

The Gaps and Zone of Tolerance in Service Provision at the African Court on Human and Peoples' Rights Library in Arusha, Tanzania

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Abstract

The study sought to investigate the gaps and zone of tolerance in service provision at the African Court on Human and Peoples' Rights library in Arusha, Tanzania. The target population was 94 library users. The study employed LibQUAL and SERVQUAL protocols to assess the service adequacy gap (SAG), service superiority gap (SSG), zone of tolerance (ZoT) and Desired Mean (D-M) scores. The findings revealed several gaps between the users' expectations and perceptions of service quality, with library services falling below the users' expectations. Furthermore, the users' expectations exceeded their perceptions. The gaps generally showed the library performing well in human aspects but needing to improve in the information-collection and physical aspects. The study recommends that the library should allocate resources to ensure that the human aspects of the library remain at high levels of service quality, but take action to remedy the information-collection and physical aspects of the library.

Keywords: Gaps, Zone of Tolerance, Service Quality, LibQUAL, SERVQUAL, African Union, African Court

Introduction

A great deal of interest has been focused on service quality in libraries and how to measure it. According to Parasuraman, Zeithaml and Berry (1985), the most pervasive definition of quality currently in use is the extent to which a product or service meets and or exceeds a customer's expectations. Service quality and customer satisfaction are important concepts that libraries and other service organisations must understand in order to remain competitive in service delivery (Damtew 2015:9). In order to retain and grow their *clientele*, libraries need to identify and understand their clients' expectations and perceptions. Measurement of library service quality is therefore an important aspect of library management.

The survival of libraries depends on the extent to which users' expectations are met or satisfied (Kaushik 2013): users are satisfied when services meet or exceed their expectations. According to Parasuraman et al. (1988), Ikenwe and Adegbilero-Iwari (2014), and Sharma and Kadyan (2016), clients are best suited to judge and assess user expectations. Service quality measurement involves the identification of user expectations, perception and satisfaction levels, and areas where large expectation-perception gaps exist. Expectations are identified through quality assessment studies that reveal gaps between clients' perceptions and expectations. These gaps are then used to assess the quality of library services (Onwukanjo and Men 2017). Identification of these gaps helps eliminate quality barriers as well as determine service priorities (Somaratna, Peiris and Jayasundara 2010:2). User expectations and perceptions are important measures of service quality. Reducing the gap between user expectations and the perception of service provided is what defines service quality (Somaratna et al. 2010). The gap discrepancy between desired service expectation and actual service perception is therefore

among the key concepts and measures of service quality. According to Somaratna et al. (2010:1), assessment of service quality through gap studies provides important feedback for libraries. Areas that need improvement emerge from analysis of the differences (gaps) between the perceived levels of performance and the expectations (desires) of customers (Parasuraman et al. 1985). Library management can then work on improving service quality in those areas. It is this feedback that is used for library management.

Parasuraman et al (1985) observe that service quality is a function of the differences between expectation and performance along the quality dimensions. Jayasundara, Ngulube and Minishi-Majanja (2009:182) define service quality as a function of the gap between customers' expectations of a service and their perceptions of the performance of actual service delivery by an organisation. They further argue that customer expectations are not static; they are based on user experiences, which change overtime. In studies based on the gaps model, users are requested to describe the following three aspects:

- (a) Minimum acceptable level of service
- (b) Desired/expected level of service
- (c) Perceptions of the service provided

Theoretical Framework Underpinning the Study

The gaps model of expectations (Figure 1) offers service organisations a framework for assessing service quality in the form of the gaps that exceed (or fail to meet) customers' expectations. (Hernon, Altman and Dugan 2015). This study adopted the gaps model of service quality to assess the level of service quality in the African Court library. The model was developed by Parasuraman et al. (1985), and more recently described in Zeithaml and Bitner (2003). It has served as a framework for research in the services sector for years. The model is an improvement on and was developed to address the shortcomings of Grönroos's model of service quality. Parasuraman et al (1985) expanded on Grönroos's work and developed the concept of expectations and perceptions of service quality, thereby creating the gaps model of service quality. In defining the gaps

model, Parasuraman et al. (1985) focus on the discrepancy between customers' expectations and perceptions. According to Hernon (2002), the model measures customer perceptions of service quality by identifying differences, or gaps, between customers' expectations and perceptions of service. Customers compare the service they experience with what they expect and when it does not match their expectations, a gap arises. The model identifies four specific gaps leading to a fifth overall gap between customers' expectations and perceived service.

According to the model, customers have expectations prior to using a service. These expectations provide a barometer against which customers' experiences (and service performance) can be compared (Hernon 2002). Therefore, customer expectations become subjective judgments based on how far the customers believe a particular attribute is important for excellent service (Hernon 2002). The gaps that exist, according to the model (Seth and Deshmukh 2004), are described as follows:

Gap 1: Customer expectations of service and management's perspective of these expectations: This is the difference between the real expectations of the customers and what the management perceives as their expectations. In this situation, management is not aware of the customers' expectations. It may be caused by inadequate research or a complete lack of market research, poor upward communication or failure to have strong relationships with the customers. It is also known as the knowledge gap (Yarimoglu 2014).

Gap 2: Specifications of service quality and management's perspective of customer expectations: This gap arises where companies identify the needs of consumers, but they lack the means to deliver to expectations. It is a complete mismatch between services on offer and what customers expect. Also known as the policy gap (Yarimoglu 2014), it could affect the service quality perception of the consumer.

Gap 3: Service quality specifications and service actually delivered (service performance gap): This gap may be caused by failure to adhere to set service designs and standards, failure to match supply and demand, human resource deficiencies, and customers who do not fulfil their roles. It may also

be caused by service intermediaries, where they exist. It is also known as the delivery gap (Yarimoglu 2014).

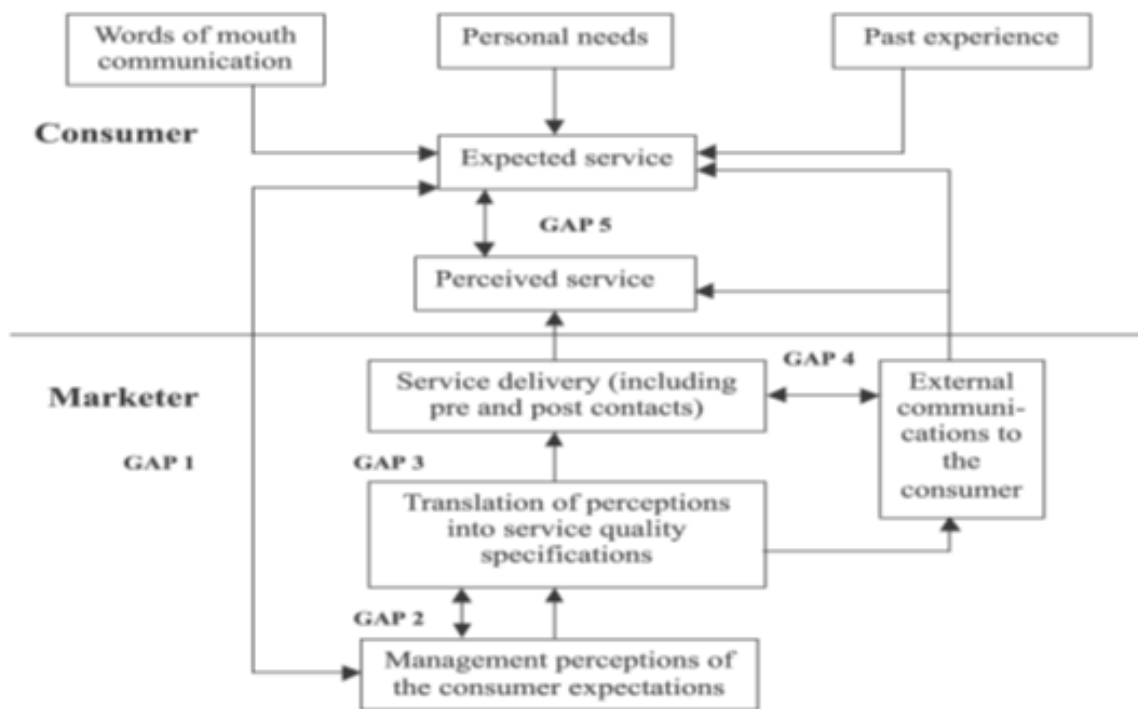
Gap 4: Service delivery and external communication to customers about that delivery (i.e. whether promises match delivery): This is the failure to match performances to the promises that were given by the organisation. It happens when companies fail to inform customers of special efforts to assure quality that are not obvious or apparent to them. It is also known as the communication gap (Yarimoglu 2014).

Gap 5: Customers' expectation of service and perceived service delivery: This gap depends on the size and direction of the four gaps associated with the delivery of service quality on the marketer's side.

It is also known as the service quality gap (Yarimoglu 2014).

Gaps 1 to 4 contribute to the development of gap 5, which is the difference between what customers expect to receive from the service, and what they believe they actually received. This is the most important gap because if the perceived service were to fall short of the customers' expectations, they would become disappointed and dissatisfied.

According to the model, there are five key discrepancies (or gaps) that relate to managerial perceptions of service quality and tasks associated with service delivery to customers. Gaps 1, 2, 3 and 4 are identified as functions of service delivery to customers. Gap 5 relates to the customer; therefore, it is considered to be the real measure of service quality.



Source: Parasuraman et al. (1985)

Figure 1: Gaps model of service quality

The purpose of the study was to assess the gaps and zone of tolerance in service provision at the African Court on Human and Peoples' Rights library in Arusha, Tanzania, with a view to determining the level of service quality at the library. Specifically, the study sought to do the following:

- Determine the extent of users' acceptance of service (ZoT)
- Assess the extent to which performance exceeds desired expectations (SSG)
- Determine the extent to which the library meets minimum expectations (SAG)
- Measure the relative strengths and weaknesses of library service quality (D-M score).

Research Methodology

The study adopted a quantitative approach to assess the gaps and zone of tolerance in service provision at the African Court on Human and Peoples' Rights library. The quantitative approach was deemed the most appropriate based on the quantitative nature of the data that were sought to achieve the objectives of the study. The target population of the study comprised 94 users of the African Court library, including 65 internal and 29 external users. Given the small size of the target population, sampling was not required. Data was collected using a questionnaire, which was administered to all the respondents 2017. Of the 94 questionnaires that were distributed, 87 were returned and were found useful for the study.

The study used a questionnaire to collect data in consisting of closed-ended questions. The questionnaire was developed along the dimensions of LibQUAL and SERVQUAL protocols. LibQUAL and SERVQUAL are widely used tools to assess the quality of services in libraries. LibQUAL consists of 22 core questions spread across three dimensions, namely *affect of service*, *information control*, and *library as a place*. Similarly, SERVQUAL consists of 22 statements comprising the following five dimensions: tangibles, reliability, responsiveness, empathy, and assurance. Developed by Parasuraman et al (1988), SERVQUAL was later redesigned such that respondents were required to rank service quality in a three-column format: minimum, desired and perception of service performance (Parasuraman

et al. 1994). This formed the basis for the LibQUAL model. According to SERVQUAL developers, there are two main gaps in the measurement of service quality. One is the measure of service superiority (MSS), which is the gap between perceived service and desired service, it is also known as the service superiority gap (SSG). The other is the measure of service adequacy (MSA), which is the gap between perceived service and minimum service, also known as the service adequacy gap (SAG) (Berry and Parasuraman 1991). At either end, are the minimum and desired service expectations. The range in between is the zone of tolerance (ZoT), which represents the range of service performance which customers or users consider satisfactory.

In order to determine the level of service quality from the customers' perspective, gap scores of 22 service quality attributes were calculated using the ratings of three levels of LibQUAL's customer expectations (minimum, desired and perceived) and those of SERVQUAL (desired and perceived).

Given its quantitative nature, the data, were analysed using descriptive statistics through the Statistical Package for Social Sciences (SPSS) software. Weighted means were computed and used to identify the various gaps needed for the study. To find the level of service quality, a five-step process was followed.

Step 1: Mean scores

A mean score refers to the arithmetic average of a collection of numbers. Mean scores were calculated for customers' minimum, desired and perceived levels of service quality for each of the service quality statements in LibQUAL and SERVQUAL. The following formula was used:

$$\text{Mean score} = \frac{\text{Sum of all observations}}{\text{Total number of observations}}$$

Step 2: Service adequacy gap (SAG)

Service adequacy is applied as an indicator of the extent to which the African Court library is meeting the minimum expectations of its users. This was calculated by subtracting the minimum mean score from the perceived mean score, both of which were obtained in Step 1, on any of the 22 statements. The following formula was used:

$$\text{SAG} = \text{Perceived mean} - \text{Minimum mean}$$

If the SAG is a negative score, it is an indicator that the customers' perceived level of service quality is below their minimum level of service quality.

Step 3: Service superiority gap (SSG)

The service superiority gap (SSG) score is an indicator of the extent to which the library is exceeding the expectations of its customers. The SSG score was calculated by subtracting the desired score from the perceived score on every one of the 22 service quality items. The following formula was applied:

$$\text{SSG} = \text{Perceived mean} - \text{Desired mean}$$

If the superiority gap score is positive, this is an indicator that the customers' perceived level of service quality is above their desired level of service quality.

Step 4: Zone of tolerance (ZoT)

The zone of tolerance (ZoT) is the range from the minimum service rating to the desired service rating. The perceived levels of service fall within this zone. According to Berry and Parasuraman (1991), if the service performance is below the ZoT, it creates disappointment, frustration and dissatisfaction. According to Parasuraman (2004), the ZoT is:

“the range of expectation rather than a single standard level of expectation which is bounded by desired service at the top and minimum service at the bottom. So, it may be said that the zone of tolerance is a range in which users are willing to accept variations in service delivery”.

The following formula was used to calculate the ZoT:

$$\text{ZoT} = \text{Desired mean} - \text{Minimum mean}$$

Step 5: D-M score

The ZoT goes hand-in-hand with the D-M score measure. Perceived scores that fall outside the ZoT will result in scores that have D-M values, which are either less than 0 or more than 100. According to Dennis and Bower (2007:11), the D-M score is a standardised score that is used to analyse LibQUAL data and to present the information. It is computed by dividing the SAG (obtained in Step 2) by the ZoT (obtained in Step 4). The quotient is then multiplied by 100. This gives a score that will range from 0 to 100. The D-M score is therefore the location of the perceived level of service in relation to the minimum acceptable level of service (represented by “0”) and the desired level of service (represented by “100”).

$$\text{D-M score} = (\text{SAG} / \text{ZOT}) \times 100$$

The D-M score integrates all the above three scores. According to Dennis and Bower (2007:11), it enables librarians to place the customers' perceptions of service quality in the context of their expectations. For researchers, the D-M score is a vital tool in the analysis and presentation of findings because it allows for meaningful and well-organised comparisons. The D-M score was used in this study to assess and present the relative strengths and weaknesses inherent in the quality of services at the African Court library.

D-M score interpretation

The D-M score interpretation standard was adopted for interpreting the D-M scores on each of the 22 core items and the requisite corrective action required. This standard is shown in Table 1.

Table 1: D-M score interpretation standard

D-M score	Evaluation	Action required
> 100	Exceeds expectations	Maintenance
71–100	Meets expectations	Maintenance
60–70	Not so problematic	Monitoring
51–59	Potentially problematic	Close monitoring
=50	Mid-point in ZoT	Requires improvement
40–49	Mildly problematic	Requires improvement
15–39	Problematic	Requires special improvement
0–14	Considerably problematic	Requires immediate improvement
< 0	Below minimum expectations	Dire need for immediate improvement

Source: Adapted from Dennis and Bower (2007:11–12)

The D-M score lies in the zone of tolerance and is usually between 0 and 100. A higher D-M score indicates a perception of better service quality. A D-M score of 50 lies in the middle of the zone of tolerance. This means that the score is halfway between the minimum level of acceptable service and the desired level of service, which also means that the adequacy gap and superiority gap scores are of equal size. Therefore, a service item with a D-M score of 67.20 shows that the library is closer to the desired level of service than to the minimum level of service. That means that the library is 67.20% of the way to meeting the customers' desired level of service.

Perceived scores that fall outside the zone of tolerance will result in scores that have values which are either less than 0 or more than 100. If the perceived score falls below minimum, the D-M score will be negative (the adequacy gap will also be negative). Scores below zero indicate that the library services do not meet the minimum service standards of customers. If a service item has a negative D-M score, this is an indicator that it is in urgent need of attention and should be immediately attended to. When the perceived value is greater than the desired value, the D-M score will be greater than 100 (there will be a positive superiority gap). If the scores exceed 100, it is an indication that the library is

exceeding the level of service the patrons' desire. On the other hand, a D-M score of 200 does not indicate that the library is performing twice as well as user's desire. Rather, it means that the service provided is being perceived at a level that exceeds the desired level of service by the size of the zone of tolerance (desired + zone). The items with D-M scores that fall beyond the zone of tolerance do not need improvement, but the scores may indicate that limited resources are being allocated inefficiently.

Results and Discussions

Service Quality Measures in LibQUAL

Table 2 presents the scores obtained using five service quality measures in LibQUAL. The first column shows the identifier for each of the 22 service quality attributes (ID). The next three columns provide the mean scores calculated based on user ratings for minimum expectations (M), desired expectations (D) and perceptions (P). Since all five methods use mean scores, the minimum mean (M), desired mean (D) and perceived mean (P) are computed first. The rest of the columns present the scores for each method each service quality measures (SAG, SSG, ZoT and D-M score).

Table 2: Service quality measures in LibQUAL

ID	Minimum mean (M)	Desired mean (D)	Perception mean (P)	ZoT (D-M)	SAG (P-M)	SSG (P-D)	D-M score (SAG/ZoT x 100)
Affect of service (AS)							
AS-1	6.13	6.69	6.77	0.56	0.64	0.08	114.29
AS-2	5.48	6.01	4.56	0.53	-0.92	-1.45	-173.59
AS-3	5.55	6.45	6.47	0.9	0.92	0.02	102.22
AS-4	5.63	5.78	6.63	0.15	1	0.85	666.67
AS-5	6.54	6.89	7.16	0.35	0.62	0.27	177.14
AS-6	5.41	5.53	6.49	0.12	1.08	0.96	900
AS-7	6.29	6.36	6.62	0.07	0.33	0.26	471.43
AS-8	5.87	6.29	6.31	0.42	0.44	0.02	104.76
AS-9	5.93	6.38	5.38	0.45	-0.55	-1	-122.22
Mean scores	5.87	6.27	6.44	0.39	0.4	0.17	102.56
Information control (IC)							
IC-1	5.24	6.25	5.44	1.01	0.2	-0.81	19.8
IC-2	5.09	4.91	5.2	-0.18	0.11	0.29	61.11
IC-3	5.75	6.9	4.82	1.15	-0.93	-2.08	-80.87
IC-4	5.79	6.49	4.52	0.7	-1.27	-1.97	-181.43
IC-5	4.92	5.56	5.62	0.64	0.7	0.06	109.38
IC-6	5.78	6.15	5.67	0.37	-0.11	-0.48	-29.73
IC-7	6.09	6.32	6.36	0.23	0.27	0.04	117.39
IC-8	5.1	5.68	4.92	0.58	-0.18	-0.76	-31.04
Mean scores	5.47	6.03	5.32	0.56	-0.15	-0.71	-26.79
Library as a place (LP)							
LP-1	5.1	6.44	5.47	1.34	0.37	-0.97	27.61
LP-2	5.23	6.64	4.1	1.41	-1.13	-2.54	-80.14
LP-3	5.77	6.02	6.17	0.25	0.4	0.15	16
LP-4	5.17	6.45	6	1.28	0.83	-0.45	64.84
LP-5	3.46	4.2	3.93	0.74	0.47	-0.27	63.51
Mean scores	4.95	5.95	5.14	1.00	0.19	-0.82	19
Overall	5.52	6.12	5.67	0.59	0.15	-0.45	25.42

Extent of Users' Acceptance of Service (ZoT: LibQUAL)

The ZoT is the difference between minimum expectations and desired expectations (Rehman 2012:4). It measures the extent to which customers are willing to accept a variation in service delivery. In most studies, perceived levels of service can be found within this zone. Any performance falling below the ZoT is unsatisfactory for users (Berry and Parasuraman 1991). In Table 2, column 5, the overall mean for the ZoT in LibQUAL is 0.59. The score for the ZoT in the AS dimension is 0.4; the same score for IC is 0.56, while the score for LP is 1. The

scores show that customers are willing to accept a wider variation (1.0) in service quality in the LP dimension than in AS or IC.

The findings, therefore, indicate that African Court library customers have a very small margin for error in service delivery, but very high expectations (as evidenced by a desired mean of 6.12). According to Nadiri and Mayboudi (2010), the inherent nature of services makes it difficult to ensure consistent service delivery from all employees in the same organisation, and even by the same service employee from day to day. The findings are consistent with those of a study by Nadiri and Mayboudi (2010),

who established that users have a narrow ZoT with regard to the services provided by research libraries. They are also comparable to a study by Shoeb (2011) who studied the ZoT in a private university library in Bangladesh. The study also revealed that perceived services were lagging behind the desired services though the gaps were not much higher. Shoeb's study established that the overall scenario of the ZoT was inside the tolerable level by all users and only one attribute was problematic.

In Table 2, the perceived scores that fall outside the ZoT are the entire AS dimension, IC-3, IC-4, IC-6 to IC-8 and LP-2. It is important that perceived levels of service do not drop below the minimum level. If this were to happen, customers would become dissatisfied and probably cease using African Court library services. Should this happen, the African Court would have to consider closing the library and moving the resources to other functions of the African Court. Hence it can be stated that maintaining high-quality services in the perspectives of customers is key to its continued survival, especially, in view of the limited and ever-shrinking resources.

Extent to which Performance Exceeds Desired Expectations (SSG)

This section presents and discusses the SSG according to findings obtained through LibQUAL and

SERVQUAL protocols. The study sought to measure the extent to which performance exceeds desired expectations, known as SSG. This was done using LibQUAL and SERVQUAL. It is defined as the difference between the *Perception* score (actual service delivered) and *Desire* score (Rehman 2012:4). It is a measure of the extent to which the library's performance exceeds the desired expectations of its users. The SSG is calculated by subtracting the desired score from the perceived score on each one of the 22 service quality items (i.e. the formula $SSG = P - E$). If the perception score of any service is equal or above the desired level, then that service is considered as exceptionally well rendered. On the other hand, perception scores below the desired level show that libraries are not meeting users' needs.

SSGs in LibQUAL

In Table 2, column 7, the SSG mean scores for the LibQUAL dimensions are as follows: AS (0.17), IC (-0.71) and LP (-0.82). Thus, only the AS dimension has a positive score while the IC and LP have negative scores. Table 3 shows the SSG in LibQUAL arranged from the highest to the lowest, in order to identify the positive and negative gaps.

Table 3: Service superiority gaps in LibQUAL

Service quality statement	Minimum mean score (M)	Desired mean score (D)	Perception mean score (P)	SSG (P-D)
AS-6	5.41	5.53	6.49	0.96
AS-4	5.63	5.78	6.63	0.85
IC-2	5.09	4.91	5.2	0.29
AS-5	6.54	6.89	7.16	0.27
AS-7	6.29	6.36	6.62	0.26
LP-3	5.77	6.02	6.17	0.15
AS-1	6.13	6.69	6.77	0.08
IC-5	4.92	5.56	5.62	0.06
IC-7	6.09	6.32	6.36	0.04
AS-8	5.87	6.29	6.31	0.02
AS-3	5.55	6.45	6.47	0.02
LP-5	3.46	4.2	3.93	-0.27
LP-4	5.17	6.45	6	-0.45
IC-6	5.78	6.15	5.67	-0.48
IC-8	5.1	5.68	4.92	-0.76
IC-1	5.24	6.25	5.44	-0.81
LP-1	5.1	6.44	5.47	-0.97
AS-9	5.93	6.38	5.38	-1
AS-2	5.48	6.01	4.56	-1.45
IC-4	5.79	6.49	4.52	-1.97
IC-3	5.75	6.9	4.82	-2.08
LP-2	5.23	6.64	4.1	-2.54

Table 3 shows that the number of quality statements with positive gaps and those with negative gaps are evenly matched. There are 11 quality statements with positive gaps and 11 with negative gaps. The highest SSG gaps in LibQUAL are realised in AS-6, AS-4, IC-2, AS-5 and AS-7. The majority of these are in the AS dimension. The lowest SSG gaps in LibQUAL are realised in LP-2, IC-3, IC-4, AS-2 AS-9 and LP-1. The majority of these are in the LP and IC dimensions. The quality statement with the largest positive SSG is AS-6 *Employees who deal with users in a caring fashion* while the one with the largest negative SSG is LP-2 *Quiet space for individual study*.

SSG is the difference between perception score (actual service delivered) and desire, thus $SSG = P - D$ (Rehman 2012). It is an indicator of the extent

to which the library's performance exceeds the desired expectations of its users. The SSG is calculated by subtracting the desired score from the perceived score on each one of the 22 service quality items. To get the overall SSG score of the library, the overall mean score of the users' desires is subtracted from the overall mean score of perceptions. The LibQUAL and SERVQUAL protocols are based on the basic assumption that if a negative SSG score is obtained, this would mean that the performance is below expectations, translating into a low service quality perception. If a positive score is obtained this would mean that the performance exceeds expectation, translating into high service quality (Awan, Azam and Asif 2008; Parasuraman et al. 1988; Somaratna et al. 2010:2). LibQUAL and SERVQUAL were therefore

developed based on the notion that to deliver high-quality service there should be no gap between the users' expectations and perceptions (Papanikolaou and Zygiaris 2012).

In Table 2, column 7, the overall average SSG for the library in LibQUAL is -0.45 . The score is negative, an indicator that overall the services provided by the library are inferior compared to users' desired expectations. The negative superiority gap shows that the library is not meeting the expectations of its members (Hamzavi, Kazemi, Hossinifar, Hashemian and Khazaei 2014:32). Therefore, in line with the gap theory, since the respondents' expectations are higher than their perceptions, this is an indication that there is a service quality gap in the African Court library services (Lin, Sheu, Pai, Bair, Hung, Yeh and Chou 2009:5).

The findings are similar to those of a LibQUAL study by Mkhonta (2015) of the Information Resource Centre at the American Embassy in Swaziland, which also established a negative overall SSG of -0.14 . Thus for both libraries, the services provided are inferior when compared to customers' desired expectations. They do not meet or exceed the desired expectations of their customers. Other similar LibQUAL studies by Naidu (2009) at Mangosuthu University of Technology, and Simba (2006) at Iringa University College of Tumaini University, also established wide gaps between user perceptions and expectation of service, indicating that the libraries are not meeting the expectations of their users.

The SSG mean scores for the LibQUAL dimensions are as follows: AS (0.17), IC (-0.71) and LP (-0.81). According to these scores, only the AS dimension has a positive score and thus exceeds the expectations of users. The dimensions of IC and LP have negative SSG scores, which means that they fall below the expectations of users.

These findings are confirmed by the perception scores in this study which reveal high scores for AS and low scores for IC and LP. The individual service quality statements that have the largest SSG are all in the AS dimension. These are AS-6, AS-4, AS-5 and AS-7. These statements exceed the expectations of users. The findings are consistent with a LibQUAL study by Hamzavi et al. (2014) at Kermanshah Medical University library that found positive SSG scores for AS and negative scores for

IC and LP. The largest superiority gap in Hamzavi's study belonged to the LP dimension, indicating that the overall library space was far from meeting users' expectations. These findings are also similar to those of Mkhonta (2015) which reported the dimension with the lowest SSG as LP, followed by IC. In conformity with this study, both had negative SSG means. The findings are similar to those of LibQUAL studies in Nigeria by Opaleke (2002:100–105), and Ireland by McCaffrey and Breen (2016). Opaleke's study observed that most libraries in Nigeria operated below the recommended 6% of the institutional budget. Hence it is not surprising that the study revealed inadequate physical facilities which may have led to adverse effects such as noise, dust, disturbances, mutilation and other damage to collections. Opaleke concluded that most libraries do not measure up to the expectations of their users, especially in the physical aspects of libraries.

In Table 3, it can be noted that the services are inferior in half of all the attributes because the SSG scores are negative. The service quality dimension with the most SSG scores is AS where seven out of nine attributes received positive SSG scores. The worst perceived service quality dimension is LP since four out of five attributes received negative SSG scores. The IC dimension also received negative scores except for two attributes relating to information skills (IC-2) and easy-to-use access tools (IC-6) that allow customers to find information on their own.

The service quality statements with the lowest SSGs are LP-2, IC-3, IC-4 and AS-2. It can be seen that these fall under the dimensions of LP and IC. Of particular interest is LP-2 (*Quiet space for individual activities*). This variable scored an SSG of -2.54 , making it the worst performer in meeting user expectations. Users found the library environment noisy, especially due to conversations by clients and use of cellphones. These findings on individual service quality statements are consistent with those of Simba (2006:116) who established that the library performed poorly in the following service quality statements: electronic journals, photocopiers, interlibrary loans, electronic databases, a quiet library environment and a library web page with useful information. A study by Porat (2016) at Israeli academic libraries also identified high levels of noise at the libraries, which adversely affect the service quality.

SSGs in SERVQUAL

Table 4 shows the SSGs in SERVQUAL. Three dimensions have a positive SSG. These are

Assurance (0.23), *Empathy* (0.39) and *Responsiveness* (0.01). Two dimensions have a negative SSG score. These are *Reliability* (−0.73) and *Tangibles* (−0.79).

Table 4: Service Superiority Gaps in SERVQUAL

ID	Service quality statement	Perception (performance) mean (P)	Expectation mean (E)	SSG (P-E)
EM-1	Library staff give users individual attention	5.35	5.08	0.27
RL-3	Library staff provide services as promised	5.4	5.15	0.25
EM-5	Library staff understand the specific needs of the users	5.2	5.06	0.14
RS-4	Library staff are never too busy to respond to users' questions	5.41	5.27	0.14
AS-3	Library staff are always courteous	5.33	5.24	0.09
RS-3	Library staff promptly serve the users	5.25	5.18	0.07
TA-2	Facilities are visually appealing (e.g. computer, audio-visual, shelves, tables, chairs)	5.21	5.15	0.06
AS-1	Behaviour of library staff instils confidence in users	5.22	5.17	0.05
AS-4	Library staff are knowledgeable to answer users' queries and questions	5.33	5.28	0.05
AS-2	Library users feel safe when transacting with the library	5.25	5.21	0.04
TA-4	Library staff are neat in appearance at all times	4.97	4.93	0.04
EM-4	Library staff have the users' best interests at heart	5.14	5.12	0.02
RS-1	Library staff are willing to help users	5.33	5.23	0.1
EM-3	Library staff give personal attention to the users	5.23	5.22	0.01
EM-2	The library has convenient opening and closing hours	4.89	4.94	−0.05
RL-5	The library has error-free records (e.g. users list, library database, accessions list)	4.93	5.09	−0.16
RL-1	The library staff show a sincere interest in solving users' problems	5.09	5.29	−0.2

RL-4	The library staff provide services at the promised time	5.34	5.54	-0.2
RS-2	The library staff keep users informed about when services will be performed	5.15	5.45	-0.3
RL-2	When the library staff promise to do something at a certain time, they do it	4.79	5.21	-0.42
TA-1	The equipment is modern and in good condition	4.79	5.21	-0.42
TA-3	Materials (e.g. brochures, statements or signs) associated	4.97	5.44	-0.47

There are 14 service statement items that have a positive score, and eight service quality statements with a negative score. Those with a positive mark indicate the service statements that meet or exceed the expectations of the respondents, hence higher service quality. The top-five positive gaps were realised in the following service statements:

1. Library staff give users individual attention (0.27)
2. Library staff provide services as promised (0.25)
3. Library staff understand the specific needs of the users (0.14)
4. Library staff are never too busy to respond to users' questions (0.14)
5. Library staff are always courteous (0.09)

Table 4 further shows that the following eight service quality statements have negative SSG gap scores:

1. Materials associated with services are visually appealing (-0.47).
2. Equipment is modern and in good condition (-0.42).
3. When the library staff promise to do something at a certain time, they do it (-0.42).
4. The library staff keep users informed of when services will be performed (-0.3).
5. The library staff provide services at the promised time (-0.02)

6. The library staff show a sincere interest in solving users' problems (-0.02).
7. The library has error-free records (-0.16).
8. The library has convenient opening hours (-0.05)

These findings provide an indication of service areas in which the African Court library needs to improve as these service areas have the largest negative scores, a clear indicator of low service quality. The overall expectation mean for users in SERVQUAL is 5.16, while the overall perception mean is 5.2. Calculating the SSG using the formula $SSG = P - E$ (5.16 - 5.2) gives a result of -0.04, which means that the library is performing far below the expectations of its users. Therefore, in line with the gap theory, since the respondents' expectations are higher than their perceptions, this is an indication that there is a service quality gap in the library services (Lin et al. 2009:5). The library services generally fall short of user expectations. This result confirms the SSG score of -0.45 in the LibQUAL test.

Of the five SERVQUAL dimensions, three dimensions have a positive SSG while two dimensions have a negative SSG. Those with a positive SSG are *Assurance* (0.23), *Empathy* (0.39) and *Responsiveness* (0.01). This result indicates that the library has exceeded the expectations of its users in these dimensions. Those with a negative SSG are *Reliability* (-0.73) and *Tangibles* (-0.79). This means that the library has fallen short of user expectations in these dimensions. These findings exactly mirror those of a SERVQUAL study by Tan

and Foo (2009), at the Singapore Statutory Board Library, which also established positive SSG gaps (though not in the same order) in *Assurance*, *Empathy*, and *Responsiveness*, and negative gaps in *Reliability* and *Tangibles*.

Table 4 shows the findings of the service quality gap score for each service quality statement, arranged from the largest to the smallest in order to easily identify the positive gaps and negative gaps. The data from this table shows 14 service statement items that have a positive score, and eight service quality statements with a negative gap score.

These statements with a positive SSG score indicate that the service quality statements meet or exceed the expectations of the respondents, hence higher service quality. It is important for any library to ensure that it meets the users' expectations by providing a high-quality service. It can be seen that the majority of the quality statements with positive SSG scores come from the *Assurance* and *Responsiveness* dimensions. This is confirmed by the LibQUAL and SERVQUAL perceptions findings of this study that show users have high regard for the human aspects of the library. For the past six years there have also been intensive training programmes for library staff (and other staff) which give them an edge in service provision and attending to user needs. These are funded by the parent organisation, the African Union and by development partners such as the European Union, the German *Gesellschaft für Internationale Zusammenarbeit* (GIZ) and the African Capacity Building Foundation.

The study also reveals eight service quality statements with negative SSG gaps (Table 4). It is apparent that all these service quality statements with negative SSG scores come from two dimensions, *Reliability* and *Tangibles*. These findings are confirmed by the SERVQUAL perceptions test of this study that also determines that users have low perceptions of *Tangibles* and *Reliability* dimensions. Possible reasons for this are mentioned elsewhere in this study. They include cases of high noise levels in the library emanating from users and cell phones, and various disturbances, such as the door leading to the documentation unit, and frequent closures for recruitment interviews. In addition, there is no space for group activities and use of audio-visual resources. The facilities

housing the library are also temporary and were not constructed for this purpose.

The findings are similar to those of a study by Kanguru (2014) that evaluated the quality of library services at the Aga Khan University (AKU) library in Kenya. The findings of the study established that the expectations of AKU library users are higher than their perceptions. Kanguru's findings also established that there are service quality gaps in a number of library services offered by the AKU library. This is demonstrated through the gap analysis between the library users' perceptions and the users' expectations of the AKU library. The studies, however, differ in that Kanguru's study has more service quality statements with a negative score than those with a positive gap score. This means that there are more service qualities at AKU library that do not meet the expectations of AKU library users. In contrast, the current study has more service quality statements with a positive gap score than those with a negative score.

The findings in the present study are consistent with those of a SERVQUAL study by Tan and Foo (2009), at the Singapore Statutory Board Library which not only established that user expectations exceed perceptions, but it also had overall expectation and perception scores close to those of this study. The findings also corroborate those of a study by Asogwa (2014), which used SERVQUAL to evaluate the service quality of academic libraries in developing countries. Asogwa's study revealed that overall, there is a significant difference between the perceptions and expectations of library users and that academic libraries do not satisfy users' expectations. In Asogwa's study (2014), factors such as a lack of modern facilities, poor funding and weak e-leadership quality were found to negatively affect the quality of library services. Greater efforts should be channelled in closing the gaps between the perceptions and the expectations of library users.

The findings are inconsistent with those of other researchers, such as Filiz (2007) in university libraries in Turkey whose findings of gap analysis indicated that the quality of service does not fall short of the users' expectations; users are generally satisfied with the service providers. The libraries in Filiz's study had consistent and frequent service quality studies over the years, which provide opportunities to identify and address shortcomings in their services, while this

is the first service quality study for the African Court library.

Extent to which the library is Meeting Minimum Expectations (SAG: LibQUAL)

The difference between the perception score (actual service delivered) and minimally acceptable score is known as the service adequacy gap (SAG). It is calculated by subtracting the minimum mean score from the perceived mean score on the 22 statements, thus its formula is $SAG = P - M$. It points out the extent to which the library is meeting the minimum expectations of users. A negative SAG score indicates that the users' perceived level of service quality is below their minimum level of service and libraries can use this to identify areas needing improvement (Jones and Kayongo 2008:495–496). A positive score indicates that the users' perceived level of service quality is above their minimum level of expectations. The higher the service adequacy score, the better the library's performance. In general, the perceived scores tend to fall within the ZoT; in other words, they tend to be lower than the desired scores, and higher than the minimum scores (Jones and Kayongo 2008:495–496). It is within the ZoT that the perceived scores should drift if respondents view service as adequate.

In Table 2 column 6, the overall service adequacy gap in LibQUAL is 0.15. The SAG gap for AS is 0.57, the same gap for IC is –0.15 while the gap for LP is 0.19. Thus the SAG for IC is the only one with a negative score.

As can be seen in Table 2, column 6, the overall SAG for the African Court library is 0.15. The gap is positive and above zero, which means that the African Court library is meeting the customers' minimum expectations, but barely. This means that there are areas in which the library is not meeting the minimum expectations of users. The implication of this score is that the African Court library needs to ensure that its services do not fall below the customers' minimum level of expectation. The library can do this by working to ensure that this figure stays positive and that it does not drop to a negative. These findings are similar to those of a LibQUAL study by Mkhonta (2015) at the Information Resource Centre of the US embassy in Mbabane, Swaziland, which also established a positive overall SAG (0.66). Thus

for both libraries, the services provided are meeting the minimum expectations of users.

In Table 2, column 6, the mean SAG score for AS is 0.57, while that of IC is –0.15. The mean SAG for LP is 0.19. This shows that the library is meeting the minimum expectations in AS, but barely meeting them in LP. However, the library is falling below minimum expectations in IC, and therefore is not meeting the minimum expectations of users.

This finding has been reflected in the perceptions test where the IC dimension scored far below the AS dimension, although slightly higher than the LP dimension. A possible explanation for this is that the collection is largely made up of legal resources while the great majority of the users are not lawyers. The collection is also largely made up of items in French and English, which disadvantages users who speak other African languages, especially Arabic, Portuguese and the official language of the host nation, Swahili. Over the last two years, the number of new books in the library has dwindled due to budgetary reductions by the parent body. This has reduced the quality of the collection in the eyes of the legal officers.

It can also be seen that overall, the SAG scores are negative in eight out of 22 statements. This is an indicator that the library is falling below the minimum expectations in these statements. Of the three LibQUAL dimensions, LP has four positive service quality statements out of five, AS has seven out of nine, and IC has four out of eight.

The findings are consistent with those of a study by Rehman (2012) on public and private sector university libraries using LibQUAL. Like the present study, Rehman's study revealed that private sector university libraries are generally meeting the minimum requirements of their users, except for the IC dimension. By contrast, in Mkhonta's study (2015) all groups had positive SAGs, which means that the US government has invested resources into meeting the minimum expectations of its library users. The African Court library should emulate this.

The African Court library findings on the SAG are slightly inconsistent with those of LibQUAL studies by Kachoka and Hoskins (2009), Pretorius (2011) and Rohman (2016), all of which indicated that all SAG gaps are negative, meaning that the libraries are not meeting the minimum expectations of users. According to the study, the cause of this is

high minimum expectations by users, which also happens to be the case with the African Court library. The findings at the African Court library are also consistent with those of Rohman's study (2016) which found that users are least satisfied with the physical aspects while they rate the human aspects of the service as the best dimension.

Relative Strengths and Weaknesses of Library Service Quality (D-M scores in LibQUAL)

According to Dennis and Bower (2007:10), SAG, SSG and ZoT scores alone do not reflect the full picture of customers' assessment of library service quality. They therefore suggest an additional measure, namely the D-M score. The D-M score is a standardised measure used to analyse data and present information in a clearer manner (Dennis and Bower 2007:11). It further determines service quality by examining the multiple scores provided by customers from a different angle.

The D-M score lies in the ZoT and is usually between 0 and 100. Perceived scores that fall outside the ZoT will result in scores that have D-M values which are either less than 0 or more than 100. The higher the D-M score, the better the perception of service quality. Table 2, column 8 shows the D-M scores for the library services. The overall mean for the D-M score in LibQUAL is 25. The mean for the D-M score in the AS dimension is 142.25. The same score for IC is -26.79, while the mean score for IC is 19. The scores show that the library exceeds expectations in the dimension of AS but performs below expectations in the dimensions of IC and LP. From the D-M score interpretation standard in Table 1, the library's D-M score of 25.42 lies between 15 and 39, which implies that the quality of the library service is problematic and requires improvement.

Conclusion

The study sought to establish the service quality of library services by investigating the gaps between various service quality variables in the LibQUAL and SERVQUAL models. To calculate the level of service quality, the study measured SAG, SSG, ZoT and D-M scores. These findings provide an indication of service areas in which the African Court library

needs to improve as these service areas have the largest negative scores, which is a clear indicator of low service quality.

The overall mean score for SSG is negative, which indicates that library services fall short of user expectations in some aspects of service. The SSG aspects with a positive mean score are the human-related aspects of *Assurance*, *Empathy* and *Responsiveness* in SERVQUAL and *Affect* of service in LibQUAL. This indicates that the library exceeds the expectations of its users in the human dimensions of service quality but does not meet expectations in aspects of information collection and physical attributes of the library. On the other hand, those with a negative score are in the information-collection and physical aspects of the library, which means that the library service is falling below par in these service areas. Unlike in the SSG, the overall SAG result is positive and above zero. This is an indicator that the African Court library is meeting the customers' minimum expectations. But further scrutiny of the SAG results show a similar pattern to those of the SSG, that the library is meeting users' minimum expectations in the human aspects of the library (*Assurance*, *Empathy* and *Responsiveness* in SERVQUAL and AS dimension in LibQUAL) but falling short in the aspects of information collection and physical state of the library.

The D-M score results follow a similar pattern to those of the SAG and the SSG. The scores also show that the library exceeds expectations in the dimension of AS but performs below expectations in the dimensions of IC and LP. This is confirmed by the overall D-M score of 25, which indicates that there are aspects of the library that require special improvement. The library meets the minimum acceptable level of service but is very far from meeting the users' desired level of service.

The ZoT scores show that the scores that fall outside the ZoT are in the service quality statements of the entire AS dimension (by exceeding expectations) and IC-3, IC-4, IC-6 to IC-8 and LP-2 (by falling below expectations). These are scores that are either above 100 or below zero.

It can therefore be concluded that while the library service quality exceeds expectations in the human-related aspects of service quality, it needs to improve on aspects of library collection and physical state of the library. There are service quality gaps

that should be addressed in order to improve service quality and increase user satisfaction.

Recommendations

The gaps study has shown that there are aspects of library services that need improvement. According to the results, there are some negative gaps in the information collection and physical aspects of the library. The library needs to take action to improve these areas. For information collection, there is a need to diversify the collection to include library resources in other subject areas, other than law. The collection is also largely in English and French. The library needs to include resources in other languages of the African Union such as Portuguese, Arabic and Swahili. Regarding the physical aspects of the library, issues especially concerning lighting, equipment, noise levels, ventilation and congestion in the library need to be addressed. Library users are very satisfied with the human aspects of the library services; the library should either keep them at the same levels or improve on them. It is therefore recommended that the library should ensure that human aspects of the library remain at the same high levels of service quality, but allocates resources to remedy the information-collection, physical, space and equipment aspects of the library.

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