



Service quality and customer satisfaction in academic libraries

Perspectives from a Malaysian university

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Abstract

Purpose – The purpose of this paper is to describe the results of a study to examine the perception of academic staff on the quality of academic library services. It also attempts to assess the impact of library services on their work and their perceived level of satisfaction towards university library services.

Design/methodology/approach – The study was carried out using a survey methodology. The survey instrument was a questionnaire adopted from a quality impact survey based on SERVQUAL dimensions.

Findings – Results reveal that academic staff perceive the quality of library services to be just above average. Library staff are considered quite helpful and able to instill confidence in library users. Academic staff also believe that the library has a positive impact on their teaching, learning and research. The overall satisfaction with the library services received a satisfactory rating.

Research limitations/implications – The study is limited to the University of Malaya Library and its branch libraries, thus generalization to other academic libraries is premature at this stage.

Practical implications – This paper will be helpful to libraries to improve library services, especially in assisting academic staff in teaching and research. Though the quality of library service is perceived as just above average, academics will continue to use the library resources and be dependent on librarians for their information needs.

Originality/value – Measuring service quality is a marketing trend that is gradually proving its worth in library and information science. This study contributes to the growing body of knowledge on service quality measures in academic libraries.

Keywords Customer services quality, Customer satisfaction, Academic libraries, Malaysia, SERVQUAL

Paper type Research paper

Introduction

A university library may be described as the *heart* of the learning community, providing a place for students, lecturers and researchers to do their research and advance their knowledge. With emphasis being placed on electronic resources, and the learning community being more interested in virtual information services on the internet, academic libraries urgently need to assess the quality of its services and how user satisfaction can be improved. Assessment of library service quality has been a questionable agenda as traditional measures of collection size, counts of use, number of staff and size of budget are no longer applicable and societal concern for quality and accountability in information services of higher education has increased (Kennel, 1995 in Nitecki, 1996). Alternative approaches, originating from the business sector, have emerged to measure service quality in libraries. Specifically the tool, SERVQUAL (developed by A. Parasuraman, Valarie A. Zeithaml and Leonard L. Berry, 1988) is widely adopted by academic libraries in the USA (Nitecki and Hernon, 2000). The other popular library service quality measurement tool, LibQUAL + TM, developed using the SERVQUAL methodology (Lincoln, 2002) is also widely used in the USA, Canada and Europe.



Related to service quality is the concept of customer satisfaction. Practitioners and writers in the popular press tend to use the term satisfaction and quality interchangeably, but researchers have attempted to be more precise about the meanings and the measurements of the two concepts, resulting in considerable debate. Although the two concepts have certain things in common, satisfaction is generally viewed as a broader concept, whereas service quality focuses specifically on dimensions of service (Zeithaml *et al.*, 2006). Based on this view, perceived service quality is a component of customer satisfaction. Figure 1 graphically illustrates the relationship between the two:

Researchers like Pitt *et al.* (1995) and Jung-Yu (2006) suggests that service quality provides a superior indicator of user satisfaction and indicates that service quality can influence user satisfaction. Over time, repeated satisfaction with service encounters results in a perception of service quality.

In Malaysia, university libraries are more keen on obtaining the MS ISO 9001: 2000 certification (requirements for quality management system (QMS)) to exhibit the library's commitment to quality. The University of Malaya (UM) library obtained its certification for a quality management system under its parent organization in December 2002. A description of its QMS is given by Sossamma *et al.* (2002) and later an analysis of its quality objective achievements is detailed in Kiran *et al.* (2006). The main purpose of the QMS is to identify customer requirements and design processes that address those requirements and followed by continual customer feedback to measure customer satisfaction, the ultimate mission of the institution.

Since the QMS has been put in place to improve services, this study seeks to examine how academic staff perceive the service quality of the university library and what is the impact of the library service on academic work. It further investigates the satisfaction level with library services and tests the relationship between service quality and customer satisfaction.

The following section presents an overview of the literature in library service quality measures. This is followed by a description of the research methodology. Next the results are presented with discussion relating to each research objective and finally the researcher concludes on the findings.

Literature review

This section presents a brief overview of service quality measures in academic libraries and the use of SERVQUAL in library service quality assessment in the past years.

Service quality in academic libraries

Academic libraries in Malaysia are facing increasing competition from a global digital environment and ongoing change in user needs and expectations of information

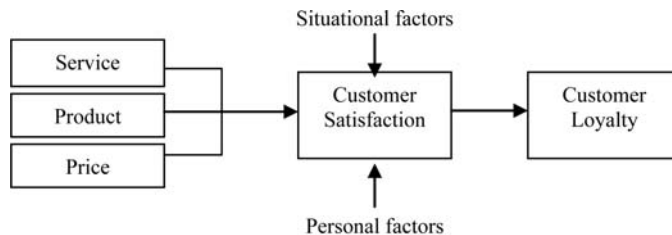


Figure 1.
Customer perception of
service quality and
customer satisfaction

Source: Adapted from Zeithaml *et al.* (2006, p. 107)

services. Traditionally, the quality of an academic library has been described in terms of its collection and measured by the size of the library's holding and various counts of its use (Nitecki, 1996). For years, researchers in library and information science (LIS) have examined information needs, user wants and user perceptions about the value of library services. They have also looked at an elusive concept, "quality", in terms of collections and the effectiveness (extent to which goals and objectives are set and met) of library services (Nitecki and Hernon, 2000). However, in recent years, LIS researchers have drawn on marketing and other literatures to focus their attention on "expectations", an alternative view of *quality*, one representing the user's or customer's perspective on the services used. In 1988, Parasuraman *et al.* developed a definition of service quality as being "the overall evaluation of a specific service firm that results from comparing the firm's performance with the customer's generally expectations of how firms in that industry should perform". They further developed a multi-dimensional service quality assessment tool based on this definition. The tool, SERVQUAL, has been since widely accepted and used to assess service quality marketing, retailing, health care, education, etc. In library settings, SERVQUAL is repeatedly used to assess library quality service (Carman, 1990; Cronin and Taylor, 1992; Edwards and Browne, 1995; Surithong Srisa-Ard, 1997; Coleman *et al.*, 1997; Narit and Haruki, 2003; Ashok, 2007).

In 2001, Colleen Cook in her PhD dissertation, developed a web-based total market survey tool for assessing academic library service quality. She used the 1994 SERVQUAL instrument with three-column side-by-side format composed of adequate, desired and perceived quality. However, some respondents were given the "perception only" option questionnaire. Cook confirmed the SERVQUAL constructs, mainly Reliability, Assurance, Tangibles, Empathy and Responsiveness (RATER), were affirmed in the research library context. However, several new constructs emerged in her study specific to library context: "library as a place", "ubiquity and ease of access to collection" and "self-reliance". Hernon and Whitman (2001) proposed that it is possible to examine user "expectations" from two coequal and probably interrelated concepts, service quality and satisfaction. Service quality deals with those expectations that the library chooses to meet, whereas satisfaction is more of an emotional and subjective reaction to a time-limited event or the cumulative experiences that a customer has with a service provider. They also conclude that service quality is typically defined in terms of gap analysis. The gap between customers' expectations in general, and those perceptions relating to the particular library and its services. As information technology puts increasing percentages of relevant information resources on the scholar's desk rather than on library shelves, the user's expectations for other library services too will change (Rosenblatt, 1999). Several researchers have come out with different models of service quality; Gronroos (1984), SERVQUAL (1988); Rust and Oliver (1994), Dabholkar *et al.* (1996), WebQUAL (Loiacono, Watson and Goodhue, 2002), E-S-QUAL (2005). These models basically provide the constructs and form the conceptual framework of measurement tools used to assess service quality ranging from traditional face-to-face service to digital or web-based services. Some of these models have been successfully applied by libraries but with certain modifications to the type of library and its target users.

Using SERVQUAL for library service quality assessment

The researchers of various subject areas contribute and adapt SERVQUAL as the instrument to assess service quality in library setting. The SERVQUAL instrument

measures quality from the customer's perspective based on five dimensions (RATER) reflecting the core criteria that customers find most important in judging quality:

- (1) Reliability: ability to perform the promised service dependably and accurately.
- (2) Assurance: knowledge and courtesy of employees and their ability to inspire trust and confidence.
- (3) Tangibles: appearance of physical facilities, equipment and personnel.
- (4) Empathy: provision of individualized care and attention to customers.
- (5) Responsiveness: willingness to help customers and provide prompt service.

Each dimension is measured by four to five items with a total of 22 items measuring the expectations of customers concerning the service and also the perceived level of service actually provided. Then the gap score is calculated as the difference between the "perception score" and the "expectation score". However, over the years the operationalization of the gap score has been questioned and it is contended that service quality is more accurately assessed by measuring only perceptions of quality (Cronin and Taylor, 1992). In 2005, Parasuraman *et al.* administered a web-based instrument to measure electronic service quality using perception only scores. One of the most significant research using the SERVQUAL instrument was done by Nitecki (1996) for her doctoral dissertation. The validity of the instrument was tested on three services: interlibrary loan, reference and closed-reserve at a large academic research library. Her data suggested a three-factor relationship among the 22 SERVQUAL items rather than the five collapsed dimensions which Parasuraman *et al.* revealed. Cullen (2001) claims that the modification of SERVQUAL model was introduced to academic library managers by Hernon and Altman (1998) in their case study research in US and New Zealand libraries. They used the data collected from surveys and focus groups to refine the SERVQUAL model in order to develop a robust survey instrument for use specifically in library and information services.

In Thailand, Surithong Srisa-ard (in Narit and Haruki, 2003) examined user expectations and perceptions of library service quality. The survey focused on three services areas: circulation, reference and computer information service. The SERVQUAL instrument used was as adapted by Nitecki for use in academic libraries. The findings were parallel to those of Nitecki, that the users rated reliability was most important and tangibles was least important. However, these studies did not include the construct of satisfaction in assessing service quality for performance improvement. Calvert (2001) studied the customer expectations in the comparative research which examined the expectation between the library users in New Zealand and China (LIS students at Peking University in China and Victoria University of Wellington in New Zealand). The data suggested that "academic library users have very similar expectations of services". Three dimensions that concern staff attitudes, the library environment and services that help the customers to find and use the library's material efficiently are found in both studies. Remarkably, the users from both countries prefer to work on their own without personal contact. The library should make its service readily available when the customer wants it, and offer the collection in good order that matches the customer's need.

Ashok (2007) used SERVQUAL in an academic library (Jawaharlal Nehru University). He replicated the instrument used by Thapisa (1999) using the 1984 SERVQUAL with a five-point Likert scale to assess the library services based on six factors: reliability, responsiveness, assurance, access, communications and empathy.

There is no empirical testing of the factors and the results do not offer any discussion of the suitability of SERVQUAL in library setting.

As stated by Hernon (2002), quality indeed is a multi-faceted concept, and its assessment must “respond to its audience, those who have mandated the assessment as well as those who will be affected by it.” In a study done by Adnan and Mumtaz (2006) on faculty perception on student library use, it was reported that faculty members regard student library use as very important and they also believe that librarians role is critical in demonstrating the extent to which library can assist in fulfilling or satisfying information needs. According to the educational setting is different from the corporate one, thus any service quality model adopted from the private sector must be used by some degree of adaptation. Schneider and White (2004) support that a user-based approach has been found to be superior for evaluating the quality of intangible services and has become the main approach to assessing quality in the service literature. Whereas Kyrillidou (2005) believes that culture of assessment in libraries has strong international dimensions as there is much potential for international collaboration on assessing library service quality.

Research objectives

This study was carried out to ascertain the perception on the quality of UM library service and the impact of that service on academic staff’s work. Specifically it addressed the following questions:

- What is the perception of academic staff towards the quality of UM library services?
- What is the impact of library services on the efficiency and effectiveness of academic work?
- What is the level of satisfaction of academic staff towards UM library services?

Research methodology

The measuring instrument used was a self-administered questionnaire. The questionnaire consisted of 30 questions, to solicit response on a five-point Likert-type scale. It was adopted from a quality impact survey conducted on the teaching staff and students of University of Pennsylvania by Van Pelt Library, University of Pennsylvania in 2002. The questionnaire was based on SERVQUAL as a tool for quality service measurement. However, several changes were made to suite the objective of the current survey. The original questionnaire had three scale responses: minimum service-level acceptable; the desired service level; and perception of library service performance. In this study only the perception of the library service performance was measured. This is because there has been criticism in the literature of the disconfirmation approach. It has been argued that a performance-only measure (Page and Spreng, 2002) is superior because it is more reliable and defensible. Dabholkar *et al.* (2000) state that perception measures have higher predictive and explanatory power and are better indicators of customer evaluation and intention.

The questionnaire was divided into three sections: Section A – perception on quality of library service; Section B – perceptions on impact of library services to academic work; and Section C – overall perception of library services. To measure the quality of library services, five dimensions of reliability, assurance, tangibles, empathy and responsiveness (RATER) was used. Impact on academic work focuses on provision of information resources, electronic tools and user support. A single question was also

asked to provide the overall impression of the quality of library service. Respondents were randomly selected from eight faculties at the main campus: Faculty of Arts & Social Sciences (FASS), Faculty of Computer Science & Information Technology, Faculty of Medicine and Faculty of Language and Linguistics (FBL), Faculty of Education, Faculty of Economics & Administration (FEA), Faculty of Law, Faculty of Science. The questionnaires were personally sent to the lecturers' room by selected MLIS students and collected by hand in early January 2006. The data were organized and analyzed using SPSS to produce results in terms of percentages and mean.

Findings

A total of 362 questionnaires were distributed to the academic staff of eight selected faculties. Only 151 were returned, giving a return rate of 41.7 percent. Details of the respondents are as shown in Table I. The majority of the respondents are lecturers (82.8 percent) consisting of 16 (10.6 percent) professors, 20 (13.2 percent) associate professors, 29 (19.2 percent) lecturers with PhD, 60 (39.7 percent) lecturers with Master's degree. The remaining 26 (17.2 percent) are tutors. The highest number of participation is from the Faculty of Science with 18.5 percent respondents; followed by Faculty of Medicine, 15.2 percent. FASS and FBL each had a response rate of 14.6 percent. The highest number of respondents are lecturers (Masters).

Respondents were asked to indicate the library they used "most often" and base their responses on the performance of that particular library. The highest number of respondents, 78 out of 151 respondents (51.7 percent), use the main library, as depicted in Figure 1. The library with the lowest number of users is the FCSIT library. Three respondents indicated that they do not use the UM library services.

Figure 2 indicates that academic staff from Faculty of Science use the main library most frequently. Ten out of 13 academics from the Faculty of Law use the Law Library and all the respondents from the Faculty of Medicine use the Medical Library most often. It shows that academic staff of the respective faculties prefer to use their own library except for the Faculty of Science and FSSS. This is expected as both faculties do not have a faculty library and the main library is the nearest library.

Research Question 1: quality of library services

The perceived quality of library services was mainly concerned with the RATER dimensions of SERVQUAL. The analysis is done twofold – first the data are tabulated for all responses across all eight libraries and the second tabulation is done for only the

Faculty	Designation					Total	%
	Professor	Assoc. Prof	Lecturer (PhD)	Lecturer (Master)	Tutors		
1 Science	1	4	6	5	12	28	18.5
2 FSSS	5	5	2	7	3	22	14.6
3 FCSIT	1	2	1	12	4	20	13.2
4 Law	0	0	2	7	4	13	8.6
5 Medicine	1	5	11	6	0	23	15.2
6 Education	5	0	0	7	0	12	7.9
7 FBL	0	0	5	14	3	22	14.6
8 FEA	3	4	2	2	0	11	7.3
TOTAL	16	20	29	60	26	151	100

Table I.
Number of respondents
by faculty and
designation

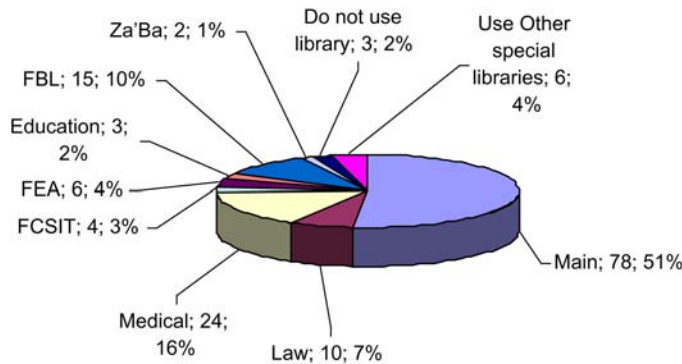


Figure 2. Library use

main library responses as a majority of the users are from this library. Data analysis is done using descriptive statistics.

The mean value of perception of quality as rated by academics staff based on the five dimensions is shown in Table II.

Overall the highest score is for Responsiveness ($m = 3.39$), followed by Empathy ($m = 3.36$), Assurance ($m = 3.31$), Tangible ($m = 3.13$) and lastly Reliability ($m = 2.47$). For the main library, the services that received the highest ratings are “prompt service”; “staff who instill confidence in library users”; “help in handling software and related technologies to access electronic information”; “order and maintenance of materials on library shelves”; “facilities for individual study” and “dependable in handling my service problems”.

The highest score for perception of quality service across all libraries in rank order is “help in locating and retrieving information”; “facilities for individual study”; “resources that support interdisciplinary study needs”; “use of online information” and “staff who instill confidence in library users”.

Among the services that received a less than satisfactory rating of quality service are the “availability of photocopiers” and “availability of computers and printers” (see Table III).

The results show that the top ten services that are of concern to the academicians are almost similar regardless of which library is being used. This is also expected as the overall result is based on a 57.0 percent of response for the main library. It is notable that the services in the top ten ranking are similar, except for “staff who are consistently courteous” which had a much lower rating (position 17) in the main library with a mean of 3.08 compared to a mean of 3.28 overall.

Dimension	Mean
Responsiveness	3.39
Empathy	3.36
Assurance	3.31
Tangible	3.13
Reliability	2.47

Table II. Mean value of each dimension

Dimension	Statements	All libraries		Main library	
		Mean	Rank	Mean	Rank
Responsiveness	Helps me locate and retrieve information effectively on my own	3.51	1	3.30	7
Tangibles	Have facilities for individual study	3.50	2	3.33	5
Reliability	Have information resources that support interdisciplinary study needs	3.47	3	3.24	9
Reliability	Enable me to use information online when and where I need it	3.46	4	3.25	8
Empathy	Staff who instill confidence in library users	3.42	5	3.45	2
Responsiveness	Provides prompt service	3.37	6	3.51	1
Assurance	Provides training in the use of information sources	3.36	7	3.24	10
Responsiveness	Helps me handle the software and related technologies used to access electronic information	3.35	8	3.38	3
Reliability	The order and maintenance of materials on Library shelves	3.35	9	3.38	4
Assurance	Staff who are consistently courteous	3.28	10	3.08	17
Empathy	Willingness to help me	3.28	11	3.19	12
Tangibles	Have spaces for group and team study needs	3.27	12	3.08	16
Empathy	Staff who understand my information needs	3.22	13	3.12	14
Reliability	The availability of books and journals listed in Library catalogs	3.21	14	3.07	19
Responsiveness	Provides services as promised	3.18	15	3.22	11
Assurance	Staff who have the knowledge to answer my question	3.16	16	3.10	15
Reliability	Have electronic resources (e.g. e-journals, data files, online indexes) I need for my work	3.14	17	3.07	18
Reliability	Dependable in handling my service problems	3.11	18	3.30	6
Reliability	Service hours are suitable	3.09	19	3.18	13
Reliability	Have printed books and journals I need for my work	3.08	20	3.00	22
Responsiveness	Timely document delivery/interlibrary loan	3.07	21	3.01	21
Tangibles	The availability of working photocopiers	2.81	22	3.01	20
Tangibles	The availability of computers and printers	2.76	23	2.95	23

Table III.
Perceived quality of
library services

Research Question 2: impact of library service on academic work

Impact on academic work is measured in terms of providing information resources necessary for professional or academic achievement, providing electronic tools (e.g. the library web site) that aid efficiency, help stay current with developments in area of study and help critically compare and evaluate information sources.

The overall mean value on the perception of the impact of library service on the efficiency and effectiveness of academic work is 3.27 with $sd = 0.803$, which indicates that academic staff perceive library service to have an average impact on their academic work, as shown in Table IV.

A further analysis was done to assess the impact of library as perceived by academic staff from the eight participating faculties. It is found that the Faculty of Law has the highest mean value ($m = 3.71$), followed closely by Faculty of Computer Science & Information Technology ($m = 3.66$) and Faculty of Economics & Administration ($m = 3.61$). The mean value of the other faculties is shown in Table V. The faculty with the lowest mean is the Faculty of Education ($m = 2.48$).

Research Question 3: overall assessment

The third section of the instrument consists of three questions to assess the overall perception on library services impact on teaching, learning and research, satisfaction with services and quality of the library services (see Table VI). The results are similar to those in Section A and Section B. Generally the academicians rate the three as average, with “positive impact on my teaching, learning or research” receiving a higher mean compared to the individual questions in Section B.

An analysis of the Law Library and Medical Library users was carried out because both these libraries are serving academics in a specific field and the respondents in this study are users of these libraries. Both the branch library users have higher perception on the quality of library services if compared to the overall result. This is expected of course, but it is a good indication for the individual branch libraries that the academics

Statements	Mean
1. Providing information resources necessary for my professional or academic achievement	3.40
2. Providing electronic tools (e.g. the library web site) that aid my efficiency	3.45
3. Helping me stay current with developments in my area of study	3.16
4. Helping me critically compare and evaluate information sources.	3.08

Table IV.
Perceived impact on
academic work

Faculty	Mean
Law	3.71
FCSIT	3.66
FEA	3.61
Medicine	3.36
FSSS	3.33
FBL	3.19
Science	2.91
Education	2.48

Table V.
Perceived impact on
academic work by
faculty

Statements	Mean		
	All libraries	Law library	Medical library
(i) The library has a positive impact on my teaching, learning or research	3.54	3.62	3.65
(ii) On the whole, I am satisfied with library services	3.35	3.46	3.43
(iii) The overall quality of library services is high.	3.41	3.62	3.43

Table VI.
Overall assessment of
library services and
impact on academic
work

at their faculties have quite a high perception of the impact of the library on teaching, learning and research.

Discussion and conclusion

This study, aimed to deepen the understanding of user perception of university library services and their level of satisfaction with library services. The results of the survey would seem to suggest that, although the academic staff are using the library services, their perception of the quality of library services is “average” (on a scale of 1 – low to 5 – high). Yet academics are aware that the library has a positive impact on their teaching, learning and research. A good indication is that the library staff are considered quite helpful and able to instill confidence in library users. This would encourage users and increase library staff morale. Prompt service in the main library is also appreciated by the academic staff, though request for interlibrary loan/document delivery is rated average. This of course could be due to the nature of obtaining the information from elsewhere, thus being dependent on the other institution’s response time. It should be of concern that the courtesy and knowledge of the library staff is also perceived as average. Further study should be done to identify the category of library staff being referred to – professional librarians, para-professionals or the support staff.

Access and suitability of library resources is also satisfactory among the academic staff. This is also related to the perception that library has an impact on the academician’s work. There is indeed potential for the library to improve the services and resources to support teaching, learning and research, especially in providing electronic resources (e-journals, data files, online databases, etc.) as this factor received lower ratings. If the lecturers perceive that the library has an impact on their work, this will further influence them to motivate and encourage students to use the library.

As expected, the users are least satisfied with the photocopy service and the availability of computers and printers. This is usually a complaint from the students (Zaiton *et al.*, 2003), but seems that even the academic staff would like the luxury of photocopying and printing made available at the library. The library should investigate this matter further and if these services are well managed then it is likely that the usage will increase and will spread throughout all faculties in campus. UM library must be prepared to adapt to the expectations of academicians and to face the challenges of other means of obtaining information – the internet or www. The value-added services and information resources provided by an academic library cannot be compromised with free information on the Internet, but there is a need for librarians to make this aware among the academic so that the library becomes critical and the value of the library within the organization is recognized and well respected.

The implication of this results are that the UM library has to pay more attention on customer support services. There have to be increased efforts to improve communication channels between the faculty staff and librarians to assist in resource selection and retrieval for effective use of information. Such an average satisfaction level with services is not adequate. Though the tangibles dimension has usually received low importance in many studies it is still an issue for library customers who visit the library to use the computers, printers and photocopy machines. Reliability is a dimension that is perceived to be most important but has received a low score in this study. Faculty staff do not perceive the library to be able to provide dependable resources for their teaching and research. The library may have to revise the current collection development policy to improve on this factor. Opening hours of the library may also warrant revision.

Based on the results, one has to conclude that even though the quality of library service is perceived as just above average, academics will continue to use the library resources and depend on library staff for their information needs. The present study was confined to eight faculties only and provides an insight to academic staff's perception of service quality. There is a need to investigate actual expectations of academic staff and also how they may influence student library use.

The SERVQUAL instrument reveals area or dimension of service that needs attention but does not provide details about the inadequacy. Thus it may prove difficult to take action and it is suggested that the library use daily statistics and other methods of data collection, such as focus group interviews, to gather further information on the needs and requirements of the customer base. No service quality instrument is all encompassing and should be complemented with other methodologies.

This study has used the perception-only score of SERVQUAL items to gauge the quality of the library services. It was not the purpose of this study to study the suitability of using SERVQUAL in library setting but to explore the perception of the teaching staff on library services using a reliable scale. The results have helped librarians identify items with low means and this will enable them to take action to improve services in those areas. Ladhari's (2008) review on various measures of service quality made him conclude that each service context is unique and managers should apply scales cautiously by taking into consideration cultural factors too. In this case minor changes were made to the questions and the study of UM staff revealed that Malaysians are more concerned with responsiveness and empathy from the library. There is a need for more customer-oriented support for library users.

The UM library is now providing electronic services to their clientele via the library web site and the "interaktif portal" (available at: www.diglib.um.edu.my/interaktif). The next step would be to access the electronic service quality of these services. Rowley's (2006) review of the e-service literature reveals that service experience with e-service environment is very different from traditional face-to-face service transactions. Thus, a different measuring instrument will need to be used. There is research going on in development of DigiQUAL (available at: www.digiquail.org/digiquail) under the Association of Research Libraries for digital library service quality that may be used by libraries in the near future.

References

- Adnan, A.A. and Mumtaz, A. (2006), "Student library use: a study of faculty perceptions in a Malaysian university", *Library Review*, Vol. 55 No. 2, pp. 106-19.
- Ashok, K.S. (2007), "Measuring service quality in an academic library: an Indian case study", *Library Reviews*, Vol. 56 No. 3, pp. 234-43.
- Calvert, P.J. (2001), "International variations in measuring customer expectations", *Library Trends*, Vol. 49 No. 4, pp. 732-58.
- Carman, J.M. (1990), "Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions", *Journal of Retailing*, Vol. 66, pp.33-55.
- Coleman, V., Xiao, Y., Bair, L. and Chollett, B. (1997), "Toward a TQM paradigm: using SERVQUAL to measure library service quality", *College and Research Libraries*, Vol. 58, pp. 237-51.
- Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: a reexamination and extension", *Journal of Marketing*, Vol. 56, July, pp. 56-68.
- Cullen, R. (2001), "Perspectives on user satisfaction surveys", *Library Trends*, Vol. 49 No. 4, pp. 662-86.

- Dabholkar, P.A., Shepherd, C.D. and Thorpe, D.I. (2000), "A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study", *Journal of Retailing*, Vol. 76 No. 2, pp. 139-73.
- Dabholkar, P.A., Thorpe, D.I. and Rentz, J.O. (1996), "A measure of service quality for retail stores: scale development and validation", *Journal of the Academy of Marketing Science*, Vol. 24, pp. 3-16.
- Edwards, S. and Browne, M. (1995), "Quality in information services: do users and librarians differ in their expectations?", *Library and Information Science Research*, Vol. 17, pp. 163-82.
- Gronroos, C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18 No. 4, pp. 36-44.
- Hernon, P. (2002), "Quality: new directions in the research", *Journal of Academic Librarianship*, Vol. 28 No. 4, pp. 224-31.
- Hernon, P. and Altman, E. (1998), *Assessing Service Quality: Satisfying the Expectations of Library Customers*, American Library Association, Chicago, IL.
- Hernon, P. and Whitman, J.R. (2001), *Delivering Satisfaction and Service Quality: a Customer-Based Approach for Libraries*, American Library Association, Chicago, IL.
- Jung-Yu, L. (2006), "Assessment of employees' perception of service quality and satisfaction with e-business", *International Journal of Human-Computer Studies*, Vol. 64, pp. 926-38.
- Kiran, K., Pauziaah, M. and Sossamma, G. (2006), "Quality management service at the University of Malaya Library", *Library Management*, Vol. 27 Nos 4/5, pp. 249-56.
- Kyrillidou, M. (2005), "Library assessment as a collaborative enterprise", *Resource Sharing & Information Networks*, Vol. 18 Nos 1/2, pp. 73-87.
- Ladhari, R. (2008), "Alternative measures of service quality: a review", *Managing Service Quality*, Vol. 18 No. 1, pp. 65-86.
- Lincoln, Y.S. (2002), "Insights into library services and users from qualitative research", *Library and Information Science Research*, Vol. 24, pp. 3-16.
- Loiacono, E.T., Watson, R.T. and Goodhue, D.L. (2002), "WebQUAL: a measure of web site quality", *Proceedings of the AMA Winter Educators' Conference, American Marketing Association, Chicago, IL*, pp. 432-8.
- Narit, N. and Haruki, N. (2003), *Assessment of Library Service Quality at Thammasat University Library System*, University of Library and Information Science, Japan, available at: www.kc.tsukuba.ac.jp/div-comm/report0403.pdf (accessed 6 February 2006).
- Nitecki, D.A. (1996), "Changing the concept and measure of service quality in academic libraries", *Journal of Academic Librarianship*, Vol. 22 No. 3, pp. 181-90.
- Nitecki, D.A. and Hernon, P. (2000), "Measuring service quality at Yale University's Libraries", *Journal of Academic Librarianship*, Vol. 26 No. 4, pp. 259-73.
- Page, Jr., T. and Spreng, R.A. (2002), "Difference scores versus direct effects in service quality measurement", *Journal of Service Research*, Vol. 4 No. 3, pp. 184-92.
- Parasuraman, A., Berry, L. and Zeithaml, V.A. (1988), "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol. 64 No. 1, pp. 12-40.
- Parasuraman, A., Zeithaml, V.A. and Malhotra, A. (2005), "E-S-QUAL: a multiple item scale for assessing electronic service quality", *Journal of Service Research*, Vol. 7 No. 3, pp. 213-33.
- Pitt, L.F., Watson, R.T. and Kavan, C. (1995), "Service quality: a measure of information systems effectiveness", *MIS Quarterly*, Vol. 19 No. 2, pp. 173-87.
- Rosenblatt, J., Laroche, M., Hochstein, A., McTavish, R. and Sheahan, M. (1988), "Commercial banking in Canada: a study of selection criteria and service expectations of treasury officers", *International Journal of Bank Marketing*, Vol. 6 No. 4, pp.19-30.

-
- Rowley, J. (2006), "An analysis of the e-service literature: towards a research agenda", *Internet Research*, Vol. 16 No. 3, pp. 339-59.
- Rust, R. and Oliver, R. (Eds) (1994), "Service quality: insight and managerial implications from the frontier", *Service Quality: New Directions in Theory and Practice*, Sage, Thousand Oaks, CA, pp. 1-19.
- Schneider, B. and White, S. (2004), *Service Quality: Research Perspectives*, Sage Publications, Thousand Oaks, CA.
- Sossamma, G., Pauziaah, M. and Kiran, K. (2002), "In pursuit of quality – towards MS ISO 9001: 2000: the experience of the University of Malaya Library", *Kekal Abadi*, Vol. 21 No. 2, pp. 1-6.
- Surithong Srisa-Ard (1997), "User expectations and perceptions of library service quality of an academic library in Thailand", PhD dissertation, Illinois State University, Normal, IL.
- Thapisa, A.P.N. and Gamini, V. (1999), "Perceptions of quality service at the University of Botswana Library: what Nova says", *Library Management*, Vol. 20 No. 7, pp. 373-83.
- Zaiton, O., Kiran, K. and Zanaria, S.U. (2003), "A survey of student satisfaction at the University of Malaya Library", *Kekal Abadi*, Vol. 22 No. 1, pp. 1-17.
- Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2006), *Services Marketing: Integrating Customer Focus Across the Firm*, 4th ed., McGrawHill, Boston, MA.

Further reading

- Hernon, P. and Calvert, P.J. (1996), "Methods for measuring service quality in university libraries in New Zealand", *Journal of Academic Librarianship*, Vol. 22 No. 5, pp. 387-91.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1991), "Refinement and reassessment of the SERVQUAL scale", *Journal of Retailing*, Vol. 67, pp. 420-50.
- Weiner, S.A. (2005), "Library quality and impact: is there a relationship between new measures and traditional measures?" *Journal of Academic Librarianship*, Vol. 31 No. 5, pp. 432-7.

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