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A Comparative Study of Service Quality and User Assessment among the Autonomous Colleges of Thrissur District Using LibQUAL+® Tool

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Abstract: *Library is a service organization. Being a service organization, the satisfaction of the user is the primary concern. The present scenario of human development, which is aided and driven by Information and Communication Technology (ICT), make it necessary to consider all the aspects of a library (collection as well as service) while assessing the service quality. In this paper an effort has been made to assess the quality of information resources and services offered by three autonomous colleges of Thrissur District (Kerala) using the three dimensions of LibQUAL+® tool, i.e., 'Affect of Service', 'Information Control', and 'Library as a Place'. LibQUAL+® is a tool for measuring library users' perceptions of service quality, and it identifies the gap among minimum, desired and perceived expectations of service.*

Introduction

"To build up a library is to create a life. It is never just a random collection of books." (Piotr Kowalczyk, 2018). Ever since the beginning of libraries, there has been continuous evolution in all spheres of libraries and librarianship. Libraries preserve history and they create future. This is true in the case of all types of libraries. For the same reason library is considered a system, and the management of that system is an important concern.

Librarians are entrusted with the delicate responsibility of managing the balance between limited resources and the satisfaction of the users' need for information. Information abundance, proliferation of sources, forms and medium of information really makes it more complex. So it is the duty of the library manager or the librarian to make sure that the maximum utilization of the budgetary allocation will lead to user satisfaction. It is comparatively easier for a company running with profit motive to check its success by analysing its profit or loss at the end of the year or the month or a particular day. Unlike a profit-motive company, library as a service organization needs to find out effective ways to assess the system. The assessment of library is a system management tool. In the past libraries were used to being assessed merely for the volume of its collection and the size of the library itself. The present scenario of human development, aided and driven by Information and

Communication Technology (ICT), makes it necessary to consider other aspects like variety of service, service competency and the facilities provided to decide upon the quality of the library. Being a service organization, the satisfaction of the user is the primary concern. The management can verify the satisfaction level of the users with various survey methods.

In an exhaustive research done over a period of 12 years (1992 -2004), Philip James Calvert in his doctoral these titled 'Assessing the effectiveness and quality of libraries' narrates that there are, at least four different ways to evaluate a library. It was his opinion that the best and most suited evaluation method can be decided only by considering the context. Each type of evaluation method has its own definite benefits (Calvert, 2008). The present study focuses only one method of survey and the survey is named LibQUAL+.

LibQUAL+ is developed on ServQUAL method for assessing the quality of library resources and services. Service Quality Model or SERVQUAL Model was developed and implemented by the American marketing gurus Valarie Zeithaml, A. Parasuraman and Leonard Berry in 1988. It is a method to capture and measure the service quality experienced by customers (Mulder, 2018). LibQUAL+ tool is used to measure the quality of services and facilities being provided by library and information centres.

Quality

The term "quality" has a relative meaning. It has different framework from place to place institution to institution, person to person, and from situation to situation. The epistemological and ontological foundations for the concept of quality was laid by Shewhart and Deming. Quality adds value to goods and services. It was Shewhart who used this concept for the first time and he proposed a scientific model, which was later named as Plan-Do-Check-Act cycle, PDCA (Shewhart & Deming, 1939). Further, the subsequent quality movement was led by this motto. The suggestion of Juran (1998) to distinguish between quality (q) as freedom from defects and quality (Q) as overall satisfaction of the customer is a clear indication of what is mentioned above (Juran, Godfrey, Hoogstoel, & Schilling, 1998).

Apparently, the quality movement first began in Japan in 1946. Deming and Juran were the quality gurus of Japan at that time (Pecht & Boulton, 2020). Their quality initiatives soon evolved into Total Quality Management (TQM), which spans all the areas, all the operations and all the personnel of the organization. In this TQM customer-satisfaction is the main focus for which continuous improvement in the product and services are brought in with a spirit of team work.

Service Quality in Library

According to International Encyclopaedia of Information and Library Science, quality is "conformance to standards and fitness for use" (Feather & Sturges, 2003). In a service-based rather than product-based organizations like library, there is no finished product to be assessed for quality. Here we are to check user perceptions with that of their expectations to see whether they were being met or not, or whether they even exceed the intended level (Crosby, 1993). Hernon and Nitecki (2001) noted that there are four underlying perspectives to measure service quality. They are:

1. "Excellence, which is often externally defined.

2. Value, which incorporates multiple attributes and is focused on benefit to the recipient.

3. Conformance to specifications, which enables precise measurement, but customers may not know or care about internal specifications.

4. Meeting or exceeding expectations, which is all-encompassing and applies to all service industries"

Most of the library science researchers, however, have focused on the fourth perspective, i.e. meeting or exceeding expectations of the users. (Hernon & Nitecki, 2001).

LibQUAL+® Tool

LibQUAL+ is a tool that libraries use to solicit, track, understand, and act upon users' opinions of service quality. LibQUAL+ is a web-based survey offered by the Association of Research Libraries that helps libraries assess and improve library services, change organizational culture, and market the library. The survey instrument measures library users' minimum, perceived, and desired levels of service quality across three dimensions: Affect of Service, Information Control, and Library as Place (Association of Research Libraries, 2018). It helps to identify the gap among minimum, desired and perceived expectations of service. The perceived goals of LibQUAL+ is to foster a culture of excellence in providing library service.

LibQUAL+ includes the quantitative data yielded from the 22 core items, but also includes qualitative data provided by users in the form of open-ended comments. Consistently, across libraries, a striking percentage of participants (roughly 40%) provide comments, which flesh out users' service quality perceptions, and make specific recommendations for service quality improvements. Thus, LibQUAL+ is not just 22 core items, but at least includes "22 items and a comments box" (University, 2018).

The LibQUAL+tm as an instrument was initially proposed in 2001 with 41 items categorized under five dimensions. In the latest version, there are only three dimensions covering 22 items, which are also taken in this study to get the response from the defined population (Bhanu, 2018).

Review of Literature

Shedlock & Walton (2004) reports in his study that **"**the Galter Health Sciences Library has used the LibQUAL+™ survey in two consecutive years. Both sets of survey results provided useful information to understand how users perceive the quality of Galter Library services. The first year's relatively positive results offered a useful and hopeful benchmark. The second year's results provided more of a "wake-up" call to explore in depth what users want and need from the library. Peer comparison also offers an additional insight as to where Galter staff can look to find models and/or best practices when exploring specific remedies that would improve services to Galter users" (Shedlock & Walton, 2004).

Katheleen, F Miller (2008) conducted a study titled "service quality in academic libraries an analysis of LibQUAL+™ scores and institutional characteristics." Several statistically significant relationships were found; notably, negative correlations were found between each of the LibQUAL+™ scores and total library expenditures (Miller, 2008).

Asemi A., Kazempour Z., and Ashrafi Rizi, H (2010) conducted a study Using LibQUAL+™ among Iran academic libraries and to assess the overall services quality of libraries from the users' perspectives to improve services to libraries. It was found that library users were dissatisfied with their library building. But these libraries performed very well in the information control dimension (Asemi A., Kazempour Z. and Ashrafi Rizi, 2010).

Madhukar Dalvi and Santosh C. Hulagabali (2012) conducted a study titled " Use of Libqual+®Technique to Measure the Expectations and Perceptions Among the Patrons of NKCLibrary: A Case Study." The paper discovers and analyses the users' expectations and perception about the library and its services (Dalvi & Hulagabali, 2012).

Kulkarni M. K. (2012) did her research for her doctoral theses titled 'Survey of state administrative training institutes (ATI) libraries in India with special reference to library service quality expectations. For the librarians the expectations of the users serves as a guideline for the integrated library development, planning of library services, and enriching of existing collection. As such, knowledge about the expectations of the library users has become significant for library (Kulkarni, 2012).

Rehman (2013) conducted a study to measure the service quality of the university libraries in Pakistan from users' point of view. The findings of the study indicate that overall libraries do not meet users' minimum acceptable and desired levels of service quality. The zone of tolerance identified eight problematic services, most of which are related to the information

control dimension. This study also indicates a wide gap between users' perceptions and expectations of service quality (Rehman, 2013).

Chitra Sharma (2017) in his study of quality management in relation to library science observes that the health of a library lies in two factors: (1) the contents it acquires and (2) the operating system of the library. According to him both of these factors are supplementary to each other and in turn assures quality (Sharma, 2017).

Bhanu Partab (2018) conducted a study titled "measuring service quality and user satisfaction in medical university libraries of Haryana and Punjab state of India: a comparative study of PBDSUHS, Rohtak and BFUHS, Faridkot by using LibQUAL+®tool." Most of the items of the three dimensions of LibQUAL+® tool showed negative scores on adequacy and superiority level. The researcher concluded that the users of both the health science university libraries were not satisfied with the services provided to them currently (Bhanu, 2018).

Vimala College, Cheroor, Thrissur

Vimala College was started in the year 1967. Bifurcated from St. Mary's College (Thrissur, Kerala) and affiliated to the University of Calicut, Vimala College offers 16 Graduate and 13 Post Graduate programmes along with other certificate and short term courses and is a Centre for Research in English, Physics, Commerce, Social work and Economics ("Vimala College," 2018).

Accredited at the national level with a Five Star status in 2001 by the NAAC, the institution has undergone two subsequent cycles of re-accreditation in 2008 and 2014 and presently holds grade A with a CGPA of 3.50 on a 4 point scale. The University Grants Commission (UGC) conferred autonomy in 2015 and identified her as a College with Potential for Excellence in 2016. The Ministry of Human Resource Development, Government of India awarded the College the 52nd and 77th positions in the National Intuition Ranking Framework (NIRF) of the years 2017 and 2018 respectively. Vimala College is a mentor college in NAAC Paramarsh Scheme from 2018 ("Vimala College," 2018).

Table No. 01
The current Status of Central Library, Vimala College, Cheroor, Thrissur

Total number of books	75714
Reference	2654
Journals & periodicals	190

Source: Library blog http://vimalalib.blogspot.com/("Echoes," 2018)

St. Thomas College, Thrissur

St. Thomas' College was started on 8th June 1919 with 96 students and 5 teachers. The College rose to the status of a First Grade College in History Group in March 1925. With the formation of Universities in Kerala, the College was affiliated to the University of Kerala in 1957 and to the University of Calicut in 1968. The UGC granted Autonomous Status to the College on 13.06.2014. The College has 23 Departments, 14 PG programmes 23 UG programmes and 8 research centres. As a pioneering institution of higher education in Kerala, St. Thomas' College won 3.58 points in a 4.0 scale during the NAAC Peer Team visit in 2010 and got reaccredited on 8th January 2011.

The College became the first Autonomous College in the University of Calicut in 2014. Established in 1919, St. Thomas' College has a remarkable history of imparting knowledge to generations of students and the College strives to achieve excellence in teaching, training and research. The College has 2752 students, 147 teachers, 23 research supervisors and 53 research students in 8 research centres. The Academic Council and Boards of Studies have many nationally and internationally reputed scholars and personalities as experts. The College also serves as a centre for the distance learning programmes of the University of Calicut ("St. Thomas College (autonomous)," 2018)

Table No. 02
The current Status of St. Thomas College Library, ThrissurThrissur

General Library	English Library	Science Library	Total Books	Total Titles
56610	17065	18415	**92090**	**72653**

Source: ("St. Thomas College (autonomous)," 2018)

Christ College, Irinjalakuda

Christ College was started in 1956, by the Devamatha Province of the Carmelites of Mary Immaculate (CMI), an indigenous religious congregation founded in 1831 by Saint Cyriac Elias, a Religious Priest and a versatile genius, who envisioned education as a tool for liberation and development. Founded as per the provisions of the Indian Constitution, part III, Article 30(1) and administered by Christ College Educational Society (Regd. No. 137/75), this college is a Minority institution, affiliated to Calicut University and Re-accredited by NAAC with highest grade 'A'. Christ College is dedicated to Jesus Christ, and has as its motto "JeevithaPrabha", which means "Light of Life". Following recommendations from State

Government, the college has been conferred the "Autonomous status" by University Grants Commission (UGC) during the year 2015, the Diamond Jubilee year of the college. It offers an ideal vision of education that is aware of and responsive to the challenges of the nation's present situation. Christ College is the number one college in Kerala and it occupies 8th position in India, ranked by HRD, Central Ministry of India and NIRF

Table No. 03
The current Status of Christ College, Irinjalakuda.

Total number of books	125000
Reference	26235
Journals & periodicals	180

Statement of the Problem

Maintaining and improving the quality of the library services is very important. The libraries attached to higher education institutions must take due care in this matter. The researcher selected prestigious institutions of Thrissur District, the cultural capital of Kerala State. The colleges are Vimala College (Cheroor) and St. Thomas College (Thrissur) and Christ College (Irinjalakuda). These are the only three autonomous colleges of Thrissur District. The present study is an attempt to compare the gap between the expectations and perceptions of library users towards the quality of library services using LibQUAL+® Tool in order to improve the service quality in the libraries.

Objectives of the study:

The following specific objectives were taken into consideration:

1. To know the service expectations of users of Vimala College, St. Thomas College and Christ College using LibQUAL+® Tool
2. To determine users' perceptions about services provided by the libraries of Vimala College, St. Thomas College, Christ College using LibQUAL+® Tool
3. To identify the gap between the level of expectations and perceptions of library users by using LibQUAL+® Tool
4. To ascertain the level of users' perception

Methodology

The study was conducted using LibQUAL+® Tool in the libraries of Vimala college (Cheroor), St. Thomas College (Thrissur) and Christ College (Irinjalakuda) to have a comparative study of the quality of services and facilities provided. A structured LibQUAL+®

Tool questionnaire was designed for the purpose of data collection and the copies of the same were distributed personally on a random basis. A total of 150 questionnaires were distributed in each college among the UG & PG students and Faculty equally. Out of the 450 questionnaires distributed among the respondents, 392 (87%) forms were returned: 129 (85%) from Vimala College, 131 (86%) from St. Thomas College, and 132 (87%) from Christ college. Based on the filled-in questionnaires the researcher did analysis and tabulation of the data and presented in the form of tables. SPSS statistical packet was used to analyse the data.

Data analysis and Interpretation

The analysis of the data is presented in the following tables.

Table No. 04
Academic Status of the Respondents

Academic Status	Vimala College	St. Thomas College	Christ College
UG	44 (34.10%)	46 (35.11%)	45 (34.35%)
PG	42 (32.81%)	42 (32.30%)	41 (31.29%)
Faculty	43 (33.59%)	43 (33.07%)	46 (34.84%)
Total	**129**	**131**	**132**

Table 04 clearly depicts the academic status of the respondents of the three colleges. Equal number of questionnaires were distributed among the three group of respondents of the three colleges, and the researcher received a good response from all the colleges. The percentage of filled-in questionnaires received back is almost the same among the three groups of all the three colleges.

Table No. 05
Frequency of Visit to the Library

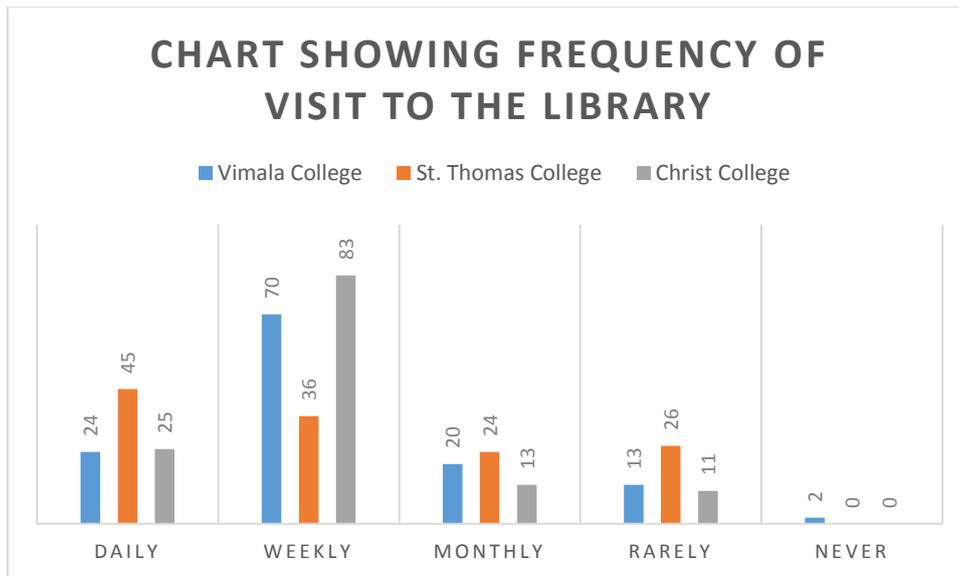| Frequency	Vimala College	St. Thomas College	Christ College
Daily	24 (18.75%)	45 (34.35%)	25 (19.08%)
Weekly	70 (54.26%)	36 (27.69$)	83 (62.87%)
Monthly	20 (15.62%)	24 (18.46%)	13 (09.92%)
Rarely	13 (10.15%)	26 (20%)	11 (08.39%)
Never	02 (01.56%)	0	0
Total	**129**	**131**	**132**

CHART SHOWING FREQUENCY OF VISIT TO THE LIBRARY

Table 05 gives a true picture of the frequency of the visit to the library by the respondents. A good number of the respondents of the three Colleges visit the library on a daily basis, and the figures are: Vimala College (54.26%), Christ College (62.87%) and St. Thomas College (34.35%). It is remarkable to note that a small percentage (01.56%) of the respondents of Vimala College never visits the library.

Table No. 06
Mean Score for each Particular Question and showing service adequacy and service superiority

Question Text	Minimum Mean (1)	Desir-ed Mean (2)	Percei-ved Mean (3)	Service Adequacy (3-1)	Service Superiority (3-2)	n
Affect of Service						
Library staff instill confidence in users	6.45	7.08	6.29	*-0.16*	-0.786	392
Library Staff pays personal attention to the users	6.33	7.07	6.77	0.43	-0.31	392
Library Staff is consistently courteous	6.68	7.11	6.68	0.00	-0.43	392
Library Staff is always ready to respond to users' questions	6.96	7.42	7.17	0.21	-0.25	389
Library Staff has competence/knowledge to answer the users' questions	6.72	7.30	6.62	*-0.11*	-0.68	392
Library Staff is caring while dealing with the users	6.44	7.20	6.87	0.43	-0.33	392
Library Staff understands the needs of the users	6.53	7.39	6.75	0.23	-0.63	392
Library staff is always willing to help users	6.65	7.53	6.87	0.21	-0.66	392
Library staff displays reliability in handling	6.68	7.36	6.96	0.28	-0.40	392

users' service problems						
Information Control						
Electronic resources of the library are accessible from my home or office	6.86	7.52	6.91	0.05	-0.61	392
Web site of the library enables me to locate information on my own	7.01	7.62	6.96	*-0.05*	-0.66	392
Library has printed materials, I need for my study and work	6.75	7.50	6.82	0.07	-0.68	392
Library has electronic resources, I need for my study and work	6.96	7.49	7.21	0.25	-0.27	392
Library has modern equipment that lets me have easy access to the needed information	6.86	7.68	6.93	0.07	-0.75	392
Library has easy-to-use access tools that allow me to find information on my own	6.85	7.52	7.18	0.34	-0.34	392
Library makes the information easily accessible for independent search	6.72	7.54	7.09	0.37	-0.45	392
Library has print and / or electronic journal collections, I require for my study/work	6.73	7.59	7.33	0.60	-0.27	392
Library as a Space						
Library has space that requires study and learning	6.80	7.47	7.23	0.43	-0.24	392
Library has quiet space for individual activities	6.79	7.38	6.81	0.01	-0.58	391
Library has comfortable and inviting location	6.91	7.83	6.84	*-0.07*	-0.99	392
Library is a gateway for study, learning and research	6.65	7.39	6.82	0.17	-0.57	392
The Library has convenient service hours	6.62	7.28	6.97	0.35	-0.31	392

Table 06, where *n* in the last column is the number of respondents for each particular question (the responses from the total population is considered here), shows the mean scores for each question.

The **service adequacy gap score** is calculated by subtracting the minimum score from the perceived score on any given question. In general, service adequacy is an indicator of the extent to which the library is meeting the minimum expectations of the users. A negative service adequacy gap score indicates that the users' perceived level (real-time experience) of service quality is below their expected minimum level of service quality, and the same is shown in the table in bigger character size and as bold and italics. This table depicts that four statements carry negative scores for service adequacy test out of which two questions are from the section 'Affect of service' and one from the section 'Information Control' and one from 'Library as space'. As mentioned in the beginning, it is a picture in toto. Out of 22 statements,

18 statements scored better. It is necessary to see which individual college is responsible for the overall negative score, which we will see in the forthcoming tables.

The **service superiority gap score** is calculated by subtracting the desired score from the perceived score on any given statement. In general, service superiority is an indicator of the extent to which the library is exceeding the desired expectations of the users. A positive service superiority gap score indicates that the users' perceived level of service quality is above their desired level of service quality; this would be a green indicator as far as quality is concerned. Here in this table, unlike the service adequacy score, service superiority score shows negative for all given 22 statements; it is alarming that all the three colleges under study need to look into this matter and take measures to improve the quality of service.

Table No. 07
Table showing the mean score and standard deviation for each of the general satisfaction questions

Satisfaction Question	Mean	SD	n
The Library helps me to stay abreast of developments in my study and work	6.967	1.6959	392
The library aids me my advancement in my academic discipline or work	7.077	1.5716	392
The library enables me to be more efficient in my academic pursuits of work	6.911	1.6495	392

Table 07 displays the mean score and standard deviation for each of the general satisfaction questions: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service; *n* in the last column is the number of respondents for each question. These scores are calculated from responses to the general satisfaction questions on the LibQUAL+® survey, in which respondents rated their levels of general satisfaction on a scale 1-9. In a nine-point scale the mean score for the three questions ranges from 6.9 to 7. It means the respondents have rated the service as moderately satisfactory. The readings of Table No. 06 and Table No. 07 is contradictory, we can say. Even though the service superiority score is not up to the standard level, the users rated their general satisfaction level towards the overall quality of the library as above average. The difference is that in the case of statements pertaining to general satisfaction survey the users were not asked to rate in three level i.e., minimum, desired, and perceived as that is in the case of statements pertaining to Affect of Service, Information Control and Library as a Place. This will be the reason for such contradiction in response.

Table No. 08

Table showing the mean score and standard deviation for the information literacy outcomes question

Satisfaction Question	Mean	SD	n
The library helps me distinguish between trustworthy and untrustworthy information	6.727	1.8483	389
The library provides me with the information skills I need in my work or study	7.099	1.5969	392
In general I am satisfied with the way in which I am treated at the library	7.117	1.7523	392
In general I am satisfied with library support for my learning, research, and/or teaching needs	7.357	1.6819	392
How would you rate the overall quality of the service provided by the library	7.293	1.6066	392

Table 08 displays the mean score and standard deviation for each of the information literacy outcomes questions; *n* in the last column is the number of respondents for each question. These scores are calculated from responses to the information literacy outcomes questions on the LibQUAL+® survey, in which respondents rated their levels of general satisfaction on a scale from 1-9 with 1 being "strongly disagree" and 9 representing "strongly agree". Information literacy is the one of the tangible and countable outcomes of the effective and efficient quality library service. The table shows a mean score of seven and above for all except one for the five questions. Only for one statement, the mean score is 6.727. The standard deviation is almost on the same range, which means there is not much disparity in the opinions of the respondents.

Table No. 09
Mean scores of each of the core questions added by the respondents of Vimala College along with score on Service Adequacy and Service Superiority

Question Text	Minimum Mean (1)	Desired Mean (2)	Perceived Mean (3)	Service Adequacy (3-1)	Service Superiority (3-2)	N
Library staff instill confidence in users	6.35	7.53	6.58	0.23	-0.95	129
Library Staff pays personal attention to the users	6.32	7.47	7.01	0.69	-0.46	129
Library Staff is consistently courteous	6.50	7.33	6.81	0.31	-0.52	129
Library Staff is always ready to respond to users' questions	6.91	7.90	7.36	0.45	-0.54	129
Library Staff has competence/knowledge to answer the users' questions	6.87	7.73	7.07	0.20	-0.66	129
Library Staff is caring while dealing with the	6.58	7.67	7.11	0.53	-0.56	129

Question Text	Min (1)	Desired (2)	Perceived (3)	Service Adequacy (3-1)	Service Superiority (3-2)	N
users						
Library Staff understands the needs of the users	6.57	7.63	6.89	0.33	-0.74	129
Library staff is always willing to help users	6.68	7.76	7.09	0.41	-0.67	129
Library staff displays reliability in handling users' service problems	6.50	7.52	7.07	0.57	-0.45	129
Electronic resources of the library are accessible from my home or office	6.92	7.90	7.29	0.37	-0.61	129
Web site of the library enables me to locate information on my own	7.19	7.85	7.24	0.05	-0.61	129
Library has printed materials, I need for my study and work	6.96	7.97	7.40	0.44	-0.57	129
Library has electronic resources, I need for my study and work	7.12	8.16	7.56	0.44	-0.61	129
Library has modern equipment that lets me have easy access to the needed information	6.87	8.05	7.32	0.45	-0.73	129
Library has easy-to-use access tools that allow me to find information on my own	6.88	7.89	7.50	0.61	-0.40	129
Library makes the information easily accessible for independent search	6.78	7.82	7.38	0.61	-0.44	129
Library has print and / or electronic journal collections, I require for my study/work	6.98	8.03	7.50	0.51	-0.54	129
Library has space that requires study and learning	7.19	8.02	7.64	0.46	-0.38	129
Library has quiet space for individual activities	7.10	7.97	7.35	0.25	-0.62	129
Library has comfortable and inviting location	6.99	8.05	7.28	0.29	-0.77	129
Library is a gateway for study, learning and research	6.65	7.50	6.85	0.20	-0.65	129
The Library has convenient service hours	6.78	7.47	7.23	0.46	-0.24	129

As seen in Table 09, none of the questions scored a negative score; we must, therefore, conclude that for all the questions, the perceived level of service was always higher than the expected minimum level of service. It is interesting to note that it is not Vimala college Library which is responsible for the negative service adequacy score in Table 06 (showing service adequacy and service superiority in toto). The College Library cannot claim service superiority, as the scores are all negative.

Table No. 10
Mean scores of each of the core questions added by the respondents of St. Thomas College along with score on Service Adequacy and Service Superiority

Question Text	Minimum Mean (1)	Desired Mean (2)	Perceived Mean (3)	Service Adequacy (3-1)	Service Superiority (3-2)	N
Library staff instill confidence in users	5.95	6.68	5.98	0.03	-0.70	131
Library Staff pays personal attention to the users	5.98	6.63	6.47	0.49	-0.17	131
Library Staff is consistently courteous	6.67	7.03	6.57	*-0.10*	-0.46	131

Library Staff is always ready to respond to users' questions	6.77	7.30	6.92	0.15	-0.38	131
Library Staff has competence/knowledge to answer the users' questions	6.20	7.10	6.21	0.02	-0.89	131
Library Staff is caring while dealing with the users	5.85	6.68	6.44	0.59	-0.24	131
Library Staff understands the needs of the users	5.93	7.02	6.53	0.60	-0.48	131
Library staff is always willing to help users	6.53	7.33	6.62	0.09	-0.71	131
Library staff displays reliability in handling users' service problems	6.60	7.47	6.85	0.25	-0.63	131
Electronic resources of the library are accessible from my home or office	6.59	7.37	6.68	0.09	-0.69	131
Web site of the library enables me to locate information on my own	6.60	7.76	6.82	0.22	-0.93	131
Library has printed materials, I need for my study and work	6.19	7.21	6.56	0.37	-0.66	131
Library has electronic resources, I need for my study and work	7.12	7.36	7.34	0.22	-0.02	131
Library has modern equipment that lets me have easy access to the needed information	6.46	7.68	6.82	0.36	-0.86	131
Library has easy-to-use access tools that allow me to find information on my own	6.63	7.33	6.90	0.27	-0.43	131
Library makes the information easily accessible for independent search	6.34	7.22	6.72	0.37	-0.50	131
Library has print and / or electronic journal collections, I require for my study/work	6.06	7.11	6.99	0.93	-0.12	131
Library has space that requires study and learning	6.37	7.04	6.69	0.32	-0.35	131
Library has quiet space for individual activities	6.28	6.99	5.94	*-0.34*	-1.05	131
Library has comfortable and inviting location	6.65	7.15	6.41	*-0.24*	-0.75	131
Library is a gateway for study, learning and research	6.57	6.95	6.83	0.27	-0.12	131
The Library has convenient service hours	6.64	6.98	6.57	*-0.07*	-0.40	131

As Table 10 shows, out of 22 core questions, four questions scored negative for the service adequacy. Out of the four questions, three are pertain to the questions related to 'Library as a space'. The remaining question is from the section 'Affect of Service'. The negative score indicates that the perceived level of service is lower than the minimum level of service expectation of the users. The researcher can say that the respondents were sincere, because as the college is situated in the heart of Thrissur Metropolitan city, the cultural capital of Kerala, the college faces space problem and the library infrastructure is very poor as far as space is concerned. However, it is learned from the college management that they are already thinking of a new location and new buildings to solve this problem. To the statement 'library staff is

consistently courteous' in the core area Affect of service, the score is negative. The situation is to be improved taking proper remedial measures to provide training in soft skills to the library staff. The score for the service superiority of St. Thomas College is far behind the needed level.

Table No. 11
Mean scores of each of the core questions added by the respondents of Christ College along with score on Service Adequacy and Service Superiority

Question Text	Minimum Mean (1)	Desired Mean (2)	Perceived Mean (3)	Service Adequa-Cy (3-1)	Service Superiority (3-2)	N
Library staff instill confidence in users	7.04	7.03	6.32	*-0.72*	-0.71	132
Library Staff pays personal attention to the users	6.70	7.13	6.83	0.13	-0.30	132
Library Staff is consistently courteous	6.85	6.96	6.64	*-0.20*	-0.32	132
Library Staff is always ready to respond to users' questions	7.19	7.07	7.21	0.02	*0.14*	132
Library Staff has competence/knowledge to answer the users' questions	7.10	7.07	6.58	*-0.52*	-0.49	132
Library Staff is caring while dealing with the users	6.89	7.27	7.07	0.18	-0.21	132
Library Staff understands the needs of the users	7.08	7.52	6.83	*-0.24*	-0.68	132
Library staff is always willing to help users	6.75	7.50	6.89	0.14	-0.61	132
Library staff displays reliability in handling users' service problems	6.93	7.08	6.96	0.02	-0.13	132
Electronic resources of the library are accessible from my home or office	7.08	7.31	6.77	*-0.31*	-0.54	132
Web site of the library enables me to locate information on my own	7.24	7.27	6.82	*-0.42*	-0.46	132
Library has printed materials, I need for my study and work	7.08	7.32	6.51	*-0.58*	-0.81	132
Library has electronic resources, I need for my study and work	6.66	6.95	6.75	0.09	-0.20	132
Library has modern equipment that lets me have easy access to the needed information	7.26	7.33	6.66	*-0.60*	-0.67	132
Library has easy-to-use access tools that allow me to find information on my own	7.03	7.35	7.16	0.13	-0.19	132
Library makes the information easily accessible for independent search	7.04	7.58	7.17	0.14	-0.41	132
Library has print and / or electronic journal collections, I require for my study/work	7.14	7.65	7.50	0.36	-0.15	132
Library has space that requires study and learning	6.86	7.37	7.36	0.50	-0.01	132
Library has quiet space for individual activities	7.01	7.21	7.14	0.13	-0.08	132
Library has comfortable and inviting location	7.08	8.30	6.84	*-0.24*	-1.46	132
Library is a gateway for study, learning and research	6.72	7.73	6.77	0.05	-0.95	132
The Library has convenient service hours	6.46	7.40	7.11	0.65	-0.30	132

Table 11shows that out of the 22 core questions, 9 questions ranked negative score for the calculation of service adequacy from the responses given by the respondents of Christ College. Negative score is an indication that the services are not up to the minimum expectations of the users. Negative scores for nine statements calls for urgent treatment plan for the library to improve the service quality. At the same time, a positive score in the service superiority column is an indication that the library is performing far better than the desired level of the users. Christ College has score one positive scores in this respect against the statement 'Library Staff is always ready to respond to users' questions'.

Table No 12
Comparison between the service adequacy score between the three colleges under study

Question Text	Perceived – Minimum = Service Adequacy)					
	Vimala College n=129		St. Thomas College n=131		Christ College n= 132	
	Mean	SD	Mean	SD	Mean	SD
Library staff instill confidence in users	0.23	-0.14	0.03	0.14	*-0.72*	0.25
Library Staff pays personal attention to the users	0.69	-0.17	0.49	0.05	0.13	-0.25
Library Staff is consistently courteous	0.31	0.08	*-0.10*	0.08	*-0.20*	-0.01
Library Staff is always ready to respond to users' questions	0.45	0.11	0.15	0.08	0.02	0.05
Library Staff has competence/knowledge to answer the users' questions	0.20	0.09	0.02	-0.33	*-0.52*	-0.03
Library Staff is caring while dealing with the users	0.53	-0.02	0.59	-0.22	0.18	-0.05
Library Staff understands the needs of the users	0.33	0.07	0.60	-0.16	*-0.24*	0.20
Library staff is always willing to help users	0.41	-0.02	0.09	0.16	0.14	-0.23
Library staff displays reliability in handling users' service problems	0.57	0.18	0.25	0.09	0.02	-0.33
Electronic resources of the library are accessible from my home or office	0.37	-0.16	0.09	-0.04	*-0.31*	-0.07
Web site of the library enables me to locate information on my own	0.05	-3.85	0.22	0.05	*-0.42*	0.09
Library has printed materials, I need for my study and work	0.44	-0.13	0.37	-0.20	*-0.58*	-0.28
Library has electronic resources, I need for my study and work	0.44	-0.27	0.22	-0.10	0.09	-0.34
Library has modern equipment that lets me have easy access to the needed information	0.45	-0.05	0.36	-0.17	*-0.60*	0.47
Library has easy-to-use access tools that allow	0.61	-0.16	0.27	-0.22	0.13	-0.29

me to find information on my own						
Library makes the information easily accessible for independent search	0.61	-0.01	0.37	-0.28	0.14	-0.19
Library has print and / or electronic journal collections, I require for my study/work	0.51	-0.29	0.93	-0.21	0.36	-0.46
Library has space that requires study and learning	0.46	0.03	0.32	-0.20	0.50	-0.14
Library has quiet space for individual activities	0.25	0.15	*-0.34*	0.31	0.13	0.03
Library has comfortable and inviting location	0.29	0.02	*-0.24*	0.03	*-0.24*	0.49
Library is a gateway for study, learning and research	0.20	0.04	0.27	-0.26	0.05	0.59
The Library has convenient service hours	0.46	-0.11	*-0.07*	0.06	0.65	0.03

CHART SHOWING THE COMPARISON OF SERVICE ADEQUACY BETWEEN THREE COLLEGES UNDER STUDY
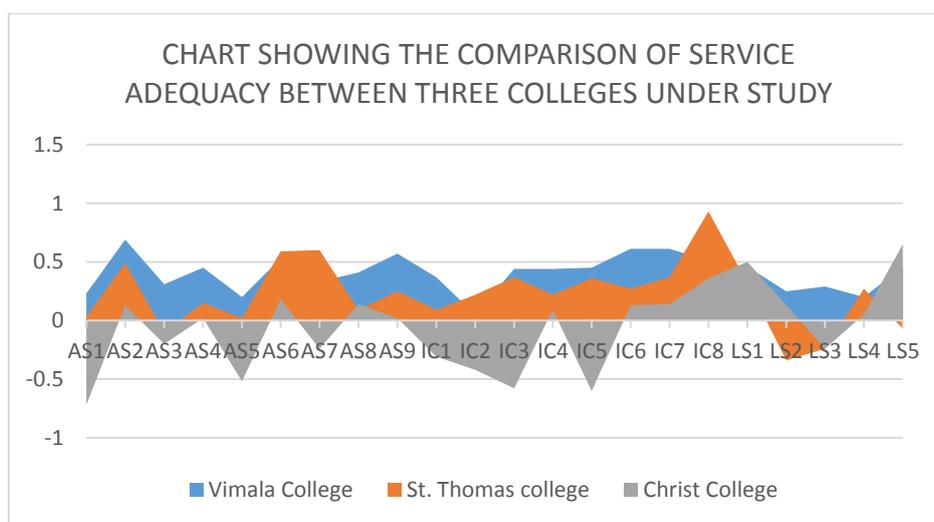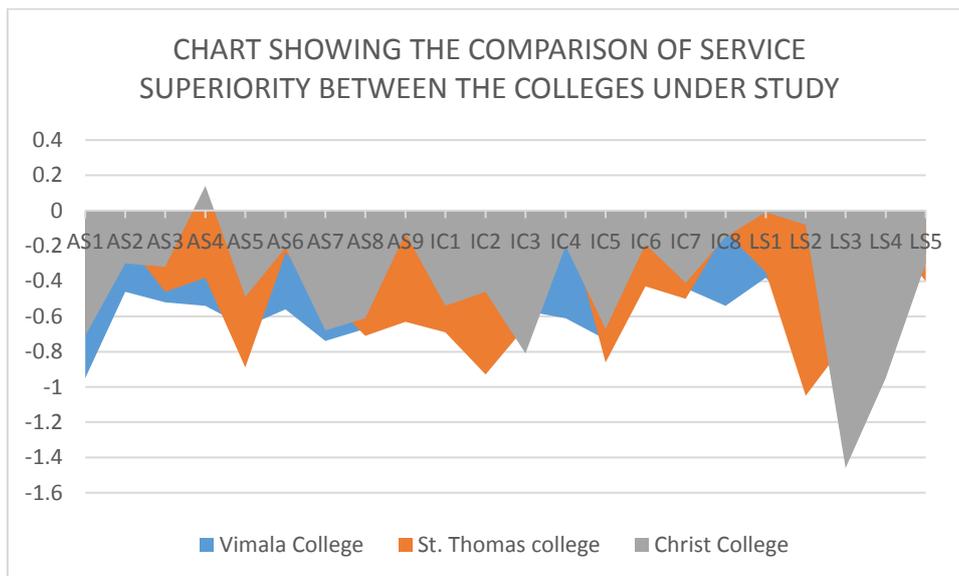
Vimala College St. Thomas college Christ College

Table 22 is a comparative analysis of the service adequacy between the three colleges under study – Vimala College, Cheroor; St. Thomas College, Thrissur; and Christ College Irinjalakuda. As seen from the table it is very clear that Vimala Collegehas no negative figure for service adequacy. This is an indication that all the respondents of the college experience a higher service quality than their expected minimum level of service quality. In the case of St. Thomas College, there are four negative scores as against the service adequacy. Out of these four, three are for the questions from the section 'Library as a Space' and the other one is from 'Affect of Service'. Christ College Score more number of negative scores (nine) as against Service Adequacy. There are nine questions in the section 'Affect of Service', in which four questions scored negative score. There are eight questions in the section 'Information Control', in which four questions scored negative.The rest one negative score is against a question from the section 'Library as a Space'. It is true that Christ College has comparatively spacious library with beautiful space planning and architecture. But urgent remedial measures is to be

taken to improve the quality in the rest of the two core areas i.e, Affect of Service and Information Control.

Table No. 13
Comparison between the service superiority score between the three colleges under study

Question Text	Perceived – Desired = Service Superiority)					
	Vimala College n=129		St. Thomas College n=131		Christ College n= 132	
	Mean	SD	Mean	SD	Mean	SD
Library staff instill confidence in users	-0.95	0.21	-0.70	0.13	-0.71	0.02
Library Staff pays personal attention to the users	-0.46	0.10	-0.17	0.30	-0.30	0.06
Library Staff is consistently courteous	-0.52	0.30	-0.46	0.21	-0.32	-0.29
Library Staff is always ready to respond to users' questions	-0.54	0.38	-0.38	0.38	*0.14*	-0.04
Library Staff has competence/knowledge to answer the users' questions	-0.66	0.32	-0.89	-0.24	-0.49	0.06
Library Staff is caring while dealing with the users	-0.56	0.34	-0.24	-0.39	-0.21	0.19
Library Staff understands the needs of the users	-0.74	0.34	-0.48	-0.05	-0.68	0.49
Library staff is always willing to help users	-0.67	0.28	-0.71	0.59	-0.61	0.20
Library staff displays reliability in handling users' service problems	-0.45	0.35	-0.63	0.49	-0.13	-0.09
Electronic resources of the library are accessible from my home or office	-0.61	0.21	-0.69	0.20	-0.54	-0.05
Web site of the library enables me to locate information on my own	-0.61	0.30	-0.93	0.62	-0.46	-0.10
Library has printed materials, I need for my study and work	-0.57	0.09	-0.66	0.27	-0.81	-0.15
Library has electronic resources, I need for my study and work	-0.61	0.28	-0.02	0.27	-0.20	-0.14
Library has modern equipment that lets me have easy access to the needed information	-0.73	0.49	-0.86	0.51	-0.67	0.63
Library has easy-to-use access tools that allow me to find information on my own	-0.40	0.22	-0.43	0.07	-0.19	0.01
Library makes the information easily accessible for independent search	-0.44	0.21	-0.50	-0.08	-0.41	0.10
Library has print and / or electronic journal collections, I require for my study/work	-0.54	0.30	-0.12	0.02	-0.15	-0.08
Library has space that requires study and learning	-0.38	0.21	-0.35	-0.04	-0.01	0.23
Library has quiet space for individual activities	-0.62	0.45	-1.05	0.79	-0.08	0.36
Library has comfortable and inviting location	-0.77	0.50	-0.75	0.42	-1.46	0.92
Library is a gateway for study, learning and research	-0.65	0.31	-0.12	-0.01	-0.95	0.65
The Library has convenient service hours	-0.24	0.06	-0.40	-0.11	-0.30	0.45

CHART SHOWING THE COMPARISON OF SERVICE SUPERIORITY BETWEEN THE COLLEGES UNDER STUDY

The data given in Table 23 shows a comparative analysis of library service quality on 'service superiority gap scores of Vimala, St. Thomas and Christ Colleges on all 22 items of three dimensions of LibQUAL+® tool. A gap is noticed in all the items of all the three dimensions except for one question for Christ College. Christ College has a positive score for the question 'Library Staff is always ready to respond to users' questions' from the dimension 'Affect of Service'. We cannot say that the gap is very wide, because all the scores are less than one. It is the same situation for all the three colleges. As a concluding remark, it can be said that the library users of all the three colleges are not fully satisfied with the services and facilities provided.

Discussion of Findings

The study investigates the service quality in the libraries of Three Autonomous Colleges in Thrissur district using the LibQUAL+® tool. The objective of the study was to see whether the desired expectations of service quality is met and also to see the gap between the desired and perceived quality. This gap between the desired level and perceived level would show the level of service superiority.

The survey revealed that none of the college under study attained service superiority in any of the core areas – Affect of Service, Information Control and Library as a Place. Even in the case of service adequacy (which is assessed by calculating the difference between the perceived and expected minimum) Christ College Irinjalakuda and St. Thomas College Thrissur lag behind in a number of areas. In the case of St. Thomas College, the major

shortcomings are under the area of Library as a Place, which will be rectified once their new college building begins to function.

Several implications for all the three colleges under study can be deduced from the findings of the study. The library is a service organization and it is the heart of any organization especially that of academic institutions. It is the duty of the management as well as the librarian to keep the service superiority in all the activities of the library, so that the younger generations will be literate in its true sense. It is therefore, necessary for the management of the colleges and their librarians to develop programs, services, and collaborations to make the library a hub of informative and creative space with utmost human touch. Dr. S. R. Ranganathan, the father of Library Science of India says that it is the duty of the librarian to give the right information to the right person at the right time in the most personal way. Also, the fifth of his famous five laws of library science (Library is a growing organism.) needs proper application in the present-day library. The nature of the library changes quickly due to fast development in the Information Communication Technology. Libraries need to evolve to incorporat these changes in the present-day library services.

Conclusion

The 21st century libraries focus not on the quantity of the collection, nor on the size of the library premise. Rather, libraries concentrate on the quality of services provided. User-satisfaction is the ultimate goal. User-friendliness and sustainable development of the community as a whole is the chief focus. Therefore, quality surveys help the librarians and library management to make a SWOT (Strength, Weakness, Opportunities and Threats) analysis and plan accordingly.

The study presented here is an effort to know the quality of library services offered by three autonomous Colleges of Thrissur District under University of Calicut – Vimala College, St. Thomas College and Christ College. A major limitation for this study is that the population for the study from each college is only 150, which is a small portion of the College community. LibQUAL+® is originally a web-based study, for which the data manipulation is rather easy. The present esearcher collected the data using printed questionnaire, which makes data manipulation quite laborious. However such surveys do throw light on the various aspects the library system and show a path forward.

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