

Measuring the Library Service Performance Using SERVPERF

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Abstract

This paper describes an exploratory case study which attempts to use a modified version of SERVPERF to assess user's satisfaction with the services provided at a private university library in Malaysia. The study was carried out to ascertain whether the library has achieved a certain standard of quality in providing information services to its clients, and whether clients are satisfied with the services. The objectives of the study are to examine users' opinion on the actual adequacy and inadequacy of the library and information services the services deemed important or problematic to clients. The questionnaire used is adapted from SERVPERF, which is a performance-based measure of service quality, which solicit customers' perception and satisfaction with provider's actual performance. A total of 59 service attributes are measured and are grouped as frontline, core and peripheral where staff and facilities interact directly with users and where users' opinions could be extracted. The clients are 274 students, comprising 250 undergraduates and 24 postgraduate who are randomly chosen for two days as they visit the library. Out of 22 front services which focus on the OPAC services, the library websites and user education programmes, 3 services are rated as good, 3 are rated as poor and the rest are rated as average. Out of 29 core service statements which focus on the adequacy of library materials, equipment and staff in supporting learning, 13 are rated as good, 2 are rated as poor and the rest received average ratings. The library performs better on the peripheral services, which focused on the physical environment and facilities where 2 out of 8 service statements are rated as excellent, 4 are rated as good and the rest as average. The overall service quality are rated between 3.13 and 4.36 on a 5-point scale, which implied an average performance level. The findings has provided the library with a basis to rectify and formulate action plans for services which received ratings as poor and to monitor and maintain those which are rated as good and excellent.

Keywords: Performance measure; Quality measure; SERVPERF; OPAC services; Library Websites.

1. Introduction

Performance measurement is an essential component of a quality-oriented organizational culture where consumer of services becomes more critical of the quality of services they receive and would complain when they are not satisfied. Without assessing its performance, an academic library cannot ensure maximum utilization of its resources towards meeting the needs of their users. It is essential to preserve the viability and visibility of academic libraries, especially in an age where there is increasing public believe that the current physical library will be replaced by the digital library in a paperless society (Wallace and Van Fleet, 2001). In essence, measuring performance is simply an essential part of good management practice and is used to describe the activity of using performance indicators (Abbott, 1994). It is through performance measurement that appropriate performance indicators could be formulated to ascertain how well the service is performing in meeting its objectives.

Libraries approach assessment of performance in different ways. Early measures apply inputs such as amount of expenditure or collection size (Hernon and McClure, 1990). Lancaster (1993) emphasizes on technical services such as weeding of stock and how this is related to users. This includes finding out how the speed of cataloguing for example

affects materials that are being sought after by users. The assessment exercise itself forms an integral part of the aim to make decisions and objectives as well as set priorities based on information. Performance measurement minimizes errors and should enhance efficiency if handled well. One study uses the Malcolm Baldrige National Quality Award's (MBNQA) criteria to identify the processes and performance measures of quality in academic libraries (Hare and Cole, 2005). The study uses the Delphi method to draw from a sample of expert librarians to identify critical processes and the precise measurements. The critical processes regarded as important are then compared with the MBNQA criteria. The study finds that the Delphi experts show agreement on most of the critical processes, which they regard as important indicating the viability in using this instrument to measure performance.

Another approach is to formulate constructs that extract users' perceived quality of services. Perceived quality of service is defined as the consumers' judgment about the service's overall excellence or superiority (Rowley, 1998). As it is difficult to translate satisfaction into specifications and standards or measurable objectives, the degree of gap that exists between the desired service and the perceived actual service is increasingly accepted to reflect service quality (Oliver, 1996). The quality of a service is couched in users' subjective understanding of perceived quality. However, mixed feelings exist in the literature regarding the direct causal relationship of perceived performance and actual quality services (Lee, Lee and Yoo, 2000).

A review of literature on performance measures in the library and information services (LIS) is provided by Aluri (1993), who gives a list of factors that are cited as affecting reference service performances, such as staff willingness, knowledge, morale and time. Edwards and Browne (1995) find similarities between librarians and academics in what they view as characteristics of quality of services. Most of the early studies focus on assessing reference services (Lowenthal, 1990; Tyckoson, 1992). Later studies include readers' instruction programmes (Edwards and Browne, 1995). Kulthau (1993) introduces the concept of bibliographic instruction in helping users locate sources and to reduce uncertainties, which is felt when seeking for information and is considered as an influencing factor when judging quality reference service. Kulthau also brings in the human factor in measuring performance as she finds that the placement of student reference assistance could only result in the solution to 36% of reference enquiries and unprofessional staff's handling of reference enquiries is not satisfactory to users. Other studies have included collection sizes and budget allocations as predictors of effective service (Broadly-Preston and Preston, 1999). Recently, there is increasing pressure on libraries to demonstrate the provision of quality services and this leads to instruments being developed to evaluate customer's perception of library services or sometimes referred to as user satisfaction measures (Cook and Thompson, 2000; Cook, Heath and Thompson, 2000). Subsequently, a body of literature grow pointing towards management process as possible indicator of quality reference service and this comes in the form of total quality management (TQM) system (Juwon and Barnard, 1993; Zawiyah, 2000) and quality management system (QMS) using standard instruments such as the BS 5750 and ISO 9000 (9001-9003) (British Standard). In this situation, the library adopts a system of continuous improvement, employs participative management system and centers processes on the needs of the customers. Key components of TQM for example are employee involvement, training, problem solving teams, collective statistical data collection and goal oriented processes. TQM breaks down inter-departmental barriers and helps identify the beneficiaries of the library services as both staff and clients and the need to reach a state of equilibrium and continuous improvements. Besides TQM, standards for quality systems have been adopted to ensure that libraries are meeting the standard requirements. One such standard is the ISO 9000 (9001-9003), originally published in 1987, revised in 1994 and 2000. The ISO standard is customer and process oriented and it includes criteria on identifying customer requirements and measuring customer satisfaction with the

organisation's performances (ISO/FDIS, 1997; International Standards Organisation, 1998). The ISO 9000 ascertains that the requirements of a quality system is in place, when the library provides supportive activities and mobilize human resources which are required to plan, manage and implement the system.

Many instruments are being used by libraries to gauge service quality. One such instrument is SERVQUAL, introduced in 1988 by Zeithaml, Parasuraman and Berry (1990) in the field of marketing and later applied in other fields. SERVQUAL is a generic instrument used to measure performance in any service industry. The instrument proposes that the difference between customer's perceptions of what a service should deliver and how that service meets idealized expectations would reveal a gap that infer services that are or are not meeting client's requirement. The instrument consists of two sets of twenty-two pairs of statements that a service provider delivers. The first set measures the customer's satisfaction by asking each respondent to rate how essential each factor is in the delivery of an excellent service. The second set of twenty-two statements formulates the same factors into descriptions about service actually delivered and ascertains the respondent's perception of the level of service given by the organization. The difference between the ranked perceptions minus the ranked expectations is calculated and the average gap score is the SERVQUAL overall quality score. The set of twenty-two questions are factor analysed and related to five interrelated dimensions that customers value most when they evaluate service quality namely; tangibles (the appearance of physical facilities, equipment, personnel and communication materials); reliability (ability to performed the promised service dependably and accurately), assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence); and empathy (the caring individualized attention that a firm provides its customers). A more recent version of SERVQUAL asks respondents to comment on a series of statements from three contexts, minimum service expectations, desired service expectations and the perception of actual service performance (Parasuraman, Zeithaml and Berry, 1994) on a nine point scale.

Some studies maintain that perception scores alone could explain service quality performance since ratings on expected service, which is based on memory, may be biased by actual services received and may not measure performance correctly (Cronin and Taylor, 1992, 1994; Teas, 1993, 1994; Andaleeb and Simmonds, 1998). The study by Caruana, Ewing and Ramaseshan (2000) indicates that respondents could not clearly visualize a difference between desired and minimum expectations and would often allocate lower scores to minimum expectations when asked in conjunction with desired expectations. Therefore, they propose that it might be more objective when the questions on expectations and perceptions are distributed on separate occasions. The success in the use of SERVQUAL is service industry specific. A modified version of SERVQUAL is SERVPERF, which is developed by Cronin and Taylor (1992). This instrument measures quality based solely on current performance and uses the same twenty-two statements but does not repeat the set of statements as expected items (Boulding, et al., 1993; Lee, Lee and Yoo, 2000; Brady, Cronin and Brand, 2002). The Association of Research Libraries (ARL) have developed LibQUAL+ to measure library users' perception of service quality in libraries (Cook, 2001; Cook and Heath, 2001; Cook, Heath and Thompson, 2001; Cook, Health, Thompson and Thompson, 2001). The most recent development is E-QUAL (based on LIBQUAL) to assess service quality of digital libraries. It is financed by the National Science Foundation and the National Science Digital Library initiative. This instrument is still at its formative stage of development and may not be suitably used across different types of digital libraries.

This paper describes an exploratory case study which attempts to use a modified version of SERVPERF to assess user's satisfaction with the services provided by the library at University Tenaga Nasional Berhad, a private university in Malaysia, established in 1997.

The library needs to collate and assess stakeholders' feedback about the delivery of library and information services, which is required in order to retain the ISO 9001:2000 certification. This is a preliminary attempt to measure performance and the library has focused on services grouped as frontline, core and peripheral, which directly affect users.

2. Objectives

The study's main objective is to measure the performance of services grouped as frontline, core and peripheral, which relates directly to the student users of the library. The services are inter-related whereby subtle changes in any one type are expected to enhance or detract users' satisfaction. The services follow a continuum from frontline to peripheral and relates especially to service points where staff and facilities interact with users and where user's opinions as well as expectations could be extracted. The library in this context is the University Tenaga Nasional Berhad, a private university in Malaysia and the clients are undergraduates and postgraduates who use the services and facilities. The study would also assess users' opinions on the actual adequacy and inadequacy of the library in providing the three types of services and subsequently identify the factors deemed important and problematic to users of the library.

3. Methodology

The frontline services encompass client-centred services, which include the performance of the online public access catalogue (OPAC), the library website, and the user education programmes. The core services are those which directly affects library users and include; the adequacy, availability and accessibility of collection for course and assignment use, the appearance and assistance provided by library staff, the provision of computing and photocopying facilities, and waiting time for borrowing as well as referencing services. The peripheral services considered comprise physical environmental factors such as the availability of signage, appropriate opening hours, the provision of adequate space as well as ambience and the availability of leisure reading materials.

The basis of choosing the three categories of services, which are client-focused can be explained by this ideal scenario. The client are undergraduates and postgraduate students who walk into the library, who would be using some of the library's services and facilities and therefore can provide reliable views about the library's collection based on whether the library's collection could match their needs for learning. In preparing for their visit, users should be able to easily check the library's opening hours and judge whether the hours suit their needs or search the library's collection remotely by using the library's web site which would be easy to use and contain all the information they need. On entering the library they should see clear directional signage to collections, service points and amenities. There should be sufficient OPAC terminals available for them to search the library's collection and that the information on the OPAC is displayed clearly and accurately. They then proceed to the shelves, amenities or talk to staff and they could find the materials they need, which are appropriately located at the designated places, the facilities they need to use are in working order, and the staff are willing to help them get the right resources and information from queries posed. There would be study or reading desks readily available, the library is cooled at the right temperature and lighted appropriately. The chosen area is quiet and they feel comfortable and safe in the library. As they leave the library, they can well reflect on the way that the library has met their expectations of good service.

In order to understand users' perception of services as well as identify improvement requirements the study uses a set of five dimensional instruments originally derived from SERVQUEL designed by Parasuraman, Zeithaml and Berry (1988) and Parasraman, Berry

and Zeithaml (1991) and subsequently modified by Cronin and Taylor (1992). The modified version is SERVPERF, which has been discussed in various studies (Cronin and Taylor, 1994; Rowley, 1998; Hernon and Nitecki, 2001). SERVPERF measures service based solely on user's perception of actual performance. The instrument consists of twenty-two statements worded similar to those in SERVQUAL but does not repeat the set of statements as expectation items. SERVPERF has received conceptual and empirical support in services research (Boulding, et al., 1993; Lee, et al., 2000; Brady, et al, 2002). This instrument will measure perception of actual performance and subsequently summarize the services condensed in five statements, reflecting the five dimensions, which will be scored to a total of 100 points. The five dimensions are, (a) Tangibles, (b) Reliability, (c) Responsive, (d) Assurance and (d) Empathy.

A total of 300 respondents are randomly chosen from the undergraduates and postgraduate students of the university, who visit the library on the 3rd and 4th March 2005 between 9am and 8pm. Out of this number 274 (91%) questionnaires are found to be useable, of which the undergraduates is 250 (91.2%), while the postgraduates totals 24 (8.8%). This sample is close to the true population of the University where the ratio of undergraduates to postgraduates is about 10:1. Both groups of users use the library frequently (84.9%, 233) and more so among the undergraduates (87.2%, 218) than the postgraduates (62.5%, 27). It can be inferred that the perception of users from this sample would presumably reflect those who actively make use of the UNITEN library.

The questionnaire is six pages in length and is based on the modified version of SERVPERF used by Nitecki and Hernon (2000). The original version of SERVPERF comprises 22 standard statements, whereas the instrument used by Nitecki and Hernon comprise 40 statements. The present study extends the number of statements to 60 to cover the three categories of services being measured. Earlier studies have extended the number of items included in their respective instruments since SERVPERF and SERVQUAL are not designed for the library context and therefore the inclusion of additional dimensions become necessary (Cook and Thompson, 1995; Andaleeb and Simmonds, 1998; Cook, Heath and Thompson, 2001). The revised questionnaire does not repeat the set of statements as expectation items as the intention is to focus on perceived quality of actual service delivery. Instead of the seven-point Likert scale used by Nitecki and Hernon, this study uses a five-point scale. The data is coded into the SPSS (version 12.0 for Windows) for analyses. Responses are grouped as negative (Nres*) for ratings 1 (strongly disagree), 2 (disagree) and 3 (Fairly agree) and positive (Pres*) for ratings 4 (agree) and 5 (strongly agree). To ease description and to ascertain problem areas, the ratings on the 5-point scale are then matched with a performance scale of between 0%-100% where, 0% - 20% = very poor; 21% - 40% = poor; 41% - 60% = average%; 61% - 80% = good; and 81% - 100% = excellent. The services identified as problem areas and requires immediate resolution are those that score 49% and below. This assessment is made to satisfy the requirements of the ISO quality management system. It is expected that the performance scale would be raised periodically in future to reflect further improvement in the quality of services and to institute a continuous improvement programme initiative.

4. Results

(a) The Frontline Services

Responses on the 22 statements are grouped under (a) OPAC performance (12 statements); (b) web performance (8 statements); and (c) user education programme (2 statements). Table 1 lists the performance in accordance to the performance scale 0% - 100% (very poor to excellent). Respondents rate none of the frontline services as excellent. Users rate good for only three (14%) of the statements and are not happy (scored

“poor”) with three services, namely retrieval time during OPAC searches, which takes more than 3 minutes, the inability of the website to allow users to interact with the library staff and the lack of online request submissions service. The low percentage of “good” ratings indicates that the library’s frontline services have room for improvements. There is a significant difference between the ratings given by undergraduates compared to postgraduates on the statement that the OPAC “has easy to follow instructions” ($\chi^2 = 18.869$, $df = 8$, $sig = 0.016$). The undergraduates rate more positively than the postgraduates and more of them indicate spending “roughly 3 minutes to search for needed information” ($\chi^2 = 17.320$, $df = 8$, $sig = 0.027$) than the postgraduates. The ratings for the other variables on OPAC indicate no significant difference in the ratings between the undergraduates and postgraduates.

Table 1: Performance of Frontline Services (n=274)

The OPAC	Pres* (%)	Rating
Indicates location of item	62.6	Good
Has a well displayed item list	61.1	Good
Displays information that is clear and easy to understand	61.0	Good
Indicates the number of copies available	60.7	Average
Has easy to follow instructions	60.6	Average
Allows me to renew borrowed items	58.5	Average
Tells me if copies are available on the shelves	58.0	Average
Provide accurate information about all materials held by the library	56.8	Average
Often use it to find books I need	45.6	Average
Allows me to reserve items online	45.5	Average
Is easily accessible from outside the library building	41.2	Average
Need >3 minutes to search for items I need	35.9	Poor
The Library Websites		
Enables nme to log on easily	54.1	Average
Enables me to log on whenever I want	52.8	Average
Enables me to access a variety of electronic resources	49.7	Average
Has a good layout	48.1	Average
Is easy to navigate	48.0	Average
Is attractive	43.9	Average
Enables me to interact with the library staff	38.9	Poor
Includes online request form	36.8	Poor
User Education Programmes		
Provide orientation programmes which enables me to use the library materials ans services more effectively	49.6	Average
Conducts information skills programmes relevant to my course needs	47.6	Average

Pres* = Positive response (for ratings 4 and 5 on a 5-point scale)

Six out of eight statements on the library websites are rated as “average”. There are very significant difference between the ratings by undergraduates and postgraduates on items related to the attractiveness of the website ($\chi^2 = 21.59$, $df = 8$, $sig = 0.006$) and the degree of interactions occurring with library staff ($\chi^2 = 16.21$, $df = 8$, $sig = 0.039$). Undergraduates tend to agree more to the statements than postgraduates. Both groups of student rate user education programme as “average” indicating no significant difference.

(b) The Core Services

The core services are represented by 28 statements. Users rate “good” for 13 services (46%) and “average” for 13 statements (50%) (Table 2). However, most of the ratings for “good” are in the lower end of the percentage score that is between 60% and 69%. Students indicate that the materials they need for their courses and assignments are satisfactorily provided by the library and are easily located on the shelves. They are also

satisfied with the provision of leisure reading materials. Students however, rate averagely on the services such as the promptness of re-shelving of materials, the ease of locating items in the building, the usefulness of the display of new books, the ease of browsing print materials and information services regarding the status of their requests for items. The results highlight the problems users face with access to collection, which are averagely rated and which could be easily rectified immediately.

Table 2: Performance of Core Services (n=274)

	Pres* (%)	Rating
The library materials are adequate because		
They encompass course/curriculum supporting resources	67.3	Good
They are properly arranged on the shelves	63.8	Good
They meet my assignments/research needs	63.7	Good
They encompass leisure reading magazines	61.7	Good
They are re-shelved promptly	58.1	Average
They are easy to find and locate in the building	57.8	Average
The new books are helpfully displayed and this is helpful	54.9	Average
It is easy to browse print material	52.0	Average
When I request, I am always informed of the status	51.3	Average
When I request for materials I am always informed of the status	43.3	Average
The Library staff		
Are neat in appearance	73.4	Good
Are available when I need them	68.9	Good
Are approachable and welcoming	65.2	Good
Are friendly and easy to talk to	63.0	Good
Are professional in finding general information	62.5	Good
Are courteous and politeness	62.1	Good
Are professional and able to find information related to my discipline	61.1	Good
Are able to give the right answers to my question	60.1	Average
Are generally able to satisfy my enquiries with answers	60.1	Average
Are able to help me retrieve resources I need	53.1	Average
Able to help me identify resources I need	51.3	Average
Able to help me learn how find information	49.6	Average
I find the equipments in the library as follows		
Photocopiers are in working order and are readily available	60.1	Average
Computer workstations are in working and are readily available	53.0	Average
Computers for OPAC use are in working and readily available	52.6	Average
Computer printers are working and readily available	39.2	Poor
When borrowing & getting reference services I do not ...		
Have to wait more than 3 minutes to borrow materials	69.6	Good
Wait more than 3 minutes to get assistance at the information desk	62.6	Good
Wait more than 3 minutes when I phone the library for information	45.7	Poor

Pres* = Positive response (for ratings 4 and 5 on a 5-point scale)

The ratings for the support given by library staff is very encouraging as seven of the twelve statements are rated as good. This kind of positive information helps to trigger the further performance of frontline staff and move towards continuous excellence. The professional approach in handling discipline based enquiries and personal approach to individuals who need help to find information should be improved to ascertain the appropriate kind of help or training necessary to improve the delivery of reference services. Except for the printing facilities, students are averagely satisfied with the availability of photocopiers, computer workstations and the OPAC terminals in the library for their use. Students are also happy with the speed of borrowing and reference desk

services provided. However, the problem of providing speedier feedback to enquiries handled through phone-ins need to be investigated.

There is a very significant difference between the ratings given by undergraduates compared to postgraduates with regard to the adequacy of support for course or curriculum needs ($\chi^2=19.326$, $df=8$, $sig.=0.01$) and the handling of requests for items ($\chi^2=21.892$, $df=8$, $sig.=0.005$). The postgraduates seem less satisfied and this helps the UNITEN library to identify services that need attention. When the 12 statements which relate to library staff are cross tabulated with types of users, undergraduates rate more positively than postgraduates on "library staff are courteous and polite" ($\chi^2=17.352$, $df=8$, $sig, 0.027$). There is no significant difference in the ratings among the undergraduates and postgraduates on the rest of the statements concerning library staff.

(c) The Core Services

Students seem to be very satisfied with the library ambience. Out of the eight statements listed two are rated as excellent and four as good (Table 3). In this category the score for "good" are on the higher end of the scale (>70%). The students find the library spacious and comfortable and have no difficulty in finding a place to sit.

Table 3: Performance of Peripheral Services (n=274)

In terms of environment, space, signage and opening hours, I find the library..	Pres*(%)	Rating
Spacious and comfortable	88.8	Excellent
Always provide me with a space to sit	80.0	Excellent
Quiet	78.4	Good
Secure and safe	76.8	Good
Comfortable and inviting	72.5	Good
Provide directional signs which are clear and helpful	61.7	Good
Provide easily found information about opening hours	57.7	Average
Provide satisfactory opening hours	52.0	Average

Pres* = Positive response (for ratings 4 and 5 on a 5-point scale)

They like the quiet atmosphere, feels safe, secure, finds the library comfortable, inviting and the signage is clear and helpful. This result is expected as UNITEN occupies a newly built campus with large spacious buildings and the library forms a natural part of this spacious architectural ambience, which appeals to the students. The total statements that receive very positive ratings are 86% (6 out of 7 statements). Both undergraduates and postgraduates are in agreement with regard to their ratings on the statements in this category, indicating no significant difference between the ratings. It is evident from the ratings that the services and facilities in this category are the least worrying. However, the services which are rated average could be further improved.

(d) Perception of Service Dimensions

Using the ratings on the three categories of services it is possible to collapse the gist of the services into five statements representing five dimensions as proposed by Nitecki and Hernon (2000). Respondents are asked to rate the statements based on their perceived degree of importance as applicable to the library. The points they allocate should add up to 100. The purpose is to measure users' perception on the services and to target service area requiring improvement. The five dimensions which are represented by the statements are as follows.

- Tangibles: the appearance of the library's facilities, equipment, staff and communication materials.
- Reliability: the library's ability to perform promised services dependably and accurately.

- Responsiveness: the library's willingness to help readers and provide prompt services.
- Assurance: the knowledge and courtesy of the library staff and their ability to inspire trust and confidence.
- Empathy: the caring, individualized attention the library provides to its readers.

The results indicate that "tangibles" receive the largest percentage (23%, mean: 23.41) followed by reliability (20%, mean 19.67), responsiveness (19%, mean: 19.15), assurance (19%, mean: 10.06) and empathy (19%, mean: 18.85). The results indicate that respondents place more importance on the "tangibles" for measuring quality. Tangibles relate to the appearance of the library's physical facilities, equipment and the support of staff. This perception is supported by the open ended responses provided, where respondents proposed improvements to services that are also "tangibles" in nature such as longer opening hours, broader library materials and facilities.

(e) Overall Ratings of the Library Services

Respondents are asked to rate on a 10 point scale on four components of the current library services comprising current readers' services, current materials adequacy, current facilities, current staff professionalism. On average respondents give a score of 7 to all four components. Even though the rating of 7 indicate an above average quality score, the library need to strive to achieve a mean of at least 8 to convey a sense that the service expectations are surpassed and not merely met. Written comments in open-ended section of the forms indicate users need for an extension of library opening hours in examination week, a prayer room, a 24 hours reading area to be opened everyday as well as polite and friendly staff.

5. Conclusion and Discussion

In general, when measuring performance scaled on any point, libraries would naturally look for ratings that are below the mid-point scale. The respondents' perceptions on how well the library performs ranged on average between 3.13 and 4.36 on a 5-point scale, implying that the library is performing at an above average level. From the total of 59 service attributes, 2 are perceived to be excellent, 20 attributes are considered good, 31 are average and 4 services are rated as poor. However, a total of 16 services are rated below 50%, which needs to be improved and reassessed. The main problem stemming from the frontline services are those regarding the library website and user education programme. Users have problems accessing the library's electronic resources from the website, are not very happy with the layout, navigation flow, attractiveness and its ability to support interactivity with library staff and the lack of online request form. Postgraduate students indicate that the user education programme are not helping them to make effective use of the library materials as well as services and the materials are not quite relevant to their course needs. Users also indicate facing problems making online reservations, accessing the OPAC from outside the library building and encountering search time exceeding 3 minutes. For the core services, users are not happy with the working order of computers when they are needed most, perceive that staff are not as helpful in teaching them to find information or provide information over the phone or informing them of the status of their inter-library items. Users are also not quite satisfied with the library's opening hours, wanting it to provide a 24-hours reading room during examination period, are moderately satisfied with the provision of additional leisure reading materials, additional copies of recommended text books and express the need for a proper prayer room in the library.

The use of instruments to measure the library's performance should be exercised with care and must be closely associated with the objectives of the organisation. It is accepted that the results are merely indicators and not precise measures of the performance. The results

help provide information about the levels of performance or activity (Engel, 1995; Rasappan, 1995, 1996). Rasappan points out that the indicators could be used to provide managers with information on the kind of remedial actions needed to ensure that performance is on track with predetermined objectives. In this study, the main objective is to ascertain user satisfaction with actual services and to identify areas for continuous improvements. The ratings on the frontline, core and peripheral services and facilities are therefore categorized into three proposed action plans (Table 4).

Table 4: Action Plan Based on User Ratings (6 months to 1 year)

For immediate action Services rated as Poor & Average (<49%)	Further improvements Services rated as average (50%-60%)	Monitor & maintain Services rated as good & excellent (>61%)
<p>Facilities</p> <ul style="list-style-type: none"> • Improve working order of computer printers and availability <p>Website</p> <ul style="list-style-type: none"> • Provide user-staff interaction module • Include online request form • Improve interface • Improve navigation facility • Improve layout • Enables access to e-resources <p>OPAC</p> <ul style="list-style-type: none"> • Less than 3 minutes to search for items • Easy to find books • Allows online reservation • Easier access remotely <p>Staff and User Education Programme</p> <ul style="list-style-type: none"> • Effective orientation programme • Provide relevant information skills programme to postgraduates • Staff will help to find information <p>Collection</p> <ul style="list-style-type: none"> • Inform user of the status of interlibrary loan requests 	<p>Buildings/Equipments</p> <ul style="list-style-type: none"> • Improve photocopier services • Improve work station working order and availability • Improve working order and availability of OPAC stations <p>Collection</p> <ul style="list-style-type: none"> • Improve re-shelving time • Improve aid to ease location of materials in the building • Improve display of new books • Improve browsing within the shelves • Inform users of the status of requested materials <p>Website</p> <ul style="list-style-type: none"> • Ease logon and improve availability <p>Services</p> <ul style="list-style-type: none"> • Improve dissemination of information about library's opening hours <p>OPAC</p> <ul style="list-style-type: none"> • Improve book renewal options • Improve information about item shelf availability • More detail information about copies held by the library <p>Staff</p> <ul style="list-style-type: none"> • Increase help for users to retrieve needed information • Increase help for users to identify required resources 	<p>Buildings/Equipments</p> <ul style="list-style-type: none"> • Space and comfort • Adequate sitting area • Quiet environment • Security and safety • Inviting location <p>Signage</p> <ul style="list-style-type: none"> • Clear and helpful <p>Collection</p> <ul style="list-style-type: none"> • Meet course needs • Arrangement on the shelves • Meet research needs • Provide leisure reading <p>OPAC</p> <ul style="list-style-type: none"> • Display of item list • Clarity of information displayed <p>Services</p> <ul style="list-style-type: none"> • Borrowing time • Reference assistance time <p>Staff</p> <ul style="list-style-type: none"> • Neatness • Availability when needed • Approachable and welcoming • Friendly, easy to talk to • Professional in handling enquiries • Courteous and polite

Other action plans include disseminating and promoting to increase user awareness of the services, through publishing in library bulletins and the library website, evaluating current

facilities and equipments, identifying and initiating corrective measures, targeting for improved ratings by 10% especially for services which receive ratings <60%, motivate staff through motivational, self improvement courses, offer courses for students to increase their self sufficient, monitor student intake yearly to ascertain adequate floor space - student ratio and material - student ratio.

The respondents in this study perceive the “tangible” services as the most important when measuring quality. Tangibles relate to the appearance of the library, its physical facilities, equipment and collection. Users of the UNITEN library associate the strength of the library to be its environment and its nice atmosphere. This preference for “tangible” attributes is unique since other studies have shown respondent’s preferences for “reliability” and “tangible” were considered as least important (Table 5). The study by Cook, Heath and Thompson (2001), which use SERVQUAL’s 22 item statements with an additional 19 items on a 9 point Likert scale. The 3789 participants put more emphasis on services in the following order of importance; place (or tangibles), empathy, access, collection, and reliability dimensions.

Table 5: Comparison of Ratings in Different Studies

Study	Service setting	Count	Tan (%)	Rel (%)	Res (%)	Ass (%)	Emp (%)
Zeithmal, et al. (1990)	Multiple industries (non-library)	1936	11	32	22	19	16
Herbert (1994)	Public library (interlibrary loans)	130	12	35	20	20	14
White (1994)	Special libraries	n/a	12	34	23	18	13
Edwards & Browne (1995)	Academic library	80	9	36	23	17	15
Nitecki (1995a,1995b)	Academic library (inter-library loans)	140	9	39	23	17	13
Nitecki (1995a, 1995b)	Academic library (reference)	95	10	26	25	22	18
Nitecki (1995a, 1995b)	Academic library (reserve collection)	101	9	35	24	19	13
Coleman, et al. (1997)	Academic library	198	16	27	24	19	15
Nitecki (1998)	Academic library (reference)	90	10	31	23	24	16
Stein (1998)	Academic library (inter-library loan)	246	8	41	24	16	11
Nitecki & Hernon (2000)	Academic library	221	18	32	22	16	12
Roslah Johari (2005)	Academic library	274	23	20	19	19	19

T: Tangibles (location, environment); Rel: Reliability (error free)); Res: Responsive (helpfulness of staff); Ass: Assurance (evoke confidence); Emp: Empathy (caring, convenient). Adapted from: Nitecki (2000)

The continuous assessment of perceived quality is necessary in most service organizations, where the goals are not profit-oriented but improved social usefulness and user satisfaction. This assessment tries to synthesize the results into groupings that can be used to plan for improvement of services. Early warning signals of potential deterioration of service quality and user dissatisfaction can be identified from such exploratory assessment, which could be used to formulate corrective measures to maintain a certain level of service quality as expressed in an organization’s objective statements. It helps the

service provider to learn about their customer' expectation and subsequently shape the delivery of services appropriately. A step forward would be to apply similar assessment to library staff in order to ascertain gaps and understand the situation as a whole. This study focuses on users of the Universiti Tenaga Nasional (UNITEN) Library in Bangi, Selangor, Malaysia. The library has been certified with ISO 9001:2000 and needs to measure performance as part of the step to improve quality of services. The assessment would subsequently be an ongoing process. In this early stage the focus is on the frontline, core and peripheral services, which will be extended to the other services that affect users. Libraries in developing countries like Malaysia, where, like the university faculties and other university support services are increasingly required to monitor and maintain the quality of their services to fulfill the university's main objectives of providing quality environment for teaching, learning and research.

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