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Service Quality of Building Maintenance Contractors in Zambia: A Pilot Study

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SERVICE QUALITY OF BUILDING MAINTENANCE CONTRACTORS IN ZAMBIA: A PILOT STUDY

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Abstract
This study examines service quality of building maintenance contractors in Zambia. It argues that improving service quality would help local contractors to enhance their competitiveness in a globalised environment. The study uses an international organisation as a unit of analysis through the perception of the Estate's Manager in exploring service quality issues. An instrument based on the SERVQUAL approach was used to collect data. The determination of service quality was based on the comparison between the clients' expected and perceived service quality levels. The findings show that few contractors exceed the clients' expectations in all dimensions, while the majority fall below the clients expectations in all dimensions. The aggregate service quality scores for all contractors show that clients do not receive the expected service quality level. The findings also suggest that there is a correlation between service quality and customer satisfaction in projects undertaken by the contractors. Contractors therefore need to acknowledge this and improve on their service quality. The paper acknowledges that there are few empirical studies concerning service quality in the Zambian construction industry and therefore contributes to the understanding of quality issues in the industry. The findings provide useful insights into service quality in the Zambian construction industry.

Keywords: Building maintenance, Service Quality, SERVQUAL, Quality, Zambia.

INTRODUCTION

The Zambian Construction industry like many others in Sub-Saharan Africa is facing major challenges in light of globalisation. Shakantu, Zulu and Matipa (2002) suggest that the Zambian construction industry is in need of clear strategies in order to compete in the globalised market. Research suggests that globalisation in general has not favoured contractors in Zambia. Dlungwana and Rwelamila (2005) also argue that the impact of globalisation has the potential to destroy non-competitive contractors. The performance of contractors in Zambia like many others in Sub-Sahara is below expectations. It is not uncommon to learn of projects that have not been completed or significantly delayed. Changes in government policy including privatisation and liberalisation have led to a reduction in expenditure on capital projects (Mashamba, 2001). This poor performance of contractors has huge implications in terms of competitiveness. In order to correct this situation there is need to find ways of improving contractors' performance.

Dlungwana and Rwelamila (2005) advocate that the development of contractors' skills and knowledge is key to the development of competitive contractors who can compete in a global economy. Further, they suggest that development of the construction industry can be tackled at two levels. They suggest that it should focus on both the managerial tools institutional levels. This paper focuses on management development and in particular argues that improvement in service quality by contractors would enhance their competitive position in light of the impact of globalisation. Studies show that there is a significant relationship between service quality and competitive advantage (Maclaran and McGowan 1999). This paper therefore advocates for the need for managers in contractors organisations to re-evaluate their service quality levels and their competitiveness in the industry.

This research focuses on the Zambian construction industry and acknowledges that there is no known study previously conducted concerning service quality in the Zambian construction industry. The aim of this research is therefore to investigate the level of service quality provided by building maintenance contractors in Zambia. The preliminary findings of the research were reported in a conference paper (Zulu and Chileshe 2008). This paper is an extended version of Zulu and Chileshe (2008) following further analysis. The paper starts by providing an overview of the Zambian construction industry then discusses the concept of service quality in the context of construction projects. Having provided a contextual background to the paper, the results of a case study are presented.

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LITERATURE REVIEW

The Zambian Construction Industry

The construction industry makes a significant contribution to national economies. Zambia has seen a steady growth in its construction industry over the last ten years. The industry's contribution to GDP has grown from 3.5% in 1996 to 13.9% in 2006 (IMF 2008). Figure 1 shows the contribution of the industry to the Zambian economy. Although its employment contribution is relatively low, it employs around 3% of the total number of people employed. The importance of the industry can further be attributed to the strong correlation between the economic (GDP) cycle and building cycle as established by Musole (2000). The industry is also seen as one of the important entry points for foreign investors as it is a profitable and important sector in emerging economies (Boster 2006). Although several foreign companies have been a major force in the Zambian industry in the past, the post Kaunda era (after 1991) has seen a leap in their numbers. This is due to economic liberalisation policies that have been embraced in the post Kaunda era. With the liberalisation of the economy, the industry has continued to grow and has seen an increase in foreign company involvement in the industry. For example foreign direct investment pledges increased from USD4,933,500 in 2005 to USD140,328,266 in 2006 (USA Department of State 2005). Burke (2007) also notes the growth of Chinese construction companies in Zambia whose numbers have grown in the last ten years from about three to twenty.

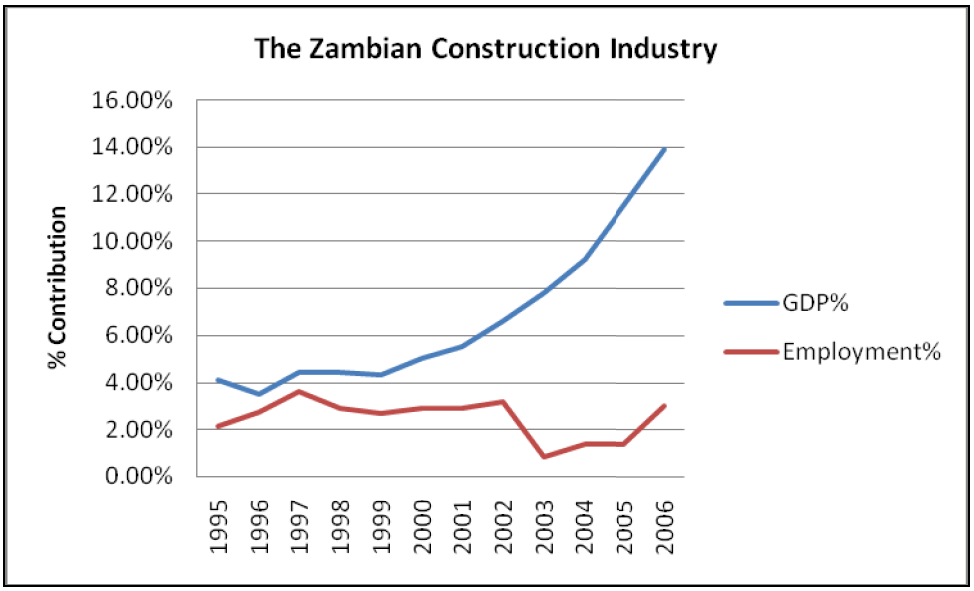

Figure 1: GDP and Employment contribution (Based on data from IMF, 2004, 2006 & 2007)

The industry has five main sectors including manufacturing, design, construction, supply and clients (Shakantu, Zulu and Matipa, 2002). The focus of this paper is on the construction sector of the industry and in particular those involved in maintenance works. Contractors in Zambia are classified into 6 categories from group 1, for the largest contractors, to group 6, for the smallest contractors (National Construction Council, 2008). Table 1 provides the summary of the classification of the contractors. There are currently a little over 1600 contractors registered with the National Construction Council. Most of the contractors involved with building maintenance contracts are in the lower categories and can be generally considered as small to medium sized enterprises (SME's). While there is a general consensus of the definition of the SMEs in developed economies, there is no generally accepted definition of SMEs in developing countries (Albaladejo, 2002). For the purpose of this paper, contractors in categories 2 to category 6 will be considered as SMEs.

Table 1: Classification of contractors (Source National Construction Council 2008)

	Grade						
	1	2	3	4	5	6	Total
Annual Turnover (ZMK)	>25bn	15bn-25bn	10bn-15bn	2bn-10bn	1bn-2bn	<1bn	
Professional Staff (e.g. Eng. QS/Arch)	5	4	3	2	1	1	
Technical Staff (Technician Level)	10	6	3	1	1		
Skilled Staff (E.g. Artisan)	15	9	5	4	4	2	
Maximum Contract value (ZMK)	Unlimited	<20bn	<10bn	<5bn	<2.5bn	<0.5bn	
Total Number	38	12	34	76	257	1228	1645
%	2%	1%	2%	5%	16%	75%	

It is generally argued that SMEs are the backbone of an industry and the economy as a whole. Albaladejo (2002) argues that SMEs constitute the seedbed of companies of

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the future. It is expected that it is these companies who will one day be in the largest category of the industry. However with the current globalised economy they face major challenges. Beyene (2002) argued that with the increase in globalisation, African SMEs should be prepared to be active participants in the global economy. Although these SMEs contractors, who are the focus of this paper, participate only in the local Zambian economy, the economy itself attracts global attention, and therefore the local companies are participants in a globalised economy.

The threat to Zambian contractors from foreign entrants comes in many forms. Burke (2007) for example notes that Chinese contractors have an advantage over local companies in Zambia as they offer good quality at low cost. The cost difference can be as much as 20%. Burke suggests that these Chinese contractors are gaining popularity with both public and private sectors due to good quality and timely competition. Beyene (2002) argues that most SMEs in Africa lack organisation and knowledge in modern management techniques compared to their foreign counterparts. The World Bank (2005) in their evaluation of a project in Zambia also found that one of the factors which impacted on local contractors was that they lacked equipment to undertake construction works. It is important therefore that local companies find solutions to these emerging threats.

The Zambian industry is characterised by poor project performance. Many projects are completed late, over budget and are of poor quality. Adebayo (2002) suggests that many African countries have a record of poor project completion rates, possibly as a result of lack of good contractors, inadequate managerial skills, corruption and conflict of interest. Zambia is not an exception as seen in many government and media reports. The work of Muya et al. (2006) provides an interesting overview of quality issues in the construction industry. They found that quality of construction craft skills was one of the major concerns in the industry. Quality of craftsmanship would undoubtedly have an impact on product quality and also on service quality provided by contractors.

The work of Mbachu and Nkando (2007) found that quality and attitude to service is one of the factors constraining successful project delivery in South Africa. It is suggested here that this would also hold true for much of Sub-Sahara Africa including Zambia. Many other factors, which can be closely linked to service quality, are known to have significant impact on project performance. A number of studies have been conducted to examine factors impacting on project performance in developing or underdeveloped countries. Faridi and El-Sayegh (2006) for example, found that shortage of skills, manpower, poor supervision and poor site management, unsuitable leadership, shortage and breakdown of equipment among others contributed to construction delay in the United Arab Emirates (UAE). Hanson et al. (2003) examined cause of client dissatisfaction in the South African building industry. They found that, among others, conflict, poor workmanship and incompetence of contractors were found to be among the factors that impact on project performance. The authors in the present study suggest that, despite the lack of reliable empirical evidence, these factors would also have significant impact on project performance in the Zambian construction. Based on the discussion above, it is suggested that service quality variables would be among those factors that play a significant part in influencing the performance of contractors in Zambia.

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Service Quality

Service quality is an important issue in construction as it is not just the end product that is important to the client but also the process by which the product is delivered. With changes in procurement systems that emphasise the need for long term relationships, service management is becoming an important issue. This is particularly important for maintenance or refurbishment works where the construction process has a significant impact on a customer's processes. Perng et al. (2007) note that, in relation to refurbishment works, both the progress and the end product are critical as in many instances the project would be carried out while the facility to be maintained or refurbished is in use by the customer. The intensity of interaction between contractors and clients for building maintenance services may be longer term than on single new build projects as such contracts may be based on serial contracting. This therefore implies that the satisfaction of clients would be greatly affected by service quality levels received from building maintenance contractors as both the service and the product becomes particularly important.

It should be noted here that quality on construction projects can be examined from two perspectives which include process quality and product quality. Service quality is closely linked with process quality. Arditi and Gunaydin (1998) distinguished between product quality and process quality. They defined product quality as the quality of elements directly related to the physical product itself while process quality was defined as relating to achieving quality of organisation and management of the project in the three phases of design, construction and operation. Similarly, Wideman (2001) distinguished between the quality of the process and the quality of the product by defining the quality of a process in terms of the standard by which the project's deliverables are produced while the quality of the product is defined in terms of whether the deliverables meet the specified requirements. Turner (1999) used a five-element model to depict total project quality. This includes quality of the product, quality of the management process, quality assurance, quality control and people's attitudes. Turner's model distinguishes between product quality and management quality. This distinction implies that both the quality of the process and quality of the product should be managed to the highest level, as neglecting one dimension would impact on the outcome of the project. This provides ground for increased efforts to manage the process, as it is the 'process that creates the product' (Collier 1995). However the emphasis in research on quality in construction has been on the quality of the product while the quality of the management process has received lesser attention (Zulu & Brown, 2002).

Many researchers have examined the impact of general quality management efforts on performance. Anderson et al. (1998), for example, analysed the influence of quality management on logistics performance. Samson and Terziovski (1999) examined total quality management practices and operational performance of manufacturing companies. They concluded that there is a positive relationship between quality management effort and performance. Similarly, Madu et al. (1996) examined the influence of quality dimensions on organisational performance, while Kuei et al. (2001) examined the relationship between supply chain quality management practices and organisational performance. Ahire and Dreyfus (2000), Claver et al. (2003), Hendricks and Singhal (2000), and Pannirselvam and Ferguson (2001) also examined

the relationship between quality and performance. These studies also show that there is a significant positive relationship between quality efforts and performance.

The impact of service quality on performance and customer satisfaction has been examined (Rapert and Wren 1998, Aga and Safakli 2007, Lai et at. 2007, Greenland et al., 2006). In addition to customer satisfaction, service quality has been shown to be a key ingredient in fostering a firm's competitive advantage (Maclaran and McGowan 1999, and Rapert and Wren 1998). Maclaran and McGowan (1999) argue that small firms are particularly vulnerable to competition from large firms who can create a cost advantage due to economies of scale. However they argue that small firms are better placed to create differentiation through service quality as, due to their size, they can personalise their service. Rapert and Wren (1998) noted that companies 'which are adept at service quality can build competitive positional advantage'. Zeithaml et al. (1990) suggest that service quality can be measured by the difference between a customer expectation and perception. There are different methods for measuring service quality. However one of the most used methods is the use of the service quality measurement instrument (SERVQUAL) developed by Parasuraman et al. (1985). The model assess service quality using five dimensions which include, reliability, responsiveness, assurance, empathy and tangibles. The following are the definitions of these service quality dimensions (Zeithaml et al., 1990; Ling and Chong 2005)

1. Tangibles. The appearance of physical facilities, equipment, personnel and communication material.
2. Reliability. The ability to perform the promised service dependably and accurately.
3. Responsiveness. The willingness to help customers and provide prompt service.
4. Assurance. The knowledge and courtesy of employees and their ability to inspire trust and confidence.
5. Empathy. The caring, individualised attention that a firm provides its customers.

Table 2 summarises the dimensions of service quality and their related measurement items based on the work of Siu et al. (2001), Hoxley (2000), and Hoxley (2007). This instrument was used in this research to assess the service quality levels of building maintenance contractors for a large international organisation.

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Table 2: Service quality dimensions

Dimension
Tangibles
(1) Up-to-date equipment
(2) Physical facilities that are visually appealing
(3) Neat appearance
(4) Appropriate size in relation to the work performed
(5) Standard of verbal and written presentation of work
Reliability
(6) Will do something by a certain time as promised
(7) Show sincere interest in solving problems
(8) Provides the service at the time promised
(9) Performed the service right the first time
(10) Would establishing long-term relationship
Responsiveness
(11) Tells clients exactly when services will be performed
(12) Give prompt service to us
(13) Responded to clients' requests
(14) Willing to help Clients
Assurance
(15) Behaviour of employees instil confidence in clients
(16) Clients feel safe in their transactions
(17) Employees consistently courteous with us
(18) Employees have knowledge to answer enquiries
(19) Experienced workers perform the work
(20) Good site supervision of projects
Empathy
(21) Operating in hours convenient to clients
(22) Give clients individualized attention
(23) Understand clients specific needs
(24) Understand the clients organisation

Many other studies have used the SERVQUAL instrument based on the work of Parasuraman et al. (1985). Donnelly et al. (2006) explored the application of the SERVQUAL approach to assess the quality of police service in Scotland and found expectations of the Reliability and Responsiveness dimensions as relatively lower. The SERVQUAL instrument has also been a subject of criticism (Cronin and Taylor, 1992, 1994 & van Dyke et al. 1999). For example, Robinson (1999) in citing Cronin and Taylor (1992) argued that there was little evidence, either theoretical or empirical to support the notion of the expectations-performance gap as a basis for measuring service quality. However the instrument has been extensively used in research (Hoxley 2000) and continues to be relevant (Hoxley 2006). It is recognised however that the original instrument needs to be tailored for specific industries for it to be useful. For example, it has been used and adapted for the construction industry. Hoxley (2007) has applied the instrument to measure service quality of construction professional services. Ardit and Lee (2003) used the instrument for service quality in Design and Build contracts, while Holm (2000) and Siu et al. (2001) adapted the instrument for refurbishment or building maintenance contracts. Recent studies such as Ladhari (2008) identified and discussed key conceptual and empirical issues that should be considered in the development of alternative industry specific measurement scales of service quality other than SERVQUAL. The study summarised contentious issue which need to be taken into account when using such scales as SERVQUAL.

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These are summarised as follows:

- the dimensionality of service quality;
- the hierarchical structure of service quality;
- the relationship of culture to perceptions of service quality;
- comparisons between alternative scales and SERQUAL;
- validity of service quality scales; and
- the statistical analysis used.

RESEARCH METHOD

The findings in this paper are based on a case study of an International Organisation. The data were based on the Estate Manager's evaluation of the Service Quality provided by the different contractors that they engaged over a period. It is acknowledged that one of the methodological issues related to the collection of data from single respondents. Although the unit of analysis was the organisation, collection of data from the Estate's Manager though might be construed as only reflecting Managerial perceptions, as observed by Meredith (1995 cited in Ahire and Golhar 1996), the information compiled from the perceptions of "key" participants is often closer to reality than an artificial reconstruction of the objective reality based on a focussed and limited collection of incomplete objective data gathered independently by researchers themselves (Ahire and Golhar, 1996:10). The use of the single organisation as a case study provides the researcher with an opportunity to investigate an issue at greater depth than most research strategies. Usually a single case or a small numbers of cases are used with the aim of providing an in-depth understanding of the events, relationships, experiences or processes in the particular case (Fellows and Liu, 2003). The use of case studies is often criticised, as it is difficult to generalise findings. However case studies can be useful to provide an in-depth understanding of issues.

The international organisation, based in Lusaka-Zambia, has a relatively large portfolio of property and outsources all its building maintenance services. The organisations procedures are that only pre-registered contractors are invited to tender for maintenance contracts. The primary research method was based on the use of a questionnaire. The questionnaire was designed to collect service quality and customer satisfaction data. In order to assess service quality, the organisation's Estate Manager was requested to assess their expectation and perception of service quality using a SERVQUAL instrument as presented in table 2. The Estate Manager was also requested to rate their levels of agreement of satisfaction with the project according to a seven-point Likert rating scale (7 =strongly agree and 1 strongly disagree). Previous studies such as Carman (1990); Parasuraman et al. (1985; 1988) also used the seven-point scale. Four items were included to measure customer satisfaction, overall satisfaction, satisfaction with time performance, satisfaction with cost performance and satisfaction with quality (of the product) performance. The Estate Manager assessed their perception of service quality provided by 12 contractors on 12 maintenance projects. Table 3 and Figure 2 provide details of the contract period and contract sums for the 12 projects involved.

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Table 3: Contract Period

Period (Weeks)	Percentage of projects
< 4 Weeks	25.0 percent
4 – 12 Weeks	33.3 percent
12 – 24 Weeks	16.7 percent
24 – 36 Weeks	25.0 percent

Examination of Table 3 indicates that the majority (33.3 percent) of the projects were within the 4 to 12 week contract period whereas only a minority (16.7%) fell within the 12 to 24 weeks contract period. Examination of Figure 2 also indicates a strong correlation between project cost and duration with the maximum project duration of 28 weeks costing £50,000 whereas the minimum project duration of 1 week was worth £10,000.

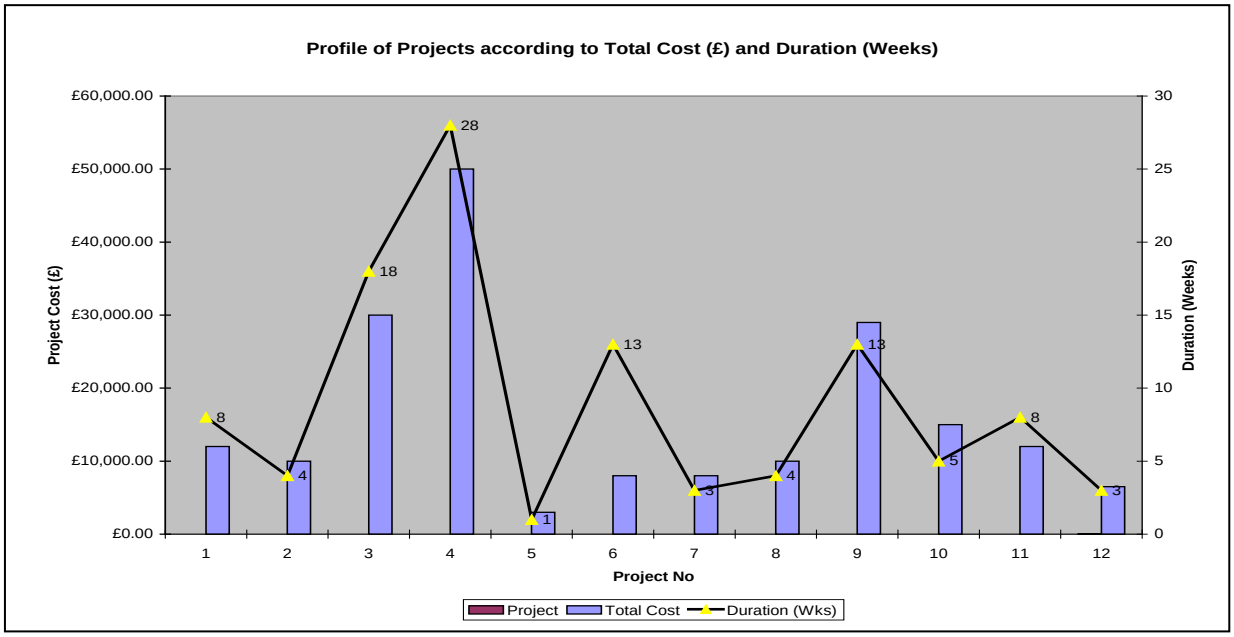

Figure 2: Profile of Projects (Respondents) by Total Costs and Duration

RESULTS

Reliability of the instruments

This section presents the reliability of the SERQUAL instrument. Reliability is tested using the Cronbach coefficient alpha. According to Filed (2000) the degree to which multiple indicators share in their measure of a construct is conducted using the Cronbach's alpha coefficient. This was calculated for each of the variables (items) and summated as a score for the construct (dimension). Table 4 shows the reliability coefficients for the five dimensions of service quality. Examination of Table 4 indicates that the SERQUAL instrument is reliable as alpha a > 0.7 for all the SERQUAL dimensions. According to Nunnally (1978), the internal consistency is satisfied.

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Table 4: Reliability coefficients for the dimensions of service quality

Dimensions	Mean	Variance	Std. Dev	No. of Items	Cronbach Alpha
Tangibles	25.833	29.606	5.440	5	.835
Reliability	24.580	73.72	8.580	5	.961
Responsiveness	20.167	51.970	7.209	4	.956
Assurance	32.583	62.811	7.925	6	.915
Empathy	22.833	13.061	3.614	4	.755

Notwithstanding the values in Table 4 achieving the internal consistency criteria, the authors acknowledge Ladhari (2008) in citing Churchill (1979) and Smith (1999) that higher alpha values can be indicative of deficiencies rather than reliability in a scale. However the range of the reliability coefficients obtained as shown in Table 4 are consistent with those of Parasuraman et al. (1985; 1988). Furthermore, Asubonteng et al. (1996) recommend high reliabilities such as 0.90 as a measure of the extent of internal consistency among the five dimensions of SERVQUAL. The study by Asubonteng et al. (1996) also summarised the application of the Cronbach's alpha reliability coefficients for the five SERVQUAL dimensions across a range of studies and found them to be similar.

Discussion of Findings

The determination of service quality was based on the assessment of the difference between the client's expectation and perception of the achieved service quality. As asserted by Tan and Kek (2004) in citing Parasuraman et al. (1988), SERVQUAL measures the difference between what is expected from a service encounter and the perception of the actual service encounter and can be operationalised as follows:

Service Quality (SQ) Score = Perception (P) score – Expectation (E) score

Ling and Chong (2005) used the same equation in determination of service quality in public projects among design and build contractors in Singapore. The level of service quality was divided into three parts based on the work of Perng et al. (2007). These included overall service quality (SQ), service quality for each dimension (DS) and service quality for each item (IS). The analysis of the data was performed at two levels. Firstly, the client's expectation scores were compared against perception scores for each contractor. The analysis at this level was only concerned with overall service quality (SQ) and service quality for each dimension (DS). At the second level, the client's expectation scores were compared with aggregate perception scores for all contractors. The analysis at this level was concerned with all three dimensions.

The customer's expectation and perception scores for each contractor are presented in Table 5. The scores, in Table 5, under each service quality dimension were calculated by finding the mean score for all the measurement items under the dimensions. The client's aggregate expectation score was 5.94. An examination of the data shows that only 4 contractors (8, 9, 10 & 11) exceeded the client's aggregate score as they had the perceived service quality score exceeding 5.94. Table 6 shows the computed service quality scores. The service quality scores in table 6 represent the difference between perception and expectation scores. The service quality scores (DS) for each

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dimension was computed by subtracting the expectation score from the perception score for each dimension, while the overall service quality score (SQ) was computed by subtracting the mean expectation score from the mean perception score for each contractor.

Table 5: 'Expected' vs. 'Perceived' Mean Scores

Dimension		Tangible	Reliability	Responsiveness	Assurance	Empathy	Mean	Rank
Client Expectation		5.80	5.80	6.25	5.83	6.00	5.94	
Client Perceived	Contractor 1	5.20	4.60	3.75	5.17	5.25	4.79	9
	Contractor 2	3.60	2.20	3.00	3.00	4.00	3.16	11
	Contractor 3	4.80	5.40	5.50	5.83	6.00	5.51	7
	Contractor 4	3.80	4.40	4.25	4.33	5.50	4.46	10
	Contractor 5	4.60	6.00	6.00	5.67	5.75	5.60	5
	Contractor 6	4.40	1.40	1.00	3.17	4.25	2.84	12
	Contractor 7	5.00	4.00	4.50	5.67	5.50	4.93	8
	Contractor 8	7.00	6.80	7.00	7.00	6.75	6.91	2
	Contractor 9	5.80	6.00	6.25	6.33	6.50	6.18	3
	Contractor 10	6.60	7.00	7.00	7.00	7.00	6.92	1
	Contractor 11	6.00	5.80	6.25	6.33	6.00	6.08	4
	Contractor 12	4.60	5.40	6.00	5.67	6.00	5.53	6

Tan-Tangibles, Rel-Reliability, Res-Responsiveness, Ass-Assurance, Emp-Empathy

The data shows that most contractors with an exception of 4 contractors (8, 9, 10 &11) have negative SQ scores which mean they achieve lower service quality than expected. In addition an examination of DS scores for those contractors, who underachieve, shows that most contractors fail to archive the expected service quality levels in all dimensions. Table 6 presents the service quality gaps for the aggregated items or dimensions for each of the 12 contractors.

Table 6: Service Quality Score

	SERVQUAL (Perception – Expectation)					
	DS-Tan	DS-Rel	DS-Res	DS-Ass	DS-Emp	SQ
Contractor 1	-0.60	-1.20	-2.50	-0.67	-0.75	-1.14
Contractor 2	-2.20	-3.60	-3.25	-2.83	-2.00	-2.78
Contractor 3	-1.00	-0.40	-0.75	0.00	0.00	-0.43
Contractor 4	-2.00	-1.40	-2.00	-1.50	-0.50	-1.48
Contractor 5	-1.20	0.20	-0.25	-0.17	-0.25	-0.33
Contractor 6	-1.40	-4.40	-5.25	-2.67	-1.75	-3.09
Contractor 7	-0.80	-1.80	-1.75	-0.17	-0.50	-1.00
Contractor 8	1.20	1.00	0.75	1.17	0.75	0.97
Contractor 9	0.00	0.20	0.00	0.50	0.50	0.24
Contractor 10	0.80	1.20	0.75	1.17	1.00	0.98
Contractor 11	0.20	0.00	0.00	0.50	0.00	0.14
Contractor 12	-1.20	-0.40	-0.25	-0.17	0.00	-0.40

Tan-Tangibles, Rel-Reliability, Res-Responsiveness, Ass-Assurance, Emp-Empathy
[Table 6-SQ/DS Scores: 0= as expected; <0= below expectation; >0 = exceeds expectation]

The overall service quality scores ranged from -2.78 (contractor 2) to 0.98 (contractor 10). The findings above show that only 4 contractors (30%) achieved or exceeded client's expectation in all dimensions. As can be seen from the tables, only contractors 8 to 11 have positive DS scores in all service quality dimensions. SQ scores in table 5

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also suggests that some of the contractors provide very poor service quality levels as their SQ scores are significantly below the clients expectation. For example contractor 2 and 6 show poor service quality levels with SQ scores of -2.78 and -3.11 respectively.

Table 7 and Table 8 present the aggregate scores for all contractors. The aggregate IS and DS scores suggest that amongst all the service quality constructs, contractors are less '*responsive'* to the clients needs, while they seem to be at least '*empathetic'* towards the clients needs and provide some '*assurance'* to the client of their ability to deliver. Responsiveness refers to the willingness of contractors to help clients and provide prompt service.

Table 7: Analysis of IS Service quality scores

Dimension	Expectation	Perceived	**IS** Score
Tangibles			
(1) Up-to-date equipment	7.00	5.17	-1.83
(2) Physical facilities that are visually appealing	6.00	4.58	-1.42
(3) Neat appearance	5.00	4.50	-0.50
(4) Appropriate size in relation to the work performed	5.00	5.75	0.75
(5) Standard of verbal and written presentation of work	6.00	5.58	-0.42
Reliability			
(6) Will do something by a certain time as promised	7.00	4.83	-2.17
(7) Show sincere interest in solving problems	5.00	4.58	-0.42
(8) Provides the service at the time promised	7.00	5.25	-1.75
(9) Performed the service right the first time	5.00	4.92	-0.08
(10) Would establishing long-term relationship	5.00	5.00	0.00
Responsiveness			
(11) Tells clients exactly when services will be performed	7.00	5.00	-2.00
(12) Give prompt service to us	6.00	5.08	-0.92
(13) Responded to clients' requests	6.00	5.08	-0.92
(14) Willing to help Clients	6.00	5.00	-1.00
Assurance			
(15) Behaviour of employees instil confidence in clients	5.00	5.00	0.00
(16) Clients feel safe in their transactions	6.00	5.17	-0.83
(17) Employees consistently courteous with us	5.00	5.58	0.58
(18) Employees have knowledge to answer enquiries	6.00	5.58	-0.42
(19) Experienced workers perform the work	6.00	6.17	0.17
(20) Good site supervision of projects	7.00	5.08	-1.92
Empathy			
(21) Operating in hours convenient to clients	7.00	6.25	-0.75
(22) Give clients individualized attention	6.00	5.42	-0.58
(23) Understand clients specific needs	6.00	5.75	-0.25
(24) Understand the clients organisation	5.00	5.42	0.42

Examination of Figure 3 and Table 7 reveals that there is almost complete disagreement (negative IS > 80%) over the 22 service quality items between the client's expected and perceived scores.

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Table 8: Analysis of Aggregate SQ & DS Service quality scores

Dimension	Expectation	Perception	IS	Ranking
Tangibles	5.80	5.12	-0.68	3
Reliability	5.80	4.92	-0.88	2
Responsiveness	6.25	5.04	-1.21	1
Assurance	5.83	5.43	-0.40	4
Empathy	6.00	5.71	-0.29	5
Aggregate/SQ Scores	5.94	5.24	-0.69	

Responsiveness had the lowest dimension score (DS) score of -1.21. This is followed by Reliability (-0.88), Tangibles (-0.68), Assurance (-0.40) and Empathy (-0.29). An examination of the individual item scores (IS) shows that in general contractors do not *'do something by a certain time promised'* nor do they *'tell the client when the service will be performed'*. This is not surprising as these items are closely linked to time performance which is usually an issue of concern in construction projects. The best performing items seem to be 'the size of the contractor', the courteousness of contractors and their ability to understand the client's organisation. The relatively poorer scores in the important dimensions of Reliability (IS = -0.88, Rank =1) and Responsiveness (IS = -1.21, Rank = 2) are consistent with Donnelly et al. (2006) who reported similar findings. The relationship between the client's expectation and perception scores are also presented in Figure 3.

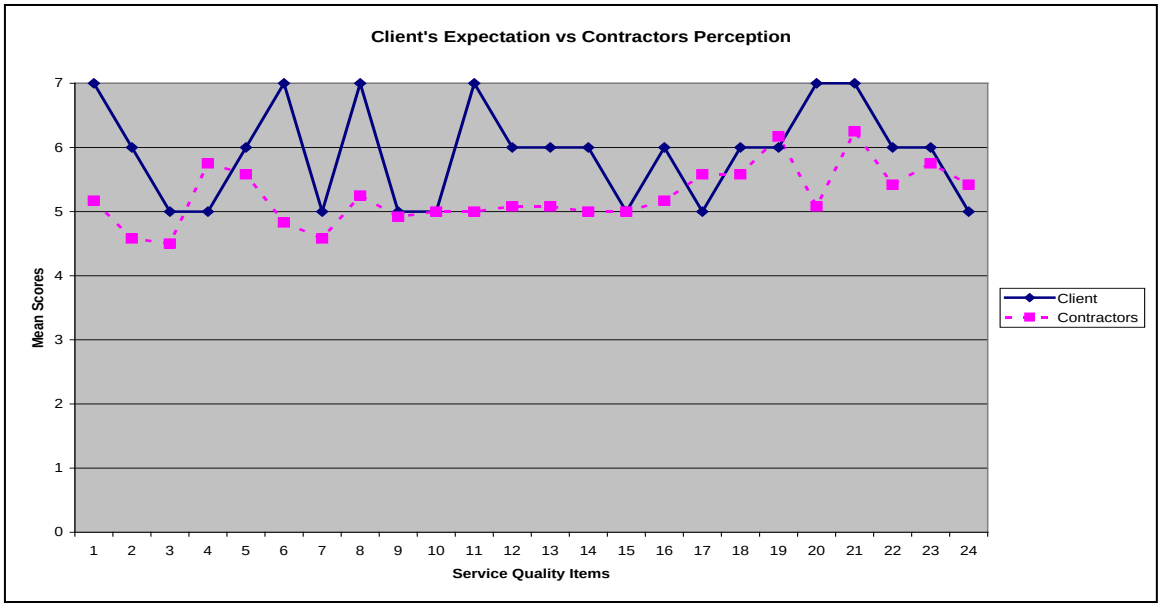

Figure 3: Clients Expectations and Contractors Perception of Service Quality

A gap of 2.17 points in the reliability dimension of 'will do something by a certain time as promised' and the IS score of (– 2.00) for the responsiveness dimension of 'tell clients exactly when services will be performed' were two of the only items with a gap > 2.00. This demonstrates that relative to time management and to some extent "soft" or "people" dimensions, contractors in Zambia leave much to be desired. This finding is consistent with literature, for example Newman (2001) study of retail banks in the UK found a significant gap between customer perceptions and expectations for the responsiveness, empathy and assurance dimensions. However some of the low

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item scores such as the item 7 "will do something by a certain time as promised" should be treated with caution as in other industries such as the service industry where a specified date was provided to the client for the completion of task (such as installing of the telephone line) might receive high scores, within the construction industry, there is always some aspects of variation within the process which arise. Carrillat et al. (2007) lend support to this argument when they state that whereas some dimensions of SERVQUAL such as tangibility might not be relevant for a cable company as the customer might never see the facilities of the service provider, it could be critical for a healthcare facility customer (Carrillat et al., 2007).

Service Quality and Satisfaction

An examination of the correlation between service quality and client satisfaction was also analysed. Table 8 shows the aggregate satisfaction scores arranged in order of satisfaction ratings. The satisfaction of the client was computed using 4 factors (overall satisfaction, time, cost and quality) on a 7 point scale ((7 =strongly agree and 1 strongly disagree). The client was requested to rate their satisfaction with the contractors' performance in terms of time, cost and quality performance on a project (see Table 9, columns 3 through 5). The client was also requested to rate their overall satisfaction with the contractors performance on the project. Table 9 presents the results of the client's satisfaction rating of the contractors' performance. The results for both the mean score (see column 6, Table 9) for these was computed and then analysed in respect of the service quality scores as illustrated earlier in Table 5. These are now included and shown in Table 9, column 7. In order to explore the relationship between overall client satisfaction and service quality of the 12 contractors, the values as shown in the last columns of Table 9 were plotted with the results illustrated in Figure 4.

Table 9: Client satisfaction with Contractor Services

	Satisfaction					
Contractors	Overall	Time	Cost	Quality	Mean Satisfaction Score	Mean Service Quality Score
1	2	3	4	5	6	7
Contractor 8	7.00	7.00	7.00	7.00	7.00	6.91
Contractor 10	7.00	6.00	7.00	7.00	6.75	6.92
Contractor 7	6.00	6.00	6.00	6.00	6.00	4.93
Contractor 3	6.00	6.00	6.00	6.00	6.00	5.51
Contractor 12	6.00	6.00	6.00	6.00	6.00	5.53
Contractor 5	6.00	6.00	6.00	6.00	6.00	5.60
Contractor 9	6.00	6.00	6.00	6.00	6.00	6.18
Contractor 11	6.00	6.00	6.00	5.00	5.75	6.08
Contractor 2	5.00	6.00	6.00	5.00	5.50	3.16
Contractor 4	5.00	6.00	5.00	6.00	5.50	4.46
Contractor 1	5.00	6.00	6.00	5.00	5.50	4.79
Contractor 6	4.00	1.00	6.00	4.00	3.75	2.84

The data shows that the client satisfaction with contractors' performance generally correlates with service quality provided. As can be seen in Table 8, the four contractors with the lowest SQ scores were the same contractors whom the client scored least in terms of satisfaction. Figure 4 shows the correlation between the aggregate service quality and client mean satisfaction. The figure shows that there is

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generally a correlation between service quality and client satisfaction with maintenance projects in the case study organisation.

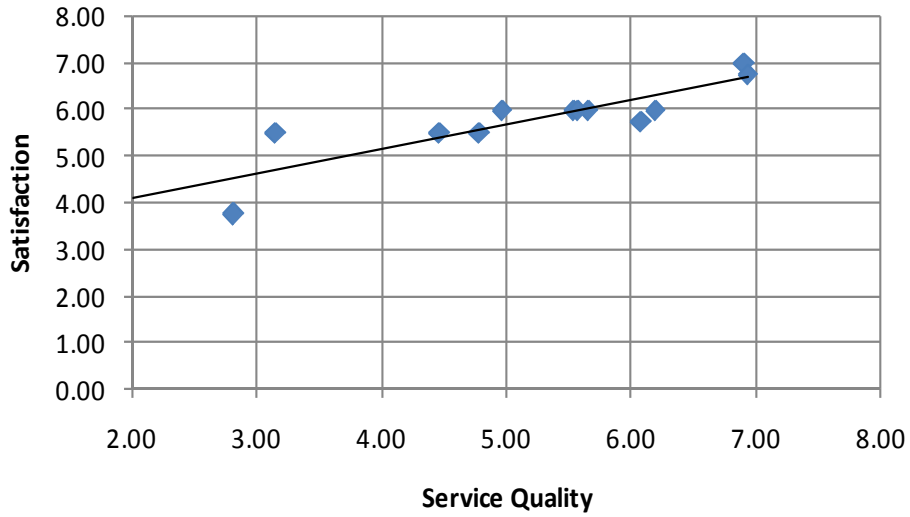

Figure 4: Correlation between Satisfaction and Service Quality

IMPLICATIONS OF RESULTS

The implications of the results can be discussed in consideration of the service quality improvement decision support system proposed by Perng et al. (2007). They suggested that if the SQ is negative, there is need to put in more resources to improve service quality. However if the SQ is positive efforts should go towards creating increasing differentiation to achieve competitive advantage. They also suggested that the DS scores can be used to set priorities over the items that need improvements, that if an item is negative and the whole dimension score is negative, then such an item would need priority attention compared to an item which is positive but the overall dimension score is negative. In terms of the IS scores, they suggests that these can be used to identify in general which areas need improvement. For example, if an item is positive then there is no immediate need to improve the item, while if it is negative, it implies that something has to be done to bring it in line or exceed customer expectations. The data in table 4, would therefore suggests that contractors 8 to 11 do not need to take action as they exceed the clients expectation although, they may need to focus their resources towards creating competitive advantage, while contractors 1, 2, 4, 5, 6, & 7 need to take action to improve their service quality in all their dimensions, as they fall below the client's expectation. The data also suggests that contractor 3 and 12 achieve the client's expected service quality in at least one dimension and therefore would need to focus their resources only on those items they fail to achieve the clients expectation in the short term,. An examination of data in table 5 suggest that in general the priority items for improvement would be items 1,2,6,8, 11 14 and, 20 as they are all significantly below the client's expectation.

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CONCLUSIONS

This study investigates service quality of building maintenance contractors in Zambia. The case study provides an insight into service quality of building maintenance contractors in Zambia. The findings suggest that overall, based on aggregate scores, the contractors for this organisation provide lower than expected service quality to the organisation. The findings also show that contractors can do more to improve their service quality especially in relation to the need to be more responsive to the clients needs. As discussed earlier, service quality can be used to pivot an organisation into a competitive position. The case study provides an insight into service quality in the Zambian construction industry. No empirical study on service quality in the Zambian construction is known to have been conducted. Therefore, although this is only based on the Estate's Managers perception of the service quality provided by the 12 contractors to one organisation, the research contributes to the understanding of service quality levels in the Zambian construction industry. As the results suggest, contractors in Zambia, and in particular building maintenance contractors, need to improve their service quality in order to meet desired customer expectations as this impacts on both client satisfaction and competitive advantage. Therefore in order for building maintenance contractors, in Zambia, to remain competitive in a globalised economy, there is need for them to find ways of improving the service quality provided.

LIMITATIONS

Some limitations of the research need to be acknowledged. The sample is relatively small (12), and the use of cross sectional data, as such, is not representative. The findings presented may not be generalised to a wider population of building maintenance contractors within the Zambian Construction Industry.

However the findings represent a snapshot of the reality of the uptake of service quality within the Zambian Construction Industry. Usage of qualitative approaches normally requires a large number of cases representing the population of interest, in order to determine the statistical significance of results. Therefore, while the results cannot be generalised at this stage, further research should confirm the findings of this study. Although this is acknowledged as a limitation, Flyvberg (2006) examined some common misunderstandings about case-study research and concluded that the notion that one cannot generalize from a single case, and therefore, the single-case study cannot contribute to scientific development is not true (Flyvberg, 2006)

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