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Service Quality of Special Libraries in Kerala, India

Sajna K.P. and Mohamed Haneefa K.*

University of Calicut, Thenhipalam - 673 635, India,
**E-mail: dr.haneefa@gmail.com*

ABSTRACT

This study evaluates the service quality of special libraries in Kerala, India. A modified SERVQUAL questionnaire was used to collect data from a sample of 800 library users. The analysis revealed that the service quality of the libraries is not up to the expectations of their users. The users have high expectations but they perceived low. The libraries have to update their resources and services regularly in order to meet the changing needs of their users. Proper user orientation programs need to be conducted. The study results suggest the elements to be improved for enhancing the service quality of special libraries in India.

Keywords: Service quality; Special library; SERVQUAL; Library service; Library evaluation; Quality assessment; Library assessment

1. INTRODUCTION

Libraries are the repositories of multifarious information and knowledge. It is a place where people quench their thirst for knowledge. In the initial stage, libraries were merely concerned about the circulation of their documents and were not bothered about the quality of their services. They were also unaware whether the services provided by them met the requirements of their users. The social and economic changes insisted libraries to develop more services that can satisfy the needs and expectations of their users. As libraries are service organisations, there is a growing interest to measure the service quality of libraries.

Service quality is one of the significant criteria that influence every organisation no matter whether it's a business sector or a service sector. A service is said to be a quality service, only if it can meet the needs and expectations of its users. Needs and expectations are evolved on the basis of people's culture, their standard of living, education, age, etc. Satisfying the growing needs of users is recognised as an indicator of quality. Thapisa and Gamini[1] viewed quality of service as the realisation of what is good and bad, and what is acceptable and non-acceptable.

There are different methods and tools to evaluate the service qualities of libraries like SERVQUAL, LibQUAL and SERVPERF. SERVQUAL is a comprehensive multiple item scale employed by retailers for understanding the service expectations and perceptions of customers. A conceptual SERVQUAL service quality model was developed by Parasuraman[2], *et al.* in 1985. As per the model, the service quality is identified on the basis of measuring the gap between customers' expectations of a particular service and their actual perceptions regarding the service. The formula for measuring the gap to evaluate the service quality is Q = P-E. Where Q= quality, P= perceptions about services and E = expectations about services. According to the formula, when the perceptions of the customers are equivalent to their expectations, it is said that there exists quality. When the perceptions are higher than their expectations, the service quality is high and if the perceptions are lower than their expectations, the service quality is low.

Special libraries are intended to serve particular kinds of users and focus on a particular subject. The collections and services of special libraries are devised in a way to facilitate the objectives of the parent organisation. While comparing with other libraries, special libraries are adopting advanced technologies and providing innovative services to their users. Special libraries located in Kerala state of India are gradually gathering momentum in their growth. The libraries have their own role in the accelerated progression of the research and development activities of Scientific and Technical institutes, Social Science institutes, industrial and commercial establishments in Kerala. This study evaluates the service quality of the special libraries in Kerala. It will provide value added information that can be utilised for developing best practices to enhance the service quality of special libraries in India.

2. LITERATURE REVIEW

Various studies have been conducted on the service quality measurement of libraries. Many of the researchers have applied modified SERVQUAL instrument in Library and Information Science research and replaced the existing dimensions with new ones. Nitecki[3] used the modified SERVQUAL first time for measuring the service quality of academic libraries. Simmonds

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and Andaleeb[4], in their study on service quality of libraries included 'resources' as an additional dimension and merged the 'assurance' and 'empathy' dimensions in to 'demeanor'. Martensen and Gronholdt[5] pointed that 'electronic resources, print resources, technical facilities, library environment, library services, and human side of user service' as service quality determinants. In another study, Abdul Majeed[6] identified 'physical facility, library collection, library service, library staff, and technical process' as the dimensions of service quality of libraries. The same dimensions were followed by Haneefa[7], *et al.* for evaluating the Infonet library consortium in the University of Calicut. Sahu[8] applied modified SERVQUAL instrument which covered three main sections, i.e. the aspect relating to physical facilities, technical facilities, and the attitude and competence of library professionals.

In another study, Filiz[9] identified 'quality of library services, quality of information, library environment, reliability and confidence' as service quality factors for measuring service quality of a university library. Jayasundara[10], *et al.* identified 'responsiveness, supportiveness, library environment, library collection, furniture, technology, web-based services and service delivery' as the service quality domains in relation to the user satisfaction of selected university libraries in Sri Lanka. Similarly in their study, Zabed Ahmed and Hossain Shoeb[11] identified 'collection and access, library as a place, affect of service (organisational), and affect of service (personal)' as service quality dimensions. Arshad and Ameen[12] ranked 'tangibles' as the most important dimension. Vinod Kumar[13] measured the library service quality by evaluating the responses of librarians on resource management, staff management, process management, leadership, strategy and policy. Kulkarni and Deshpande[14] distinguish resources, staff, services, guidance and environment as service quality dimensions. Nagata[15], *et al.* suggested the dimensions for measuring the service quality of academic libraries. In another study, Satoh[16], *et al.* identified the 'effect of service (organisational), collection and access' as the very important dimensions of library service quality.

In a study, Ghaedi[17], *et al.* revealed that the medical college libraries of Shahid Beheshti University of Medical Sciences, Tehran, Iran failed to satisfy the user expectations about quality library services. Hassanzadeh[18], *et al.* observed that there was a significant difference between actual services and expected services of the central library of Management and Planning Organisation at Iran and found that one of the prominent problems of the library was the lack of adequate collection and efficient staffs. Likewise, Tan and Foo[19] reported that the Singapore statutory board library has not met the expectations of the users and the major problem faced by the users was lack of adequate collection and knowledgeable staff. Jaber Hossain and Islam[20] reported that the users were not satisfied with the service performance of the Dhaka University library. Nasibi-Sis[21], *et al.* revealed that hospital libraries of Shahid Beheshti University of Medical Sciences, Iran have succeeded to meet the minimum service quality expectations of its users but failed to satisfy the users' desired expectations. Partap[22] noted that the users of agricultural university libraries have high satisfaction about their library services than the users of medical university libraries of Haryana and Punjab, India. In another study, Selga-Cristobal[23] found that there is a direct correlation between library service quality and library users' satisfaction. In another study, Kumar and Mahajan[24] revealed that the users' perceived quality of their library services was low compared to their expected quality of library services. Mallya and Payini[25] revealed that there was a significant difference in the perceived library service quality of undergraduate and postgraduate students. In a study, Sajna and Haneefa[26] revealed that the ICAR institute libraries lack service quality and the highest service quality gap was found in the service dimension.

The review of literature tracks back the empirical and analytical data collected by library professionals to measure the quality of libraries. The reviews revealed that SERVQUAL to be a promising and effective instrument for measuring the service quality of libraries.

3. METHODOLOGY

The universe of the study comprises special libraries in Kerala. The study was confined to 19 prominent special libraries (Annexure I) belonging to premier scientific, research and development institutions. The study was carried out by survey method with a modified version of SERVQUAL questionnaire. As the SERVQUAL was designed to be applied in commercial environment, it needs to be revised and modified to be applicable in libraries. Intensive literature review was conducted to identify the quality attributes relating to the service quality of special libraries. The modified SERVQUAL questionnaire initially contains 75 statements under 5 dimensions. The dimensions are; physical facility, library collection, library staff, technical process and library service. The questionnaire was designed in a way that required the users to respond to the items on expectations and perceptions at the same time. Thus, the respondents need not have to go through the items twice as in the case of the original SERVQUAL. Tan and Foo19 in their study also followed this method. A pilot study was carried out to finalise the statements. On the basis of the results, Cronbach alpha test was applied to measure the reliability. As a result, all the statements having a value of less than 0.06 were excluded to increase the reliability. Finally 50 statements were selected on the basis of reliability and validity testing.

According to Krejcie and Morgan[27], the minimum sample size needed for the population is 375. However, in order to get a representative sample of the users of the libraries, a sample of 800 users was selected for the study. The questionnaires were distributed to 800 users of the 19 libraries and 620 questionnaires were returned with a response rate of 77.5 per cent. The data collected were segregated, consolidated and analysed with Microsoft Excel and SPSS. Factor analysis, normality and reliability tests were conducted for assessing the internal consistency of the collected data. Service quality of the libraries is calculated by measuring the gap difference between users' expected services and the actual services.

It is assumed that there is no significant difference in the dimension wise service quality of each special library and there is no significant gender difference in the service quality perceptions of the library users.

Table 1. Dimension wise analysis of user expectations

Dimensions	Mean	Standard Deviation
Physical Facility	4.62	0.392
Library Collection	4.60	0.428
Library Staff	4.50	0.462
Technical Process	4.56	0.458
Library Service	4.46	0.492

Table 2. Dimension wise analysis of user perceptions

Dimensions	Mean	Standard Deviation
Physical Facility	3.78	0.575
Library Collection	3.81	0.742
Library Staff	4.00	0.721
Technical Process	3.55	0.738
Library Service	3.21	0.673

Table 3. Dimension wise service quality

Dimensions	Mean	Standard Deviation
Physical Facility Gap	-0.84	0.60
Library Collection Gap	-0.79	0.79
Library Staff Gap	-0.50	0.74
Technical Process Gap	-1.01	0.79
Library Service Gap	-1.25	0.76
GAP Score	-0.88	0.61

Table 4. Significance of the gap differences among service quality dimensions

Dimensions	Mean Rank	Chi-Square	Df	Asymp. Sig.
Physical Facility	2.95			
Library Collection	3.36			
Library Staff	4.15	700.888	4	0.000
Technical Process	2.64			
Library Service	1.90			

4. RESULTS

4.1 Dimension Wise Analysis of User Expectations

For measuring the service quality of the libraries, the study first of all analysed the expectations of users on the five quality dimensions. The dimension wise analysis of the responses is presented in Table1.

It can be seen that users have high expectations on all dimensions. The physical facility dimension appears to be the most expected dimension (Mean 4.62, SD 0.392) followed by library collection dimension (Mean 4.60, SD 0.428).

4.2 Dimension Wise Analysis of User Perceptions

Table 2 exhibits the users' perceptions on the five dimensions. It can be seen that the dimension 'library staff' (Mean 4.00, SD 0.721) has highest perceptions as compared to other dimensions. The 'library collection' dimension also has good perception (Mean 3.81, SD 0.742). Whereas the dimension 'library service' (Mean 3.21, SD 0.673) has the lowest perception.

4.3 Dimension wise Service Quality

After analyzing the expectations and perceptions of the users, the differences between them are calculated to find out the gap. Table 3 depicts the service quality gap of the five dimensions, in which, the dimension 'library service' has the highest gap score (Mean -1.25, SD 0.74) as compared to other dimensions. The dimension 'library staff' has comparatively lowest gap score (Mean -0.50, SD 0.74). The 'technical process' dimension has also higher gap score (Mean -1.01, SD 0.79) near to 'library service' dimension. The higher gap score reflected the poor performance of the technical section. The dimensions 'physical facility' and 'library collection' also have negative gap scores.

Friedman's two way analysis of variance was conducted to assess the significance of the gap difference between the five dimensions. Table 4 depicts a chi square value of 700.888 with significant value 0.000, which is less than 0.05. It is revealed that there is significant difference among the mean ranks of different dimensions.

4.4 Institute wise Analysis of Service Quality

Institute wise analysis of library service quality is essential to know the strength and weakness of institute libraries. Table 5 depicts the institute wise gap scores under the five dimensions.

It can be seen that the JNTBGRI library has the largest gap (Mean -1.35, SD0.61) in the 'physical facility' dimension. The VSSC library (Mean -.49, SD 0.49) has the lowest gap score followed by KFRI library (Mean -0.53, SD 0.42). The spices board library (Mean -0.55, SD 0.38) and CMFRI library (Mean -0.59, SD 0.54) also have comparatively low gap score. In the case of library collection dimension, the highest gap score belongs to KSCSTE library (Mean -1.75, SD 0.44) followed by NIO library (Mean -1.58, SD 0.78), whereas VSSC library and CMFRI library have only a small gap value.

The 'library staff' dimensions shows comparatively low service quality gap, in which the NIO library (Mean-1.58, SD 0.92) and CWRDM library (Mean-1.10, SD 0.87) have the highest gap. The VSSC library (Mean -0.05 SD 0.37) scores the lowest gap value followed by KSPB library (Mean-0.9, SD 0.52). In contrast to 'library staff' dimension, the 'technical process' dimension also shows high service quality gap. JNTBGRI library (Mean -1.53, SD 0.91) and CWRDM library (Mean-1.49, SD0.74) have the highest gap in this dimension. CMFRI library (Mean -0.32, SD 0.57) and VSSC library (Mean -0.34, SD 0.35) have low gap score on this dimension. Of all other dimensions, the 'library service' dimension has the highest gap on all libraries. VSSC library (Mean -0.29, SD0.37) has the lowest gap value.

The study conducted Kruskal Wallis test to observe the significance of the difference between dimension wise service quality of each special libraries. Table 6 shows that the p value of physical facility (test statistic -118.069), library collection (test statistic – 180.592), library staff (test statistic – 134.702),

Table 5. Institute wise analysis of service quality

Name of the institutions	Physical facility		Library collection		Library staff		Technical process		Library service	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
CDB	-1.08	0.70	-0.94	0.74	-0.75	0.69	-1.49	0.81	-1.40	0.80
CDS	-0.82	0.81	-0.49	0.82	-0.21	0.74	-0.52	0.89	-1.29	0.70
CIFT	-0.85	0.57	-0.72	0.59	-0.29	0.50	-0.76	0.65	-0.95	0.55
CMFRI	-0.59	0.54	-0.17	0.53	-0.18	0.51	-0.32	0.57	-0.77	0.78
CPCRI	-0.67	0.36	-0.44	0.53	-0.21	0.49	-0.62	0.50	-0.93	0.46
CTCRI	-0.93	0.42	-0.81	0.59	-0.76	0.63	-1.49	0.62	-1.87	0.55
CWRDM	-0.66	0.51	-1.00	0.66	-1.10	0.87	-1.49	0.74	-1.49	0.70
FCRI	-1.13	0.56	-1.11	0.79	-0.49	0.67	-1.00	0.64	-1.29	0.48
JNTBGRI	-1.35	0.61	-1.36	0.97	-0.90	0.95	-1.53	0.91	-1.79	0.79
KFRI	-0.53	0.42	-0.59	0.75	-0.42	0.56	-0.64	0.73	-0.96	0.61
KSCSTE	-1.19	0.56	-1.75	0.44	-0.38	0.46	-1.47	0.50	-1.70	0.55
KSPB	-0.62	0.41	-0.57	0.54	-0.09	0.52	-1.16	0.64	-1.00	0.74
MPEDA	-0.79	0.53	-0.69	0.83	-0.42	0.69	-0.91	0.83	-1.09	0.83
NCESS	-0.93	0.57	-1.27	0.87	-0.57	0.61	-1.11	0.85	-1.77	0.69
NIIST	-0.80	0.51	-0.57	0.56	-0.41	0.67	-0.59	0.66	-1.09	0.64
NIO	-1.29	0.69	-1.58	0.78	-1.58	0.92	-1.26	0.49	-1.89	0.65
RRI	-1.04	0.62	-1.10	0.64	-0.34	0.48	-1.39	0.56	-1.18	0.72
Spices Board	-0.55	0.38	-0.30	0.51	-0.13	0.46	-1.14	0.45	-1.36	0.46
VSSC	-0.49	0.49	-0.12	0.38	-0.05	0.37	-0.34	0.35	-0.29	0.37

Note: For the full form of acronyms, see Annexure A

Table 6. Significance of difference between service quality of special libraries

Dimension	Test statistic	Df	Asymp. Sig.
Physical facility	118.069	18	.000
Library collection	180.592	18	.000
Library staff	134.702	18	.000
Technical process	186.959	18	.000
Library service	172.971	18	.000

Table 7. Gender wise perceptions of service quality

Dimensions	Male		Female	
	Mean	SD	Mean	SD
Physical Facility	-0.88	0.63	-0.79	0.56
Library Collection	-0.84	0.81	-0.72	0.75
Library Staff	-0.53	0.77	-0.46	0.68
Technical Process	-1.02	0.79	-0.99	0.78
Library Service	-1.25	0.77	-1.25	0.76
GAP Score	-0.90	0.63	-0.84	0.59

technical process (test statistic - 186.959) and library service (test statistic – 172.971) are found to be 0.000, which is lower than 0.05. It is inferred that there are significant differences in the dimension wise service quality of each special libraries.

Table 8. Significance of gender wise perceptions of service quality

Dimensions	Test statistic	Standardised test statistic	Asymp. Sig.
Physical facility	49714	1.401	0.161
Library collection	50516.5	1.766	0.077
Library staff	48289.5	0.751	0.452
Technical process	47815.5	0.533	0.594
Library service	46861.5	0.098	0.922

4.5 Gender Wise Perceptions of Service Quality

Due to the inherent characteristics of male and female users, there may be differences in their needs and expectations also. Gender wise gap analysis was conducted to find out if there are any significant differences exist between male and female users in quality perceptions.

Table 7 shows that there is not much difference between the quality perceptions of male and female users. The male users have the highest gap value than the female users on all dimensions.

The study conducted Mann-Whitney U test to observe the significance of the gender difference in service quality perceptions of the users. Table 8 shows that the p values of dimensions of service quality such as physical facility (test statistic -49714, p value 0.161), library collection (test static-

50516.5, p value 0.077), library staff (test statistic-48289.5, p value 0.452), technical process (test statistic - 47815.5, p value 0.594) and library service (test statistic- 46861.5, p value 0.922) are not statistically significant. It is established that there is no significant gender difference in the service quality perceptions of the users.

5. DISCUSSION

It is found that the users have high expectations on all dimensions. At the same time they have low perceptions on all dimensions in comparison to their expectations. The results of the study are generally in line with the findings of the previous studies on the service quality of libraries. Calvert[28] observed that the expectations of library users at different part of the world are more or less similar and pointed out that there is a common set of user expectations that can be adopted to evaluate the service quality of libraries. As far as libraries are concerned, users naturally expect to have better services for satisfying their information needs. As library is a place for knowledge creation and enhancement, users want to have a comfortable atmosphere for reading and other intellectual activities. According to Zeithaml[29], perceived quality is 'the consumers' judgment about an entity's overall excellence or superiority. The study measures what the library users actually perceived from the performance of library services. Normally the perceptions of users are lower than their expectations. The studies of Ahmed[30], *et al.* and Asogwa[31], *et al.* revealed that the perceptions of users are lower than their expectations.

Service quality is calculated by measuring the gap between expectations and perceptions of users. The gap score indicates the quality[32]. There is an inverse relationship between service quality and gap score. The high gap score is an indicator of low service quality and the low gap score is an indicator of high service quality. The results show a total negative gap score. It indicates that the service quality of the libraries is not up to the expectations of their users. The results show that 'library service' dimension has the highest gap and the 'library staff" dimension has comparatively low gap. It conveys that, to an extent, the libraries have good and knowledgeable staff as expected by the users. The negative value indicates that the performance of library professionals has not rose up to the expectations of the users. The higher gap score reflected the poor performance of the technical section. The dimensions 'physical facility' and 'library collection' also have negative gap score which indicate that these dimensions did not completely meet the user expectations. It is also revealed that there is significant difference among the mean ranks of different dimensions.

It is revealed that both the VSSC library and CMFRI library have comparatively low gap value on all dimensions. It can be inferred that these libraries provide almost quality services to the users as expected by them whereas the NIO library, KSCSTE library, JNTBGRI library, and CWRDM library have comparatively high gap value, which indicates that these libraries do not meet the quality expectations of their users.The users of CMFRI library and VSSC library have high expectations and perceptions. It is inferred that there are significant differences in the dimension wise service quality of each special libraries. The study also observed that there is no significant gender difference in the quality perceptions of the users.

6. CONCLUSIONS

The study involves the systematic evaluation of the services of the special libraries in Kerala with a view to ascertain the service quality of the libraries. While assessing the expectations of the users, it is found that users have high expectations on all dimensions, of which the 'physical facility' dimension is the most expected dimension. The perceptions of users make it clear that 'library staff' is the highly perceived dimension and 'library service' is the least perceived dimension. Even though, the users have good opinion about library staff, the library services do not meet the quality expectations of their users. The special libraries in Kerala need to improve their services to an extent of providing quality services as expected by their users.

The study was intended to help the libraries to choose their plan of action for empowering their amenities. The libraries are unable to meet the expectations of their users even after offering several services. Users need a calm and quiet place for reading and learning. Libraries need to provide comfortable furniture and adequate lighting and ventilation. Besides these, drinking water facility and lavatory facility are essential in libraries. The collection development strategies of the libraries have to be modified. The size of library collection is not an indicator of service quality. It depends on the quality of the collection and whether the collection meets the requirements of the users.In order to improve the service quality, libraries need to provide constant training and development programs to their library professionals. Besides these, there must be a healthy relationship between the library professionals and users. It will help them to understand the problems of the users. Libraries should conduct proper user awareness and orientation programs to make the users acquainted with various library resources and services.

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CONTRIBUTORS

Dr. Sajna K.P. is Assistant Professor (contractual) in the Department of Library & Information Science, University of Calicut, Kerala. She obtained her MLISc and PhD from the University of Calicut, Kerala. Her areas of interest include service quality and total quality management of libraries.
In the current study she conducted the research study. Designed the questionnaire and collected data from the users of the special libraries in Kerala. Interpreted the data and discussed the findings and conclusions.

Dr. Mohamed Haneefa K is Associate Professor & Head of the Department of Library & Information Science, and Director, Planning and Development, University of Calicut, Kerala. He has completed his MBA from Mahatma Gandhi University, Kottayam, Kerala and MLISc and PhD from the University of Calicut, Kerala. His current research interests are focused on the application of innovative information and communication technologies to solve information access and retrieval problems and for knowledge management.
In the current study he selected the research problem. Designed the research methodology and analysed the data collected for the study. He is the corresponding author of the paper.

Annexure I

LIST OF THE SPECIAL LIBRARIES SELECTED

1. Central Institute of Fisheries Technology (CIFT) Cochin
2. Central Marine Fisheries Research Institute (CMFRI) Cochin
3. Central Plantation Crops Research Institute (CPCRI) Kasaragod
4. Central Tuber Crops Research Institute (CTCRI) Trivandrum
5. Centre for Development Studies (CDS) Trivandrum
6. Centre for Water Resources Development and Management (CWRDM) Calicut
7. Coconut Development Board (CDB) Cochin
8. Fluid Control Research Institute (FCRI) Palakkad
9. Kerala Forest Research Institute (KFRI) Trichur
10. Kerala State Planning Board (KSPB) Trivandrum
11. Marine Products Exports Development Authority (MPEDA) Cochin
12. National Institute of Oceanography (NIO) Cochin
13. Rubber Research Institute of India (RRII) Kottayam
14. Spices Board, Cochin
15. Tropical Botanical Garden and Research Institute (TBGRI) Trivandrum
16. Vikram Sarabhai Space Centre (VSSC), Trivandrum
17. National Centre for Earth Science Studies (NCESS) Trivandrum
18. Kerala State Council for Science, Technology and Environment (KSCSTE) Trivandrum
19. National Institute of Interdisciplinary Science and Technology (NIIST) Trivandrum