Service Quality of Libraries of Indian Council of Agricultural Research Institutes of Kerala, India

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ABSTRACT

The purpose of this study is to measure the service quality of the libraries of Indian Council of Agricultural Research institutes in Kerala. Survey method with modified SERVQUAL questionnaire was employed to elicit responses from a representative sample of 180 users of the libraries. It is revealed that the ICAR institute libraries lack service quality. While the libraries compared, Central Marine Fisheries Research Institute Library has shown quality to an extent and library of Central Tuber Crops Research Institute has shown least service quality. Library collection dimension was found as the most expected dimension whereas library staff dimension was the most perceived dimension. The highest service quality gap was identified with library service dimension and the lowest gap was identified with library staff dimension. Regular user need assessment and feedback mechanism should be done to improve the service quality of the libraries. The study can be utilised for developing quality enhancement practices in special libraries in India.

Keywords: Service quality; Special library; Gap analysis; SERVQUAL; Library service; User expectation; User perception

1. INTRODUCTION

Like every other service organisations, libraries also require quality in their services. The word 'quality' arises from the recent trends in industry and commerce; currently it is closely associated with existing research in libraries[1]. Service quality in library is defined as providing accurate and reliable information as needed by users without any delay. Its assurance can be met by maintaining quality in every area of library activity such as acquisition, classification, cataloguing, issue, return, renewal, etc. According to Brady and Cronin[2] "service quality is a multidimensional construct with multiple attributes". Sahu[3] defined service quality as "the difference between users' expectations and perceptions of service performance and the reality of the service". The author further pointed out that prompt delivery and error free services were the major criteria for identifying library quality. A regular and systematic monitoring will make the library services more reliable.

Service quality of libraries is measured by assessing whether the information and service provided by the libraries satisfies the user's needs and expectations. According to Arshad and Ameen[4], technological advancement and social and economic changes have great impact on the role of libraries. Kumar[5] observed that libraries are facing severe competitions from commercial information service providers. In order to provide quality services, libraries must be able to identify the ever-changing needs of their users. Frequent user studies with feedback mechanism helps to address the grievances of the users and thereby ensuring healthy relationship with users.

The ICAR was established on 10th July 1929. It is an institution under the Department of Agricultural Research and Education, Ministry of Agriculture and Farmers Welfare, Government of India. There are 101 research institute and 71 agricultural university under ICAR. It is one of the foremost national agricultural systems in the world. The main objectives of the institute are to coordinate, guide and manage the education and research in Agriculture including Horticulture, Fisheries and Animal Science in India[6]. A proper and efficient library system is essential for satisfying the objectives of the institutes. For quick and easy access to information related to recent trends in agriculture, libraries are providing enormous services such as institutional repository service (Krishikosh, Krishiprabha), union catalogue service (Agricat), newspaper clipping service, open access journals and e-books, databases, etc. The Consortium for e-Resources in Agriculture (CeRA) provides access to scientific journals in the field of agriculture.

Hassanzadeh[7], *et al.* stressed the mission of special libraries as meeting the information needs of parent organisations. But many of the ICAR institute libraries do not have adequate collections and services to support the research and development activities. Therefore there should be a systematic assessment of the collections and services of libraries. This study measures the service quality of the libraries of ICAR institutes in Kerala.

2. LITERATURE REVIEW

Quality assessment of libraries helps to evaluate and improve the performance of libraries. There were enormous researches pertaining to the service quality of libraries by using SERVQUAL. An attempt has been carried out to explore the significance of service quality in libraries. While assessing the service quality of Punjab University libraries, Arshad and Ameen[4] found that the expectations of users are higher than their perceptions and also observed 'tangible' dimension as the most important dimension. Kumar[1] studied service quality management in agricultural university libraries by assessing the views of librarians regarding leadership, strategy and policy, staff management, process management and resource management. Wang and Shieh[8] observed that service quality has positive effect on user satisfaction. Besides these, the study found that, collections, loaning and returning service, overall atmosphere, electronic database system and online reservation and renewal are the most important service attributes. The assessment of service quality in Kerala State Council for Science and Technology (KSCSTE) libraries by Sajna and Haneefa[9] showed that KSCSTE libraries have low service quality. Mohindra and Kumar[10] measured the impact of library service quality on user satisfaction at A.C. Joshi Library, Punjab University and found that library environment and library services have positive effect on library service quality. Haneefa[11], *et al.* evaluated the service quality of Infonet digital library consortium of Calicut University library and observed that, as the user perceptions are lower than their expectations, the quality expectations were not satisfied. Through the service quality evaluation of academic libraries in developing countries, Asogwa[12] observed that lack of modern facilities, poor funding, and weak e-leadership quality have negative effect on quality of library services. Haneefa and Aswani[13] investigated the quality of e-services of university libraries in Kerala and found that they perceived low service quality and also observed that the e-services were not up to the users expectations.

While compiling the literature, it was noted that most of the literature confines to service quality measurement of university libraries, college libraries and public libraries, however, there were no reports regarding the service quality of libraries under ICAR institutes. In this light, this study measures service quality of ICAR institute libraries.

3. METHODOLOGY

There are five ICAR research institutes in Kerala viz., Central Marine Fisheries Institute (CMFRI), Central Institute of Fisheries Technology (CIFT), Central Tuber Crops Research Institute (CTCRI), Central Plantation Crops Research Institute (CPCRI) and Indian Institute of Spices Research (IISR). The study was conducted on four of these institutes exempting IISR which did not permit the required data collection.

The study employed survey method with SERVQUAL questionnaire. The SERVQUAL questionnaire is an instrument developed by Parasuraman[16], *et al.* for measuring service quality on the basis of gap analysis. According to them service quality can be measured under 10 dimensions, which are: tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding/knowing the customer and access. With further modifications, later it was reduced to five. They are; reliability, tangibles, responsiveness, assurance and empathy. Of these, reliability measures the accuracy and reliability of the promised services delivered; tangibles measures the quality of those things which are tangible in nature; responsiveness measures the ability and willingness of the service provider to provide the required service as and when needed; assurance measures the knowledge and courtesy of the service provider and empathy measures the caring and individual attention given by the service provider. The questionnaire contains 22 statements. The formula for measuring service quality is,

$$Q = P - E$$

where Q is service quality, P is perception, and E is expectation.

However, this study modified the SERVQUAL questionnaire with 50 statements under five dimensions viz., physical facility, library collection, library staff, technical process and library service. Each statement was designed to elicit responses on a five point Likert Scale to measure both expectations and perceptions of the users on the service quality of the libraries. All the statements were finalised on the basis of reliability and validity test. Out of 180 questionnaires distributed, 129 questionnaires were returned back with a response rate of 71.6 per cent, which includes 41 from CMFRI, 44 from CIFT, 27 from CTCRI and 17 from CPCRI. Besides these, librarians were also interviewed for supplementing additional information.

There have been numerous researches conducted in library and information services with modified SERVQUAL instrument. Andaleeb and Simmonds[17] measured service quality of academic libraries by adding an additional dimension 'resources' and combined both the 'assurance' and 'empathy' dimension into 'demeanor' whereas Majeed[15] changed the five dimensions as physical facility, library collection, library staff, technical process and library service for measuring service quality of college libraries. Service quality measurement of library of Dhaka University was done by Ahmed and Shoeb[14] on the basis of four dimensions which are: affect of service (organisational), collection and access, library as a place, and affect of service (personal).

4. RESULTS AND DISCUSSIONS

Service quality can vary on the basis of expectations and perceptions of users. Data analysis includes the analysis of users expectations, perceptions, gap and the overall service quality of the four ICAR institute libraries. Statistical measures like mean and standard deviation were used to assess the differences. The analysis throws light on the most expected and perceived dimensions, least expected and perceived dimensions and dimensions having lowest and highest gap along with identifying which library provided quality service.

4.1 Expectations of the Library Users

Library users always have high expectations. In order to maintain such quality level, libraries have to provide services as expected by their users. Therefore, every library strives

to identify the changing needs and expectations of the users. For this purpose, libraries conduct user studies, feedback mechanism, regular interactions with librarians, etc. The Table 1 explains expectations of the users of the ICAR institute libraries.

The service quality of a library depends to a large extend on the quality of five dimensions, such as; physical facility, library collection, library staff, technical process and library service. The physical facility dimension measures the quality of physical facilities provided by the libraries of the ICAR institutes. It includes convenience of the location, adequate reading space, comfortable furniture, cleanliness, drinking water facility, lavatory facility, etc. Table 1 shows that under this dimension, CMFRI library has the highest expectation (Mean 4.717, SD 0.313) followed by CPCRI library (Mean 4.647, SD 0.277) whereas the CIFT library has the least expectation (Mean 4.590, SD 0.449) followed by CTCRI library (Mean 4.611, SD 0.366). The study observed that the users of the library strongly demanded a clean, tidy and hygienic environment in the library with adequate lighting and ventilation. They were not much concerned about the location of the library.

The library collection dimension measures the quality of the library resources with the elements such as, whether library resources meets the requirements of users, access to wide variety and range of books, journals, e-resources, technical reports, patent and reports, back volumes of journals, audio visual materials, etc. It can be seen that (Table1), the users of CMFRI library have high expectation (Mean 4.711, SD 0.385) on this dimension, which is followed by CIFT library (Mean 4.688, SD 0.391). However, the users of CPCRI library have low expectation (Mean 4.597, SD 0.460). With regard to library collection, users primarily needed access to all the collections of books and journals rather than access to audio visual materials.

The staff of every library has great impact on its service quality. Library users always expect to have knowledgeable and expert staff willing to help them as and when needed. The library staff dimension measure attributes such as their skills, competency, emotional intelligence, etc. It was found that the users of CTCRI library have high expectation (Mean 4.656, SD 0.425) on this dimension followed by CMFRI library (Mean 4.619, SD 0.494) whilst, the users of CPCRI library have comparatively low expectation (Mean 4.512, SD 0.458). The users expect quick response from the staff, but they were

not interested in getting personal attention.

Technical process plays vital role in carrying out the functions of the library effectively. This dimension measures the accuracy of cataloguing and classification system, efficiency of the ICT infrastructure, reliability of library website, internet and Wi-Fi facility, etc. As portrayed in Table 1, users of CPCRI library have high expectation (Mean 4.753, SD 0.306) followed by CTCRI library (Mean 4.711 SD 0.387). On the other hand, CIFT library users have low expectation (Mean 4.625, SD 0.388) on this dimension. Users are highly concerned about better preservation techniques to keep the resources free from damage and dust and expect library to be updated frequently with latest technologies.

Libraries provide varied services to its users in order to meet their changing needs and expectations, even though the users sometimes don't get what was actually required. The library service dimension measures the quality of every services provided by the library. It includes user alert service, institutional repository service, video library service, Xerox service, indexing and abstracting service, newspaper clipping service, user orientation, etc. Table 1 gives a clear understanding that, the users of CMFRI library have high expectation (Mean 4.685, SD 0.375) on these services whereas the users of CPCRI library have low expectation (Mean 4.514, SD 0.424). The most expected items under this dimension were 'convenient library timing' and 'keep users informed about collections, services and facilities of the library'. The least expected services were 'user based alert service' and 'newspaper clipping service'.

The overall result shows that the users of CMFRI library have the highest expectation on all dimensions except library staff and technical process. The most expected dimension was library collection (Mean 4.681, SD 0.398) and the least expected dimension was library service (Mean 4.582, SD 0.420).

4.2 Perceptions of the Library Users

The perception of the library users pertains to the actual service experienced from the library. While in comparison with the expectations, users always have low perceptions. The lower perception indicates low service quality. A library is said to have service quality only if the perceptions of the users meet or preferably exceed their expectations. Thus the service quality of the library can only be enhanced by improving the perceptions of users by providing services as expected by them. The Table 2 depicts the perceptions the users.

Table 1. Expectations of the Users of ICAR Institute Libraries

Dimensions	ICAR Institute Libraries									
	CMFRI		CIFT		CTCRI		CPCRI		Over all	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Physical facility	4.717	0.313	4.590	0.449	4.611	0.366	4.647	0.277	4.642	0.371
Library collection	4.711	0.385	4.688	0.391	4.678	0.403	4.597	0.460	4.681	0.398
Library staff	4.619	0.494	4.564	0.427	4.656	0.425	4.512	0.458	4.594	0.449
Technical process	4.659	0.398	4.625	0.388	4.711	0.387	4.753	0.306	4.671	0.380
Library service	4.685	0.375	4.468	0.433	4.657	0.429	4.514	0.424	4.582	0.420

Table 2. Perceptions of users of ICAR institute libraries

Dimensions	ICAR Institute Libraries									
	CMFRI		CIFT		CTCRI		CPCRI		Over all	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Physical facility	4.128	0.471	3.744	0.509	3.681	0.414	3.978	0.403	3.884	0.497
Library collection	4.544	0.472	3.968	0.567	3.868	0.629	4.159	0.525	4.155	0.608
Library staff	4.437	0.499	4.270	0.531	3.896	0.660	4.300	0.608	4.249	0.588
Technical process	4.337	0.543	3.870	0.657	3.215	0.533	4.129	0.437	3.916	0.696
Library service	3.919	0.664	3.518	0.488	2.790	0.469	3.584	0.483	3.502	0.675

It shows that under the physical facility dimension, CMFRI library (Mean 4.128, SD 0.471) has the highest perception followed by CPCRI library (Mean 3.978, SD 0.403) and CTCRI library (Mean 3.681, SD 0.414) has the lowest perception. It also indicates that CMFRI library has been providing far better physical facilities than the other three libraries. The study observed that majority of the libraries have clean and hygiene environment as expected by users with adequate lighting and ventilation. But most of the libraries are not providing needed physical facilities to differently-abled users.

Table 2 makes it clear that, under the library collection dimension, users of CMFRI library have the highest perception (Mean 4.544, SD 0.472) followed by CPCRI library (Mean 4.159, SD 0.525) whereas CTCRI library users (Mean 3.868, SD 0.629) have the lowest perception. It can be observed that, the CMFRI library has a good collection as expected by the users and provide access to all books and journals. Besides these, back volumes of journals are efficiently maintained whereas most of the resources do not meet the requirements of the users.

The library staff dimension also shows that CMFRI library users have the highest perception (Mean 4.437, SD 0.499), whereas CTCRI library users have the lowest perception (Mean 3.896, SD 0.660) in this regard. All these libraries, except CTCRI have excellent library staff. The study found that staff helped the users when they failed to locate a needed document and they were more approachable and welcoming. But the staff lacked emotional intelligence to deal with the users.

The perception score (Mean 4.337, SD 0.543) shows that the technical section of CMFRI library is performing appropriately on the other hand the perception score not good at CTCRI library (Mean 3.215, SD 0.533). The libraries systematically carried out the classification and cataloguing

process even though they are not updated with latest technologies.

Under the library service dimension, the perception score of CMFRI library (Mean 3.919, SD 0.664) shows that the library is providing most of the expected services to its users while the perception score of CTCRI library (Mean 2.790, SD 0.469) points out poor service performance. The Xerox service is provided by every library but the content page service is provided by the least.

The overall result of user's perception shows that the most perceived dimension was library staff (Mean 4.249, SD 0.588) and the least perceived dimension was 'library service' (Mean 3.502, SD 0.675).

4.3 Service Quality of ICAR Institute Libraries

In SERVQUAL, service quality is based on the gap between the expectations and perceptions of users. Through gap analysis, it is possible to identify areas which needed more attention. The negative gap indicates low service quality and positive gap indicates high service quality, and if there is no gap, it is assumed that there exists quality. Table 3 shows dimension wise analysis of service quality.

The analysis shows that under the physical facility dimension, the CMFRI library has the lowest gap (Mean -0.589, SD 0.536) and CTCRI library has the highest gap (Mean -0.931, SD 0.421). Therefore, the CTCRI library should provide better physical facilities to its users. Under this dimension, libraries need to consider adequate physical facilities for differently abled users and drinking water facility to users.

The CTCRI library has the highest gap value (Mean -0.809, SD 0.586) under the library collection dimension and CMFRI library have the lowest gap (Mean -0.167, SD 0.529). Most of the libraries do not have good collection of audio

Table 3. Dimension wise service quality of ICAR Institute Libraries

Dimensions	ICAR Institute Libraries									
	CMFRI		CIFT		CTCRI		CPCRI		Over All	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Physical facility	-0.589	0.536	-0.847	0.573	-0.931	0.421	-0.669	0.356	-0.759	0.521
Library collection	-0.167	0.529	-0.721	0.590	-0.809	0.586	-0.437	0.531	-0.526	0.618
Library staff	-0.183	0.513	-0.293	0.504	-0.759	0.627	-0.212	0.497	-0.345	0.571
Technical process	-0.321	0.573	-0.755	0.655	-1.496	0.618	-0.623	0.501	-0.755	0.731
Library service	-0.766	0.779	-0.950	0.550	-1.867	0.548	-0.929	0.461	-1.080	0.742

visual materials; therefore, while updating the collections, the audio visual materials should have to be improved.

The library staff dimension shows that the CTCRI library has the highest gap (Mean -0.759, SD 0.629) and CMFRI library has the lowest gap (Mean -0.183, SD 0.513). The study assessed that the libraries need to have knowledgeable and expert staff.

Under the technical process dimension, the highest and lowest gaps were found with CTCRI library (Mean-1.496, SD 0.618) and CMFRI library (Mean -0.321, SD 0.573) accordingly. Majority of the libraries lack a well-designed and well-managed library website. Therefore, there is a need for regularly updating and maintaining library website.

The highest gap of CTCRI library (Mean, -1.867 SD 0.548) indicates that the services provided by the library was unable to meet the quality expectations of the users meanwhile the lowest gap of CPCRI library (Mean-0.766, SD0.799) reflected the good quality of the services. None of the libraries provide special services to differently abled users. Most of the users are unaware about various services provided by the libraries.

The overall result shows that the 'library service' dimension has the highest gap (Mean -1.080, SD 0.742) and library staff has the lowest gap (Mean-0.345, SD 0.571) which makes it clear that even though these libraries have skilled and knowledgeable staff, the provided services are not meeting their users expectations. The overall quality analysis provided a clear picture of the service quality of each library under the ICAR institutes. The expectations, perceptions and gaps of libraries were assessed individually.

Table 4 depicts the differences between overall expectations and perceptions of users. Service quality is assessed based on these gap differences. The negative gap score reflects that the service quality of the libraries never met the user expectations. From the table it can be seen that the users of CMFRI library have high expectations (4.678) and high perceptions (4.273). In contrast, CMFRI library has the least negative gap. The users of CIFT library have low expectations (4.587) and the users of CTCRI library have low perceptions (3.489). As the perceptions are lower than the expectations, CTCRI library has the highest negative gap (-1.173). As compared to the other three libraries, CMFRI library provides quality services and CTCRI library fails to meet the quality expectations of its users.

Table 4. Institute wise service quality of libraries

Institutes	Expectations		Perceptions		Service quality	
	Mean	SD	Mean	SD	Mean	SD
CMFRI	4.678	.317	4.273	0.431	-0.405	.476
CIFT	4.587	.366	3.874	0.431	-0.713	.443
CTCRI	4.662	.338	3.489	0.431	-1.173	.424
CPCRI	4.604	.328	4.030	0.416	-0.574	.362

5. CONCLUSIONS

With the libraries facing many challenges in this competitive environment, it is indispensable for them to provide quality services to their users. The study assessed the service quality of ICAR institute libraries from the user's

perception with a modified SERVQUAL instrument. It was found that ICAR institute libraries lack service quality. All the four libraries have negative gap scores on all dimensions which definitely imply that the service quality fall short of user expectations. While the libraries are compared, only the CMFRI library is showing quality to an extent and CTCRI library has the least service quality. Library collection dimension was observed as the most significant dimension by the users. The dimension library service has the highest gap and library staff has the lowest gap. This may be due to the unawareness about the various services provided and that the libraries were not updated with latest technologies. Therefore, proper user orientation programs, seminars, workshops, etc. should have to be conducted.

The libraries need to take adequate measures for updating the collection and services periodically. Apart from this, budgetary constraints are the major issue faced by the libraries for providing quality services, appropriate financial allocation is essential in resolving it. There should be regular monitoring on the performance of the libraries. Regular user need assessment and feedback mechanism should be done for improving the service quality of libraries. To cope up with the drastic changes in information and communication technology, libraries have to be updated with latest technologies. The study pinpoints the areas where quality is to be improved and concludes that libraries should focus on developing quality enhancement practices.

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In the current study, she conducted the research study, designed the questionnaire and collected data from the users. Interpreted the data and discussed the findings and conclusions.

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In the current study, he selected the research problem, designed the research methodology and analysed the data collected for the study.