period as shown in Appendix C.

From Appendix C, it is evident that the functions of the professional quantity surveyor are enormous and knowledge-intensive. For the attainment of service quality and successful

project delivery in quantity surveying firms, it is paramount that knowledge be properly managed. Indeed, Hiebeler (1996) contends that those firms that can best manage knowledge are able to preserve their competitive advantage.

## **2.6.2 The Essence of Knowledge Management in Professional Quantity Surveying Firms**

Knowledge management in firms is an area often overlooked by Ghanaian businesses, especially in professional quantity surveying firms despite its contribution to organizational success. Scarborough and Swan (1999) defines Knowledge Management as a systematic management approach to identify and capture the 'knowledge assets' of a firm so that they can be fully exploited and protected for competitive advantage. Fong and Choi (2009) describe quantity surveying firms as knowledge intensive organizations and share in the view that there is a need for knowledge in these firms to be properly managed in order to cope with shortcomings emanating from the common uneven distribution of knowledge. Nissen (2004) emphasized that efficient knowledge flow is so vital to the performance of enterprises. Carrillo (2004) concurred and held that, in times of competition, a construction organization can improve their performance by managing knowledge effectively.

According to Fong and Choi (2009) though different in form and context, the operations of the quantity surveyor at various stages of the life of a project, requires a great amount of knowledge which to a large extent influences the project activities and project deliverables. For example, information flow from architect to quantity surveyor and eventually to contractors and vice versa requires a great deal of exchange of ideas and discussions in meetings. Sourcing for information from archives for important cost information and contract

templates in the preparation of contract document requires proper management of knowledge (Fong and Choi, 2009).

## **2.7 CONTRACTOR DEFINED**

The Articles of Agreement and Conditions of Contract for Building Works (1988) commonly referred to as the “Pink Form” defines the contractor as “the person or persons, partnership, firm or company who has or have signed this contract and includes his or their heirs, executors, assigns, successors and duly appointed representatives”. Similarly, the Conditions of Contract for Works of Civil Engineering Construction also typically referred to as “FIDIC” defines the contractor as “the person whose tender has been accepted by the Employer and the legal successors in title to such person, but not (except with the consent of the Employer) any assignee of such person”.

Both definitions above refers to the main contractors who are commercial companies contracted to construct developmental projects. According to Kwakye (1997) they are many, of various sizes and within wide geographical areas. Depending on their capacity they operate locally, nationally or internationally. They take legal responsibility for the entire project though does not construct every aspect of the project. As such, some aspects are subletted to specialist sub-contractors.

Contractors by their definition are business entities who work for profit. Their encounter with the services of quantity surveying firms to a greater extent determines the overall success or failure of the project and the level of the contractor’s profit margin. This is largely due to the traditional function of the quantity surveyors’ professional services offered from the award of the project to the contractor until final completion.

### 2.7.1 Classifications of Contractors in Ghana

The Registrar General's Department (RGD) is the only statutory institution in Ghana mandated by law under Act 179 (1963) of the companies' code to register companies. Contractors (both building and civil) register their firms under this department. The Ministry of Water Resources Works and Housing (MWRWH) major aim according to its guidelines for these categories is to be able to ascertain the eligibility of a contractor based its financial standing for civil and building contracts awarded by the Government of Ghana (MWRWH, 2004a).

Under the MWRWH there are two classifications for contractors. These are classified into class 'D' for general building works and class 'K' for civil engineering works. These classes are further divided into D1, D2, D3 and D4 for building works and K1, K2, K3 and K4 for civil engineering works respectively. It is worth mentioning that, class one and two contractors are mandated to register with the RGD as Limited Liability Companies. Other classifications for electrical and plumbing contractors are 'E' and 'G' respectively. Their subdivisions are -E1-, -E2- and -E3- for electrical contractors and -G1- and -G2- for plumbing contractors (MWRWH, 2004b).

Depending on *inter alia* the financial standing of the company, equipment and plant holding, previous experience and technical expertise, the MWRWH classifies contractors into the above categories upon registration. Table 2.2 below gives the operational financial ceilings for the various categories of contractors discussed above.

**Table 2.2: Operational Financial Ceiling of Classes of Companies**

<i>Financial Class</i>	<i>Category 'D'-General Building</i>	<i>Category 'K'-Civil Works</i>
<i>I</i>	<i>Over US\$ 500,000.00</i>	<i>Over US\$ 500,000.00</i>

<i>II</i>	<i>US\$ 200,000.00-US\$ 500,000.00</i>	<i>US\$ 200,000.00-US\$ 500,000.00</i>
<i>III</i>	<i>US\$ 75, 000.00-US\$ 200,000.00</i>	<i>US\$ 75, 000.00-US\$ 200,000.00</i>
<i>IV</i>	<i>Up to US\$ 75, 000.00</i>	<i>Up to US\$ 75, 000.00</i>

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**Source: MWRWH Guidelines (2004)**

## **2.8 SUMMARY**

This chapter sought to present a theoretical perspective and understanding of the concept of service quality and the appropriate context within which to measure it. It was observed from the literature that the SERVQUAL model is the most widely utilized instrument for assessing service quality in the service industry and therefore appropriate for this study. Relevant determinants of service quality such as customer satisfaction, service value, customer expectations and perception were looked at to understand their relationship with service quality and how they influence it. Secondly, the professional competence of quantity surveyors who operate in professional firms was established, and the corresponding expectation of professionalism required of them from the public. The chapter concludes with a definition of a contractor and how they are classified in Ghana.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

### **3.1 INTRODUCTION**

The above two chapters took a critical look at defining the research objectives and review of earlier studies. This chapter discusses the research approach, philosophical consideration and research strategy, data collection procedure, survey description and data analysis techniques adopted. It further describes how this analyzed data informed the development of a guidelines model for improving service quality (SQ) in professional quantity surveying (PQS) firms. Finally, it presents a brief description of how the model was designed and how it was validated.

### **3.2 RESEARCH APPROACH**

The approach and strategies about organizing a research involves data collection geared towards achieving the aims of the research (Thurairajah *et al.*, 2006). Thurairajah *et al.* (2006) further pointed out that the method underlining the philosophical position of a research is largely portrayed in case studies, experiments, surveys and action research. As such, the philosophy underpinning this research and its intended contributions informed decisions about the research approach, strategy and design (Harty and Leiringer, 2007; Thurairajah *et al.*, 2006). Hence, this section discusses the philosophical considerations which lead to the strategy adopted for the study.

#### **3.2.1 Philosophical Considerations of the Research**

According to Bryman (2004) the philosophical position of a social research hinges on epistemology and ontology. These paradigms are important since they influence the research framework to be adopted (Christou, *et al.*, 2008) and also helps the researcher in choosing the appropriate research tools, instruments, participants and methods used for the study

(Denzin and Lincoln, 2000). It further enables the researcher to focus his/her philosophical assumptions about the research.

Epistemology, the branch of philosophy upon which this research follows defines the knowledge upon which the research process is undertaken and developed (Smyth and Morris, 2007). It further defines the knowledge base through which the researcher interrogates the relationship under examination (Liyarange *et al.*, 2005). Epistemology brings out two main methods, namely: positivism and interpretivism which corresponds with quantitative and qualitative methods respectively. Positivists are of the belief that natural sciences methods can be applied to study social reality and that, the world conforms to some fixed laws where problems can be solved using a set of approaches. Also, they believe in repeatability, objectivity and measurement of research. On the other hand, interpretivist belief in the non-existence of a universal truth and attaches more importance to realism. To this extent, the researcher plays an important role in the research process.

His/her interest is paramount and has to be incorporated into the research.

Similarly, Ritchie and Lewis (2003) points out that ontology is about a researcher's belief concerning the nature of the social world and poses the question about what is known of the world. According to Fitzgerald and Howcroft (1998), it comprise of two positions: realist and relativist. The realist belief in the existence of an external world independent of an individuals' understanding which has some meaning and interpretation ascribe to it. On the other hand, relativist position is that of subjectivity. They believe in the multiple existences of realities.

### **3.2.2 Research Strategy Adopted**

From the philosophical considerations discussed above, the strategy adopted for this study is the mixed method. It is a method that combines both quantitative (positivism) and qualitative (interpretivism) approaches. Clark (2007) contends that, the mixed method provides a comprehensive interrogation of a research problem than either one of the two approaches. However, with the set aim of the research in mind, a survey was conducted using questionnaire as the data collective tool (*see* Appendix A). This comprised of both closed-ended (quantitative) and open-ended (qualitative) questionnaires in the data collection process. Lastly, at the ontological level, the research follows a realist position where objectivity is paramount.

### **3.3 DATA COLLECTION AND SURVEY DESCRIPTION**

#### **3.3.1 Sampling Techniques and Sample Frame**

The main purpose of sampling is to obtain relevant information about the population by observing a proportion of that population. Three conditions of random sampling were maintained to ensure fair representation of construction firms for the study. These include;

- i. The probability that each firm has the same chance of being selected in the population
- ii. The sample size is reflective of the characteristics of the population
- iii. Each construction firm selected will be independent of the other.

The study covered only D1 K1 construction firms. The decision to choose this class of contractors was informed by the fact that, among the four categories of building and civil contractors, D1 K1 contractors were well established, experienced and more organized in their operations within the industry. They employ full time key personnel over long period of time which includes quantity surveyors and construction managers etc. As such, they were

in a good position to assess the quality of services provided by PQS firms in the Ghanaian construction industry (GCI).

A list of contractors available to the researcher as at December, 2013 was the general register of the Ministry of Water Resources, Works and Housing (MWRWH) of D1 K1 contractors in Accra and Kumasi respectively. The lists indicated that, there were 139 D1 K1 contractors who were actively in operation and in good standing. Table 3.1 shows regional distributions of the contractors used for this study.

**Table 3.1: Regional Distribution of D1 K1 Contractors**

Location	Regional total
Kumasi	7
Accra	132
<b>Total</b>	139

Source: Register of MWRWH, 2012

### 3.3.2 Developing the Sample Size

During the survey, all 7 contractors in Kumasi were considered to form the sample size for that region due to their minimal number and questionnaires were distributed to them.

The sample size for the remainder of the 132 D1 K1 contractors in Accra was determined using the Kish formula as shown below.

Sample size;

$$n = \frac{n^1}{(1 + n^1/N)}, \quad (\text{Kish, 1965})$$

Where

$n$  = sample size

$n^1$  =  $S^2/V^2$

$N$  = total population

$V$  = standard error of sampling distribution (0.05)

$V^2$  =  $(0.05)(0.05) = 0.0025$

$S$  = maximum standard deviation of the population elements

$S^2$  =  $P(1-P) = 0.5(1-0.5) = 0.25$

$P$  = Proportion of the population elements that belong to the defined category.

Calculating 95% confidence limit for the proportion of the population elements that belong to the defined category;  $1 - \alpha = 0.95 \Rightarrow \alpha = 0.05$  i.e.  $Z_{\alpha/2} = 1.96$

Standard error  $Se = 0.05$

Now considering 95% confidence limit;

$$\begin{aligned} \text{Implies that, } P \pm Z_{\alpha/2} Se &= 0.5 \pm 1.96 (0.05) \\ &= 0.5 \pm 0.098 \end{aligned}$$

A 95% confidence interval will be from  $(0.5 - 0.098)$  to  $(0.5 + 0.098) = 0.402$  to  $0.598$ .

Rounding to two (2) decimal places gives  $0.40$  to  $0.60$

Substituting the total number of 132 of D1 K1 contractors into the **Kish formula** gives,

$$n = (0.25 \div 0.0025) / (1 + 100/132)$$

$$= 100 / (1 + 0.758)$$

$$= 56.88 \Rightarrow 57$$

A sample size of 57 is required for Accra and a combined sample size of 64 (i.e  $7+57 = 64$ ) is required for the study.

### **3.3.3 Location of Firms**

Accra and Kumasi were the two out of the ten regions of Ghana considered for the study. This stems from the reason that, they were the regions with high concentration of PQS firms who were duly registered with the Quantity Surveying Division of the Ghana Institution of Surveyors (GhIS). A list obtained from the institution indicated that 95% of PQS firms are located within Accra and Kumasi with 5% representing the rest of the regions (Ghana Institution of Surveyors, 2013). To this extent, the probability that, contractors will encounter the services of these firms is very high in these two regions.

Secondly, the population of D1 K1 contractors as indicated in the register of the MWRWH showed that, 75% of them were located in Accra and Kumasi with 25% representing the rest of the regions.

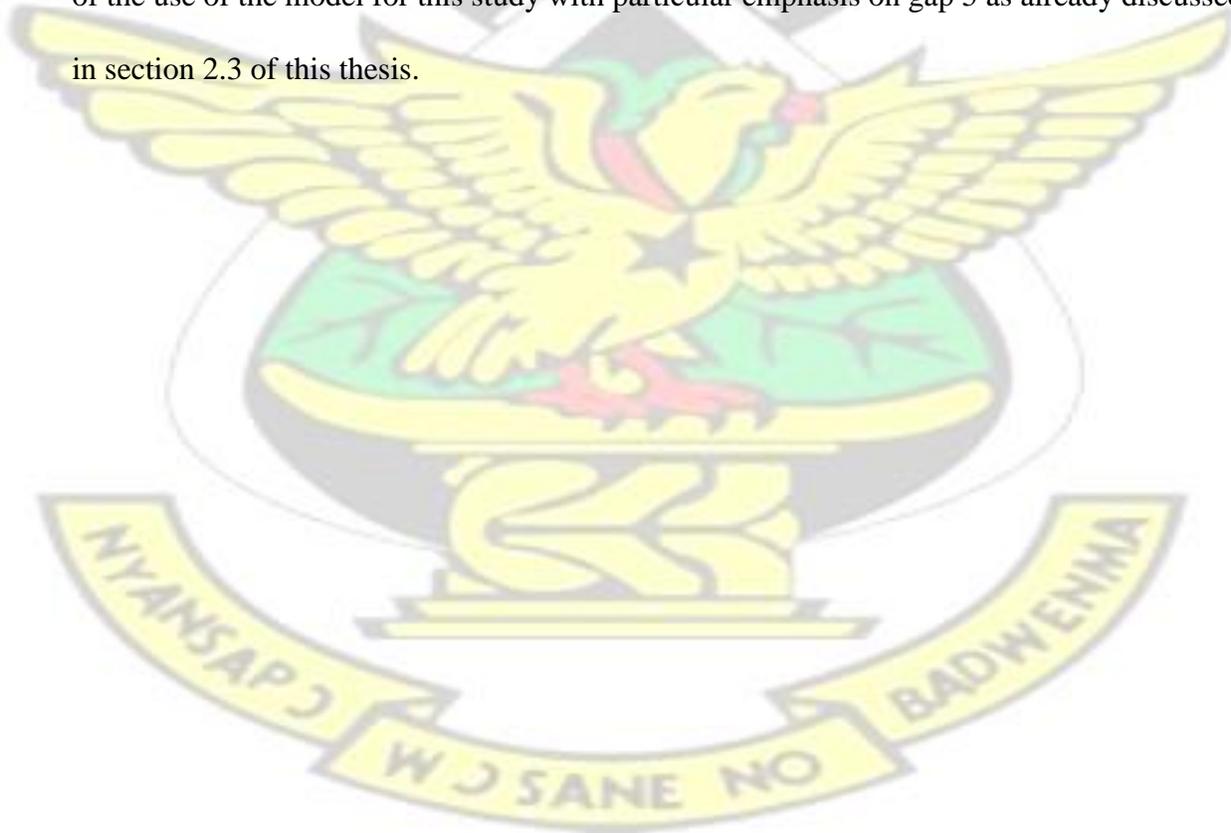
### **3.3.4 Criteria for Selection of Respondents in Firms**

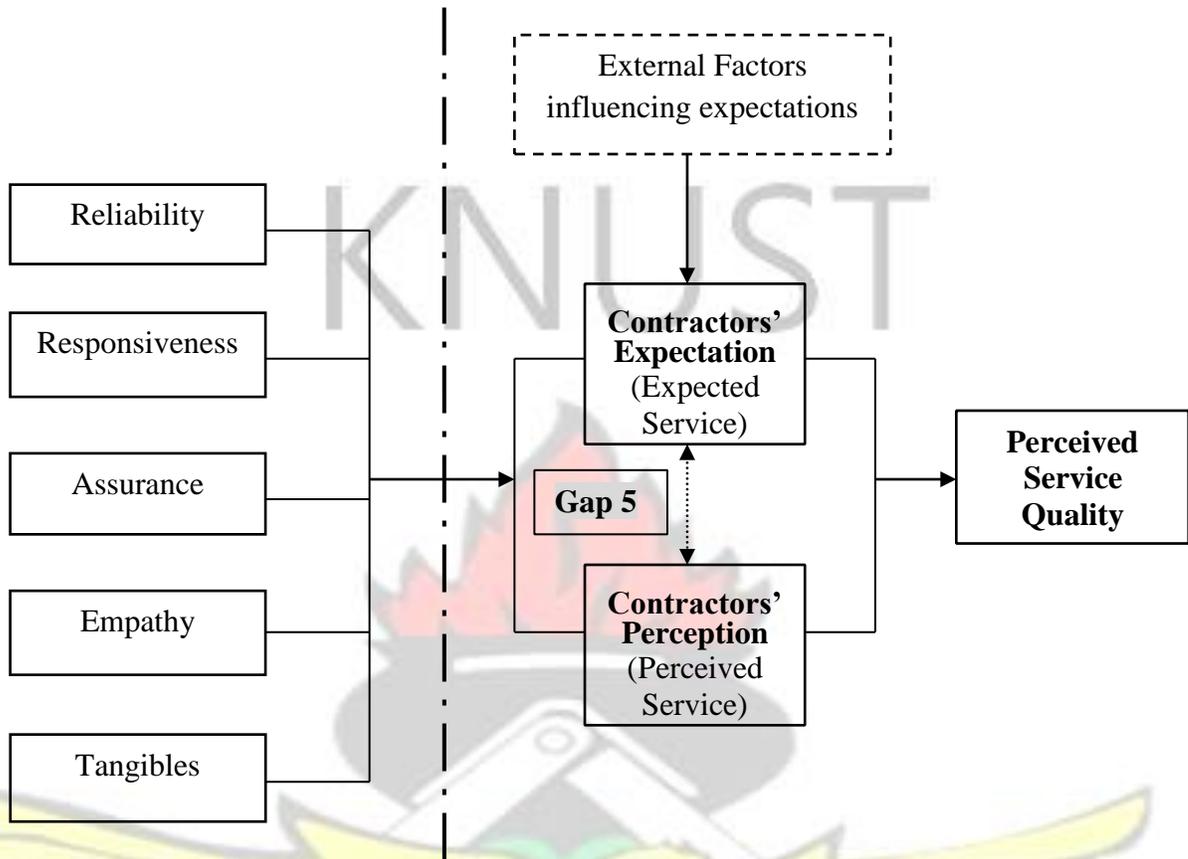
The researcher was mindful of the fact that, in a typical Ghanaian construction environment, a construction firm encounters the services of a consulting PQS firm when a contract has been awarded to it and supervised by the professional firm in question. To this extent, consultations and interactions with a professional firm on behalf of a particular construction organization is being carried out by its 'front-line' employees (RamseookMunhurrun *et al.*, 2009). These employees include managing directors, quantity surveyors, contract managers and construction project managers etc.

Questionnaires were then developed and sent to each construction firm with one of the above target group of respondents in mind.

### **3.4 ADAPTING THE SERVQUAL INSTRUMENT**

SERVQUAL defines customer's evaluation of quality as a function of the gap between what he/she expects and what is perceived after the service encounter (Tan and Pawitra, 2001). According to Sureshchandra *et al.* (2001) and Chiu, (2002), it is the most widely utilized measurement instrument for measuring service quality. Its application continues to increase in different service settings (Ramseook-Munhurrin *et al.*, 2009). To this extent, this research has adopted the instrument in order to establish contractors' assessment of the quality of services provided by PQS firms in Ghana. Figure 3.1 shows a diagrammatic representation of the use of the model for this study with particular emphasis on gap 5 as already discussed in section 2.3 of this thesis.





**Figure 3.1: Measuring service quality using SERVQUAL**

**Source:** Modified from Kumaret al. (2010)

Nonetheless, it is not to say that, there are no limitations associated with the use of SERVQUAL. Indeed, Webster and Hung (1994) observed that a situation where respondents are asked to answer a series of expectations and a series of perceptions questionnaires after a service encounter can be problematic in terms of convenience and its practicability. However, this study overcame this shortcoming by adopting a methodology suggested by Babakus and Mangold (1992) and Johns *et al.* (2004) where expectations and perceptions are measured at the same time using a single set of questionnaires. They proposed a Likert scale on range from “1 = strongly disagree” to “5 = strongly agree”. All factors are then positively worded under each dimension depicting expectations as shown in “Appendix A” section “B”

of this thesis. A perception score is registered when a respondent chooses strongly disagrees or disagrees. Finally, by choosing agree or strongly agrees confirms and registers the score for expectations.

### **3.5 QUESTIONNAIRE DESIGN**

Questionnaires were used as the data collective tool in this research. According to Frazer and Lawley (2000), questionnaires can be close-ended, open-ended or both depending on the expected outcome of the study. This study adopted the latter and comprised of 22 items used to measure the five SERVQUAL dimensions with some modifications made to suit service quality setting in PQS firms. The questionnaires were first pilot tested among smaller number of respondents having similar characteristics to those of the target group of respondents. It was observed that two out of the 22 items were not applicable to PQS settings. However, given that the instrument allows this modification (Saurina and Coenders, 2002) the 22 items were reduced to 20 for this particular study.

### **3.6 CONTENT OF QUESTIONNAIRES**

The questionnaires basically comprised of four sections as shown in “Appendix A”. The first section captures demographic information about the respondents. The second section was designed to assess the expectations and perceptions of respondents according to the five service quality dimensions i.e reliability, responsiveness, assurance, tangibility and empathy. As proposed by Babakus and Mangold (1992) and Johns *et al.* (2004), respondents were asked to rate their expectations and perceptions of each of the 20 items on a five Likert scale from “1 = strongly disagree”, “2 = disagree”, “3 = Neutral”, “4 = agree” to “5 = strongly agree”. The third section measured the effect of the five

SERVQUAL dimensions in predicting contractors' satisfaction in Ghana. As applied in other studies such as Cronin and Taylor (1994), Yuksel and Yuksel (2002) and RamseookMunhurrun *et al.* (2009), this study again adopted the use of a likert scale ranging from “1 = extremely dissatisfied”, “2 = dissatisfied”, “3 = slightly satisfied”, “4 = satisfied” to “5 = extremely satisfied” to determine contractors' overall satisfaction. The final section comprised of open-ended questionnaires intended to obtain views and suggestions from contractors with regards to service quality improvement in PQS firms in Ghana.

### **3.7 DISTRIBUTION OF QUESTIONNAIRES**

Frazer and Lawley (2000) outlined four ways of administering questionnaires: personally administered questionnaires, mail questionnaires, telephone questionnaires and internet questionnaires. Given the limited time frame available for the study, the former option was chosen and questionnaires were personally administered at the headquarters of the various contractors by the researcher together with the help of some assistants so that follow ups could easily be made. This was possible because the register of contractors obtained from the MWRWH provided their respective addresses.

### **3.8 STATISTICAL TOOLS**

Data analysis for the study was conducted using SPSS 16.0 for Windows and Microsoft Excel 2013. Relative importance indices of the 20 factors spreading among the five SERVQUAL dimensions were calculated. Descriptive statistical methods were used to assess contractors' expectations and perception scores. Thereafter, two-tailed student t-tests were performed to test for the significant difference between the means of expectations and perceptions. Multiple regressions were also used to determine the relationship between the service quality

dimensions and contractor's general satisfaction. Finally, the open-ended questionnaires used to obtain views and suggestions from contractors with regards to service quality improvement were analyzed using thematic narrative.

### **3.9 GUIDELINES FOR IMPROVING SERVICE QUALITY IN PQS FIRMS**

This section briefly describes the design of guidelines for improving service quality (SQ) in PQS firms in Ghana which is further described in more detailed in Chapter 4. It describes the design process and validation procedure of the model.

#### **3.9.1 Guidelines Model Design**

The design of the model to assist PQS firms improve SQ in Ghana was aided by a cross-sectional survey of contractors. The survey used closed-ended questionnaires which highlighted a SQ framework with modifications to suit Quantity Surveying firms' settings. Coupled with open-ended questionnaires comprising of suggestions from respondents, the practicability of the model was further enhanced. Design considerations of the model is further described in detailed in section 4.5 of this thesis. The model obtained was subjected to critical assessment by seasoned practitioners operating PQS firms in the GCI through questionnaires.

#### **3.9.2 Validation Procedure for Guidelines Model**

According to Barlas and Carpenter (1990), validation refers to the justification of knowledge claims. The aim of this process was to establish the reliability of the above developed model and as to whether it could be generalized. The study adopted an external validation process where experts were approached to comment on relevant aspects

(Brinberg and McGrath, 1985) of the model.

The sample for validating the developed guidelines model was drawn from 'Experts' who are managers or directors of consulting PQS firms in the GCI. A cross section of them was

contacted from different regions of Ghana to assess the model. Eight respondents were purposefully chosen and targeted for the assessment though seven were eventually responsive and used in the analysis. They comprised of practitioners in private practice (or consultants) with not less than ten years of experience.

A presentation of the model as designed was first e-mailed to each respondent together with questionnaires (*see* Appendix B), to serve as a guide which they subsequently answered. The validation process looked out for respondent agreement or otherwise with the issues proposed in the model, content and also the underlying logic of the model. The assessment questionnaire at the end made provision for suggestions from respondents with regards to improvement of the model.

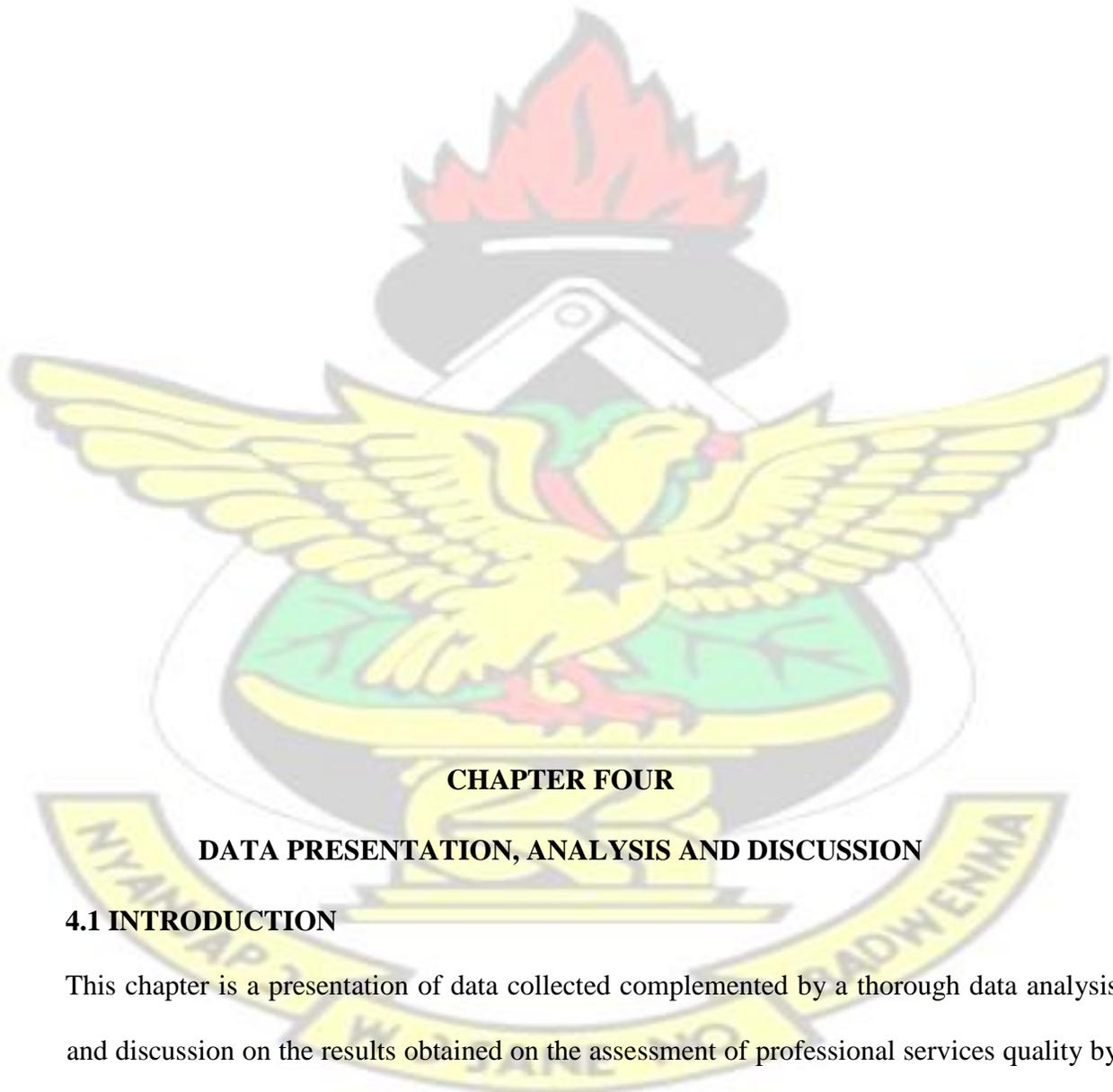
Respondents were asked to indicate their level of agreement with each statement on the assessment form using a Likert scale on range; from 5- Strongly agree, 4- Agree, 3- Neutral, 2- Disagree and 1- Strongly disagree.

### **3.10 SUMMARY**

The chapter discussed the research approach and methodologies. Epistemologically, the study is more geared towards positivism, and objectivity at the ontological level. It adopted a mixed approach combining both quantitative and qualitative methods in order to provide a thorough interrogation of the research problem through its set aim and objectives.

Thorough description of the data collection and survey process was also undertaken. Questionnaire design, content, method of distribution and the relevant statistical tools employed in the analysis of the data collected were presented. Finally, a brief presentation of how the results obtained from the analysis informed the design and subsequent validation of the guidelines was discussed in this chapter.

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## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS AND DISCUSSION**

#### **4.1 INTRODUCTION**

This chapter is a presentation of data collected complemented by a thorough data analysis and discussion on the results obtained on the assessment of professional services quality by D1 K1 contractors in a survey. The chapter is structured based on a questionnaire administered in three sections. The first section captures the background of respondents who

form the core of the contractor's workforce and are stakeholders in the quantity surveying industry. The second section presented utilizes a 20 item SERVQUAL or RATER services quality (SQ) framework which highlights the main components of quality service pertaining to professional quantity surveying (PQS) firms in Ghana. These are categorized in five dimensions adapted from the research by Parasuraman *et al.* (1991) and later cited in a methodology designed by Ramseook-Munhurrun *et al.* (2009) with some modifications. The differing categories include Reliability, Responsiveness, Assurance, Empathy and Tangibles using a five point Likert scale on range; from "1=Strongly Disagree" to "5=Strongly Agree" as suggested by Babakus and Mangold (1992) and John *et al.*, 2004. The third section measures levels of satisfaction with the services offered in five varying dimensions as applied to PQS firms in the Ghanaian construction industry (GCI) also using a five point Likert scale. An additional section on the views and suggestions of contractors is also presented. Finally, the chapter concludes with the design of a guidelines model for improving SQ in PQS firms, and a presentation of its validation process.

The research uses SPSS version 16.0 and Microsoft Excel 2013 for analyzing the data collected. Descriptive statistics, statistically significant tests and relative importance index are performed on the variables considered. A multiple regression is also performed to establish levels of relationships between some variables. The next section is a summary on the background information of respondents.

## **4.2 BACKGROUND INFORMATION**

This section presents background information of data collected on 40 respondents subject to their professional backgrounds, experience with the GCI and working experience with current company. It also details number of projects undertaken and frequency of service provision.

Table 4.1 shows the summary of information on the professional backgrounds of the individual respondents in this research. Majority of the respondents were Quantity Surveyors representing up to 35 percent. There were also Managing Directors constituting 15 percent and remaining half consisted of Managers (i.e Construction Project Managers, Construction Managers and Contract Managers).

**Table 4.1: Background Information of Respondents**

	Frequency	Percent	Cumulative %
Managing Director	6	15.0	15.0
Construction Project Manager	5	12.5	27.5
Quantity Surveyor	14	35.0	62.5
Construction Manager	6	15.0	77.5
Contract Manager	9	22.5	100.0
Total	40	100.0	

**Source: Researcher's field survey, 2014**

The data collected showed that most of the respondents representing 57.5 percent had had more than a decade's experience in the GCI. There were 9 individuals (22.5%) and 8 individuals (20.0%) who had had between 5-10 years' experience and less than 5 years' experience respectively in the GCI. This information is summarized in Table 4.2 under the section Ghanaian Construction Ind. Table 4.2 also shows the working experience of the respondents in their current company.

**Table 4.2: Years of Experience**

	Ghanaian Construction Ind.		Working Experience	
	Frequency	Percent	Frequency	Percent
Less than 5 Years	8	20.0	11	27.5
5-10 Years	9	22.5	15	37.5
More than 10 Years	23	57.5	14	35.0

Total	40	100.0	40	100.0
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**Source: Researcher's field survey, 2014**

Table 4.3 shows a summary of the number of projects undertaken in the last five years of working. The summary shows that up to 52.5 percent have taken 10 or less projects (with 32.5% having undertaken between 6-10 projects). A significant 47.5% of the respondents have worked on more than 10 projects in the last five years.

**Table 4.3: Projects Undertaken in Last Five Years**

Number of Projects	Frequency	Percent	Cumulative %
1 – 5	8	20.0	20.0
6 – 10	13	32.5	52.5
11 – 15	13	32.5	85.0
16 or More	6	15.0	100.0
Total	40	100.0	

**Source: Researcher's field survey, 2014**

The final objective in the background is the consideration of the frequency of service of PQS firms in Ghana. Respondents were therefore asked how often they encountered these services and the summary of the responses are summarized in Table 4.4. Only two individuals stated that they had either rarely or not encountered services of PQS firms in Ghana representing 5%. The remaining 95% of the respondents either very often or quite often encountered these services in their line of project contracting and implementation.

**Table 4.4: Service Frequency of Quantity Surveying**

	Frequency	Percent	Cumulative %
Very Often	22	55.0	55.0
Quite Often	16	40.0	95.0
Rarely	1	2.5	97.5
Not at all	1	2.5	100.0
Total	40	100.0	

**Source: Researcher's field survey, 2014**

Based on the background information it is evident that these respondents are not only professionals in the construction industry but also have had significant years of experience because more than half of the respondents had worked for more than a decade. Most of these respondents had also worked on between 6 or more projects and have very often encountered services of PQS firms in Ghana. They are therefore in a good position to assess the quality of these professional services. The next section is a presentation and analysis of SQ dimensions from the data collected.

### **4.3 QUALITY ASSESSMENT FACTORS**

This section presents and analyzes data collected on factors which can be used to assess the quality of services provided by PQS firms in Ghana. The research utilizes a 20 item services quality framework which highlights the main components of SQ pertaining to PQS firms in Ghana. These are categorized in five dimensions adapted from the research by Parasuraman *et al.* (1991). The differing categories include Reliability, Responsiveness, Assurance, Empathy and Tangibles using a five point Likert scale on range; from “1=Strongly Disagree” to “5=Strongly Agree”. The summary in Table 4.5 shows the Total score, Mean, Standard deviation and Relative Importance Indices (RII) for ranking with respect to the various specific questions that contractors responded to. The RII provides information on priority of choice from respondents. So for example from Table 4.5, provision of accurate information (RII=77.50) is the most significant factor with reliability.

**Table 4.5: Summary Statistics for SERVQUAL Dimensions**

	<b>Factor</b>	<b>Score</b>	<b>Mean</b>	<b>SD</b>	<b>RII</b>
<b>Reliability</b>	Promise to render Service	150	3.75	9.30	75.00
	Show Interest	138	3.45	8.97	69.00

	Perform Service	129	3.23	4.18	64.50
	Provide Service at Time Promised	150	3.75	5.39	75.00
	Provide accurate information to contractors	155	3.88	6.20	77.50
<b>Responsiveness</b>	Provide Prompt Service	131	3.28	9.35	65.50
	Always willing to Solve Contractor's Problems	121	3.03	6.96	60.50
	Never too Busy to Respond to Contractors	124	3.10	6.04	62.00
<b>Assurance</b>	Behavior of Professionals instills Contractor's Confidence	152	3.80	8.34	76.00
	Trust between Contractors and Firms	146	3.65	5.57	73.00
	Firms are consistently Courteous to Contractors	152	3.80	6.75	76.00
	Professional are standard	153	3.83	10.32	76.50
<b>Empathy</b>	Professionals offer attention to Contractors	149	3.73	7.68	74.50
	Firms have contractors at best interest	129	3.23	6.28	64.50
	Specific Needs of Contractors Understood	129	3.23	6.28	64.50
	Working hours of Firms are convenient for Contractors	141	3.53	6.04	70.50
<b>Tangibles</b>	Modern Equipment to Work with	144	3.60	5.29	72.00
	Visually appealing resources in Firms	142	3.55	6.67	71.00
	Attractive and Comfortable Working Area	131	3.28	6.60	65.50
	Professionals appear neat and smart looking at work	169	4.23	9.30	84.50

**Source: Researcher's field survey, 2014**

The five dimensions defined within the categories of the SERVQUAL synced with the data collected are further summarized at the dimension level in Table 4.6. This gives information on the mean scores, standard deviation and t-statistics on the basis of the expectations, perceptions and gaps for the five dimensions. The gap scores represent the difference between expectations and perceptions of contractors regarding the PQS firms being quantified. The t-statistics was also calculated at every dimension to test for significant differences between expectations and perceptions.

**Table 4.6: Descriptive Statistics for Service Quality Dimensions**

Dimension	Perception		Expectation		Gap		t-values
	Mean	SD	Mean	SD	Mean	SD	
Reliability	3.61	6.81	3.40	11.20	0.21	0.34	0.101
Responsiveness	3.13	7.45	3.28	7.11	-0.14	3.50	-0.087
Assurance	3.77	7.74	3.48	10.75	0.29	5.34	0.140
Empathy	3.43	6.57	3.55	8.37	-0.13	3.20	-0.074
Tangibles	3.66	6.96	3.48	10.75	0.19	6.96	0.093

**Source: Researcher's field survey, 2014**

The computed t-statistics values in the summary of Table 4.6 are compared with the twotailed test statistics calculated as  $t=1.289$  with  $(40+40-2)$  degrees of freedom which makes all differences in Table 4.6 significantly different at  $p=0.05$ .

The gap scores for Responsiveness and Empathy are negative implying that the expectations from contractors are not being met regarding these two dimensions. The remaining dimensions (i.e. Reliability, Assurance and Tangibles) registered positive gaps implying that the expectations regarding these dimensions are currently being satisfied. Put otherwise, contractors felt reliable, assured and the tangibility of the PQS firms they worked with. In relative terms, Assurance was the most satisfied dimension with a gap score of **(0.29)** with Reliability **(0.21)** and Tangibles **(0.19)**. The overall average gap was positive (i.e. **0.42**) indicating that the services provided by the PQS firms were above the expectations of contractors although expectations regarding Responsiveness and Empathy were not met.

In order to investigate the nature of the relationship between the overall performances which (measured using expectation) and the perceptions derived from the data, a multiple regression analysis is performed. The dimensions which fell below expectation (i.e. responsiveness and empathy) were separated from the dimensions which were above expectation. The results in Table 4.7 shows that except for Responsiveness which had a positive significant relationship

with the overall performance at  $p=0.10$ , the remaining dimensions were not significant at  $p=0.10$ . The R squared (coefficient of determination) for the categories considered were **0.88018** for dimensions which fell below expectation and **0.91217** for the dimensions above expectation. However, the higher overall variability explained in both cases were not significant.

**Table 4.7: Multiple Regression of Overall Performance on SERVQUAL Dimensions**

Independent Variables					
	Coefficients	Standard Error	t Stat	P-value	R=0.88018
Constant	-3.801	9.611	-0.395	0.731	F=0.1198
Responsiveness	1.196	0.354	3.380	0.077	
Empathy	-0.006	0.431	-0.014	0.990	
	Coefficients	Standard Error	t Stat	P-value	R=0.91217
Constant	29.031	24.522	1.184	0.447	F=0.37172
Reliability	-5.935	3.374	-1.759	0.329	
Assurance	6.264	3.840	1.631	0.350	
Tangibles	-0.780	1.803	-0.433	0.740	

**Source: Researcher's field survey, 2014**

#### 4.3.1 Discussion of Results

The first dimension of interest is responsiveness. From table 4.6 this dimension registered a gap of **(-0.14)** having scored a mean value of **(3.13)** for perception and **(3.28)** for expectation. This shows that contractors are generally not satisfied with PQS firm's responsiveness. According to Grönroos (1984), this dimension entails the willingness to help customers and provide prompt services. It touches on service themes such as: PQS firm's ability to provide prompt services to contractors, their willingness to solve contractors' contract management problems and never being too busy when contractors need them. The inability of this

dimension to meet contractors' expectations therefore calls for urgent attention from PQS firms.

Secondly, the dimension empathy with a perception mean score of (3.43) and expectation score of (3.55) registers a gap of (-0.13) indicating contractors' general dissatisfaction with its performance. According to Parasuraman *et al.* (1990), empathy is the extent to which customers are offered caring and individualized attention and includes: access, communication and understanding of the customer. In this study, it describes among other things the extent, to which PQS firms are able to offer contractors individualised attention, firms' sincere show of having contractors' interest at heart, understanding the specific needs of contractors and having convenient working hours suitable for contractors. In order to improve service quality delivery, this dimension needs to be looked at critically.

The next dimension in relative terms to which contractors are less satisfied with is tangibility. In Parasuraman *et al.* (1990) description of this dimension, it involves the level of appearance and adequacy of physical facilities, equipment, personnel and communication materials. Grönroos (2007) describes it as having a functional quality.

From table 4.6 it obtained a positive gap of (0.19) by contractors' assessment having scored a perception mean of (3.66) and expectation mean score of (3.48). It provides an indication that contractors are generally satisfied with the performance of this dimension.

The fourth dimension, reliability refers to performance and dependability (Grönroos, 1983). From table 4.6 it obtained a perception mean score of (3.61) and an expectation score of (3.40), thus registering a difference of (0.21) and generally showing contractors' satisfaction with its performance. In this study, it details PQS firms' ability to perform promised services to contractors, show of sincere interest in solving contractors' problems, ability to perform

services to contractors rightly, providing services at the time promised and the provision of correct and accurate information to contractors at all times.

Last but not the least, the highly rated dimension by contractors is assurance. According to Parasuraman *et al.* (1990), it is about competence, courtesy, credibility and security from the service provider. It registered a positive gap of (0.29) after scoring a mean value of (3.77) for perception and (3.48) for expectation. It represents items such as confidence instilling behaviours of quantity surveying professionals, contractors' ability to trust PQS firms during project execution, courtesy requirement of quantity surveying professionals and level of competency of quantity surveying professionals.

Finally, an overall positive gap of (0.42) provides an indication that, though contractors are not satisfied with some of the dimensions as discussed above, they were generally satisfied with the quality of services provided by PQS firms. This may explain why contractors do not usually complain about the poor quality of services provided by PQS firms in this country, perhaps to maintain that good working relationship between them.

The next section of this analysis is a thematic narrative and discussion of suggestions from contractors with regards to service quality improvement in PQS firms.

#### **4.4 SUGGESTIONS FROM CONTRACTORS**

The final section of the survey was a screenshot of suggestions from contractors on their assessment of professional services quality in quantity surveying firms. The related suggestions highlighted on specifics such as effects of delay in preparing certificates, site visits, etc., provision of inaccurate information and its related effects on contractors, assessment of the knowledge level of professional from the firms, etc. The suggestions

included five pairs of categories; each pair representing one of the five dimensions discussed in this research.

The first pair of suggestions centered on the effects of delay in payment estimates, claims, site visits for the purposes of measurement and its effect on the contractors and secondly how the provision of inaccurate information affected the operations of contractors. A key effect suggested by 70% of respondents was an effect of delay in the progress of work; 65% of respondents also suggested that the performance of work was derailed and profits were affected negatively. Other suggestions include inability to meet obligations with bankers and other peripheral partners primarily because other workers are dependent financially on the contractor in addition to purchase of relevant materials to meet working demands. Any form of delay therefore would contribute negatively to the overall performance of work. The research also found from the second suggestion that the provision of inaccurate information provided by professional quantity surveying firms caused unnecessary debates and arguments which eventually evolved into issues of mistrust and disputes. It also contributed to poor delivery and disputed finances in creating avenues for additional costs.

The second pair of suggestions investigated firstly measures for prompt service provision and secondly attitudes portrayed by the professionals when their services were needed in solving managerial problems. The contractors stated that in order to provide prompt services the firms needed to keep abreast with emerging market trends (including updated information on market prices) and spend enough time in meeting standard requirements. One key measure stated by almost all contractors was the fact that the firms should recruit qualified and experienced staff in order to provide prompt services. The respondents were however not conclusive on what attitudes the firms portrayed when needed to solve managerial problems

as almost 50% stated that the firms were always reluctant at first approach with the remaining respondents stating that the firms were welcoming, professional and gave quick responses. Some few respondents nearing 30% indicated that the firms were conditionally professional provided that payment for services was not an issue.

The third pair of suggestions captured inspiration of confidence in service provision and level of knowledge exhibited by the individuals that represent these firms. The respondents suggested generally that the firms were very experienced and knowledgeable with small and medium projects. Although they demonstrated requisite and excellent technical skills on small to medium sized projects, they were not very familiar with complex or large scale sized projects. The firms were also averagely found to inspire trust and confidence in their clients although some respondents found these firms worked according to the ethics of the professional body.

In relation to meeting expectations of clients, the respondents suggested that these quantity surveying firms should be equipped with modern facilities as a working environment. Also respondents were affirmative on the provision of better communication equipment such as computers, internet access, up-to-date software and its positive effect on project delivery especially with regards to communication between parties. This pair constituted the fourth pair of suggestions.

The final pair of suggestions related to level of attention during project execution and whether the professionals in these firms were accessible and generally understanding in the long term. The results suggested that once the project commenced, these professionals provided very sound level of attention to their clients. The firms were however found to be relatively

accessible and understanding during reports, claims and arbitrations providing facts, figures, illustrations and analysis to demonstrate their professionalism. Some few respondents indicated that a phone call was sometimes enough to schedule a meeting with a professional from a quantity surveying firm.

The ensuing section takes a look at this analyzed data and how it informs the design and subsequent validation of the resultant guidelines derived from the above analysis and discussion.

#### **4.5 GUIDELINES MODEL DESIGN CONSIDERATIONS**

The model presents a two phased framework: critical improvement phase and continuing improvement phase. This was arrived at based on the results of the analyzed data discussed above. This section discusses the two phases identified as follows;

##### **4.5.1 Critical Improvement Phase**

The critical improvement phase consists of service quality dimensions that did not meet respondent expectations and needed urgent attention for improvement by PQS firms in the industry. It starts with worse performing dimension responsiveness and followed by empathy (*see* Table 4.6). The order of the factors under each dimension for consideration was dictated by their respective relative importance indices (RII). The relative importance indices provided an indication of the level of importance each respondent had on each factor. It was therefore logical that highly rated factors by respondents were given preference under each dimension.

Responsiveness of a firm is an important factor to achieving SQ and maintaining competitive advantage. According to Barclay *et al.* (1996) *cited in* Kritchanchai and MacCathy, 1999, responsiveness of a firm is its ability to react purposefully within a certain time frame to

significant events, opportunities or threats to bring about or maintain competitive advantage. The inability of this dimension to meet the expectations of respondents in the industry shows how urgent or critical it is to look at. The model indicates that, PQS firm's ability to provide prompt services at all times, urgent responds to customers request and the show of willingness to solve customer's problems will greatly improve this dimension.

Secondly, empathy as a required dimension in service quality delivery also fell below expectation and was therefore considered in this phase as critical. Its weakness provides a wakeup call requiring serious considerations that must be given by PQS firms in their ability to offer the needed attention to their customers, demonstrate that they have unbiased interest to all parties of a contract, show understanding of the specific needs of each customer and make their working hours convenient to customers.

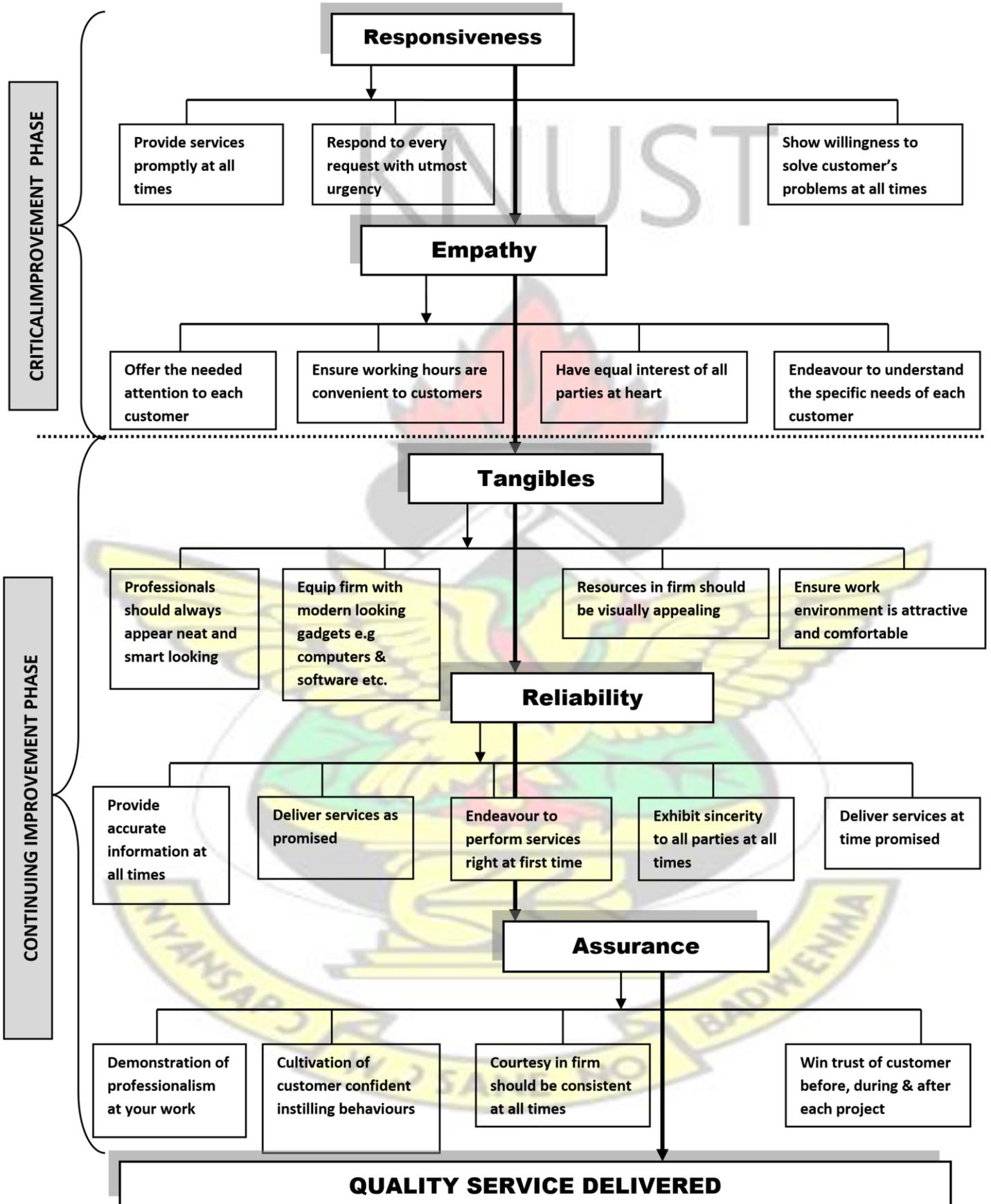
#### **4.5.2 Continuing Improvement Phase**

The next phase of the model is the continuing improvement phase. It presents dimensions that respondents were satisfied with in the industry. It starts from the least to the highest in an ascending order depicting the order of priority in terms of improvement by PQS firms in Ghana. Though dimensions in this phase meets expectations of respondents in the industry (*see* Table 4.6), it needs continuous improvement hence the name continuing improvement phase. Suggestions from respondents above were well noted and incorporated in the model. Figure 4.1 below presents an integrated model of the two phases as discussed. It is obvious that quality service can be delivered by any PQS firm in Ghana if the guidelines in this framework are followed.

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**FIGURE 4.1: GUIDELINES FOR IMPROVING SERVICE QUALITY IN PQS FIRMS IN GHANA**





## **4.6 ASSESSMENT OF MODEL**

This section is a presentation and discussion on data collected on guidelines for improving service quality in PQS firms in Ghana. The research based on the objectives constructed a model based on the results on the SERVQUAL structure for Quantity Surveying firms. Seven professional quantity surveying experts in the field answered the questionnaire on their levels of agreement with the model, content of the model and the fundamental logic of the model. The data was collected using a five point Likert scale on range; from “1=Strongly Disagree” to “5=Strongly Agree”.

### **4.6.1 Experts' Commentary on Model**

Table 4.8 shows the summary of the descriptive measures from the data collected from the Quantity Surveying experts from individual firms. The statistical measures used in summarizing the responses include the mean, Standard Deviation (SD) and the Relative Importance Index (RII) as used in the Table 4.8.

The results indicate that respondents generally strongly agreed with the general framework of the model presented as given by the respective means of the various categories conveyed with similarly insignificant standard deviations (1.3 - 2.6) indicating very high consistency or variation in the views of the experts. Although the model was presented without any prior information on how the two distinctions were made (i.e. Continuing and Critical Phases), the experts agreed more (Overall Mean = 4.65) on the general caption and framework of model than they did with either the content (Overall Mean = 4.28) or the logic (Overall Mean = 4.29) of the model presented. The relative importance indices for the various factors ranged between 97.1 for the factor of PQS industrial need for the model to

80.0 for the factors of dimensions listed within the model addressing pertinent issues and items under the two phases depicting the improvement needs of PQS firms. This statistical range of the RII is not only confirmatory of the high level of agreement with the model, but also its content and logic.

**Table 4.8: Assessment of Model for Improving Service Quality in PQS Firms**

Factor		Mean	SD	RII
<b>Agreement with the Model</b>				
1	Professional QS Industrial Need for Model	4.86	2.6	97.1
2	Versatility of Model in Other Industries	4.57	1.9	91.4
3	Generally Suitable for QS industry	4.29	1.7	85.7
4	Adaptability by other stakeholders e.g. Planners	4.86	2.6	97.1
		<b>4.65</b>		
<b>Content of the Model</b>				
5	Two phases are satisfactory	4.14	1.7	82.7
6	Five dimensions under phases reflects QS areas	4.71	2.2	94.3
7	Dimensions address underlying factors	4.00	1.3	80.0
		<b>4.28</b>		
<b>Logic of the Model</b>				
8	Items under two phases depicts improvement needs	4.00	1.3	80.0
9	Guidelines can improve quality if adhered to	4.43	1.7	88.6
10	Sequential flow of chart is easy to follow and understand	4.43	1.7	88.6
		<b>4.29</b>		

**Source: Researcher's field survey, 2014**

Additionally, the experts provided general professional comments on the structure, design and effect of the construct of the model by the research. These additional comments are summarized as follows:

A considerably highlighted caption was concerning the presentation and unadorned outlook of the model. A suggestion was made to the effect that the organization presented should be accompanied by a brief introduction of the model within which the significance of the two

partitions in the model would be explained. This primarily aid in understanding the structuring and distinctions between the two phases and their subdivisions (i.e.

Responsiveness and Empathy categorized under the Critical Improvement Phase and then the Tangibles, Reliability and Assurance dimensions categorized under Continuing Improvement Phase).

The experts additionally commented that the uncoordinated nature of the Quantity Surveying Professional Practice existent currently will greatly benefit from the guidelines within the model. Close to fifty percent of the experts agreed that the model will go a long way in improving the service quality in many PQS firms as it currently stands as a suitable template for the purpose intended.

One expert classified the areas captured in the model as soft skilled sections in the practice of quantity surveying, which would tackle issues of relationships and communication between customers and quantity surveying professionals. There was agreement that the guidelines as perceived will be resourceful in helping improve SQ and delivery.

Another expert outlined that continuous professional training to current trends/tools in the industry worldwide was a head start in providing quality service. This has however been captured under Tangibles which in the model was a dimension under the Continuing Improvement Phase. Also, another expert bemoaned the unnecessary and unhealthy competition among PQS firms as a major contributor to poor service delivery by these firms.

#### 4.7 SUMMARY

This chapter presented a detailed analysis of data collected and a comprehensive discussion of the results obtained. Statistical measures employed in the analysis were, descriptive statistics, statistically significant tests, relative importance indices and multiple regressions. It was found from the study that two of the five quality assessment dimensions; responsiveness and empathy were below contractors' expectations though an overall positive gap was registered indicating contractors' general satisfaction with PQS firms' SQ delivery. Contractors' suggestions regarding SQ improvements were analyzed using thematic narrative and well noted into the next phase of the chapter. The second phase of the chapter was the design of a guidelines model for improving service quality in PQS firms based on the results of the analyzed data. Two important phases were identified for the model; critical and continuing improvement phases. Finally, the chapter concluded with the validation of the model where seven responsive operators of PQS firms (Experts) were drawn from the industry and used for the analysis. It was found that they all generally almost strongly agreed or agreed with all the three areas of the model; agreement with the framework of the model, content of model and logic of model.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

The aim of the study is to develop guidelines for improving quality of services provided by PQS firms in Ghana based on contractors' service quality assessment and to achieve this aim; a set of objectives were put forth guided by the underlying research questions in this study. This chapter takes a re-look at the objectives outlined in chapter one of this thesis to determine whether the intended aim of the study has been achieved. Finally, it documents recommendations based on the findings and also makes recommendations for further studies.

#### **5.2 UNDERPINNING CONCEPT OF THE RESEARCH**

The underpinning concept of the study is based on Parasuraman *et al.* (1991) service quality model called SERVQUAL. According to these authors, SERVQUAL defines customer's evaluation of service quality as a function of the gap (difference) between expected service and perceived service.

#### **5.3 FINDINGS OF THE RESEARCH**

In order to address the main issues raised in this research, the study began by setting an aim for itself which it sought to achieve at the end of the research process. To achieve this aim, specific objectives were set. This section therefore discusses how this research achieved this aim through its set objectives.

The aim of the study as indicated in section 1.4 of chapter one in this thesis was;

*.....to develop guidelines for improving quality of services provided by professional quantity surveying firms in Ghana based on contractors' service quality assessment*

In order to achieve this aim, four objectives were set as captured in section 1.5 of this research.

### ***Review of First Objective***

The first objective was to assess contractors' expectations of service quality by PQS firms.

This objective was achieved by assessing expectations scores of contractors using a 20 item SERVQUAL or RATER services quality framework categorized into five differing dimensions. They highlighted the main components of quality service pertaining to PQS firms in Ghana as discussed in section 4.3 of this thesis and captured in Table 4.6.

### ***Review of Second Objective***

The second objective was to assess contractors' perceptions of service quality by PQS firms.

This objective was also achieved by assessing the perceptions scores of contractors using the same 20 item SERVQUAL or RATER services quality framework categorized into five differing dimensions. These are also presented in section 4.3 of this thesis and captured in table 4.6.

### ***Review of Third Objective***

The third objective sought to determine contractors' level of satisfaction based on expectations and perceptions gaps. This objective was achieved as captured in Table 4.6. It showed that the dimensions (Responsiveness and Empathy) recorded negative gaps indicating that, they did not meet contractors' expectations in the Ghanaian construction industry and as such were not satisfied. The positive gap dimensions (Tangibility, Reliability and Assurance) indicated that contractors were satisfied with their performance in the

industry. The Table also showed that, though there may be some non performing service quality dimensions which needed to be improved upon, an overall positive gap recorded from Table 4.6 indicates that contractors were generally satisfied with the overall quality of service provided by quantity surveying firms in Ghana.

#### ***Review of Fourth Objective***

The fourth objective sought to make use of the analyzed data from the above objectives to develop guidelines for improving service quality in PQS firms in Ghana. The design of the guidelines model featured two phases: critical improvement phase and continuing improvement phase as shown in Figure 4.1. It went through a validation process by ‘Experts’ in the quantity surveying industry. They filled assessment forms which highlighted on questions regarding their agreement or otherwise with the model, its content and logic as discussed in section 4.6 of this study. The analyzed data showed that, they were generally satisfied with its provisions.

#### **5.4 CONTRIBUTION OF THE RESEARCH IN GHANAIAN CONTEXT**

Key contribution of the outcome of this research was bridging a theoretical gap of providing guidelines for improving service quality in PQS firms in Ghana.

#### **5.5 SUMMARY OF CONCLUSION**

In concluding the research, the achievements of the objectives are summarized as follows:

Firstly, the research revealed that, the largest operating construction companies in the country, D1 K1 are not satisfied with PQS firm’s responsiveness to service delivery. This has industrial implications which require serious attention from PQS firms to providing services promptly as always promised, show urgency in responding to customers’ requests and demonstrate willingness to solve customers’ problems at all times.

Secondly, the research has demonstrated that, when it comes to the issue of empathy as a requirement in service quality delivery, PQS firms are below expectation. This is a wake up call requiring serious considerations in the area of their ability to offer the needed attention to their customers, demonstration of unbiased interest towards all parties to a contract, showing understanding of the specific needs of each customer and making their working hours convenient to customers.

Thirdly, analysis of data obtained produced an overall positive gap from the study. This means that, though the research has revealed weakness in some service quality dimensions in PQS firms, contractors are generally satisfied with the quality of services they receive. This could explain why contractors do not usually complain about poor services of PQS firms, perhaps to maintain a good working relationship with them.

Finally, the research developed a guideline model for improving service quality in PQS firms. The model passed a validation assessment test and hence can be adopted for use by PQS firms and other industry stakeholders as shown in Figure 4.1.

## **5.6 RECOMMENDATION FOR INDUSTRY**

From the findings of this study, the following recommendations are made for industry:

- i. The subject of service quality delivery should be taken seriously by PQS firms. This is because it provides a competitive advantage to those firms who comply with it.
- ii. The research has unearthed some weaknesses (Responsiveness and Empathy) in the provision of quality services in PQS firms in this country. It therefore recommends that, these areas should be looked at with all urgency by firms.

- iii. The study has also provided an innovative guidelines model for the industry (see Figure 4.1). PQS firms and other stakeholders in the GCI can adopt and implement it to improve upon their service quality delivery.

### **5.7 RECOMMENDATION FOR FURTHER RESEARCH**

Finally, the study makes recommendations for further research based on its limitations and scope as follows:

- i. Client's perspective on service quality assessment in PQS firms should be studied using the SERVQUAL model.
- ii. The developed guidelines model should be validated using action research. Where the model is implemented in professional quantity surveying firms and assessed over a period of time.

### **REFERENCES**

- Ashley, D.B., Luirie, C.S. and Jaselskis, E.J. (1987). Determinants of Construction Projects Success, *Project Management Journal*, Vol. 17 No.2, pp. 69-79.
- Ashworth, A. and Hogg, K. (2007). *Willis's Practice and Procedure for the Quantity Surveyor*, Blackwell Publishing, London.

- Babakus, E. and Mangold, G. (1992). Adapting the SERVQUAL Scale to Hospitals Services: An Empirical Investigation, *Health Services Research*, Vol. 26 No. 6, pp. 767-86.
- Badu, E. and Amoah, P. (2004). Quantity Surveying Education in Ghana, *The Ghana Engineer*.
- Barlas, Y. and Carpenter, S. (1990). Philosophical Roots of Model Validation: Two Paradigms, *Systems Dynamics Review*, Vol. 6, No. 2, pp. 148-166.
- Bastos, J.A.R. and Gallego, P.d.M. (2008). Pharmacies Customer Satisfaction and Loyalty – A Framework Analysis, Working Papers “New Trends on Business Administration” with number 2008-01.
- Bell, L. (1990). Professionalism, *Journal of Professional Issues in Engineering*, Vol. 116 No. 2, pp. 188-9.
- Bennion, F.A.R. (1969). Professional Ethics, Charles Knight, London.
- Bolton, R. and Drew, J. (1991). A Multistage Model of Customers’ Assessments of Service Quality and Value, *Journal of Customer Research*, Vol. 17 No. 4, pp. 375-84.
- Bots, P.W.G. and Bruijn, H.D. (2002). Effective Knowledge Management in Professional Organizations: Going by the Rules, *Proceedings of the 35th Hawaii International Conference on System Sciences*, IEEE.
- Bresnen, M.J. and Haslam, C.O. (1991). Construction Industries Clients: A Survey of their Attributes and Project Management Practices, *Construction Management and Economics*, Vol. 9, pp. 327-42.
- Brinberg, D. and McGrath, J.E (1985). Validity and the Research Process, CRC Press, London
- Bryman, A. (2004). Social Research Methods. [2nd Ed]. Oxford: Oxford University Press.
- Bryson, A. and Curry, A. (2001). Service Improvements in Public Services Using SERVQUAL, *Managing Service Quality*, Vol. 11 No. 6, pp. 389-401.
- Carr-Saunders, A.M. and Wilson, P.A. (1933). The Professions, Oxford: Clarendon Press.

- Carrillo, P. (2004). Managing Knowledge: Lessons from the Oil and Gas Sector, *Construction Management and Economics*, Vol. 22, pp. 631-642.
- Chang, J.C. (2008). Taiwanese Tourists' Perceptions of Service Quality on Outbound Guided Package Tours: A Qualitative Examination of the SERVQUAL Dimensions, *Journal of Vacation Marketing*, Vol. 15 No. 2, pp. 164-178.
- Cheng, J., Proverbs, D.G. and Oduaza, C.F. (2006). The Satisfaction Levels of UK Construction Clients Based on the Performance of Consultants: Results of a Case Study, *Engineering, Construction and Architectural Management*, Vol. 13 No. 6, pp. 567-583.
- Chiu, H.C. (2002). A Study on the Cognitive and Affective Components of Service Quality, *Total Quality Management*, Vol. 13 No. 2, pp. 265-74.
- Chritou, E., Valachis, I. and Anastasiadou, C. (2008). Research Methodology in Hospitality Industry: The Role of the Inquiry Paradigm. Available on:  
[<http://www.ul.edu.lb/fthm/papers/3rd%20Axis/Methodology%20greece.doc>]  
Assessed on [06/11/2013]
- Cronin, J.J. and Taylor, S.A. (1992). Measuring Service Quality: A Reexamination and an Extension, *Journal of Marketing*, Vol. 56 No. 3, pp. 55-68.
- Cronin, J.J. and Taylor, S.A. (1994). SERVPERF versus SERVQUAL: Reconciling Performance based and Perceptions minus Expectations Measurement of Service Quality, *Journal of Marketing*, Vol. 58, pp. 125-31.
- Cunningham, T. (2011). Professionalism and Ethics: A Quantity Surveying Perspective, Arrow, Dublin Institute of Technology.
- Dedeke, A. (2003). Service Quality: Fulfillment-oriented and Interactions-centered Approach, *Managing Service Quality*, Vol. 13 No. 4, pp. 276-289.
- Denzin, Norman K. and Y.S, Lincoln (2000). Handbook of Quantitative Research 2nd Ed, Thousand Oaks, Calif. Sage Publication.
- Durkheim, E. (1992). Professional Ethics and Civic Morals, London: Routledge.
- Edvardsson, B. (1988). Service Quality in Customer Relationship: A Study of Critical Incidents in Mechanical Engineering Companies, *Service Industries Journal*, Vol. 8 No.4

- Evetts, J. (2003). The Sociological Analysis of Professionalism: Occupational Change in the Modern World, *International Journal of Sociology and Social Policy*, Vol. 18 No.2, pp. 395-415.
- Evetts, J. (2003). The Construction of Professionalism in New and Existing Occupational Context: Promoting and Facilitating Occupational Change, *International Journal of Sociology and Social Policy*, Vol. 23 No.4/5.
- Federation Intertionale Des Ingenieurs-Conseils (1987). *Conditions of Contract for Works of Civil Engineering Construction (FIDIC)*, 4th ed.
- Fitzgerald, B. and Howcroft, D. (1998). Towards Dissolution of the IS Research Debate: From Polarisation to Polarity, *Journal of Information Technology*, Vol. 13 No. 4, pp. 313-326.
- Fong, P.S.W. and Choi, S.K.Y. (2009). The Processes of Knowledge Management in Professional Services Firms in the Construction Industry: A Critical Assessment of both Theory and Practice, *Journal of Knowledge Management*, Vol. 13 No. 2, pp. 110-126.
- Fornell, C. (1992). A National Customer Satisfaction Barometer: The Swedish Experience, *Journal of Marketing*, Vol. 56, January, pp. 6-21.
- Forsythe, P. (2008). Modeling Customer Perceived Service Quality in Housing Construction, *Engineering, Construction and Architectural Management*, Vol. 15 No. 5, pp. 485-496.
- Forsythe, P.J. (2012). Profiling Customer Perceived Service Quality Expectations in Made-to-Order Housing Construction in Australia, *Engineering, Construction and Architectural Management*, Vol. 19 No. 6, pp. 587-609.
- Frazer, L. and Lawley, M. (2000). *Questionnaire Design and Administration*. Australia: John Wiley and Sons Australia Ltd.
- Furrer, O., Liu, B.S. and Sudharshan, D. (2000). The Relationships between Culture and Service Quality Perception: Basis for Cross-cultural Market Segmentation and Resource Allocation, *Journal of Service Research*, Vol. 2 No. 4, pp. 355-71.
- Gable, G.G. (1996). A Multidimensional Model of Client Success when Engaging External Consultants, *Management Science*, Vol. 42, pp. 1175-97.
- Ghana Institution of Surveyors (2012). Annual Report by the Governing Council: 44<sup>th</sup> Annual General Meeting. (24th February, 2012)

- Grönroos, C. (1982). *Strategic Management and Marketing in the Service Sector*, Swedish School of Economics and Business Administration, Helsingfors.
- Grönroos, C. (1984). A Service Quality Model and its Market Implications, *European Journal of Marketing*, Vol. 18 No. 4, pp. 36-44.
- Grönroos, C. (2007). *Service Management and Marketing: Customer Management in Competition, 3rd Edition*, John Wiley & Sons Ltd., England, pp. 483.
- Hanlon, G. (1998). Professionalism as Enterprise: Service Class Politics and the Redefinition of Professionalism, *Sociology*, Vol. 32 No. 1, pp. 43-63.
- Harty, C. and Leiringer, R. (2005). Social Science Research and Construction: Balancing Rigour and Relevance, in Hughes, W. (ed.), *Proceedings of Construction Management and Economics 25th Anniversary Conference*, University of Reading, 16-18 July, pp. 143.
- Hassal, T., Dunlop, A. and Lewis, S. (1996). Internal Audit Education: Exploring Professional Competence, *Managing Auditing Journal*, Vol. 11 No. 5, pp. 28-36.
- Hauser, J.R. and Clausing, D. (1988). The House of Quality, *Harvard Business Review*, Vol. 66, May-June, pp. 63-73.
- Helson, H. (1964). *Adaptation Level Theory*, Harper and Row, New York, NY.
- Heskett, J., Sasser, E. Jr and Hart, C. (1990). *Service Breakthroughs-Changing the Rules of the Game*, The Free Press, New York, NY.
- Holmes, L. and Joyce, P. (1993). Rescuing the Useful Concept of Managerial Competencies: From Outcomes Back to Process, *Personnel Review*, Vol. 22 No. 6, pp. 37-52.
- Johnston, C. (2004). From the Client's Perspective, *Contract Journal*, January 28.
- Hiebeler, R. (1996). Benchmarking Knowledge Management, *Strategy & Leadership*, Vol. 24 No. 2, pp. 22-32.
- Johns, N., Arci, T. and Karatepe, O.M. (2004). Measuring Service Quality of Travel Agents: Evidence from Northern Cyprus, *The Service Industries Journal*, Vol. 24 No. 3, pp. 82-100.

- Kritchanchai, D. and MacCarthy, B.L. (1999). Responsiveness of the Order Fulfillment Process, *International Journal of Operations & Productivity Management*, Vol. 19 No. 8, pp. 812-833.
- Kumar, M., Kee, F.T. and Charles, V. (2010). Comparative Evaluation of Critical Factors in Delivering Service Quality of Banks: An Application of Dominance Analysis in Modified SERVQUAL mode, *International Journal of Quality and Reliability Management*, Vol. 27 No. 3, pp. 351-377.
- Kumar, R. (2008). Service Quality in Rural Tourism: A Perspective Approach, *Conference on Tourism in India-Challenges Ahead, India*, pp. 424-431.
- Kwakye, A.A. (1997). Construction Project Administration in Practice, Addison Wesley Longman Ltd., London.
- Lewis, R.C. and Boom, B.H. (1983). “ The Marketing Aspects of Service Quality”, in Berry, L., Shostack, G. and Upah, G. (Eds), *Engineering Perspectives of Service Marketing*, American Marketing, Chicago, IL, pp. 99-107.
- Locke, E.A. (1970). Job Satisfaction and Job Performance: A Theoretical Analysis, *Organisational Behaviour and Human Performance*, Vol.5, pp. 484-500.
- Longstaff, S. (1999). The Good, the Bad and the Ugly: Some thoughts on the Ethical Dimension of Architecture, *Architecture Australia*, November/December, pp. 88.
- Maister, D.H. (1993). *Managing the Professional Service Firm*, Simon & Schuster, New York, NY.
- Malhotra, N.K., Ulgado, F.M., Agarwal, J.G. and Wu, L. (2005). Dimensions of service quality in developed and developing economies: multi-country cross cultural comparisons, *International Marketing Review*, Vol. 22 No. 3, pp. 256-78.
- Maloney, W.F. (2002). Construction Product/Service and Customer Satisfaction, *Journal of Construction Engineering & Management*, Vol. 128 No. 6, pp. 522-9.
- Mansfield, J.R. (2008). The Ethics of Conservation: Some Dilemmas in Cultural Built Heritage Projects in England, *Engineering, Construction and Architectural Management*, Vol. 15 No. 3, pp. 270-281.
- Matzdorf, F., Price, I. and Green, M. (2000). Barriers to Organisational Learning in the Chartered Surveying Profession, *Property Management*, Vol. 18 No. 2, pp. 921-13.

- Meuter, M.L., Ostrom, A.L., Roundtree, R.L. and Bitner, M. (2000). Self-service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters, *Journal of Marketing*, Vol. 64, pp. 50-64.
- Meyer, T. and Semark, P. (1996). A Framework for the Use of Competencies for Achieving Competitive Advantage, *South Journal of Business Management*, Vol. 27 No. 4, pp. 96-103.
- Ministry of Works and Housing (1988). *Articles of Agreement and Conditions of Contract for Building Works-Ghana (Pink Form)*, 5th ed., Assembly Press, Accra.
- Murdoch, J. and Hughes, G. (2008). *Construction Contracts Law and Management*, Spon, London.
- MWRWH.(2004a). Guidelines for Building and Civil Engineering Companies. Accra, Ghana: Ministry of Water Resources Works and Housing (MWRWH).
- MWRWH.(2004b). Guidelines for the Classification of Electrical and Plumbing Contractors. Accra, Ghana: Ministry of Water Resources Works and Housing (MWRWH).
- Nahmens, I. and Ikuma, L.H. (2009). Discovering the Variables that Influence New Home-Buyer Service Satisfaction, *International Journal of Customer Studies*, Vol. 33 No. 5, pp. 581-90.
- Nachum, L. (1999). Measurement of Productivity of Professional Services: An Illustration on Swedish Management Consulting Firms, *International Journal of Operations & Production Management*, Vol. 19 Nos 9/10, pp. 922-49.
- Ngai, S.C., Drew, D.S., Lo, H.P. and Skitmore, M. (2002). A Theoretical Framework for Determining the Minimum Number of Bidders in Construction Bidding Competitions, *Construction Management and Economics*, Vol. 20 No. 6, pp. 473-82.
- Oates, T. (1993). Practice of Professionalism, *Journal of Professional Issues in Engineering Education and Practice*, Vol. 119 No. 1, pp. 44-5.
- Obeng-Odoom, F. and Ameyaw, S. (2011). The State of the Surveying Profession in Africa: A Ghanaian Perspective, *Property Management*, Vol. 29 No. 3, pp. 262-284.

- Oliver, R.L. (1980). Theoretical Bases of Consumer Satisfaction Research: Review, Critique and Future Research, in Lamb, C.W. Jr and Dunne, P.M. (Eds), *Theoretical Developments in Marketing Association*, Chicago, IL, pp. 206-10.
- Oliver, R.L (1997). *Satisfaction: A Behavioral Perspective on the Customer*, McGrawHill, New York.
- Oliver, R.L (1981). Measurement and Evaluation of Satisfaction process in Retail Setting, *Journal of Retailing*, Vol.57, pp. 25-48.
- Oliver, R.L. (1993). A Conceptual Model of Service and Customer Satisfaction, in Swartz, T., Bowen, D.E. and Bowen, S.W. (Eds), *Advances in Services Marketing and Management: Research and Practice*, Vol. 2, JAI Press, Greenwich, CT, pp. 65-85.
- Oliver, R.L (1980). A Cognitive Model of Antecedents and Consequences of Satisfaction Decisions, *Journal of Marketing Research*, Vol. 27, pp. 460-469.
- Oliver, R. (1993). A Conceptual Model of Service Quality: Comparable Goals, Different Concepts, in Swartz, T.A., Bowen, D.E. and Brown, S.W. (Eds), *Advances in Services Marketing and Management*, Vol. 2, JAI, Press, Greenwich, CT, pp. 65-85.
- Parasuraman, A., Zeithaml, V. and Berry, L. (1988). SERVQUAL: a Multiple-item Scale for Measuring Consumer Perception of Service Quality, *Journal of Retailing*, Vol. 64 No. 1, pp. 12-40.
- Parasuraman, A., Zeithaml, V.A and Berry, L.L (1985). A Conceptual Model of Service Quality and its implications for Future Research, *Journal of Marketing*, Vol. 49 No. 4, pp. 41-50.
- Parasuraman, A., Berry, L. and Zeithaml, V. (1991). Refinement and Reassessment of the SERVQUAL Scale, *Journal of Retailing*, Vol. 67 No. 1, pp. 39-48.
- Parasuraman, A., Berry, L.L and Zeithaml, V.A. (1994). Alternative Scales for Measuring Service Quality: A Comparative Assessment based on Psycholometric and Diagnostic Criteria, *Journal of Retailing*, Vol. 70 N0. 3, pp. 201-30.
- Pheng, L.S. and Ming, K.H. (1997). Formulating a Strategy Marketing Mix for Quantity Surveyors, *Marketing Intelligence & Planning*, Vol. 15 No. 6, pp. 273-280.

- Pizan, A. and Ellis, T. (1999). Customer Satisfaction and its Measurement in Hospitality Enterprises, *International Journal of Contemporary Hospitality Management*, Vol. 11 No. 7, pp. 326-339.
- Ramsaran-Fowdar, R.R. (2007). Developing a Service Quality Questionnaire for the Hotel Industry in Mauritius, *Journal of Vacation Marketing*, Vol. 13 No. 1, pp. 19-17.
- Ramseook-Munhurrun, P., Naidoo, P. and Lukea-Bhiwajee, S.D. (2009). Employee Perceptions of Service Quality in Call Centre, *Managing Service Quality*, Vol. 19 No. 5, pp. 541-557.
- Ritchie, J. and Lewis, J. (2003). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London: SAGE Publications Ltd.
- Roggema-Van Heusden M. (2004). The Challenge of Developing a Competence-oriented Curriculum: An Integrative Framework, *Library Review*, Vol. 53 No. 2.
- Royal Institution of Chartered Surveyors (1998). *The APC Requirements and Competencies*, London: Royal Institution of Chartered Surveyors.
- Sease, C. (1998). Codes of Ethics for Conservation, *International Journal of Cultural Property*, Vol. 7 No. 1, pp. 98-115.
- Scarborough, H. and Swan, J. (1999). *Case Studies in Knowledge Management*. London: Institute of Personnel Development.
- Smyth, H. J. and Morris, P.W.G. (2007). An Epistemological Evaluation of Research into Projects and Their Management: Methodological Issues, *International Journal of Project Management*, Vol. 25, pp. 423-436.
- Society of Chartered Surveyors (2006). *Assessment of Professional Competence: Candidates Guide (2nd ed.)*, Society of Chartered Surveyors, Dublin.
- Soetanto, R. and Proverbs, D.G. (2004). Intelligent Models for Predicting Levels of Client Satisfaction, *Journal of Construction Research*, Vol. 5 No. 2, pp. 233-55.
- Stewart, J. and Hamlin, B. (1992). Competency-based Qualifications: The Case for Established Methodologies, *Journal of European Industrial Training*, Vol. 16 No. 10, pp. 9-16.
- Sureshchandra, G.S., Rajendran, C. and Kamalanabhan, T.J. (2001). Customer Perceptions of Service Quality: A Critique, *Total Quality Management*, Vol. 12 No. 1, pp. 111-24.

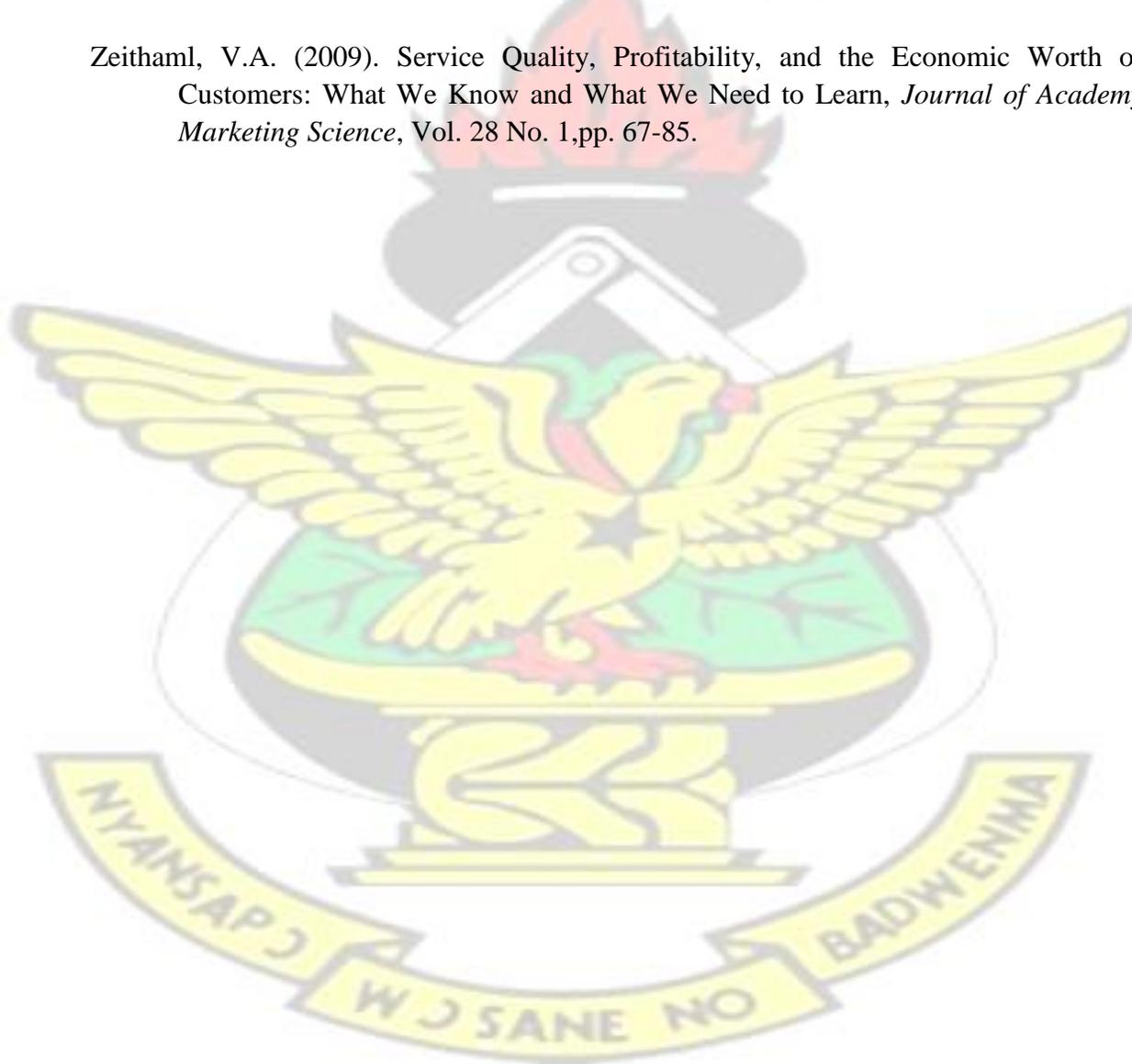
- Tan, K.C. and Pawitra, T.A. (2001). Integrating SERVQUAL and Kano's Model into QFD for Service Excellence Development, *Management Service Quality*, Vol. 11 No. 6, pp. 418-430.
- Tawney, R.H. (1921). *The Acquisitive Society*, New York: Harcourt Bruce.
- Thurairaja, N., Haigh, R. and Amaratunga, R.D.G. (2006). Leadership in Construction Partnering Projects: Research Methodological Perspectives, in Stephenson, P. and Akintoye, A. (eds.), *ARCOM Doctoral Workshop*, Glasgow Caledonian University.
- Tuuli, M.M., Baiden, B.K. and Badu, E. (2007). Assessment and Enforcement of Liquidated Damages in Construction Contracts in Ghana, *Structural Survey*, Vol. 25 No.3/4, pp. 204-219.
- UN-HABITAT (2011), *Ghana Housing Profile – United Nations Human Settlement Programme*, UNON, Nairobi.
- Voordijk, H., de Haan, J. and Joosten, G.J. (2000). Changing Governance of Supply Chains in the Building Industry: A Multiple Case Study”, *European Journal of Purchasing & Supply Management*, Vol. 6 Nos 3-4, pp. 217-25
- Voss, C., “Filed Service Management”, in Voss, C., Armistead, C., Johnston, B., and Morris, B., *Operations Management in Service Industries in the public Sector*, John Wiley & sons, 1985.
- Webster, C. and Hung, L. (1994). Measuring Service Quality and Promoting Decentring, *The TQM Magazine*, Vol. 6 No. 5, pp. 50-55.
- Witkowski, T.H. and Wolfenbarger, M.F. (2000). The Formality Dimension of Service Quality in Thailand and Japan, paper presented at the 2000 Annual Conference of the Association for Consumer Research, Salt Lake City, UT, October.
- Witt, C.A. and Steward, H.M. (1996). Solicitors and Customer Care, *Service Industries Journal*, Vol. 16 No. 1, pp. 21-34.
- World Bank (2003), *Country Procurement Assessment Report: Ghana*, Report No. 29055, Vol. 2, World Bank, Washington, DC.
- Yuksel, A. and Yuksel, F. (2002). Measurement of Tourist Satisfaction with Restaurant Services: A segment-based Approach, *Journal of Vacation Marketing*, Vol. 9 No. 1, pp. 52-68.

Zeithaml, V. (1988). Customers' Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence, *Journal of Marketing*, Vol. 52 No. 3, pp. 222.

Zeithaml, V.A., Parasuraman, A. and Berry, L.L. (1990). *Delivering Quality Service: Balancing Customer Perceptions and Expectations*, The Free Press, New York, NY.

Zeithaml, V., Berry, L. and Parasuraman, A. (1996). The Behavioral Consequences of Service Quality, *Journal of Marketing*, Vol. 60, April, pp. 31-46.

Zeithaml, V.A. (2009). Service Quality, Profitability, and the Economic Worth of Customers: What We Know and What We Need to Learn, *Journal of Academy Marketing Science*, Vol. 28 No. 1, pp. 67-85.



## APPENDIX A

### QUESTIONNAIRES TO BE COMPLETED BY RESPONDENTS

I am an MPhil. Construction Management student from the Department of Building Technology at Kwame Nkrumah University of Science and Technology, Kumasi.

As part of the pursued programme, I am required to write a thesis on the topic '*Contractors' Assessment of Professional Services Quality: The Case of Quantity Surveying Firms in Ghana*'.

Your organization has granted me permission to administer these questionnaires to you. I would be most grateful if you could please spare some few minutes of your precious time to answer the questions.

This research questionnaire has been designed to solicit views from contractors, based on their experience in the Ghanaian construction industry with regards to professional service quality.

The implication of the findings is for future development of a guideline for improving service quality in professional quantity surveying firms in Ghana and any information provided will be treated with the highest confidentiality. **Kindly respond to the questions by ticking (√) the appropriate box for each item.**

I would like to convey my appreciation for your cooperation in completing these questions. If you have any questions and contributions about this research, please mail at [baapiri@yahoo.com](mailto:baapiri@yahoo.com) or call on 0244594617. Completed questionnaire would be collected back personally after three working days of distribution.

Thank you in advance for your participation and assistance with this study.

## SECTION A: Demographic details

1. Kindly indicate your Professional background:

- a) Managing Director
- b) Construction Project Manager
- c) Quantity Surveyor
- d) Construction Manager
- e) Contract Manager

Others (please specify):.....

2. What is your experience in the Ghanaian construction industry?

- a) <5 years
- b) 5-10 years
- c) >10 years

3. For how long have you been in this company?

- a) <5 years
- b) 5-10 years
- c) >10 years

4. How many projects have you undertaken within the last five years?

- a) 1 – 5 Projects
- b) 6 – 10 Projects
- c) 11 – 15 Project
- d) 16 and above.

5. How often do you encounter the services of professional quantity surveying firms in Ghana? a)

- Very often
- 
- b) Quite often
- c) Rarely
- d) Not at all

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**SECTION B:**

In your experience as a contractor, which of the following factors critically assess the quality of services provided by **professional quantity surveying firms** in Ghana? Please indicate the level of significance each factor has on your assessment by ticking the appropriate boxes.

1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Factors and Items	Ranking				
	1	2	3	4	5
<b>Reliability</b>					
1. When they promise to render services such as preparation of contractor's payment certificates, claims, visit sites for measurement etc. by a certain time, they do so					
2. They show sincere interest in solving contractors problems					
3. They perform services to contractors right the first time					
4. They provide services at the time they promised to do so					
5. They provide correct and accurate information to contractors during project execution					
<b>Responsiveness</b>					
6. They provide prompt services to contractors					
7. They are always willing to solve contractors problems with regards to contract management issues					
8. They are never too busy to respond to contractors request					
<b>Assurance</b>					
9. The behaviour of professionals in quantity surveying firms instils confidence in contractors					
10. Contractors can confidently trust professional quantity surveying firms during project execution					
11. Professionals in these firms are consistently courteous to contractors					
12. Professionals in these firms have the required knowledge and skills to deal with problems faced by contractors during the execution of a project					
<b>Empathy</b>					

13. Professionals in these firms are able to offer individualised attention to contractors when approached					
14. One can confidently say that these firms have contractors best interest at heart					
15. Professional quantity surveying firms understand the specific needs of contractors					
16. Their working hours are convenient to contractors					
<b>Tangibles</b>					
17. They have modern-looking equipment such as computers and other facilities to work with					
18. The resources in their firms are visually appealing					
19. Their work environment generally is attractive and comfortable					
20. Professionals appear neat and smart looking at work					

### SECTION C

In your experience as a contractor, kindly rank according to the level of **satisfaction** of the following service quality dimensions as applied to professional quantity surveying firms in the Ghanaian construction industry.

**1= extremely dissatisfied, 2 = dissatisfied 3 = slightly satisfied, 4 = satisfied, 5 = extremely satisfied.**

Quality factors/dimensions	1	2	3	4	5
1. The degree to which a promised service is performed dependably and accurately by professional quantity surveying firms in Ghana					
2. The willingness to help contractors and provide prompt response by professional quantity surveying firms in Ghana					
3. The extent to which employees in professional quantity surveying firms are knowledgeable, courteous and their ability to inspire trust and confidence					
4. The level of appearance and adequacy of physical facilities, equipment, personnel and communication materials in professional quantity surveying firms					
5. The extent to which contractors are offered caring and individualized attention. This includes, access, communication and understanding of contractors.					

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## SECTION D: SUGGESTIONS

1. How does delay in preparing payment certificates, claims, site visits for measurement affect you as a contractor?

.....  
.....  
.....  
.....

2. How does inaccurate information provided by professional quantity surveying firms affect your operations?

.....  
.....  
.....

3. What measures can professionals in these firms put in place to provide you with prompt services?

.....  
.....  
.....  
.....

4. What attitude do they portray when you need professionals in these firms to help you solve contract management problems?

.....  
.....  
.....

.....

5. With your experience, what can you say about the level of knowledge exhibited by these professionals in doing their work?

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6. Do their activities inspire trust and confidence in you? Please explain.

7. In order to meet your expectations, how do you envisage professional quantity surveying firms' physical facilities to be? E.g office space/building, environment etc.

8. How does the presence of better communication equipment in these firms e.g computers, internet access, up-to-date software etc help you in project delivery.

9. What can you say about the level of attention given to you by these firms during project execution?

.....  
.....  
.....  
.....

10. Are the professionals in these firms accessible and understanding? Please explain.

.....  
.....  
.....  
.....  
.....

Thank you.

**APPENDIX B: GUIDELINES VALIDATION ASSESSMENT QUESTIONNAIRE**

**LETTER TO EXPERTS**

Dear Sir/Madam,

**CONTRACTORS' ASSESSMENT OF PROFESSIONAL SERVICES QUALITY: THE CASE OF QUANTITY SURVEYING FIRMS IN GHANA**

This questionnaires forms part of an MPhil research work being undertaken at Kwame Nkrumah University of Science and Technology, Department of Building Technology. Its purpose is to validate the guidelines presented, designed with the intention of improving service quality in professional quantity surveying firms in Ghana.

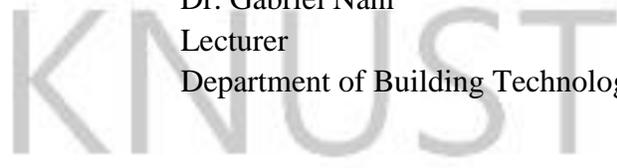
The questionnaires are answered by ticking the appropriate boxes corresponding to the statements ranked from scale 5 to 1, indicating your level of agreement. The empty spaces provided are for any additional statements or information you would want to share.

We appreciate that the questionnaire is going to take some of your valuable time, however, this is to facilitate a noble course and we urge you to try and participate. Thank you in advance for your cooperation.

Yours Sincerely,

Gordon A. Baapiri  
 MPhil. Student  
 Mobile: 0244594617  
 E-mail: [baapiri@yahoo.com](mailto:baapiri@yahoo.com)

Project Supervisor:  
 Dr. Gabriel Nani  
 Lecturer  
 Department of Building Technology, KNUST



Please answer by ticking the appropriate boxes to indicate your level of agreement with each statement provided in this assessment form

- 5 – Strongly agree
- 4 – Agree
- 3 – Neutral
- 2 – Disagree
- 1 – Strongly disagree

Item		Ranking				
		5	4	3	2	1
<b><u>Agreement with Model</u></b>						
1	Professional quantity surveying firms need such a guideline model in the industry					
2	This model if adopted can improve service quality in professional quantity surveying firms in Ghana					
3	It is generally suitable for the quantity surveying industry					
4	It can be adopted by other stakeholders in the Ghanaian construction industry e.g Architectural firms, Planners etc.					
<b><u>Content of Model</u></b>						
5	The two phases identified: critical improvement and continuing improvement phases are satisfactory					
6	The five dimensions outlined: responsiveness, empathy, tangibility, reliability and assurance reflects quality service areas in quantity surveying firms' settings					

7	Underlying factors of each dimension address the relevant issues in professional quantity surveying firms					
	<b><u>Logic of Model</u></b>					
8	The items under the two phases identified depicts the improvement needs in professional quantity surveying firms					
9	By complying with the requirements of the guidelines from responsiveness to assurance, service quality can be delivered by professional quantity surveying firms					
10	Sequential flow of the chart is easy to follow and understand					

**Additional comments**.....  
 .....  
 .....

.....Thank you.

**APPENDIX C: FUNCTIONS OF THE PROFESSIONAL QUANTITY SURVEYOR**

<b>Stage</b>	<b>Functions of the professional quantity surveyor</b>
<b><i>Feasibility Study</i></b>	<i>-Initial cost indications based on similar and recently completed building Costs implications and site conditions</i>
<b><i>Outline proposals</i></b>	<i>-Preparation of rough estimates based on client's requirements -Assist client in setting cost limits or budgets</i>
<b><i>Preliminary design</i></b>	<i>-Preliminary estimates and preparation of initial cost plan -Group element cost targets established -Comparison with client's cost limit or budget</i>
<b><i>Detailed design</i></b>	<i>-Detailed estimate -Preparation of elemental cost plan and amplified cost plan -Elemental cost targets established -Comparison with client's budget and earlier estimates -Cost checks to obtain best solution in each element as drawings are Are produced</i>
<b><i>Final design</i></b>	<i>-Preparation of tender documents -Continue cost checks and obtain quotations from specialists -Pre-tender estimates</i>
<b><i>Tender period</i></b>	<i>-Attend to tenderers' queries -Issue corrigendum</i>
<b><i>Tender evaluation</i></b>	<i>-Evaluate tender -Prepare reconciliation statement and compare tender sum with estimated</i>

*Costs*

*-Advice on course of action to be taken*

*-Prepare cost analysis*

***Award of Contract***

*-Prepare letter of acceptance after client has approved tender*

*-Compile documents and prepare for contract documentation*

***Construction***

*-Prepare valuations for payments on accounts at the interval stated in the Contract and agree with the contractor's quantity surveyor*

*-Plot payments on account on "rate of spend" graph and report to architect*

*On any significant divergence*

*-Advice architect if requested, on expenditure of provisional sums, Measure and value work carried out by the main contractor against*

*Provisional sums (except where lump sum quotations have been accepted)*

*And adjust*

*-Prepare estimates of likely costs variations on receipt of copies of Architect instructions*

*-Later measure and value, check and price daywork voucher*

*-Advice architect, if requested, on any prime cost sums, check sub-*

*Contractors' and nominated suppliers' final accounts and adjust contract Sums accordingly*

*-Prepare financial reports for architect and client at the same time as Interim payments*

*-Check main contractor's claim for increase in cost of labour, materials, Levies, and taxes etc. if applicable.*

*-Measure projects based on schedules of rates or on bills of approximate Quantities as the work proceeds, either on site or from architects drawing*

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*And value at contract rates*

*-Advice architect, if requested, on contractor's claims (if any) for loss and Expense payments if accepted, negotiate claims with contractor*

**Completion of** *-Advice on extension of time and imposition of liquidated damages* **Project and**  
*-Finalize project accounts*

**Defect liability** *-Feed back on cost data and prepare cost analysis of completed projects. Period*  
*Contribute to cost data for use in completed projects*

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**Source:** Pheng and Ming (1997)

