SERVICE QUALITY ASSESSMENT: A CASE STUDY OF A SINGAPORE STATUTORY BOARD LIBRARY

Pey Lin Tan & Schubert Foo

ABSTRACT

The assessment of service quality provides an important feedback for libraries to assess and improve its services to its users. This paper reports the use of an adapted SERVQUAL instrument to measure the service quality of a special library (a statutory board library). The SERVQUAL instrument, developed by marketing researchers based on the Gap Model, states that the service shortfalls experienced by customers are the results of four gaps that exist within the organisation.

The 22-item SERVQUAL instrument, measuring the five service dimensions of Tangibles, Reliability, Responsiveness, Assurance, and Empathy, was administered to a sample of library users during a 15-day data collection period. In the data analysis, the Expectation-Service Gap Grid was used to identify service shortfalls under these five dimensions. This paper concludes with recommendations for improvement and suggestions for future research.

INTRODUCTION

Many studies have concluded that quality service has quantifiable impact on customer retention, market share and profitability in the commercial world. However, in the non-commercial world, quality also plays an important role. The Library 2000 report (Singapore. Library 2000 Review Committee, 1994) identified improving the quality of services as one of the six strategic thrusts for public libraries in the next ten years.

Quality management also plays a part in academic and special libraries even though these libraries seem to have a group of captive customers. Academic libraries have to provide quality service to the academic community as the same community evaluates their worth and hence the size of funding. As for special libraries in public and private sector organisations, they need to convince their users and/or those controlling the budget that they are responsive to changes and are providing quality service, or be at risk of resource and budget cuts.

DEFINITION OF SERVICE QUALITY

‘Quality’ means different things to different people. Garvin (1988) discussed five approaches to defining quality:

(1) Transcendent-based quality
(2) Product-based quality
He stated that companies should use the multiple perspectives highlighted above to define quality. He further identified eight dimensions of quality that could serve as a useful framework to address quality issues in an organisation. These are performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality. As few products can claim to rank high on all eight dimensions at all times, it is clear that some dimensions can be achieved only at the expense of the other dimensions. Gavin, therefore, suggested that companies should differentiate themselves by pursuing quality niches.

Gavin’s approaches to quality is largely based on goods. In contrast, Hernon and Altman (1996) focused their studies on service quality and proposed four perspectives of service quality as excellence, value, conformance to specifications, and meeting and/or exceeding expectations. Their research emphasized “meeting and/or exceeding expectations” and led them to develop a framework for service quality in academic libraries.

**ATTRIBUTES OF SERVICE**

The various attributes of service have made it difficult to apply knowledge of goods quality management to service quality management (Schwartz, 1992). Firstly, due to the intangibility of service, it cannot be displayed, physically demonstrated or illustrated. Secondly, service cannot be standardised. As services cannot be inventorised, performance is dependent to some extent on the level of demand. Thirdly, there is a high degree of customer involvement in the delivery of service. While goods are produced, sold and then consumed, services are sold, then produced and consumed simultaneously. Thus, the buyer of service usually participates in producing the service thereby affecting the performance and quality of the service.

Based on the above characteristics, it can be seen that it is difficult for a service organisation to control and provide a consistent level of service, thus making evaluation of service quality more challenging than evaluating goods quality.

**OBJECTIVES OF THE STUDY**

This study applies an adapted SERVQUAL instrument developed by marketing researchers to assess the level of service provided by a statutory board library. The objectives of the study are:

1. To determine the relative importance of each of the service dimensions when users assess the service quality of the library.
2. To determine users’ expectations and perceptions of the current level of service of the library along the five service dimensions.
3. To benchmark the SERVQUAL scores of the library against other local libraries, and compare their performance along the five service dimensions.
4. To propose solutions for improving the library’s level of service.
REVIEW OF THE LITERATURE

Most studies assessing service quality are based on the Disconfirmation Theory that compares customers’ expectations and perceptions of the service. The Systems Theory is also used to develop service quality models. This views components of the system - inputs, processes, and outputs as playing an important role in the successful delivery of service. In addition, a conceptual model has been developed for assessing service quality in libraries.

The studies found that service quality is a multi-attribute construct. Gronroos (1984) defined service as being composed of the technical quality and functional quality dimensions; Bolton and Drew (1991) acknowledged that there are various attributes and dimensions of service and reported that customers go through a series of processes to assess services; Parasuraman, Zeithaml, & Berry (1985) reported five service dimensions for service assessment; Johnson, Tsiros and Lancioni (1995) proposed taking into consideration the input, processes and output dimensions; Hernon and Altman (1996) investigated the product, service environment and service delivery dimensions in academic libraries. Thus, instruments for measuring service quality should include assessing its various facets.

Service quality in libraries

Performance measures which include input and output measures have been used to assess the quality of library services and activities (Hernon & Altman, 1996). Such evaluation has enabled libraries to obtain objective data of their activities that helped them to justify their worth to funding agencies. However, meeting internally set standards does not imply that the library is performing well in the eyes of the customers (Hebert, 1994). This finding calls for measures that focus on the customers.

Whitehall (1992) reviewed the literature on quality management in libraries and noted that several measures (such as timeliness of service and ease of use of service) were used by libraries to “listen” to the customers. Pritchard (1996) addressed the issues of quality management in academic libraries and emphasized the importance of monitoring and meeting the needs of customers. Quinn (1997) however, cautioned against the outright application of service quality models from the business world in academic libraries, as “the goals and methods of academe, and the relation of staff to customers, are more complex than the business and manufacturing settings from which service quality concepts is developed.” He argued for the need to adapt these models as academic libraries employed a didactic model of service where academic librarians served customers to enhance their intellectual and personal development, and not so much to reduce the gap between a user’s immediate expectations and perceptions. He further pointed out that “the straightforward provision of information that the user wants in special libraries appears to be much closer to the ethos of the service quality model.”

To summarise, the library literature shows that quality assessment effort in libraries is moving from performance measures that focus on traditional input and output measures, to measures that focus on feedback from customers. In addition, libraries are adapting methods and techniques from the business world, and applying them to libraries.
Measuring service quality

SERVQUAL is a widely-tested instrument for measuring service quality (Carman, 1990; Chia, 1997; Coleman, Xiao & Chollett, 1997; Durvasula, Lyonski & Mehta, 1999; Mah, 1994; Mangold & Babakus, 1991; Steward, Hope & Muhlemann, 1998). It was developed by Parasuraman, Zeithmal, and Berry (1988) based on their Gap Model. There are five gaps in the Gap Model, namely, the discrepancy between the perceived service and management’s perceptions of customer expectation, the translation of the management’s perceptions into service quality specifications, the translation of these specifications into service quality, and the external communications of these service quality to customers, and finally, the customers’ expectation and their perception of the actual service delivered by the organisation.

Their early investigations (Parasuraman et al., 1988) revealed that the primary criteria used by customers in assessing service quality can be described by ten separate dimensions: Tangibles, Reliability, Responsiveness, Communication, Credibility, Security, Competence, Courtesy, Understanding / knowing the customers and Access. Later, they refined and condensed the ten dimensions to five: Tangibles, Reliability, Responsiveness, Assurance and Empathy. The 22 expectation / perception items which form the main questions of the SERVQUAL instrument were derived from the five service dimensions. In the survey, respondents are asked to rate their expectation and perception of these items.

The other instrument used for assessing service quality is the SERVPERF. In comparison to the SERVQUAL, SERVPERF is a simpler instrument based on the 22 perception items of the SERVQUAL. A study conducted by Cronin and Taylor (1992) concluded that SERVPERF might be an improved means of measuring the service quality construct, since in all the four service industries studied, the unweighted SERVPERF explained more of the variation in service quality than SERVQUAL.

Despite its simplicity, the SERVPERF instrument did not gain widespread application in libraries. A search conducted in the Library and Information Science Abstracts (LISA) database on 15 September 1999 resulted in 14 articles for a keyword search using “SERVQUAL”. In contrast, the same search using “SERVPERF” resulted in 3 articles, and these articles also mentioned “SERVQUAL”.

Application of SERVQUAL in libraries

The SERVQUAL instrument has gained popular application in a wide range of service industries including libraries since its development in the late 1980s. Nitecki (1996) who tested the applicability of SERVQUAL on three library services, namely interlibrary loan, reference, and graduate reserve, observed that “the instrument introduces a mechanism to shift the assessment of the quality of a library from traditions of measuring collection size and counting incidents of its use, to begin investigating how the provision of service relates to the library user’s service quality expectations.”

The use of service quality concepts is not limited to “frontline” library services. Edwards and Browne (1995) compared the users’ expectations with librarians’ perception of the user expectation based on the conceptualisation of service quality developed by Parasuraman et al. (1988) and Parasuraman, Berry and Zeithaml (1991). In this case, instead of using the 22 items in SERVQUAL, they used quality indicators generated by librarians and users, and formatted these items into Likert-type statements modeled after the SERVQUAL questionnaire.
Coleman et al. (1997) devised a user survey based on SERVQUAL to measure the overall service quality in Sterling C Evans Library. The survey provided feedback from users on their minimum, perceived and desired level of service, and the results indicated a mismatched between the priorities expressed by library users and the quality of service delivered by the library. As a result, a team was formed to bring the current level of service up to the users' desired level.

The SERVQUAL was also investigated for possible application to libraries other than academic libraries. While researching into possible instruments to assess service quality in special libraries, White and Abels (1995) identified SERVQUAL as a superior instrument to measure service quality when compared to SERVPERF. They noted that although "SERVPERF is less complex, shorter, easier to administer, and better in predicting overall variance, SERVQUAL is attractive because it is more comprehensive. It provides better diagnostic information, and if desired, the performance data alone can be used to explained overall variance. Because it is used widely, SERVQUAL also allows for greater comparability with other service organisations." Despite the above, they felt that both SERVQUAL and SERVPERF "seemed appropriate for libraries," and with slight modifications, the survey results could adequately reflect the range of values that library users attached to special libraries.

In Singapore, Mah (1994) compared SERVQUAL with a custom-made instrument in a university library setting. The results of the study indicated that the custom-made instrument was superior as it was more detailed in the features specific to a university library. In another study, Chia (1997), using an adapted SERVQUAL instrument, investigated the quality of services provided by a branch library of the National Library and found that Tangibles was the most important dimension to the customer and it was also one that had the greatest service gap. Both studies also reported an overall negative SERVQUAL score implying that customers' expectations were not met by the libraries' service performance.

**METHODOLOGY**

The original SERVQUAL instrument (Parasuraman et al., 1991) requires respondents to answer the same 22 items in the SERVQUAL twice: first, to establish their expectations of the ideal service; then, to rate their perception of the actual service provided. Each response is scored on a 7-point Likert scale with “1” being “Strongly Disagree” and “7” being “Strongly Agree.” In the analysis, the expectation score is subtracted from the perception score for each item in the five service dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. The SERVQUAL scores for the items pertaining to each of the five dimensions are totaled and then divided by the number of items making up the dimension. The SERVQUAL scores obtained for the five dimensions are subsequently averaged to derive an overall measure of service quality. The higher the score, the higher is the perception of quality. In addition, the respondents are asked to indicate the relative importance of each of the service dimensions, rate their overall perception of the service offered, and provide some demographic information.

**ADMINISTERING SERVQUAL**

This study adapted Chia's (1997) SERVQUAL to measure the service quality of a statutory board library that can be considered a special library. Like Chia (1997), a shortened questionnaire requiring respondents to assess the SERVQUAL items on expectation and perception at the same time was used for this study. Thus, respondents need not have to go through the 22 items twice as in the case of the original SERVQUAL.
Some items omitted by Chia (1997) are deemed applicable to a special library and hence, included in the questionnaire. In addition, some examples used by Chia (1997) were further modified to better reflect the services offered by the statutory board library under study. For example, assisting users in locating books was added as an example to illustrate the item “having staff who are always willing to help users”.

New items were also included in the study to capture the service dimensions fully. For example, “having useful signages” and “categorising materials in subject areas logical to users” were added under the Tangible and Empathy dimension respectively. These two items were relevant as they reflected the concern of some users in the statutory board library.

The adapted SERVQUAL was pilot-tested on four library users. Their comments for improving the SERVQUAL were incorporated and the final SERVQUAL questionnaire (as shown in the Appendix) was administered on a convenience sample of library users who had borrowed at least an item from the library during a 15-day period. However, library users who were unit heads and above in the organisation were excluded from this survey because the services provided to them were different from the general staff users.

FINDINGS AND DISCUSSION

A total of 128 questionnaires were distributed to library users. The respondents were given one reminder via electronic mail when they failed to return the questionnaire by the stated deadline. Out of the 128 questionnaires, 69 were returned but 3 were rejected due to incorrect information given by the respondents. The remaining 66 questionnaires were used for analysis.

Profile of respondents

The findings indicate that the majority of library users were Divisional I officers (71%) who were mostly professional staff. Furthermore, the percentage of respondents who used library services between once a week to once a month was 87%, indicating a high number of repeat users within a month. As the respondents were selected from users who borrowed at least an item from the library, it is not surprising that all the respondents indicated that the service they made most use of was the loan of materials.

Relative importance of service dimensions

To determine the relative importance of the service dimensions to users, respondents were requested to divide 100 points among the five service dimensions. These results are presented in Table 1.

<table>
<thead>
<tr>
<th>Service Dimension</th>
<th>Standard Deviation</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>12.19</td>
<td>18.71</td>
<td>4</td>
</tr>
<tr>
<td>Reliability</td>
<td>9.07</td>
<td>23.79</td>
<td>1</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>8.20</td>
<td>23.26</td>
<td>2</td>
</tr>
<tr>
<td>Assurance</td>
<td>8.61</td>
<td>19.77</td>
<td>3</td>
</tr>
<tr>
<td>Empathy</td>
<td>6.27</td>
<td>14.47</td>
<td>5</td>
</tr>
</tbody>
</table>

The Reliability dimension with a mean score of 23.79 was ranked the most important dimension followed by the Responsiveness dimension at 23.26. The least important dimension was
Empathy at a mean score of 14.47. The Tangibles dimension, which has a mean score 18.79, has the highest standard deviation of 12.19. This implies that the ratings by respondents for this dimension varied considerably.

Table 2. Comparison of the relative importance of dimensions with other libraries

<table>
<thead>
<tr>
<th>Service Dimension</th>
<th>Special Library</th>
<th>Public Library</th>
<th>Academic Library</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statutory Board Library (Current Study)</td>
<td>National Library (A Branch Library)</td>
<td>National University Library (Hon Sui Sen Library)</td>
</tr>
<tr>
<td>Tangibles</td>
<td>18.71 (4)</td>
<td>22.78 (1)</td>
<td>19.40 (4)</td>
</tr>
<tr>
<td>Reliability</td>
<td>23.79 (1)</td>
<td>22.67 (2)</td>
<td>23.70 (1)</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>23.26 (2)</td>
<td>22.51 (3)</td>
<td>22.70 (2)</td>
</tr>
<tr>
<td>Assurance</td>
<td>19.77 (3)</td>
<td>18.78 (4)</td>
<td>19.70 (3)</td>
</tr>
</tbody>
</table>

+++ Ranking is indicated by the number in parenthesis.

It would be interesting to know how the current study relates to other similar studies. Hence, a comparison on the importance of the service dimensions across different types of libraries in Singapore was made and shown in Table 2. There is a perfect match in ranking of importance for this study and the study on Hon Sui Sen Library (Mah, 1994). This could be because users of special libraries and academic libraries have quite similar needs in that they use the library to conduct in-depth researches for their studies/projects. The findings of this study are inconsistent with those obtained for the National Library (Chia, 1997). Perhaps users of public libraries have more general information needs compared to users of the other two types of libraries. Interestingly, in all three libraries, the Empathy dimension was of the least concern to library users as it was ranked last.

The finding that Reliability was the most important dimension was validated by similar findings in overseas libraries (Coleman, et al, 1997; Edwards & Browne, 1995; Hebert, 1994). Such results are consistent with the findings by Parasuraman et al. (1991) in their studies on other service firms.

SERVQUAL scores

As shown in Table 3, the overall SERVQUAL score for the statutory board library was -0.53. The negative value therefore indicates that the performance of the library was not meeting the expectations of users.
Table 3. SERVQUAL scores

<table>
<thead>
<tr>
<th>Service Dimension</th>
<th>Expectation (E)</th>
<th>Perception (P)</th>
<th>SERVQUAL Score (SQ = P - E)</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>5.48</td>
<td>5.11</td>
<td>-0.37</td>
<td>5</td>
</tr>
<tr>
<td>Reliability</td>
<td>5.80</td>
<td>5.39</td>
<td>-0.41</td>
<td>4</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>5.88</td>
<td>5.40</td>
<td>-0.48</td>
<td>3</td>
</tr>
<tr>
<td>Assurance</td>
<td>5.82</td>
<td>5.15</td>
<td>-0.67</td>
<td>2</td>
</tr>
<tr>
<td>Empathy</td>
<td>5.70</td>
<td>4.88</td>
<td>-0.82</td>
<td>1</td>
</tr>
<tr>
<td>Overall</td>
<td><strong>5.71</strong></td>
<td><strong>5.18</strong></td>
<td><strong>-0.53</strong></td>
<td></td>
</tr>
</tbody>
</table>

The table indicates that the Empathy dimension has the greatest service gap of -0.82 followed by the Assurance dimension. The smallest service gap was the Tangibles dimension. However, it is inaccurate to draw conclusions from Table 3 directly since the SERVQUAL scores did not take into consideration the relative importance of the service dimensions in the view of the users. Thus, the weighted SERVQUAL scores are computed and shown in Table 4.

Table 4. Weighted SERVQUAL scores

<table>
<thead>
<tr>
<th>Service Dimension</th>
<th>SERVQUAL Score (SQ = P - E)</th>
<th>Weights (%)</th>
<th>WEIGHTED SERVQUAL Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>-0.37</td>
<td>18.71</td>
<td>-0.31</td>
<td>5</td>
</tr>
<tr>
<td>Reliability</td>
<td>-0.41</td>
<td>23.79</td>
<td>-0.44</td>
<td>4</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>-0.48</td>
<td>23.26</td>
<td>-0.51</td>
<td>3</td>
</tr>
<tr>
<td>Assurance</td>
<td>-0.67</td>
<td>19.77</td>
<td>-0.60</td>
<td>1</td>
</tr>
<tr>
<td>Empathy</td>
<td>-0.82</td>
<td>14.47</td>
<td>-0.54</td>
<td>2</td>
</tr>
<tr>
<td>Overall</td>
<td><strong>-0.53</strong></td>
<td><strong>100.00</strong></td>
<td><strong>-0.48</strong></td>
<td></td>
</tr>
</tbody>
</table>

The overall weighted SERVQUAL score is -0.48. This score was calculated by multiplying the SERVQUAL scores of the service dimensions by the weights assigned (i.e., mean score in Table 1) and dividing the sum by 22 (i.e., 22 items in the questionnaire). The weighted SERVQUAL scores are less negative than the unweighted SERVQUAL scores.
Table 5. Comparison of SERVQUAL scores with other libraries

<table>
<thead>
<tr>
<th>Service Dimension</th>
<th>Special Library (Current Study)</th>
<th>Public Library (A Branch Library)</th>
<th>Academic Library (Hon Sui Sen Library)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unweighted</td>
<td>Weighted</td>
<td>Unweighted</td>
</tr>
<tr>
<td>Tangibles</td>
<td>-0.37</td>
<td>-0.31</td>
<td>-1.19</td>
</tr>
<tr>
<td>Reliability</td>
<td>-0.41</td>
<td>-0.44</td>
<td>-0.95</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>-0.48</td>
<td>-0.51</td>
<td>-1.06</td>
</tr>
<tr>
<td>Assurance</td>
<td>-0.67</td>
<td>-0.60</td>
<td>-0.95</td>
</tr>
<tr>
<td>Empathy</td>
<td>-0.83</td>
<td>-0.54</td>
<td>-1.04</td>
</tr>
<tr>
<td>Overall</td>
<td>-0.53</td>
<td>-0.48</td>
<td>-1.04</td>
</tr>
<tr>
<td>Sample Size</td>
<td>66</td>
<td>90</td>
<td>119</td>
</tr>
</tbody>
</table>

The SERVQUAL scores of this study were also compared with the scores obtained by the other two studies. As shown in Table 5, the other libraries performed worse in their weighted SERVQUAL score. Still, the negative weighted SERVQUAL score indicates a mismatch between the priorities expressed by the users and the level of quality delivered by the library.

Other service feedback

Apart from rating the expectation and perception on 22 items, users were requested to indicate their assessment of the overall quality of service provided on a scale of “1” to “7”. It was found that Divisional I (professional staff) and III (clerical staff) officers gave higher ratings when compared to Divisional II officers (technical staff). The average score of 5.16 is close to the mean perception score of 5.18.

In addition, out of the 66 questionnaires, 17 were returned with written comments. About 50% of the comments were directed at the inadequacy of the library collections. Respondents also wrote on the importance of prompt service, and having helpful and knowledgeable library staff. There were also two general comments: one indicated that the library was doing a good job in general while the other indicated that although the library was useful, there was little opportunity to use it as staff were busy in the office. The above findings were reflected in the SERVQUAL scores for the items measuring the same concerns.

Expectation-Service Gap Chart

The Expectation-Service Gap chart in Figure 1 was used to identify service shortfalls (Chia, 1997). The SERVQUAL scores (i.e., gap scores) denoting service gaps for the 22 items were plotted against their expectation scores. The resulting chart showing the 22 items (refer to the Appendix) presents a macro view of the quality of service delivered by the library.
For ease of identifying items that had a severe service shortfall, the Expectation-Service Gap Chart was transformed into a grid as shown in Figure 2.

The grid is divided into four quadrants using the mean expectation score (5.71) and mean gap score (-0.53). Each quadrant is defined by the level of expectation and service gap. It can be seen that there are 7 items under the Reliability, Responsiveness, Assurance and Empathy dimensions classified in Quadrant I. This implies that the users’ expectations were not matched...
by the library’s service performance, leading to high service gaps. Items in Quadrant IV also need corrective actions as they also have high service gaps. Conversely, items in Quadrant II and III can be accorded lower priority as the service gaps are low.

RECOMMENDATIONS

The focus of the recommendations is on addressing service shortfalls classified under Quadrants I and IV of the Expectation-Service Gap Grid as shown in Figure 2.

The library is doing quite well for the Reliability dimension except for items 8 and 15 in Quadrant I. Item 8 on the ease of locating specific books on the shelves has the second highest gap score of -1.12, while item 15 on having staff who are sincere in helping users to locate information and solve problems has a gap score of -0.56. The service gap for item 8 could be reduced by expediting the shelving of return items and putting more effort into tidying up the shelves. In addition, the library could refrain from packing the book shelves too fully. This would make it easier for library staff to do shelving and for users to retrieve the specific books.

To resolve the service gap for item 15 would require the library staff to be helpful and knowledgeable in dealing with frustrated users.

The critical service gap for the Responsiveness dimension occurs in item 4 (-0.71) on having library staff who are always willing to help users (e.g., assisting users in locating books). It is hypothesized that the wide service gap is due to users not getting the deserved help when they encounter problems in locating books and information. In such cases, library staff should empathise with the users and try their best to assist.

There are two items describing the Assurance dimension and both were classified in Quadrant I. Item 18 referring to having knowledgeable staff to answer questions has a service gap of -0.71, while item 16 with a service gap of -0.64 relates to having staff who are approachable and consistently courteous to users. Based on the feedback, library staff should be well-versed with the collections in the library, and committed to keeping abreast of new developments in the subject areas of interest to users. In this way, they would have the confidence to field questions posed by users. They should also be approachable and consistently courteous to all users. Although they may encounter demanding users, it is imperative that they be professional at all times, and deliver quality service without prejudices.

The Empathy dimension has five items, with items 10 and 22 in Quadrant I, item 2 in Quadrant III, and items 3 and 11 in Quadrant IV. Item 2 could be accorded lower priority since it is a low-expectation item. Item 10 on having a good collection of materials that meet user’s information topped the SERVQUAL scores with a service gap of -1.23. This implies that users were least satisfied with the collections (e.g., books, periodicals and videos in the library). In addition, item 11 on understanding the specific needs of users has a service gap of -0.97. These two gaps are addressed together below.

Although item 10 has the highest standard deviation, i.e. wide variation of SERVQUAL scores among individual users, the high service gap demands attention. One way to keep the collection relevant and updated is to encourage users to recommend new titles for the library. In addition, the library could systematically ask the users what information they need for the coming year. There are two benefits: firstly, as users plan ahead, the need for rush orders and last minute information requests would be reduced during the year, and secondly, funds could be used more optimally.
Another severe service shortfall under this dimension is item 22 on categorising materials in subject areas logical to users. It is hypothesized that the service gap of -0.82 is due to users not being clear as to where they can find the required materials. In response, more effort is needed to educate users and train them on the location of materials in the library.

Another service gap exists in item 3 on having operating hours that are convenient to users. The library is open during standard office hours and throughout lunch time. One user commented that it is precisely during office hours when the library is open that users are busy with their work. In view of this, the library may want to explore alternative opening hours convenient to users.

All the items describing the Tangibles dimension were classified in the less critical quadrant of III and IV. Nevertheless, suggestions to close the service gaps of Quadrant IV items are addressed. The high service gap of -0.88 for item 7 on providing sufficient online catalogues and Internet terminals is unexpected as the online catalogues and the Internet PC in the library were not well-utilised. As for item 12, it is surprising to note that users have low service perception on the provision of modern facilities in the library (e.g., multimedia PCs and checking borrower's record remotely) when these facilities are already up-to-date. Thus, there is a need to clarify with users the interpretation of these items before a solution can be proposed to close the gaps.

The signage provision is also of concern to users as there is a service gap of -0.79 on item 21. It is hypothesized that the poor perception ratings could be attributed to the lack of labels to explain the subjects of the books on each level of the shelves. In view of this, the library should review the overall signage provision to improve the accessibility of the collections.

SUGGESTIONS FOR FUTURE STUDY

The SERVQUAL instrument is far from ideal. Part 2 that requires respondents to allocate a total of 100 points (as weights) among five service dimensions, is the biggest obstacle for respondents. It can be seen from the various cancellation marks on the forms that respondents were struggling to allocate the points. As the total points do not add up to 100, three questionnaires in this study had to be rejected and excluded from the analysis. One possible improvement to the SERVQUAL instrument would be to ask respondents to rank the service dimensions in order of importance, and for the researcher to assign relevant weights to these dimensions based on the ranking. Of course, further research is needed to determine the weightage for each ranked dimension, and to ensure that such modification does not affect the reliability and validity of the instrument.

Furthermore, the SERQUAL instrument is extremely tedious to answer due to the large number of questions asked. There are 22 expectation/perception items, questions on allocation of points, and numerous other general questions. As a result, respondents skipped or missed answering certain items. One solution is to include a reminder at the end of the questionnaire asking respondents to check for completion before submitting.

In addition, future studies could look into categorising users into various segments based the individual SERVQUAL scores. The segments could then be analysed by the relative importance of the five dimensions in influencing service quality. In this way, the library would be able to target specific service quality programmes at these segments, and monitor the success / failure the programmes by surveying these respondents again.
The recommendations reported in the previous sections are based on the researcher’s perception of what the users desire. A more accurate response to the survey would demand the researcher to validate the findings with respondents and make appropriate recommendations subsequently. This can be carried out through alternative survey methods such as face-to-face interviews.

CONCLUSION

This study applied an adapted SERVQUAL instrument to measure the service of a special library. The Expectation-Service Gap Grid was derived from the data analysis and used to identify service shortfalls of the library. A number of recommendations to address these shortfalls have been proposed.

The survival of a library very much depends on the benefits it brings to users. Its existence will be in question when users begin looking for alternatives to library services. One way to show value is by providing quality service. It is therefore important for the library to be aware of changing user expectations, and to continually strive to provide quality service to its users.

References


Appendix: The SERVQUAL instrument

ABC Library

SERVICE QUALITY QUESTIONNAIRE

PART 1: GENERAL INFORMATION

Please tick your answer:

Division

☐ D1  ☐ D4

☐ D2  ☐ D5

☐ D3  ☐ D6

How often do you use the services provided by the ABC Library?

☐ Once a week

☐ Once in 2 weeks

☐ Once in 3 weeks

☐ Once a month

☐ Once in _____ weeks on average

☐ Others (please specify)

Which services do you make use?

(circle as many as appropriate)

☐ Loan of materials (e.g. books, periodicals, video tapes, etc)

☐ Duplicate photo materials (e.g. slides)

☐ Use audio-visual facilities

☐ Access Internet

☐ Request for publications

☐ Others (please specify)

PART 2: QUALITY DIMENSIONS

Listed below are five service features pertaining to library services. Please allocate a total of 100 points among the five features according to how important each feature is to you - the more important a feature is to you, the more points you should allocate to it.

<table>
<thead>
<tr>
<th>No.</th>
<th>Feature</th>
<th>Definition</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tangibles</td>
<td>The physical appearance of the library: library staff, facilities and communications materials.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Reliability</td>
<td>The ability of library staff to perform the promised service dependably and accurately.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Responsiveness</td>
<td>The willingness of library staff to help users and provide prompt service.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Assurance</td>
<td>The knowledge and courtesy of library staff and their ability to convey trust and confidence.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Empathy</td>
<td>The caring, individualised attention that library staff provide to users.</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL POINTS ALLOCATED 100
PART 3: SURVEY OF YOUR EXPECTATIONS AND PERCEPTIONS OF LIBRARY SERVICES

Based on your experiences as a user of the ABC Library, please indicate:

a) your EXPECTATION of the Library service. i.e. What do you think it should offer?

b) your PERCEPTION of the Library service. i.e. How did it perform?

If you feel that a feature is absolutely essential, circle “7”. If your feelings are less strong, circle one of the numbers in the middle.

<table>
<thead>
<tr>
<th>When it comes to:</th>
<th>My EXPECTATION of the ABC Library’s Service Performance is:</th>
<th>My PERCEPTION of the ABC Library’s Service Performance is:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Having physical facilities that are visually appealing.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>2 Having staff who give users individual attention.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>3 Having operating hours which are convenient to users.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>4 Having staff who are always willing to help users. (e.g. assisting users in locating books)</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>5 Having error free loan records (e.g. overdue charges are accurately calculated)</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>6 Performing all requests as promised (e.g. calling users when a missing book which the user has requested is found)</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>7 Providing sufficient online catalogues and Internet terminals.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>8 Being able to locate specific books on the shelves easily.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>9 Providing a conducive physical environment.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>10 Having a good collection of materials that meet users’ information needs. (e.g. books, periodicals and video tapes)</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>11 Understanding the specific needs of users.</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>12 Providing modern facilities. (e.g. multimedia PCs and checking of borrower’s record remotely)</td>
<td>1 2 3 4 5 6 7</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
My EXPECTATION of the ABC Library’s Service Performance is:

My PERCEPTION of the ABC Library’s Service Performance is:

When it comes to:

13 Performing the services right the first time. (e.g. return loans are correctly updated)

14 Providing prompt services to users. (e.g. users do not wait very long to be served)

15 Having staff who are sincere in helping users to locate information and solve problems.

16 Having staff who are approachable and consistently courteous to users.

17 Having staff who are never too busy to respond to user’s request.

18 Having knowledgeable staff to answer questions.

19 Having visually appealing materials associated with the service. (e.g. notices on overdue loans and publicity on newly arrived materials)

20 Informing users exactly when services will be performed.

21 Having useful signages.

22 Categorising materials in subject areas logical to users.

How would you rate the overall quality of service provided by ABC Library?

(please circle your answer)

Low ---------------------------------------------------------- High

1 2 3 4 5 6 7

Other comments (if any)

_____________________________________________________________________
_____________________________________________________________________

You have reached the end of the questionnaire.

Thank you.
Authors Biography

Pey Lin Tan works in a statutory board library. She received her Bachelor of Business Administration from the National University of Singapore, and will be obtaining her M.Sc. in Information Studies from the Nanyang Technological University in 2000. She can be contacted at: peylin@mbox3.singnet.com.sg.

Schubert Foo (BSc, MBA, PhD, CEng, FI MechE, FBCS) is the Head of the Division of Information Studies at Nanyang Technological University (NTU). He joined NTU in 1990 and served as the Sub Dean in the School of Applied Science from 1991 to 1996. His current research interests include multimedia technology, Internet technology, computer security, digital libraries and information management. He can be contacted at: School of Applied Science, Nanyang Technological University, Blk N4 2A-32, Nanyang Avenue, Singapore 639798 or at h-dis@ntu.edu.sg.