Service quality in University of Colombo libraries: an assessment

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Survey of 614 users of the University of Colombo Library system using a modified version of SERVQUAL was carried out to ascertain the views of library users about the service level. They were asked to assess the actual service delivered by the library; to establish the importance of the service to them as users; and, to identify to what extent the service met their expectations. Exploratory factor analysis with Varimax rotation was employed to identify underlying dimensions of service quality of the Library and the best predictor of the overall service quality of the University of Colombo Library was identified by regression analysis. Finds that the service quality of the University of Colombo Library System was represented by seven dimensions and the best predictor of the overall service quality was the dimension referred to as "Collection and Access". This is the first user survey conducted in University Libraries in Sri Lanka to assess the service quality through user perspectives, discovering service quality factors.

Introduction

In an organization striving towards improving the service, the identification of appropriate criteria for use in evaluating the quality of service to customers is essential. Among other service providing organizations, university libraries play a major role when catering to their customers; here library users. Delivering a quality service is essentially important to attract and retain library users especially during this information era.

Historically, library quality has been regarded as the collection size, an assessment of what the library has, rather than what the library does. Now, quality is recognized as a multi-faceted concept, one that can be approached from different perspectives. The most pervasive definition of quality currently in use was given by Parasuraman, Zeithaml and Berry as the extent to which a product or service meets and or exceeds a customer's expectations[1]. This definition grew out of the services marketing literature wherein researchers argued that a "conformance-to-specifications" definition of quality failed to address the unique characteristics of services.

Being the oldest campus in Sri Lanka, the University of Colombo is a sprawling complex occupying over fifty acres of prime land in the heart of the city and it has seven Faculties with 41 academic departments, a campus, a school, six institutes and five centers. The seven faculties are Faculty of Arts, Education, Law, Management and Finance, Medicine, Science and Graduate Studies. The University of Colombo had a total student population of approximately 12158 in the year 2008, of which about 9782 students follow undergraduate degree courses. The remaining 2057 students follow various postgraduate study courses in different faculties[2]. The library system of the University of Colombo caters to the information needs of all these users.

The library system of the University of Colombo comprises of the Central Library and two branch libraries, the Science Library and the Medical Library. The existing academic libraries in Sri Lanka are facing two major threats: a rapidly evolving digital environment and the increasing competition with the establishment of private higher education institutes. However one of the key challenges facing the University of Colombo Library along with other university libraries in Sri Lanka is the need for a balance between a global understanding of a user's needs and local understanding related to specific services, locations, or user groups. The library of the University of Colombo is also faced with the steeply escalating cost of books and journals compared to the

cost of other commodities and services. This means that the University of Colombo Library budget, already squeezed by inflation, has been further burdened by the necessity to provide a growing variety of computer-based bibliographic sources and information services to its users. Assessing service quality is the first step in retaining customers, in today's competitive environment. Further, customers have an increased service expectation and desire more self-service opportunities.

Statement of the problem

The provision of facilities and staffing at the University of Colombo Library appear to be adequate but there seems to be less emphasis on quality service delivery. This is evidenced by the long lines at the circulation desk, difficulties experienced in gaining accessibility to the online catalogue and e-resources, lack of reliability of photocopier machines, time wasted in getting answers to reference queries and the slow delivery of Inter Library Loans (ILL). The online catalogue appears to frustrate the users due to lack of awareness. The user education programmes, which the library imparts to its users, make them familiar with library services but these efforts are insufficient to match the requirements of the users.

The library staff in the university get to know users' opinion via various channels such as e-mail and complaint boxes as well as from the surveys of library users' satisfaction conducted at least once a year. Since service quality is multidimensional, the librarians have to look for better ways to measure and describe the quality of their services. The number of complaints received daily has increased, particularly regarding the quality of photocopies and library materials, availability of library materials, inadequate seating capacity and the occasionally frustrated behaviour of library staff. These are signs of an existing service quality problem in the library of the University of Colombo. It appears that no effort is being made to rectify these problems by assessing the service quality as perceived by the user.

Therefore, a study was undertaken to assess the overall service quality of the University of Colombo Library System through the users' survey with an objective to provide better services and satisfying the users' expectations.

Literature review

The academic library has been described as the "heart" of the learning community, providing a place for students and faculty to advance their knowledge. The library provides numerous services to these users, addressing their diverse needs, characteristics and interests. In providing quality services and satisfaction to users, academic librarians can distinguish their services through friendly, helpful, and knowledgeable advice and the best technological resources available.

In 2001 Hernon and Nitecki[3] have discussed three main reasons why libraries should be interested in service quality. First, customers who share information about their expectations offer an opportunity for that library or other service provider to establish a close personal contact with them. This relationship should result in libraries providing better services; after all, library staff is more knowledgeable about their expectations and how to translate that knowledge into services that delight customers and create loyalty.

Second, external pressure from parent institutions calls for accountability and the use of basic business practices by libraries. The third reason identified by Hernon and Nitecki is the necessity to compete with others in the field. In brief it enables an organization to develop a partnership with its customers to gain a competitive edge. Present day libraries compete with other service providers and may see a sharp decline internal user statistics.

Past literature, indicates that the researchers[4-9] in the field of library and information science used modified SERVQUAL as an alternative instrument for assessing library service quality. According to Cullen[10], a modified SERVQUAL model was introduced in academic libraries by Hernon and Altman. 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. They have included a service quality checklist designed to evaluate dozens of aspects of service quality in libraries, with suggestions on how they might best be monitored.

Hernon and Calvert's study concisely outlines how academic libraries can implement a service quality program using a survey instrument[11]. The authors developed and pre-tested a questionnaire that

measured library users' expectations. The instrument was designed to be flexible enough so that libraries could adopt it to their local needs, service objectives and policies.

Through the use of factor analysis on more than 100 variables in New Zealand, Hernon et al identified twelve dimensions of service quality including: guidance, waiting times, electronic services, library staff, equipment is kept in good working order, material arriving within a set time, the building and the library environment, library furniture and facilities and material for course needs[12].

The doctoral research conducted by Nitecki[13] tested the SERVQUAL instrument on the three aspects of library service- interlibrary loan, reference, and closed-reserve and concluded that the instrument was useful in determining how well services match user expectations. Further, Nitecki described a case study at a large academic research library in which the SERVQUAL was used. The validity and reliability of the SERVQUAL scale were both supported by the study, suggesting that the instrument might be profitably applied to library settings. The results can be used to improve the quality of library services by suggesting which services or staff behaviors need to conform more closely to customer expectations. The research results from Nitecki's doctoral dissertation have shown that among the 5 dimensions of SERVQUAL, the users rated reliability as the most important and tangibles was least important.

A modified version of the SERVQUAL model was used by several scholars to assess the service quality of university libraries. According to Filiz[14] there were five service quality related dimensions applicable to academic libraries in Turkey. The factors the author identified were the quality of library services, the quality of information and library environment, reliability, the quality of online catalogue system and confidence. Sahu[15] carried out a study to measure the service quality at the Jawaharlal Nehru University Library in India in 2007 where the instrument was developed using the variables suggested by Parasuraman, Zenithal and Berry[16] in 1988 as a modified SERVQUAL model. It reflects seven determinants of service quality: reliability, responsiveness, assurance, access, communications and empathy.

Nimsomboon and Nagata[17] discovered three dimensions related to university libraries: Affect of

service- organizational, Collection and access and Affect of services- personal. According to Nimsomboon and Nagata "This finding is parallel to those of Srisa-ard's 1997 , Abdallah 's 2002 as well as Ford's 1994 which found that the users reported the high expectation on reliability". A study done in Finnish academic libraries to investigate the academic library services from the customer's point of view too confirmed this[18]. Thus most findings reflected that reliability is the most important quality in evaluating library services. This was what the designers of SERVQUAL had also proposed.

Nitecki and Hernon[19] in the article "Measuring Service Quality at Yale University's Libraries" conclude that there may be three dimensions in libraries, tangibles, reliability or service efficiency, and affect of service, and that there is a need for further research to explore the dimensions that may underlie quality service as a construct in the research library setting.

There have been not many studies on measuring service quality in university libraries in Sri Lanka and hence the present study was undertaken.

Objectives of the study

1. To identify the underlying dimensions of service quality of the University of Colombo Library System from user perspectives; and

2. To determine the best predictors of overall service quality of the University of Colombo Library System

Methodology

To determine the service quality factors of the University of Colombo Library System a user survey was conducted. The University of Colombo had a total student population of approximately 12158 in the year 2008 and there were 475 academic staff members.

Instrument development

The survey instrument development for this study included three phases: a) item generation; b) questionnaire design; and c) item verification. From the literature review on service quality discussed earlier, 116 different service quality attributes were identified that related to academic libraries from all

around the world. Items or attributes relevant to academic libraries in Sri Lanka were selected by a panel of experts and the questionnaire was prepared using the 35 selected items most appropriate to the Sri Lankan academic library environment (Appendix A). For this study, SERVQUAL was adapted to examine the service quality of the library of the University of Colombo. The questionnaire thus constructed was used to assess users' expectations and satisfaction. To measure user expectations and satisfaction seven point Likert scale was used with "1" indicating "strongly disagree" and "7" indicating "strongly agree".

A pilot test was conducted in the item verification stage to assess the reliability of the attributes and ensure that the wording, format, length and sequencing of questions were appropriate. Reliability analysis was employed to test the internal consistency of the questionnaire. The reliability coefficient cronbach's alpha for the user expectation scale was 0.921. The alpha value was 0.865 for the perception scale.

Sample size and data collection

Using Cochran's sample size determination equation[20] the sample size appropriate to the University of Colombo was calculated and the study sample was selected randomly. A total of 855 printed questionnaires were distributed to the library users. The questionnaire was distributed directly to users during end of May 2008 to end of June 2008.

Data analysis

In the present study, an exploratory factor analysis (principal component analysis and varimax orthogonal rotation method) was used since the aim was to discover the dimensions of service quality in the academic library sector.

A regression analysis examines the relation of dependent variable to specified independent variable. Regression coefficients (beta value), model fit and *R squared* change were applied to explore the best predictors of overall service quality of the Colombo University Library.

Analysis

Respondents, demographics

Of the 855 questionnaires distributed, 634 valid questionnaires were received from the user survey

indicating 74 percent of overall response rate. Among 634 respondents around 60 percent (381) were females and 40 percent (253) were males. The majority of the respondents were below 25 years old and the count was 502 as tabulated in the Table 1.

The user categories were represented by undergraduates (80%) followed by academic staff (10.6%) and postgraduates (9%). Majority of the respondents were from the science and medical faculties and the percentages were 28.9 percent and 26.8 percent respectively. Respondents' counts of these two faculties were 183 and 170. Among other faculties, the majority of the respondents were from the faculty of arts and the response rate was 16.1 percent (Table 1).

Frequency of library use

Respondents were categorized according to the frequency of library use (Table 2). Around 70 percent of respondents have used the library very frequently (daily) or frequently (two or more visits per week). There were 39.6 percent frequent users followed by 29.2 percent daily users and 25.9 percent occasional users. Only 34 were rare users and their percentage was 5.4 percent.

Underlying dimensions of service quality

The factor analysis performed on the performance scores resulted in identifying seven library service quality factors. After the rotation, two items (Q31- library staff who instill confidence in users and Q7- completeness of the collection) that failed to load over 0.50 onto a factor were excluded. Table 3 shows a summary of the rotated components with loadings greater than 0.50. Extracted seven factors explained 61.8 percent of the variance in the data and factor one accounted for the largest contribution of 26.7 percent of the total variance (Total variance and data transformation matrix are in Appendix B).

Factor 1 gathered all service quality attributes related to service delivery by the library staff such as: approachable staff, performing services right the first time, understanding the needs of users, having the user's best interest at heart, courteous, polite and friendly staff, willingness to help users, giving users individual attention, knowledgeable about user questions, neat, professionally appearing staff, availability of staff when required and dependability

Table 1—Respondents' demographics

Gender	Respondents count	Percentage of respondents
Male	253	39.9
Female	381	60.1
Age group	Respondents count	Percentage of respondents
Below 25 years	502	79.2
Between 26- 35 years	66	10.4
Between 36-45 years	40	6.3
Between 46 -55 years	21	3.3
More than 55 years	5	0.8
User category	Respondents count	Percentage of respondents
Academic staff	57	9.0
Undergraduate	510	80.4
Postgraduate	67	10.6
Faculty	Respondents count	Percentage of respondents
Arts	102	16.1
Law	48	7.6
Management	83	13.1
Education	18	2.8
Science	183	28.9
Medicine	170	26.8
FGS	30	4.7
Total	634	100.0

Table 2—Frequency of library use

Frequency	Respondents count	Percentage of respondents	Cumulative Percentage
Very frequently (daily)	185	29.2	29.2
Frequently (2 or 3 visits per week)	251	39.6	68.8
Occasionally (a few times a month)	164	25.9	94.6
Rarely (a few times a semester)	34	5.4	100.0
Never	0	0	
Total	634	100.0	

in handling users' service problems (Table 3). Thus the appropriate name for the factor 1 selected was "Service delivery by staff".

Factor 2 contains attributes related to library collection and access. Gathered attributes for factor 2 were quality of library materials, convenient opening hours, convenient access to library collection, clear directional signs for collection, providing services at the promised time and keeping users informed about library services. A name selected for the factor 2 was "Collection and Access". Access to electronic journals, well organized web page, user education

programmes, library guides, brochures and alert services were grouped as the third factor. Name selected for the factor 3 was "E- Resources and Awareness".

The items which show strong response in the factor 4 are visually appealing facilities, a pleasant comfortable and inviting location, modern equipment in good condition and quiet study areas. These items are associated with the place and hence named as "Physical Facilities". Currency of information received, relevance of information received and

Table 3—Rotated Component Matrix

Order	Statement	Component						
		1	2	3	4	5	6	7
Q26	Approachable staff	**0.843**	0.151	0.006	-0.043	0.007	0.041	0.014
Q27	Performing services right the first time	**0.804**	0.246	0.013	-0.104	0.006	-0.093	-0.144
Q34	Understanding the needs of users	**0.784**	0.094	0.161	-0.043	0.012	0.171	0.036
Q30	Having the users' best interest at heart	**0.750**	-0.002	0.026	0.026	0.165	-0.046	0.183
Q24	Courteous, polite and friendly staff	**0.749**	0.133	0.076	-0.160	-0.029	0.089	0.310
Q25	Willingness to help users	**0.744**	0.150	0.031	-0.073	-0.031	0.110	0.328
Q29	Giving users individual attention	**0.736**	0.181	0.115	-0.155	0.061	0.063	0.253
Q28	Knowledgeable about user questions	**0.733**	0.294	0.019	-0.182	0.094	-0.086	0.083
Q22	Neat, professionally appearing staff	**0.713**	0.034	-0.018	-0.147	0.129	-0.055	0.149
Q33	Availability of staff when required	**0.621**	0.116	0.154	0.132	0.263	0.220	-0.012
Q35	Dependability in handling users' service problems	**0.513**	0.207	0.171	0.054	-0.240	0.069	-0.128
Q31	Staff who instill confidence in users	0.423	-0.235	0.091	0.164	0.151	0.099	-0.159
Q4	Condition of library materials	0.012	**0.724**	0.159	0.148	0.159	0.020	0.140
Q6	Convenient opening hours	0.165	**0.657**	-0.059	-0.171	0.111	-0.186	0.261
Q8	Convenient access to library collection	0.283	**0.583**	0.236	0.138	0.115	0.056	-0.087
Q9	Clear directional signs for collection	0.164	**0.532**	-0.002	0.135	-0.105	0.215	0.028
Q10	Providing services at the promised time	0.404	**0.532**	0.096	0.118	0.018	0.023	0.184
Q7	Keeping users informed	0.163	**0.525**	0.275	0.045	0.063	0.193	-0.020
Q3	Availability of required information	0.008	0.482	0.046	0.161	0.436	0.312	0.148
Q15	Library guides, brochures and alert services	0.224	0.228	**0.800**	-0.051	0.038	0.028	-0.020
Q14	Access to electronic journals	0.012	0.103	**0.790**	-0.027	-0.027	0.036	0.039
Q16	User education programmes	0.304	0.093	**0.747**	-0.010	0.052	0.066	-0.030
Q13	Well organized web page	-0.127	-0.035	**0.574**	0.234	0.098	0.047	0.243
Q20	Visually appealing facilities	-0.196	0.082	-0.058	**0.753**	0.097	-0.167	0.216
Q18	A pleasant comfortable and inviting location	-0.279	0.141	0.142	**0.721**	0.074	-0.293	0.139
Q23	Modern equipment (photocopiers, printers, scanners, etc..) in good condition	0.136	0.357	-0.047	**0.610**	0.052	0.075	-0.250
Q17	Quiet study areas	-0.167	-0.012	0.115	**0.587**	-0.445	0.225	-0.105
Q5	Accuracy of information received	0.014	-0.042	0.005	0.068	**0.726**	0.270	-0.063
Q2	Currency of information received	0.249	0.119	0.230	0.147	**0.715**	0.170	0.012
Q1	Relevance of information received	0.129	0.513	-0.029	0.028	**0.584**	0.146	-0.057
Q12	Online catalogue is easy to use	-0.047	0.178	0.240	0.013	0.061	**0.799**	0.061
Q11	Online catalogue is an accurate source of information	0.256	0.128	-0.080	-0.302	-0.133	**0.709**	-0.017
Q21	Feel safe and secure in the library	0.385	0.172	0.084	0.037	0.000	-0.157	**0.665**
Q32	Making users feel secure about transactions	0.493	0.120	0.085	-0.024	0.027	0.272	**0.576**
Q19	Adequate lighting	0.266	0.235	0.118	0.331	0.270	0.157	**0.528**

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Rotation converged in 14 iterations

accuracy of information received were separated as factor 5 and named as "Information Control". Attributes related to library catalogue (online catalogue is easy to use, online catalogue is an accurate source of information) were grouped into factor 6 and named as "Library Catalogue". Factor 7 gathered items related to security and attributes which showed high loading on the factor 7 were "feel safe and secure in the library", "making users feel secure about transactions". Thus factor 7 was named "Security".

Table 4—Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.709(a)	.503	.495	.650

Predictors: (Constant), Factor 7, Factor 6, Factor 5, Factor 4, Factor 3, Factor 2, Factor 1
Dependent Variable: overall service quality

Table 5—Regression results of overall service quality on seven components

Model		Un-standardized Coefficients		Standardized Coefficients	T value	Significance
		B	Std. Error	Beta		
1	(Constant)	5.646	.031		183.468	.000
	Service delivery by Staff	.234	.031	.256	7.608	.000
	Collection and Access	.451	.031	.493	14.641	.000
	E resources and Awareness	.229	.031	.251	7.445	.000
	Physical facilities	.008	.031	.008	.245	.807
	Information Control	.290	.031	.318	9.425	.000
	Library Catalogue	.068	.031	.074	2.196	.029
	Security	.143	.031	.156	4.636	.000

Dependent Variable: overall service quality

Predictors of overall service quality

A regression analysis was performed to check the ability of each type of score to predict service quality. The linear regression analysis was used where the seven service quality components produced by factor analysis were taken as independent variables against a separate measure of overall service quality as the dependent variable. The object of this analysis was to quantify the relationship between the dependent variable and independent variables. All seven factors obtained from the factor analysis were used for the regression analysis.

The model exhibited an adjusted R^2 value of 0.503. Out of all seven variables, six variables were significant predictors of library satisfaction and their t-values indicated that six components are strong predictors of library satisfaction. The results of this regression analysis are shown in Table 4.

There is one non-significant coefficient; "physical facilities", which exceeds the significance level 0.05. This indicates that "physical facilities" is not contributing much to the model. The regression results of overall service quality on seven components are shown in Table 5. The variables in the model have great impact on student library satisfaction as indicated by the standardized β values that are useful for comparing the regression coefficients with respect to their impact on dependent variable. The magnitude of these values shows the order of importance about impact on overall satisfaction.

The relative importance of the significant predictors is determined by standardized coefficients "β" value. In this model "Collection and Access" has the highest standardized coefficient and the lowest significance, which means that "Collection and Access" is the best predictor of the model.

Analyzing the table results, the order of significance for predictors of the Overall service quality of the library is "Collection and Access", "Information Control", "Service Delivery by Staff", "E-Resources and Awareness", "Security", "Library Catalogue" and "Physical Facilities". When the order of significance for predictors of overall service quality is considered all attributes related to library collection and ease of access were covered by the first two factors as tabulated in the Table 5. The least important factor when predicting the overall service quality of the library was physical facilities and this indicates priority should be given to upgrade the quality of library collection and ease of access to the collection

rather than laying emphasis on improving tangibles, the physical facilities.

Conclusion

The factor analysis identified seven dimensions that are appropriate to explain service quality from user perceptions. These dimensions are service delivery by staff, collection and access, e resources and awareness, physical facilities, information control, library catalogue and security. It seems that users are concerned with staff attitude, complete collection and ease of access, e- resources available in the library and user awareness programs, physical facilities provided by the library, the library catalogue as well as the security status of the library when experiencing library services.

The findings of the regression analysis revealed that users' perceived and evaluated the overall service quality provided as determined mainly by six factors. These factors are Collection and Access, Information Control, Service Delivery by Staff, E-Resources and Awareness, Security and Library Catalogue. The analysis showed that the "collection and access" was the best predictor of overall service quality of the University of Colombo library system followed by Information Control, Service Delivery by Staff, E-Resources and Awareness, Security and Library Catalogue. The remaining dimension (Physical facilities) was also relevant but less significant ($p > .05$) and this indicates that priority has to be given to upgrading the quality of library collection and ease of access to the collection rather than laying emphasis on improving tangibles, the physical facilities.

The importance of quality assessment of the higher education sector including University libraries is now being discussed widely in Sri Lanka and this is led by Quality Assurance and Accreditation Council (QAA Council), a division of the University Grants Commission (UGC), Sri Lanka. The result obtained from this study will help the University librarians in understanding institutional and user differences and similarities, to identify the service quality factors and best predictors of service quality that should be focused upon when delivering library services. Hence this study at the University of Colombo being the first study done in Sri Lanka to identify service quality factors for academic libraries will be an initiator and the basis for future research on this subject in the university library sector in Sri Lanka.

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APPENDIX A

Ref. No. _____

User Survey
The University of Colombo Library System
June- 2008

- ♦ This is a survey of your personal expectations and satisfaction of the UOC library services.
- ♦ Kindly answer the questions by circling the appropriate number in the rating scale.
- ♦ If you don't have any opinion on a service, please leave that line blank and go to the next line.
- ♦ Please tell us HOW IMPORTANT each of the following services is to you and HOW WELL does the library perform with respect to each.

Low			Moderate			High
1	2	3	4	5	6	7

			Part 1 How important this item to me							Part 2 How the library performs here						
			Low			Moderate			High	Low			Moderate			High
Section 1: Library collection	1.	The information I received from the library is relevant to my course needs.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	2.	The information I get from the library materials is current.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	3.	The information I required for my course needs is available at the library.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	4.	The library materials are in good condition (not brittle or falling apart)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	5.	The information I get from the library materials is accurate.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

			How important this item to me							How the library performs here						
			Low			Moderate			High	Low			Moderate			High
Section 2: library services	1.	The hours when the library is open match my schedule and needs.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	2.	Keeping users informed about library services such as Inter Library Loans (ILL), document delivery, e-access facilities, etc.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	3.	It is easy to find where the materials (books, journals, CDs, etc.,) are located in the library.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	4.	Directional signs for collection clear, understandable and helpful.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	5.	The library provides services at the promised time.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	6.	Library online catalogue is easy to use	1	2	3	4	5	6	7	1	2	3	4	5	6	7

		How important this item to me							How the library performs here						
		Low			Moderate			High	Low			Moderate			High
	7. Library online catalogue is an accurate source of information.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	8. Library has a well organized library web page	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	9. Library provides provisions to access electronic journals	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	10. Library Guides, Brochures, Alert services are helpful to users.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	11. Librarians provide user education programmes to help users to make more effective use of the library.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

		How important this item to me							How the library performs here						
		Low			Moderate			High	Low			Moderate			High
Section 3: Physical facilities	1. A pleasant, comfortable and inviting location	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	2. Study areas in the library are kept quite	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	3. The lighting in the library is adequate to my needs.	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	4. The library has visually appealing facilities	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	5. I feel safe and secure in the library (Safety from physical attack)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	6. Neat, professionally appearing library staff	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	7. Library has modern equipment (Photocopiers, computers, printers) in good condition.	1	2	3	4	5	6	7	1	2	3	4	5	6	7

		How important this item to me	How the library performs here
		Low Moderate High	Low Moderate High
Section 4: Service delivery- Staff	**1.** Library staff is courteous, polite and friendly**.**	**7 6 5 4 3 2 1**	**7 6 5 4 3 2 1**
	2. Library staff is willing to help users	7 6 5 4 3 2 1	7 6 5 4 3 2 1
	3. Library staff is approachable and welcoming.	7 6 5 4 3 2 1	7 6 5 4 3 2 1
	4. Library staff is performing services right the first time	7 6 5 4 3 2 1	7 6 5 4 3 2 1
	5. Library staff are knowledgeable about user questions	7 6 5 4 3 2 1	7 6 5 4 3 2 1
	6. Library staff giving users individual attention when solving service problems.	7 6 5 4 3 2 1	7 6 5 4 3 2 1
	7. Library staff have users' best interest at heart	7 6 5 4 3 2 1	7 6 5 4 3 2 1
	8. Library staff instill confidence in users.	7 6 5 4 3 2 1	7 6 5 4 3 2 1

	How important this item to me			How the library performs here		
	Low	Moderate	High	Low	Moderate	High
9. Library staff making users feel secure about transactions.	7 6	5 4 3 2	1	7 6	5 4 3 2	1
10. Library staff is available when I require in person, by e-mail or by telephone	7 6	5 4 3 2	1	7 6	5 4 3 2	1
11. Library staff understand the needs of users.	7 6	5 4 3 2	1	7 6	5 4 3 2	1
12. Dependability of library staff in handling users' service problems	7 6	5 4 3 2	1	7 6	5 4 3 2	1

Part 3: User observations about the library

1. How do you rate the quality of services provided by the library as a whole?

   Poor   Excellent
   1   2   3   4   5   6   7

2. What are the services that should be improved in the library?

   a. …………………………………..

   b. ………………………………….

   c. ………………………………….

3. Comments /suggestions
   ………
   ………
   ………,……………………………………
   ………
   …….

Part 4: User Profile

Mark only one choice per item. Please respond to all items!!

1. Gender:

   Male

   Female

2. User category

   Academic staff member

   Undergraduate

   Postgraduate

   Other

3.   If you are an **Academic staff member** your designation is,

        Professor

        Associate Professor

        Senior Lecturer

        Lecturer

        Other

4.   If you are an **Undergraduate**, in which year are you studying?

        3rd year

        4th year

        5th year

5. If you are a **Postgraduate student**, the course you are following is

        Post Doctoral

        Doctoral degree

        Masters degree

        Post Graduate Diploma

6. What is your Faculty?

        Arts

        Law

        Management

        Education

        Science

        Medicine

        FGS

7. Major subject area ………………………………….

8.   How often do you visit the library?.

        Very frequently (Daily)

        Frequently (Two or more visits per week)

        Occasionally (A few times a month)

        Rarely (A few times a semester)

        Never

Thank you for your time. If you have any questions, or if you would like to see the results of this survey, please contact me: sajees@lib.cmb.ac.lk, tel. 0112583883

APPENDIX B

Table 1—Component Transformation Matrix

Component	1	2	3	4	5	6	7
1	.811	.374	.283	.202	-.028	.159	.236
2	-.449	.482	.295	.350	.570	.022	.178
3	-.088	-.116	.654	-.458	.031	.525	-.256
4	.179	-.395	.337	-.284	.405	-.602	.301
5	.191	.258	-.514	-.545	.542	.196	-.051
6	.250	-.193	.024	.373	.366	-.108	-.784
7	.047	-.596	-.165	.331	.285	.535	.373

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

Table 2—Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.347	26.707	26.707	9.347	26.707	26.707	7.319	20.911	20.911
2	3.753	10.724	37.430	3.753	10.724	37.430	3.387	9.678	30.589
3	2.266	6.475	43.905	2.266	6.475	43.905	2.615	7.472	38.061
4	1.859	5.312	49.217	1.859	5.312	49.217	2.395	6.843	44.904
5	1.765	5.043	54.260	1.765	5.043	54.260	2.169	6.197	51.101
6	1.342	3.834	58.094	1.342	3.834	58.094	1.926	5.504	56.604
7	1.290	3.685	61.779	1.290	3.685	61.779	1.811	5.175	61.779
8	.996	2.982	65.270						
9	.981	2.882	68.152						
10	.961	2.746	70.898						
11	.889	2.540	73.437						
12	.864	2.468	75.905						
13	.739	2.112	78.016						
14	.708	2.022	80.039						
15	.620	1.773	81.811						
16	.573	1.637	83.448						
17	.565	1.614	85.062						
18	.536	1.531	86.592						
19	.503	1.438	88.030						
20	.473	1.350	89.381						
21	.412	1.177	90.558						
22	.401	1.146	91.704						
23	.322	.919	92.623						
24	.310	.885	93.508						
25	.294	.840	94.347						
26	.274	.782	95.130						
27	.250	.714	95.844						
28	.240	.687	96.531						
29	.229	.653	97.184						
30	.214	.610	97.794						
31	.185	.528	98.322						
32	.162	.462	98.785						
33	.155	.442	99.226						
34	.142	.406	99.632						
35	.129	.368	100.000						

Extraction Method: Principal Component Analysis

TABLES

Table 1—Respondents' demographics

Gender	Respondents count	Percentage of respondents
Male	253	39.9
Female	381	60.1
Age group	Respondents count	Percentage of respondents
Below 25 years	502	79.2
Between 26- 35 years	66	10.4
Between 36-45 years	40	6.3
Between 46 -55 years	21	3.3
More than 55 years	5	0.8
User category	Respondents count	Percentage of respondents
Academic staff	57	9.0
Undergraduate	510	80.4
Postgraduate	67	10.6
Faculty	Respondents count	Percentage of respondents
Arts	102	16.1
Law	48	7.6
Management	83	13.1
Education	18	2.8
Science	183	28.9
Medicine	170	26.8
FGS	30	4.7
Total	634	100.0

Table 2—Frequency of library use

Frequency	Respondents count	Percentage of respondents	Cumulative Percentage
Very frequently (daily)	185	29.2	29.2
Frequently (2 or 3 visits per week)	251	39.6	68.8
Occasionally (a few times a month)	164	25.9	94.6
Rarely (a few times a semester)	34	5.4	100.0
Never	0	0	
Total	634	100.0	

Table 3—Rotated Component Matrix

Order	Statement	Component						
		1	2	3	4	5	6	7
Q26	Approachable staff	**0.843**	0.151	0.006	-0.043	0.007	0.041	0.014
Q27	Performing services right the first time	**0.804**	0.246	0.013	-0.104	0.006	-0.093	-0.144
Q34	Understanding the needs of users	**0.784**	0.094	0.161	-0.043	0.012	0.171	0.036
Q30	Having the users' best interest at heart	**0.750**	-0.002	0.026	0.026	0.165	-0.046	0.183
Q24	Courteous, polite and friendly staff	**0.749**	0.133	0.076	-0.160	-0.029	0.089	0.310
Q25	Willingness to help users	**0.744**	0.150	0.031	-0.073	-0.031	0.110	0.328
Q29	Giving users individual attention	**0.736**	0.181	0.115	-0.155	0.061	0.063	0.253
Q28	Knowledgeable about user questions	**0.733**	0.294	0.019	-0.182	0.094	-0.086	0.083
Q22	Neat, professionally appearing staff	**0.713**	0.034	-0.018	-0.147	0.129	-0.055	0.149
Q33	Availability of staff when required	**0.621**	0.116	0.154	0.132	0.263	0.220	-0.012
Q35	Dependability in handling users' service problems	**0.513**	0.207	0.171	0.054	-0.240	0.069	-0.128
Q31	Staff who instill confidence in users	0.423	-0.235	0.091	0.164	0.151	0.099	-0.159
Q4	Condition of library materials	0.012	**0.724**	0.159	0.148	0.159	0.020	0.140
Q6	Convenient opening hours	0.165	**0.657**	-0.059	-0.171	0.111	-0.186	0.261
Q8	Convenient access to library collection	0.283	**0.583**	0.236	0.138	0.115	0.056	-0.087
Q9	Clear directional signs for collection	0.164	**0.532**	-0.002	0.135	-0.105	0.215	0.028
Q10	Providing services at the promised time	0.404	**0.532**	0.096	0.118	0.018	0.023	0.184
Q7	Keeping users informed	0.163	**0.525**	0.275	0.045	0.063	0.193	-0.020
Q3	Availability of required information	0.008	0.482	0.046	0.161	0.436	0.312	0.148
Q15	Library guides, brochures and alert services	0.224	0.228	**0.800**	-0.051	0.038	0.028	-0.020
Q14	Access to electronic journals	0.012	0.103	**0.790**	-0.027	-0.027	0.036	0.039
Q16	User education programmes	0.304	0.093	**0.747**	-0.010	0.052	0.066	-0.030
Q13	Well organized web page	-0.127	-0.035	**0.574**	0.234	0.098	0.047	0.243
Q20	Visually appealing facilities	-0.196	0.082	-0.058	**0.753**	0.097	-0.167	0.216
Q18	A pleasant comfortable and inviting location	-0.279	0.141	0.142	**0.721**	0.074	-0.293	0.139
Q23	Modern equipment (photocopiers, printers, scanners, etc..) in good condition	0.136	0.357	-0.047	**0.610**	0.052	0.075	-0.250
Q17	Quiet study areas	-0.167	-0.012	0.115	**0.587**	-0.445	0.225	-0.105
Q5	Accuracy of information received	0.014	-0.042	0.005	0.068	**0.726**	0.270	-0.063
Q2	Currency of information received	0.249	0.119	0.230	0.147	**0.715**	0.170	0.012
Q1	Relevance of information received	0.129	0.513	-0.029	0.028	**0.584**	0.146	-0.057
Q12	Online catalogue is easy to use	-0.047	0.178	0.240	0.013	0.061	**0.799**	0.061
Q11	Online catalogue is an accurate source of information	0.256	0.128	-0.080	-0.302	-0.133	**0.709**	-0.017
Q21	Feel safe and secure in the library	0.385	0.172	0.084	0.037	0.000	-0.157	**0.665**
Q32	Making users feel secure about transactions	0.493	0.120	0.085	-0.024	0.027	0.272	**0.576**
Q19	Adequate lighting	0.266	0.235	0.118	0.331	0.270	0.157	**0.528**

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Rotation converged in 14 iterations

Table 4—Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.709(a)	.503	.495	.650

Predictors: (Constant), Factor 7, Factor 6, Factor 5, Factor 4, Factor 3, Factor 2, Factor 1
Dependent Variable: overall service quality

Table 5—Regression results of overall service quality on seven components

Model		Un-standardized Coefficients		Standardized Coefficients	T value	Significance
		B	Std. Error	Beta		
1	(Constant)	5.646	.031		183.468	.000
	Service delivery by Staff	.234	.031	.256	7.608	.000
	Collection and Access	.451	.031	.493	14.641	.000
	E resources and Awareness	.229	.031	.251	7.445	.000
	Physical facilities	.008	.031	.008	.245	.807
	Information Control	.290	.031	.318	9.425	.000
	Library Catalogue	.068	.031	.074	2.196	.029
	Security	.143	.031	.156	4.636	.000

Dependent Variable: overall service quality