

## Evaluation of Service Quality Gaps in Construction Professional Service Firms in Nigeria

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**Abstract:** The study aims at evaluating and comparing service quality of consultancy firms who provide professional services in building projects in Nigeria. The article seeks to address the general perceptions of dissatisfaction with the quality of services in order to enhance performance of building projects and ensure competitiveness in the industry. A cross-sectional survey was conducted using a structured questionnaire as an instrument of data collection. The population of the study consisted of 488 representatives of public and private clients with a sample size of 385. Data were analysed using weighted mean and paired-sample *t*-test to determine the severity of differences in the expected service quality and perceived service quality. The result shows significant differences between the expected service quality and perceived service quality in structural engineering, mechanical/electrical engineering and quantity surveying services along all the dimensions of service quality. However, "Tangibles" dimension of architectural services had no positive differences in the service quality, but had differences in "Responsiveness", "Empathy", "Reliability" and "Assurance" dimensions. The results imply that professional service providers require fundamental improvement in their services to their clients. This study offers an opportunity for consultancy firms to evolve global best practices by creating and maintaining high service quality as a team.

**Keywords:** Building projects, Clients, Consultancy firms, Service quality, Nigeria

### INTRODUCTION

The building industry is unique because it incorporates services of different stakeholders at different project phases in its bid to deliver the project successfully. The delivery activities involve different stakeholders, various processes, different phases and stages of work. These stakeholders are the users' group, the client group, the contracting group, the supply chain group and the project management group (Chinny, 2007). The contracting group consists of the main contractors, sub-contractors and specialist contractors. The supply chain group consists of manufacturers and suppliers. The project management group consists of architects, engineers, designers, quantity surveyors, project managers operating as consultancy firms or professional service providers.

The project activities equally entail a lot of inputs from both the public and private sectors (Hughes, 2012). Each project is unique by its context and the diverse skills of individuals or organisations involved in its execution and it is characterised by its temporariness, lasting for a few months or years (Tan, 2012). The service quality

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of the different stakeholders is an important vehicle of firm's sustainability in the globalised industry.

According to Sunindijo, Hadikusumo and Phangchunun (2014), service quality is an important element affecting client satisfaction and behavioural intention and it often leads to the business success of the service providers. The client is often of the opinion that the professional service firms possesses standard expertise and therefore are expected to operate within accepted guidelines. Findings from previous studies (Torbica and Stroh, 2001; Soetanto and Proverbs, 2002; Tang, Lu and Chan, 2003) showed that clients perceive service quality in the construction industry in different ways. This could be as a result of different background and knowledge of the client concerning the services being rendered.

In recent time, service quality has received attention by business managers, researchers and practitioners over the years (Angelova and Zekiri, 2011). According to Hoxley (2000), the service quality model (SERVQUAL) with some adaptations has been used in several service industries, including hotels, travel, higher education, accountancy, hospitals and construction services. Kettinger, Park and Smith (2009) equally reiterated that SERVQUAL instrument had been widely utilised by practitioners and academics to assess client's perceptions of service quality in banks, information technology, repair and maintenance companies. Aga and Safakli (2007) also used the SERVQUAL instrument to measure service quality and client satisfaction in professional accounting firms. Ismail, Othman and Amat (2012) examined contractors' service quality performance and client satisfaction in higher institutions of learning in Malaysia using the five service quality determinants of SERVQUAL.

However, the quality of service of consultancy firms has remained a problematic issue in Nigeria. This is because their services are important drivers of the activities in the building industry. Some previous studies have been done based on an individual service provider and mostly about contracting organisations (Oke, Timothy and Olaniyi, 2010; Lau et al., 2016), banking industry (Khan and Fasih, 2014) and airline industry (Lubbe, Douglas and Zambellis, 2011). Each building project involves a team of architectural, structural engineering, mechanical and electrical (M&E) engineering and quantity surveying firms. The performance of each firm influences one another. The need for team approach was highlighted by Olatunde, Ogunsemi and Oke (2017), who emphasised that the composition of the team and the quality of their services tend to impact positively or negatively on the outcome of building projects. In the service of these consultancy firms, there exists a general perception of dissatisfaction with their performance in the industry (Kamara, Anumba and Ebnomwan, 2002). This was corroborated by Oyedele (2010) which emphasised continuous research on performance of consultants on building project in order to achieve client satisfaction. Meanwhile, quality of service as a lifeblood of service delivery is a predictor of client satisfaction. Therefore, this study aims to evaluate and compare the service quality of a team of consultancy firms providing services to client's building project in order to improve competitiveness and financial sustainability.

## LITERATURE REVIEW

### Service Quality

Service quality is a process of conforming to requirements of an assignment and a key factor that contributes to satisfaction of clients in the construction industry. Service providers are expected to improve service quality from time to time so as to remain competitive in the globalised world of business (Sunindijo, Hadikusumo and Phangchunun, 2014). The characteristics of services in the professional sub-sector of the construction industry make it difficult to measure. Services are intangible, heterogeneous and involve interaction between the service provider and the clients. As a result, the level of control of the service quality by service providers is low. Services are related to performances as evaluated by clients other than through products that can be counted, verified and tested (Parasuraman, Zeithaml and Berry, 1985). This process of performance evaluation often relies on the background and level of knowledge of the client.

Fundamentally, the concept of service quality is a product of the "European school of thought" led by the work of Gronroos (1984). According to the concept, service quality is viewed from both technical and functional quality. In the study of Parasuraman, Zeithaml and Berry (1985), service quality is considered as a function of the difference (gap analysis) between expectations and perceptions of the service. According to the study, it is the customer's overall impression of the relative inferiority and/or superiority of the organisation and its services.

Based on this gap analysis, Zeithaml, Parasuraman and Berry (1990) developed a SERVQUAL gap model. This was viewed as the delivery of excellent or superior service relative to customer's expectations. In the model, 10 dimensions of service delivery that are generic and relevant to services in general were identified. These dimensions are "Tangibles", "Reliability", "Responsiveness", "Communication", "Credibility", "Security", "Competence", "Courtesy", "Understanding the customer" and "Access". Factor analysis was used in later studies to condense the dimensions into "Tangibles", "Reliability", "Responsibility", "Assurance" and "Empathy" (Parasuraman, Zeithaml and Berry, 1994); which have formed the basis of studies on service quality.

The American school of thought conceptualised service quality as the overall assessment of the difference between perception and expectation of service delivery using 19 generic items. Service quality theory was established as a theory of task performance and satisfaction. The theory posits that performance is mostly determined by goal achievement while satisfaction is a function of the difference between performances achieved and performances targeted (Soetanto and Proverbs, 2002). Satisfaction is a comparison between the perceptions of an individual about an outcome compared to his expectations (Singh and Khanduja, 2010).

The concept of service quality has also become a major area of attention because it has a strong impact on organisational performance, client satisfaction, client loyalty and profitability. The knowledge base in this provides a direction on how to explore or modify the existing service quality concepts (Seth and Deshmukh, 2005). The superior service quality reinforces the competitiveness of an organisation and enhances efficiency. The benefits include increased client satisfaction, client retention, positive word of mouth, reduced staff turnover, enlarge market share, increased profitability and improved financial performance.

The technical quality considers if the service meets client expectations while functional quality measures the perception of the client about the production and delivery of the service (Razavi et al., 2012). Performance refers to the client's evaluation of the service provider. Ensuring service quality is meeting or exceeding the expectations from the service (Ismail, Othman and Amat, 2012). Other important elements of service quality are corporate image and reputation and managing the service quality gives a clear understanding of what service means to the client. This measure of service quality is an indicator of client satisfaction (Omachonu, Johnson and Onyeaso, 2008).

Sunindijo, Hadikusumo and Phangchunun (2014) described service quality as an important factor that affects client satisfaction and behaviour and are indicators of business success in the construction sector. Such client behaviour includes word-of-mouth, re-purchase intention, positive or negative feedback and the willingness to pay for services (Grierson and Brennan, 2017). The study of Tabaku and Cerri (2016) concluded that the perceived quality of the customer has a significant effect on the creation of client satisfaction. The service quality dimensions and their corresponding measures as used by Sunindijo, Hadikusumo and Phangchunun (2014) was adopted for this study. Other researchers (Singh and Khanduja, 2010; Adat, Noel and Penceliah, 2014) have also used these service quality dimensions in the past.

## **Theoretical Framework**

In order to establish a framework within which to examine the different variables of this study, gap model (Parasuraman, Zeithaml and Berry, 1985) and the disconfirmation of expectation model (Oliver, 1993) theories were reviewed.

### **Gap model (Parasuraman, Zeithaml and Berry, 1985)**

Service quality was considered as a function of the difference (gap analysis) between expectations and perceptions of the service. Based on the gap analysis, Zeithaml, Parasuraman and Berry (1990) developed gap model called SERVQUAL and Parasuraman, Zeithaml and Berry (1994) used factor analysis to determine "Tangibles", "Reliability", "Responsiveness", "Assurance" and "Empathy" as SERVQUAL dimensions which formed the basis of studies on service quality.

### **The disconfirmation of expectation model (Oliver, 1993)**

The model predicts that as expectations increase, satisfaction decreases. The difference is held as a standard against which performance information is evaluated (Gunning, 2000). The clients would form expectations before purchasing a product or service (Singh and Khanduja, 2010) and the service received serves as an experience which produces a level of perceived quality (Siami and Gorji, 2012). If perceived performance is less than expected performance, the satisfaction level is negative and when the difference is positive, satisfaction is also positive (Adat, Noel and Penceliah, 2014). The model uses five generic factors of tangibility, reliability, responsiveness, assurance and empathy of SERVQUAL as variables of measurement.

## Research Hypothesis

As pointed earlier, service quality is an important predictor of client satisfaction. Client satisfaction itself is an important factor in client referral which forms a basic foundation of new client acquisition in professional services (Grierson and Brennan, 2017). Moreover, service gaps determine either negative or positive levels of how the needs and requirements of clients are met. This present study investigates the gaps in the service quality of professional service providers by testing the following hypothesis:

$H_0$ : There is no significant difference between the expected service quality and the perceived service quality of professionals in building projects.

## METHODOLOGY

The study adopted a survey approach using a questionnaire to collect the needed data. The study covers the South-Western geographical area of Nigeria. The population of the study consisted of 488 representatives of both public and private clients with a sample size of 385. The variables of service quality which formed the questionnaire were adopted from Hoxley (2000). All the items are predominantly from the SERVQUAL instruments and reliability testing was done using values of Cronbach's alpha coefficient range between 0 and 1. The larger the alpha value, the higher the reliability of the generated result or Likert scale of measurement. The Cronbach alpha coefficient value for the questionnaire used for this study is 0.88. This suggests that the questionnaire items are reliable and significant.

The questionnaire items are presented in Table 1. The items are classified into five dimensions and it contains two types of responses. The first section is the expected level of service quality of the respondents, while the second portion is the perceived level of service quality using a 5-point Likert scale format. The expected service quality was measured using 1 = Nil, 2 = Low, 3 = Moderate, 4 = High and 5 = Very High, while the perceived service quality used 1 = Poor (P), 2 = Fair (F), 3 = Average (Av), 4 = High (H) and 5 = Very High (VH).

The weighted mean for the dimensions and mean differences were calculated and ranked appropriately. Paired sample *t*-test was used to determine the differences in the expected service quality and perceived service quality for architectural firms, structural engineering firms, M&E engineering firms and quantity surveying firms.

Table 1. Service quality dimensions and their corresponding variables

Service Quality Dimensions	Variables
Responsiveness	Willingness to help the client Prompt service to the client Keeping client informed about when services will be performed Readiness to respond to client's request

(Continued on next page)

Table 1. *Continued*

<b>Service Quality Dimensions</b>	<b>Variables</b>
Assurance	Employees who instil confidence in customers Employees who are consistently courteous Making clients feel safe in their transactions
Empathy	Convenient business hours Giving clients personal attention Employees who understand the client's needs Having the clients' best interest at heart
Tangibles	Employees who have a neat professional appearance Visually appealing facilities Up-to-date modern equipment
Reliability	Providing services at the promised time Dependability in handling customers' service problems Performing the service right the first time Maintaining error-free records

Source: Hoxley (2000)

## RESULTS AND DISCUSSIONS

### Weighted Mean and Ranking

The results of the weighted mean scores of the data collected on expected and perceived service quality of professional services of architectural consultancy firms are presented in Table 2.

Table 2. Weighted mean of client's assessment of service quality of consultancy firms

	Expected Service Quality			Perceived Service Quality			MD
	N	Weighted Mean	R	N	Weighted Mean	R	
<i>Responsiveness</i>							
Architectural firms	335	4.47	1	335	3.84	3	0.63
Structural engineering firms	335	4.49	1	335	3.88	4	0.61
M&E engineering firms	335	4.45	2	335	3.87	5	0.58
Quantity surveying firms	335	4.36	3	335	3.84	5	0.52

(Continued on next page)

Table 2. *Continued*

	Expected Service Quality			Perceived Service Quality			MD
	N	Weighted Mean	R	N	Weighted Mean	R	
<i>Assurance</i>							
Architectural firms	335	3.58	5	335	3.33	5	0.25
Structural engineering firms	335	4.44	2	335	3.98	3	0.46
M&E engineering firms	335	4.46	1	335	4.09	1	0.37
Quantity surveying firms	335	4.38	1	335	4.01	2	0.37
<i>Empathy</i>							
Architectural firms	335	4.13	2	335	3.87	2	0.26
Structural engineering firms	335	4.41	3	335	3.99	3	0.42
M&E engineering firms	335	4.36	4	335	3.99	3	0.37
Quantity surveying firms	335	4.33	5	335	4.00	3	0.33
<i>Tangibles</i>							
Architectural firms	335	3.99	3	335	4.03	1	-0.04
Structural engineering firms	335	4.29	5	335	3.87	5	0.42
M&E engineering firms	335	4.26	5	335	3.88	4	0.38
Quantity surveying firms	335	4.36	3	335	3.92	4	0.44
<i>Reliability</i>							
Architectural firms	335	3.99	3	335	3.65	4	0.34
Structural engineering firms	335	4.28	4	335	4.05	1	0.23
M&E engineering firms	335	4.38	3	335	4.09	1	0.29
Quantity surveying firms	335	4.38	1	335	4.04	1	0.34

Notes: N = Number of respondents; R = Rank; MD = Mean difference.

The assessment of the expected service quality of architectural services shows that "Responsiveness" was ranked 1st with a weighted mean of 4.47, "Empathy" was ranked 2nd with 4.13 while "Assurance" was 5th with 3.58. For structural engineering services, "Responsiveness" was also ranked 1st while "Tangibles" was ranked 5th. In M&E engineering services, "Assurance" was ranked 1st, "Responsiveness" ranked 2nd while "Tangibles" was ranked 5th. However, "Reliability" and "Assurance" ranked 1st and "Empathy" were ranked 5th for quantity surveying services.

In the perceived service quality assessment, however, "Tangibles" was ranked 1st with a weighted mean of 4.03 while "Assurance" was ranked 5th with 3.33 for architectural services. "Reliability" was ranked 1st for structural engineering with a weighted mean of 4.05, M&E engineering (4.09) and quantity surveying services (4.04). On the other hand, "Responsiveness" was ranked 5th both for M&E engineering and quantity surveying services at the weighted mean of 3.87 and 3.84, respectively.

The results show that the most important dimension of service quality as assessed by the client for architectural services is "Tangibles" whose variables are neat appearance of the professional staff, up-to-date modern equipment and visually appealing facilities of the organisation. This is consistent with the study of Teo et al. (2016) which stated that the adoption of up-to-date facilities is an effective tool to improve safety performance, reduce fragmentation in the industry, allow accurate updating of changes and enhance project efficiency and productivity. In the same way, reliability dimension with variables of timeliness, dependability in communicating clients' needs and error-free records was the most important for structural engineering, M&E engineering and quantity surveying services. This is also supported by Chan, Olawumi and Ho (2019) which stated that collaboration and communication enhance the performance of major benefits of better cost estimation and control, efficient construction planning and management and improvement in design and project quality. It is therefore important for consultancy firms to appreciate these multi-disciplinary needs of projects to improve performance.

### Differences between expected and perceived service quality of consultancy firms

The investigation to determine the differences between expected and perceived service quality of professional services of consultancy firms by the clients remains a critical knowledge with which to evaluate services. Paired-sample *t*-test was used to test the hypothesis formulated for this purpose. The hypothesis was tested at  $p$ -value  $\leq 0.05$ . When the  $p$ -value  $\leq 0.05$ , the test rejects the hypothesis but when the  $p$ -value  $> 0.05$ , the test accepts the hypothesis.

### Differences between expected and perceived service quality of architectural consultancy firms

Having established the weighted mean scores of expected and perceived service quality of professional services of consultancy firms, the study proceeds to investigate the differences between expected and perceived service quality of professional services of consultancy firms by the clients. The hypothesis ( $H_0$ ) formulated for this purpose states that there is no significant difference between the client's expected and perceived service quality of consultancy firms in building projects. The hypothesis was tested using the paired samples *t*-test at  $p$ -value  $\leq 0.05$ . The results are shown in Table 3.

Table 3. Paired sample *t*-test between expected and perceived service quality of architectural consultancy firms

Variables	$MS_{exp}$	$MS_{pcv}$	Gap	<i>t</i>	df	$p$ -Value	Remarks	Decision
Expected vs Perceived "Responsiveness"	4.40	3.84	0.56	15.57	334	0.001	S	Reject
Expected vs Perceived "Assurance"	3.58	3.32	0.26	7.45	332	0.001	S	Reject

(Continued on next page)



Table 3. *Continued*

Variables	MS <sub>exp</sub>	MS <sub>pcv</sub>	Gap	t	df	p-Value	Remarks	Decision
Expected vs Perceived "Empathy"	4.16	3.87	0.29	5.99	327	0.001	S	Reject
Expected vs Perceived "Tangibles"	3.99	4.03	-0.04	-0.81	334	0.420	NS	Accept
Expected vs Perceived "Reliability"	3.98	2.91	1.07	24.78	334	0.001	S	Reject

Notes: Significant at 0.05 level (2-tailed); NS = Not significant; S = Significant; MS<sub>exp</sub> = Mean score expected; MS<sub>pcv</sub> = Mean score perceived; vs = versus; t = t-test value; p ≤ 0.05.

From the results in Table 3, the *p*-values for the test of the difference between expected and perceived "Responsiveness", "Assurance", "Empathy" and "Reliability" are less than the critical *p*-value (0.05). This indicates a significant difference between the expected and the perceived "Responsiveness", "Assurance", "Empathy" and "Reliability" dimensions of service quality of architectural consultancy firms. The gap analysis here measures the variance between perceived and the expected service quality for the architectural firm which implies that the firms need to improve on the performance of service quality for effective project delivery (Oyewole and Dada, 2019) and indicates service quality perception of clients, which are parameters towards developing client's relationship management (Naidoo, 2011). Fodness and Murray (2007) referred to this as a gap theory, which determines service quality by analysing the differences between the expected service quality and the actual service quality received. This is further confirmed by Tabaku and Cerri (2016) which concluded that the perceived service quality has a significant effect on the creation of service quality. This situation requires improvement in service delivery across these dimensions. However, the result of the test of the difference between expected and perceived "Tangibles" dimension was greater than the critical value (0.05). Thus, indicating that there is no significant difference, which means that clients rated performance better than expectations in this dimension.

These gaps are highlighted in Tables 3 to 6 for architectural, structural engineering, M&E engineering and quantity surveying firms. According to Fischgrund and Omachonu (2014), a gap analysis value that measures above 1 shows a positively significant gap, while a value less than 1 ("Tangibles" for architectural firms) show a weak gap in that particular dimension of service quality. The weak significant values gap means that the respondents required for little extent of the needs for any difference in the expected and the perceived level of the service quality for the dimension concerned. This has a lot of influence on the performance of the firms which itself constitute a key factor for the construction industry to thrive and achieving sustainable goals (Detsimas et al., 2016).

### **Differences between expected and perceived service quality of structural engineering consultancy firms**

The paired sample *t*-test for structural engineering consultancy firms is shown in Table 4.

Table 4. Paired *t*-test between expected and perceived service quality of structural engineering consultancy firms

Variables	MS <sub>exp</sub>	MS <sub>pcv</sub>	Gap	<i>t</i>	df	<i>p</i> -Value	Remarks	Decision
Expected vs Perceived "Responsiveness"	4.49	3.88	0.61	19.28	334	0.001	S	Reject
Expected vs Perceived "Assurance"	4.44	3.94	0.46	13.75	334	0.001	S	Reject
Expected vs Perceived "Empathy"	4.41	3.99	0.42	15.04	334	0.001	S	Reject
Expected vs Perceived "Tangibles"	4.31	3.93	0.38	10.19	291	0.001	S	Reject
Expected vs Perceived "Reliability"	4.48	4.05	0.43	12.84	334	0.001	S	Reject

Notes: Significant at 0.05 level (2-tailed); NS = Not Significant; S = Significant; MS<sub>exp</sub> = Mean score expected; MS<sub>pcv</sub> = Mean score perceived; vs = versus; *t* = *t*-test value; *p* ≤ 0.05.

The results in Table 4 indicate that a significant difference exists between the expected and the perceived service quality indicators of "Responsiveness", "Assurance", "Empathy", "Tangibles" and "Reliability" dimensions of service quality. This implies that the performance of service quality is less than the expected service quality as assessed by the clients. This requires a comprehensive improvement in service delivery across all the dimensions of service quality.

### Differences between expected and perceived service quality of M&E consultancy firms

The results of the test of difference using paired *t*-test are shown in Table 5.

Table 5. Paired sample *t*-test between expected and perceived service quality of M&E engineering consultancy firms

Variables	MS <sub>exp</sub>	MS <sub>pcv</sub>	Gap	<i>t</i>	df	<i>p</i> -Value	Remarks	Decision
Expected vs Perceived "Responsiveness"	4.48	3.87	0.61	11.04	334	0.001	S	Reject
Expected vs Perceived "Assurance"	4.46	4.01	0.37	11.06	334	0.001	S	Reject
Expected vs Perceived "Empathy"	4.38	4.01	0.37	7.54	334	0.001	S	Reject
Expected vs Perceived "Tangibles"	4.28	3.86	0.42	11.76	334	0.001	S	Reject
Expected vs Perceived "Reliability"	4.38	4.11	0.35	8.94	334	0.001	S	Reject

Notes: Significant at 0.05 level (2-tailed); NS = Not significant; S = Significant; MS<sub>exp</sub> = Mean score expected; MS<sub>pcv</sub> = Mean score perceived; vs = versus; *t* = *t*-test value; *p* ≤ 0.05.

The results in Table 5 equally indicate a significant difference between the expected and the perceived service quality for M&E engineering consultancy firms. It shows that the perceived mean scores for "Responsiveness", "Assurance", "Empathy", "Tangibles" and "Reliability" are less than the expected mean scores. This implies that the performance of service quality is less than the expected service quality as assessed by the clients and firms are expected to improve their service delivery processes.

### Differences between expected and perceived service quality of quantity surveying consultancy firms

The result of the analysis of paired sample *t*-test is shown in Table 6. There is a significant difference between the expected and the perceived service quality.

Table 6. Paired sample *t*-test between expected and perceived service quality of quantity surveying consultancy firms

Variables	MS <sub>exp</sub>	MS <sub>pcv</sub>	Gap	<i>t</i>	df	<i>p</i> -Value	Remarks	Decision
Expected vs Perceived "Responsiveness"	4.42	3.86	0.56	11.04	334	0.001	S	Reject
Expected vs Perceived "Assurance"	4.38	4.01	0.37	11.06	334	0.001	S	Reject
Expected vs Perceived "Empathy"	4.32	4.00	0.32	7.54	334	0.001	S	Reject
Expected vs Perceived "Tangibles"	4.36	4.36	0.44	11.76	334	0.001	S	Reject
Expected vs Perceived "Reliability"	4.38	4.03	0.35	8.94	334	0.001	S	Reject

Notes: Significant at 0.05 level (2-tailed); NS = Not Significant; S = Significant; MS<sub>exp</sub> = Mean Score Expected; MS<sub>pcv</sub> = Mean score perceived; vs = versus; *t* = *t*-test value; *p* ≤ 0.05.

The results also indicate a significant difference between the expected and the perceived "Responsiveness", "Assurance", "Empathy" and "Reliability" dimensions of service quality of quantity surveying consultancy firms. This means that the perceived mean scores for "Responsiveness", "Assurance", "Empathy", "Tangibles" and "Reliability" dimensions are less than the expected mean scores. The implication of this is that the performance of service quality is less than the expected service quality, thus, indicating the need for improvement in service delivery.

The results for firms of architecture, structural engineering, M&E engineering and quantity surveying clearly show an emerging situation of concerns to all stakeholders in the building industry. The statement of the hypothesis of the study has been rejected through the results for all the consultancy firms. The only exception is the "Tangibles" dimension of the architectural consultancy firms. This however is consistent with the study of Elhendawi et al. (2019) which stated that investments in up-to-date modern equipment are growing rapidly worldwide as a tool for improving efficiency in the building industry. The perceptions of the client concerning the service quality of consultancy firms have an important impact

on client satisfaction. It equally shows the significant importance of the clients of the building industry to build the needed confidence. Sunindijo, Hadikusumo and Phangchunun (2014) equally established that the dimensions of "Reliability", "Responsiveness" and "Assurance" are the most important for contractors to encourage client behavioural intentions.

On the other hand, Ojekalu et al. (2018) hinted that "Tangibles", "Assurance" and "Empathy" dimensions are better in establishing service quality of property managers. The dimensions of "Responsiveness" and "Reliability" dimensions were equally emphasised by Lau et al. (2016) as requiring the attention of engineering consultants. These dimensions were classified as people management and remain a major factor of total quality management (TQM) principles to sustain long-term business objectives.

### **Comparison of the service quality gaps of consultancy firms**

The results of the *t*-test in Tables 3 to 6 for the firms shows the service quality gaps as evaluated by the respondents. For architectural services, the gap in service quality dimensions for "Responsiveness" is 0.56, "Assurance" is 0.26, "Empathy" is 0.29 and "Reliability" is 1.07. This shows a positively significant gap because the values are more than 1 ( $> 1$ ). However, "Tangibles" (-0.04) has a negative gap, implying a weak significant gap between the expected and perceive service quality in this dimension (Fischgrund and Omachonu, 2014). For structural engineering, the gaps are positive for all the dimensions ("Responsiveness" = 0.61, "Assurance" = 0.46, "Empathy" = 0.42, "Tangibles" = 0.38 and "Reliability" = 0.43). The situations are similar for M&E engineering ("Responsiveness" = 0.58, "Assurance" = 0.37, "Empathy" = 0.37, "Tangibles" = 0.42 and "Reliability" = 0.35) and quantity surveying ("Responsiveness" = 0.56, "Assurance" = 0.37, "Empathy" = 0.32, "Tangibles" = 0.44 and "Reliability" = 0.35). These results show a positively significant gap because the values are more than 1 (Fischgrund and Omachonu, 2014).

This shows the extent of needs for improvement in service quality in order to enhance the performance of service providers (Oyewole and Dada, 2019). The importance of this is immense as it determines the satisfactory levels of client and a determinant of future patronage and sustenance in business. This is in consistent with the study of Ehigie and Jesse (2018) which affirmed the need for improvement in "Responsiveness", "Empathy" and "Assurance" dimensions in professional services of tax practitioners in Liberia. The study of Monferrer et al. (2019) in Spain, emphasised that in addition to these dimensions, effort must be geared towards the importance of social and ethical issues towards fulfilling the loyalty of clients. Sunindijo, Hadikusumo and Phangchunun (2014) emphasised that "Reliability", "Responsiveness" and "Assurance" are the most important dimensions influencing service quality in the construction industry in Thailand. These differences in findings could be explained as the peculiarities of each country.

### **CONCLUSION**

The study examined the client assessment of service quality of consultancy firms in building projects using the generic dimensions of "Responsiveness", "Assurance", "Empathy", "Tangibles" and "Reliability". The result shows that significant differences exist between the expected service quality and perceived service quality in

structural engineering, mechanical/electrical engineering and quantity surveying services along with all the dimensions of service quality. However, the "Tangibles" dimension of architectural services had no differences in the service quality but had differences in "Responsiveness", "Empathy", "Reliability" and "Assurance" dimensions.

The perceptions of respondents indicate that the levels of service quality are generally low. The results imply that professional service providers require fundamental improvement in their services to the clients. This scenario is a reflection of the myriad of challenges of poor performance, failure to meet clients' needs and expectations, safety issues and conflicts among parties which are prevalent in the building industry. The service providers need to appreciate that appropriate solutions to these challenges can only guarantee a continuous investment in the building industry by prospective clients.

Since it has been established that adequate service quality is important to meet clients' aspirations which can lead to financial performance and competitiveness, service providers need to focus on maintaining a high level of service quality. This will establish the propensity of clients for referrals for a future relationship, as the final measure for the success of the project and the indicator of quality is the satisfaction of the client. In the same way, the comprehensive knowledge of the client's aspirations by the service providers in respect of both physical and intangible forms are critical towards achieving the success of construction projects.

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