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Kumar, Anil and Mahajan, Preeti, "Library Performance Assessment of Service Quality through LibQUAL: The Case of Maharshi Dayanand University (MDU), Rohtak (India)" (2019). *Library Philosophy and Practice (e-journal)*. 2638.

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Library Performance Assessment of Service Quality through LibQUAL: The Case of Maharshi Dayanand University (MDU), Rohtak (India)

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ABSTRACT

University library plays a dynamic role in accomplishing the overall goals of its parent organization by offering a range of services to fulfill needs of the academic community. Being a service institution, performance assessment of a university library is essential to determine whether the library meet its specific objectives and also to justify library spending. Library users are said to be satisfied when the quality of services match their expected level of services. This study aimed at assessing the level of service quality (SQ) offered by the central library of Maharshi Dayanand University (MDU), Rohtak, (India) from users' viewpoints using LibQUAL survey instrument in printed format. The survey results discovered that the library users have maximum desired expectations in Library as Place (LP) dimension amongst three dimensions. The actual library performance was also reported maximum in LP dimension, followed by Information Control (IC), and Affect of Service (AS) based on mean scores 6.45, 6.41, and 6.19 respectively. The users' overall perceived library service quality (LSQ) was found less than their desired level of LSQ. The results of this study will be helpful in improving library underperformance by reviewing the areas and items where LSQ shortfall has been observed.

Keywords: Performance assessment, University library, Expectations, Perceived service quality, LibQUAL, Gap score, India

1. Introduction

In the epoch of intense global competition and commercialization of higher education, university libraries can better survive and attract attention of stakeholders by delivering efficient and effective services to their users. In the past few decades, university libraries are under pressure due to various reasons like social and economic changes, volatile technological environment, reducing funds, increasing demands of users, rise of audit culture and peer comparisons. These reasons have forced university authorities to undertake assessment of library service quality (Arshad and Ameen, 2010; Kumar and Mahajan, 2019). High quality of service and customer satisfaction should be the ultimate goal of any library irrespective of its type and nature. Customer is central in any service organisation and their viewpoint is fundamental while assessing quality in academic libraries. In order to improve quality of services, libraries first need

to understand what are the prime need and demands of their customers. One thing has to be understood by the library managers that, those days have gone when library quality was measured in terms of number of actual library transactions, total collection held, amount of budget allocated and staff strength. Such methods are now obsolete and based on the statistics alone, the assessment of total quality of a library is inappropriate (Nitecki, 1996; Hariri and Afnani, 2008). Therefore, the performance of a library should be assessed in terms of collection, staff, services, physical space and facilities (Martensen and Gronholdt, 2003; Hernon et al. 1999). Library Service Quality Assessment helps to ascertain total quality in terms of resources and services and thus maximize the utilization of products and services offered by them (Kumar and Mahajan, 2019). Moreover, such customer based assessment would serve as a planning tool by providing valuable feedback which in turns provides necessary information to identify strength and weakness of library and information centres. Besides, quality measure empowers librarians as well as patrons and thus, results in a better relationship. In Indian academic libraries, the service quality assessment is not widespread from customer's perspective. In this background, our study attempts to investigate expectations and perceptions of library customers of Maharshi Dayanand University (MDU), Rohtak (India). Beside the global literature on LibQUAL based assessment, the present study will be an addition to few existing studies originated from India.

1.1 About MDU and its Central Library

Maharshi Dayanand University (MDU), Rohtak, Haryana (India) was established in 1976 as a residential University. Now it is a teaching-cum-affiliating university with a formidable track record in academics, research, literary and cultural activities, games & and sports and social outreach. At present, there are 38 Post-Graduate Departments and 11 Faculties in the University. The university was accredited with 'A' grade by The National Assessment and Accreditation Council in July, 2013. In swachh campus ranking 2018, MDU has been ranked first amongst the cleanest Higher Educational institutions of the country in the category of Government Universities.

The university has an elegant central library i.e. Vivekananda Library, named after Swami Vivekananda - the illustrious Indian Philosopher. The magnificent library building is centrally located and has a floor area of 84,000 sq. ft. The library has seating capacity for more than 1300 readers including one reading hall of about 250 seats opened round the clock. The reading halls are located on all the three floors adjacent to the stack areas to maintain proximity of the library users to the books. A separate air conditioned reading hall with 85 seats is distinctively reserved for research scholars. The library holds a rich collection of both print and e-resources. It has more than 3, 67000 volumes of books and also subscribed to 74 foreign and 366 Indian journals. It provides online access to comprehensive collection of e-resources (25018 e-books, 14529 e-journals and various databases). Vivekananda Library also provides remote access to the subscribed e-resources to its academic community through Ezproxy. All library operations are almost fully automated through LIBSYS library management software. Application of RFID technology for self-check-out and check-in with security gates has been implemented and the CCTV system for library security is in operation. Free internet service is also provided to bonafide clienteles through internet nodes and Wi-Fi access points in the library.

2. Library Service Quality Measurement and LibQUAL

The university library plays a vital role in achieving goals of its parent institution. It is just like a power house of knowledge serving its academic community through diverse products and a range of services. The main objective of a university library is to satisfy changing need and demands of its patrons engaged in academic pursuit and research (Mohindra and Kumar, 2015). Quality in the context of a library is recognized in terms of the timeliness and error free of the service. In other words, library quality is delivery of prompt services with zero defects (Thapisa and Gamini, 1999). In a university library, quality is said to be attained when it meets or exceeds expectations of its customers in terms of accurate and prompt delivery of information resources and services beside physical facilities. Identifying the users' desired expectations and actual perceptions to LSQ will enable library administration to decide priorities accordingly and further reduce SQ gaps. The SQ in university libraries is largely associated with resources it has, the way staff handle the queries and provide services, and provision of physical facilities and infrastructure. There are several methods to determine the LSQ namely LibQUAL, SERVQUAL, SERVPERF, Importance-Performance Analysis, surveys, library standards, accreditation, etc. however, LibQUAL perhaps one of the best and most suitable method to measure LSQ as it covers all the above mentioned components grouped under three broad dimensions of library quality. It was a modified version of SERVQUAL, developed in October, 1999 under the aegis of Association of Research Libraries (ARL) and specially designed for the assessment of service quality in libraries.

LibQUAL is a web based standardized tool which has been tested in different libraries all over the world since its origin (Cook et al. 2001; Blixrud, 2002). It is a user centric model which measures almost all aspects of the library yielding both quantitative and qualitative data. LibQUAL survey contains twenty two core questions characterized under three major dimensions namely "Affect of Service (AS), Information Control (IC) and Library as Place (LP)." The AS dimension that seeks answers to 9 questions about library staff responsiveness, assurance, and empathy. The IC dimension comprises 8 questions to assess sufficiency and timeliness of resources and services offered by the library. The LP dimension comprises 5 questions to seek feedback from users regarding the infrastructure, physical space and comfort. On each of question, library users has to rate their "minimum, desired and perceived level" of SQ based on a nine-point Likert scale ranging from strongly disagree (1) to strongly agree (9). On the basis of these rating levels as responded by library users, gap score are calculated. The gap is defined as the difference between the minimum, desired and perceived level of LSQ. The LibQUAL adequacy gap is defined as perceived service level minus the minimum expectations for service, while superiority gap can be measured based on perceived service level minus the desired service level. The analysis of gap helps to diagnose the performance of individual attributes, dimensions and overall LSQ and also provide opportunity to librarians to improve services which are most important to library customers and deserves special attention. LibQUAL application enables university libraries to listen to their customers more systemically and ultimately satisfy them. It is unique, transformative and powerful tool which provides both the opportunity to rethink their service programs, as well as compel library staff to consider user perceptions in planning and continuous improvement of library services (Wall, 2002; Hitchingham and Kenney, 2002). Therefore; LibQUAL+™ tool was applied to investigate the expectations and perceptions of customers in the present study.

3. Review of LibQUAL Studies

After emergence of LibQUAL as a tool for assessing quality of services, several articles were published from developed countries particularly from USA describing application, implementation and results of LibQUAL in various libraries.

A special issue of “Performance Measurement and Metrics” entitled “The Maturation of Assessment in Academic Libraries: the role of LibQUAL” contained several articles conferring LibQUAL survey results and its implementation in ARL and non-ARL libraries. Sessions et al. (2002) analyzed LibQUAL data generated from Miami University libraries and observed LP to be the weakest dimension. Dole (2002) reported Washburn University experience with the LibQUAL pilot project. The results revealed that users required updated library building, advanced equipment, remote access to online resources and caring staff. McNeil and Giesecke (2002) investigated LibQUAL survey results at University of Nebraska-Lincoln (UNL), USA. The results indicated that though UNL libraries performed well in the areas of assurance, empathy, and responsiveness but failed to meet even minimum expectations in the areas of reliability, tangibles and access to collections. Hitchingham and Kenney (2002) noticed that graduate students of Virginia Tech’s University were more pleased with overall LSQ as compared to undergraduates and the faculty. Crowley and Gilreath (2002) explored LibQUAL results through focus group study at the Texas A & M University and recognized a meaningful gap between user expectations and perceptions of LSQ with regards to “Assurance”. In a case study, McCord and Nofsinger (2002) compared the results of three different assessment surveys in Washington State University Libraries and provide an insight on how each survey differs in demonstrating customer preferences. They concluded that LibQUAL data provides baseline data for future SQ assessment.

A special issue of the “Journal of Library Administration” was published as a monograph edited by Heath, Kyrillidou and Askew (2004), contained a number of articles describing application of LibQUAL survey. In 2002, fifty seven member libraries of OhioLINK and more than forty members of the Association of Academic Health Sciences Libraries (AAHSL) participated in ARL’s LibQUAL survey and became the first two consortia to run LibQUAL for purposes of group-level analysis (Blixrud, 2002; Gatten, 2004a; Forte, 2009). According to Gatten (2004b), LibQUAL survey results are useful in making comparisons among member libraries of OhioLINK consortia as well as at national level. The results also indicated that Perceived minus Minimum gap scores of member libraries on “Access to Information” and “Personal Control” dimensions are greater than the national and ARL peer groups, meaning that performance of OhioLINK is above expectations than the comparative peer groups. Wilson (2004) also compared the results of LibQUAL+™ survey at Vanderbilt University and found that the Vanderbilt Library’s mean scores are better than both the ARL average and major peers as well. Hubbard and Walter (2005) described LibQUAL survey implementation process at Jacksonville State University (JSU) during 2002 and found SQ perceptions falling well above minimum acceptable level, though none of the items surpassed desired levels of LSQ. It was also observed that the dimension LP had the lowest expectations. Similarly, the application of data in strategic planning and implementation of library services was highlighted while analyzing LibQUAL survey results of ARL member libraries such as University of Florida and the Bowling Green State University (Shorb and Driscoll 2004; Haricombe and Boettcher 2004). In a study, Hoseth (2007) discussed efforts undertaken by previous survey participants and proposed practical steps

that survey participants can apply to get the maximum out of their LibQUAL survey results. Likewise, Bower and Dennis (2007) expounded practical recommendations with regards to analysis and interpretation of LibQUAL data set. Kyrillidou and Persson (2006) examined LibQUAL application in Sweden in 2004 and revealed that Information Control (IC) was most important dimension to library users where libraries had not performed well. The results also showed the average gap between the expectations and perceptions of the students towards library services.

Moon (2007) described first South African LibQUAL+™ survey implementation in 2005 at Rhodes University Library. The results revealed that Rhodes performed very well in the IC dimension but less well in the AS dimension. Further, library users were dissatisfied with library building. Jager (2015) noted LP as the most important dimension of overall library service from users' standpoint. She also characterized library as a "third place" (where people choose to spend much of their time) in the University of Cape Town (UCT) community. Asemi et al. (2010) assessed service quality among Iran academic libraries using LibQUAL model and observed that perceived level of services in IC dimension (5.74) was more than AS (5.43) and LP (5.17) dimensions. In a meta-analysis of twenty five studies, Ramezani et al. (2018) revealed that users are relatively satisfied with the service quality offered by Iranian university libraries. McCaffrey (2013) studied seven Irish universities experience of LibQUAL usefulness based on the LibQUAL notebooks data produced from 2009 to 2012. The findings showed that users had meagre perceptions about the library buildings but, their expectations of library buildings seem to be greater than elsewhere. Dahan et al. (2016) reported positive adequacy and superiority gap scores in all service quality domains showing users' satisfaction with library services. Rehman (2013) concluded that university libraries of Pakistan do not meet users' minimum and maximum expectations of service quality. IC dimension was found below the zone of tolerance for overall user groups. Rao (2012) revealed that though library users of Osmania University, Hyderabad (India) were more satisfied with AS dimension but were not satisfied with the IC dimension. Khan (2016) examined the SQ of Visva-Bharati Library (VBL) and Burdwan University Library (BUL) in West Bengal, India and discovered that in overall library performance, VBL has performed better than BUL. Kumar and Mahajan (2019) revealed that Allama Iqbal Library satisfied minimum service level of its patrons but could not fulfil the desired level of users' expectations. The researchers observed less research studies on LibQUAL from Indian perspective. In a recent review article, Bhanu Partap (2019) also noticed lack of Indian studies on SQ measurement using LibQUAL.

A number of LibQUAL survey have been conducted in different type of libraries worldwide, especially in developed countries and the results indicate that LibQUAL is helpful in assessing and improving LSQ (Cook, 2002; Heath et al., 2004; Wei et al., 2005; Voorbij, 2012). In India, the concept of LSQ measurement from the users' standpoint is in its early stage and also application of LibQUAL is not a popular practice (Manjunatha and Shivalingaiyah, 2004; Bhanu partap, 2019; Kumar and Mahajan, 2019).

4. Significance of the Study

Due to information and digital revolution, library users have varied information needs and expectations. They want desired piece of information within short span of time. Library experts have to understand both users' expectations as well the LSQ dimensions to serve them better. In the context of libraries, SQ means availability and accessibility of information resources, services delivered, knowledge and behaviour of professionals and infrastructural facilities which satisfy users' expectations and perceptions. Hence, libraries must provide excellent service

quality in order to retain its users and increase its reputation as a service organisation. The importance of SQ has gained substantial popularity in many fields, especially in service marketing literature. With reference to the concept of service quality in the library field, abundant research is available at international level, but very few studies have been conducted to assess LSQ through LibQUAL application in the Indian context. This study helps to know the users' expectations and perceptions in an Indian academic library based on LibQUAL model. Thus, the current research fills the research gap and will trigger more LibQUAL based surveys particularly in Indian academic libraries. The LibQUAL study helps to identify deficit areas where instant improvement is required as well as best practices in library resources and services.

5. Research Questions

The present study makes an attempt to assess service quality of the central library of MDU, Rohtak, (India) from the users' perspective. Further, researchers intended to seek answers to the following specific research questions:

RQ1. What is the users' "minimum, desired and perceived service levels" on LibQUAL core items?

RQ2. What is the status of users' "minimum, desired and perceived service levels" on additional local questions?

RQ3. How are service adequacy and service superiority gap scores?

RQ4. How is the library performance in each dimension and overall LSQ?

RQ5. How the patrons rated their general satisfaction level?

RQ6. What is the outcome of users' open-ended comments?

6. Methodology

Instrument

The survey was carried out using LibQUAL+™ instrument containing 22 core items categorized in 3 dimensions namely AS, IC and LP. The survey questionnaire also contained supplementary questions covering local items (five items), information literacy items (five items), general satisfaction with library service (three items), library usage trends (three items) and items on demographic features. On each of question, library users had to rate their "minimum, desired and perceived service levels" on a nine-point Likert scale. Besides close-ended items, the survey included a comment box asking users to provide open-ended comments about LSQ.

Sampling

The survey was a part of doctoral research and was conducted at MDU campus in March, 2018. A stratified random sampling method was applied to select the library users from each stratum (postgraduate students, research scholars and faculty) disproportionately. A total of 120 paper questionnaires were personally disseminated by the investigator to regular library users. The necessary instructions were also given to each of them to avoid any confusion or incompleteness.

Of the 120, only 94 completely filled questionnaires were received back by researcher himself with a response rate of 78.33 %. The data analysis was carried out by means of excel and SPSS.

7. Results and Discussions

Table 1 Demographic features of the respondents

Respondent demographic features		Frequency	Percentage
Gender	Male	53	56.38
	Female	41	43.62
Age (Years)	Less than 20	03	3.19
	21-25	37	39.36
	26-30	22	23.41
	31-35	15	15.96
	Above 35	17	18.08
Academic Status	Postgraduate	31	32.98
	Research Scholar	34	36.17
	Faculty	29	30.85
Discipline	Arts & Humanities	33	35.11
	Social Sciences	28	29.79
	Sciences	33	35.10
Total		94	100.00

Table 1 shows the summary of the respondents' demographic features by gender, age, academic status and discipline. Of 94 respondents, more than 56% were male and roughly 44% were female. In terms of age, more than 39% respondents were in the age range of 21-25 years, 23.41% respondents were of 26-30 years of age, 18.08% were above 35 years, and nearly 16% of the respondents were between 31-35 years of age, and only a little over 3% of the respondents were below 20 years of age. Furthermore, almost equal numbers of respondent was surveyed in terms of academic status and discipline.

RQ1 WHAT IS THE USERS' MINIMUM, DESIRED AND PERCEIVED SERVICE LEVELS ON LIBQUAL CORE ITEMS?

The answer to RQ1 can be traced from Table 2 which shows the item-wise mean scores at "minimum, desired and perceived service levels" for overall users.

At minimum service level, "Library is secure and peaceful place for study, learning and research" (LP-21) and "Library has quiet space for individual work" (LP-19) were found as the two topmost service items with mean score of 6.34 and 6.33 respectively, whereas "Library staff

shows dependability in handling users' service problems" (AS-9) and "Library provides remote access to electronic resources" (IC-10) were the two lowest items with mean score of 5.51 and 5.56 respectively. This shows that library users have high expectations on these two items (LP-21 & LP-19) which belongs to LP dimension. On the other hand, the items AS-9 and IC-10 have lowest expectations (Table 2).

Based on highest mean of users' desired service level (Table 2), the three most important service items were associated to LP dimension. These service items were "Library has quiet space for individual work" (LP-19), "Library is secure and peaceful place for study, learning and research" (LP-21) and "Library has comfortable and inviting location" (LP-20) with mean score of 7.72, 7.62, and 7.56 respectively. On the other hand, "Library staff is consistently courteous" (AS-3), "Library staff pays individual attention to users" (AS-2), and "Library staff shows dependability in handling users' service problems" (AS-9) were ranked as the three lowest desired items (least important) with 6.82, 6.83, and 6.91 mean score respectively.

The respondents' perceived service level on each LibQUAL item is presented in Table 2. "Library is secure and peaceful place for study, learning and research" (LP-21) has been perceived highest level of SQ with mean score of 7.09, "Library has space that inspires study and learning" (LP-18) with mean score of 7.01, "Library has quiet space for individual work" (LP-19) with mean score of 6.98. This means respondents believed that library has performed very well on LP-21, LP18, and LP-19. The three lowest perceived service level were found on "Library has space for group learning and group study" (LP-22), "Library provides remote access to electronic resources" (IC-10), and "Library staff shows dependability in handling users' service problems" (AS-9) with mean score of 4.69, 5.36, and 5.48 respectively. Therefore, library performance was found very poor especially on LP-22, IC-10, and AS-9 (Figure 1).

Table 2 Item-wise mean scores at minimum, desired and perceived service levels

Item No	Description of service Items	M	D	P	SAG (P-M)	SSG (P-D)
AS-1	Library Staff instill confidence in users	5.69	7.21	6.40	0.71	-0.81
AS-2	Library Staff pays individual attention to users	5.60	6.83	5.78	0.18	-1.05
AS-3	Library staff is consistently courteous	5.67	6.82	6.01	0.34	-0.81
AS-4	Library staff is always ready to respond to users' questions	5.89	7.23	6.39	0.50	-0.84
AS-5	Library staff has knowledge to answer users' questions	6.04	7.28	6.35	0.31	-0.93
AS-6	Library staff deals with the users in a caring manner	5.86	7.15	6.45	0.59	-0.70

AS-7	Library staff understand the needs of their users	6.32	7.53	6.61	0.29	-0.92
AS-8	Library staff shows willingness to help users	5.69	6.98	6.28	0.59	-0.70
AS-9	Library staff shows dependability in handling users' service problems	5.51	6.91	5.48	-0.03	-1.43
IC-10	Library provides remote access to electronic resources	5.56	7.16	5.36	-0.20	-1.80
IC-11	Library Website enables me to locate information on my own	5.95	7.32	6.66	0.71	-0.66
IC-12	Library has printed materials, I need for my work	5.87	7.04	6.30	0.43	-0.74
IC-13	Library has electronic information resources, I need for my work	5.97	7.39	6.89	0.92	-0.50
IC-14	Library has modern equipment that lets me have easy access to the needed information	5.91	7.47	6.64	0.73	-0.83
IC-15	Library has easy-to-use access tools that allow me to find information on my own	5.84	7.39	6.57	0.73	-0.82
IC-16	Library makes the information easily accessible for independent use	5.67	7.00	6.20	0.53	-0.80
IC-17	Library has print and/or electronic journal collections, I require for my work	6.06	7.43	6.69	0.63	-0.74
LP-18	Library has space that inspires study and learning	5.93	7.51	7.01	1.08	-0.50
LP-19	Library has quiet space for individual work	6.33	7.72	6.98	0.65	-0.74
LP-20	Library has comfortable and inviting location	5.78	7.56	6.52	0.74	-1.04
LP-21	Library is secure and peaceful place for study, learning and research	6.34	7.62	7.09	0.75	-0.53
LP-22	Library has space for group learning and group study	5.66	7.05	4.69	-0.97	-2.36

Note: Scale: M (Minimum service) D (Desired service) P (Perceived service) SAG (Service adequacy gap) SSG (Service superiority gap)

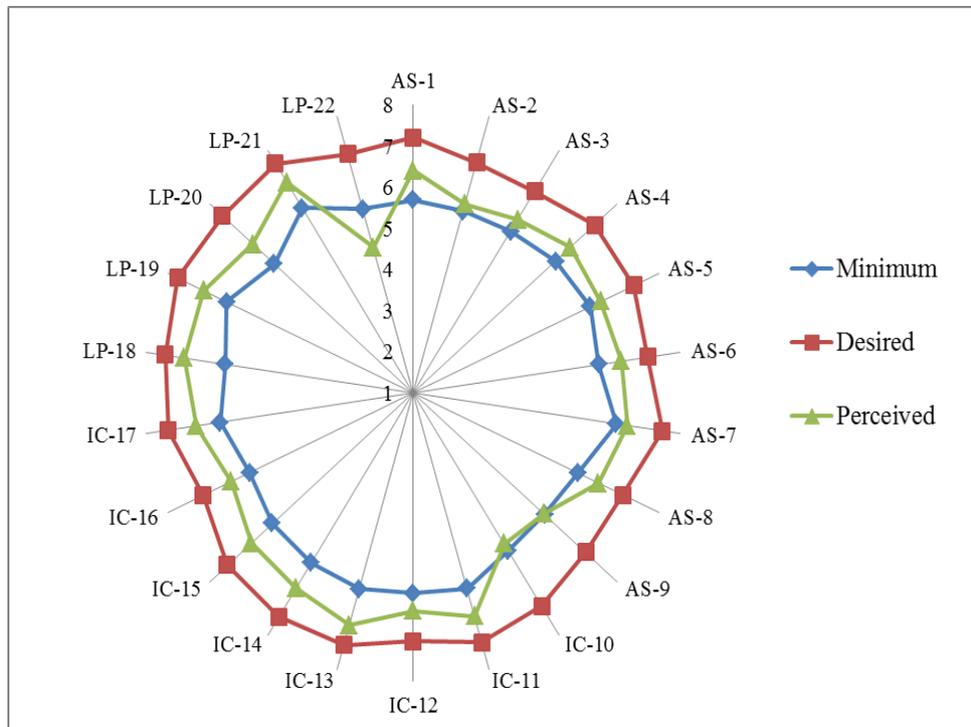


Figure 1. Radar Chart displaying item-wise mean scores at minimum,desired and perceived service levels

RQ2. WHAT IS THE STATUS OF USERS’ MINIMUM, DESIRED AND PERCEIVED SERVICE LEVELS ON ADDITIONAL LOCAL QUESTIONS?

Table 3 depicts the quality of service level on five additional local questions beside 22 core items. “Online catalog is user-friendly” (LQ-26) and “Photocopying and printing facilities” (LQ-25) were indicated as the most desired and perceived services by the respondents. The perceived level on “Efficient interlibrary loan” (LQ-27) was found less than minimum level. Based on SAG and SSG scores, LQ-25 has highest adequacy mean difference (0.86) and superiority mean (-0.76) as well.

Table 3 Service level on local questions (n=94)

Item No	Description of local items	M	D	P	SAG P-M	SSG P-D
LQ-23	Adequate & convenient service hours	5.83	7.21	6.44	0.61	-0.77
LQ-24	Proper signage to self-navigate the library	5.69	7.13	6.09	0.40	-1.04
LQ-25	Photocopying and printing facilities	5.74	7.36	6.60	0.86	-0.76

LQ-26	Online catalog is user-friendly	6.16	7.64	6.80	0.64	-0.84
LQ-27	Efficient interlibrary loan	5.53	6.64	5.15	-0.38	-1.49

RQ3. HOW ARE SERVICE ADEQUACY AND SERVICE SUPERIORITY GAP SCORES?

SAG and SSG score of each LibQUAL core item is shown in Table 2. Of 22 core items, the library patrons were satisfied on 19 items (positive SAG scores), while dissatisfied (negative SAG scores) on 3 items. “Library has space that inspires study and learning” (LP-18) and “Library has electronic information resources, I need for my work” (IC-13) had the topmost positive SAG scores (1.08 and 0.92). High positive SAG score (perceived > minimum) means minimum expectations of patrons are exceeded. Thus, service quality of the above items is good and patrons are most satisfied with these items as far as minimum expectations are concerned. Conversely, three items LP-22, IC-10, and AS-9 had negative SAG score (perceived < minimum) which means patrons’ minimum expected level is not realized and hence, service quality on these items is poor and below minimum acceptable level. (Figure 1)

It can be observed from table 2 that all SSG scores are negative (perceived < desired) as library could not meet the desired service quality on all items. LP-18 and IC-13 both had maximum and equal SSG score (-0.5), while “Library has space for group learning and group study” (LP-22) and “Library provides remote access to electronic resources” (IC-10) had lowest SSG scores of -2.36 and -1.80 respectively. Based on the above results, it can be inferred that library is doing comparatively well and need less efforts to satisfy patrons on items LP-18 and IC-13 as perceived service level on these items is near to patrons’ desired expectations. Conversely, the library has to pay much attention to improve SQ level on LP-22 and IC-10 as perceived service level has largest mean difference from desired service level. (Figure 1)

RQ4. HOW IS THE LIBRARY PERFORMANCE IN EACH DIMENSION AND OVERALL LSQ?

Table 4 shows dimension-wise library performance and overall LSQ on the basis of mean scores. The highest mean scores were observed in LP dimension at all three levels (minimum, desired and perceived). Therefore, LP is the most desired dimension and perceived performance level is also greatest in this dimension. The library staff needs to pay individual attention to users and also behave courteously with library users as it obtained lowest mean score (6.19) in AS dimension. The SAG score of each dimension is positive and hence the perceived level of services is adequate from the minimum acceptable level in all three LibQUAL dimensions. The most satisfied dimension was found to be IC as it realized maximum SAG score (0.55), while AS dimension was found as least satisfied dimension due to lowest SAG score (0.38). On the other hand, SSG score in all three dimensions are negative; obviously users’ perceived SQ level is less than their desired service level. The overall perceived LSQ mean value is 6.35 which is still less than desired mean 7.29. In order to satisfy patrons, the library needs to match or exceed their desired level of services.

Table 4 Dimension-wise performance and overall LSQ (n=94)

Dimension	M	D	P	SAG	SSG
Affect of Service (AS)	5.81	7.11	6.19	0.38	-0.92
Information Control (IC)	5.86	7.28	6.41	0.55	-0.87
Library as Place (LP)	6.01	7.49	6.45	0.44	-1.04
Overall LSQ	5.89	7.29	6.35	0.46	-0.94

RQ5. HOW THE RESPONDENTS RATED THEIR LEVELS OF GENERAL SATISFACTION?

General satisfaction level of the respondents based on mean score is shown in Figure 2. The respondents were asked to rate their satisfaction levels on a nine point scale (1 representing strongly disagree and 9 representing strongly agree). The mean score of each item was found well above average satisfaction level, which clearly depicts that the library users were reasonably satisfied with their library treatment, support for learning, research, and /or teaching needs, and overall quality of the services offered.

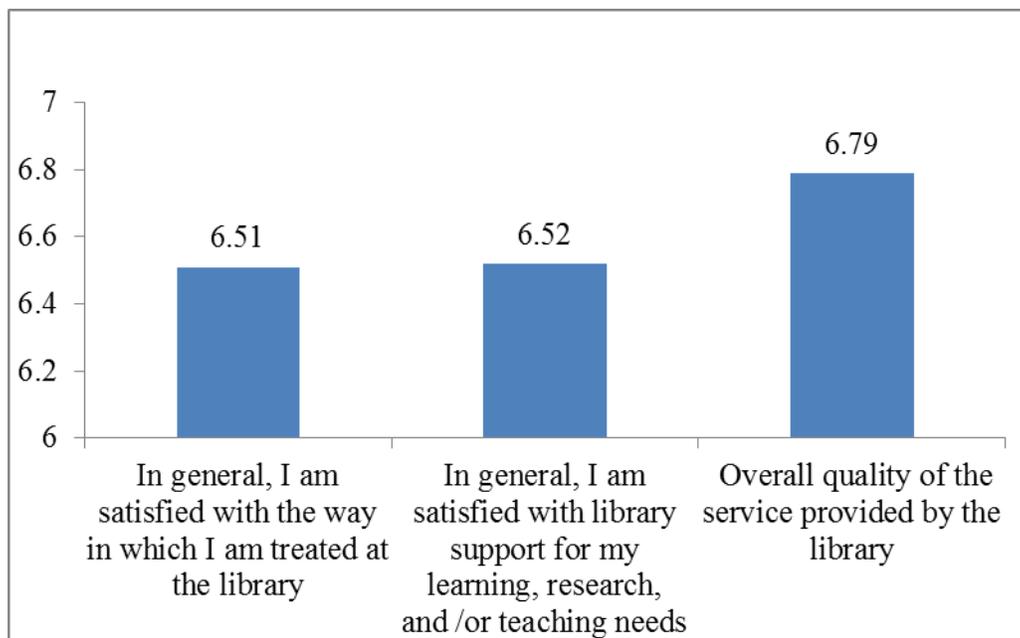


Figure 2. General satisfaction level

RQ6. WHAT IS THE OUTCOME OF USERS' OPEN-ENDED COMMENTS?

Table 5 Qualitative analysis of users' open-ended comments

Comments category	No. of positive comments	No. of negative comments	Positive comments	Negative comments
General	14	1	Satisfied; Good services	Nothing special
AS	1	2	Staff is good	Lack of staff co-operation; Politeness required
IC	4	2	Vast collection; Learning resources are available; Adequate print collection; Satisfied with e-journals	No intimation about new arrivals; Difficult to locate books on shelves
LP	4	3	Good study environment; Sufficient seating ; Well-equipped	No Space for group discussion; Seating shortage during examination; Poor Wi-Fi network
Suggestions and compliments (if any)	3	Organisation of workshops to increase researcher's awareness on library resources "Vivekananda library is my heart beat"		
Total	26 (76.47%)	8 (23.53%)	34 (100%)	

Table 5 presents the qualitative analysis of users' open-ended comments. Out of 94 questionnaires received, a total of 34 survey participants commented in special box. All comments were grouped in to five major categories along with their nature (positive or negative) as well as numbers. A large majority (26; 76.47%) of the respondents' comments were positive, which indicates that overall users feel good about their library. Only 8 (23.53%) comments were found negative, where the library needs to pay more attention in order to increase satisfaction level on the specific service items. Moreover, the highest positive comments (15) were received in "General" category stating either 'satisfied' or 'good services'. Overall, the qualitative analysis of the participants support quantitative results of the study.

8. Conclusion and Suggestions

On the basis of the results, it can be concluded that LP was the most desired dimension (7.49) and the perceived performance level was also found maximum (6.45) in LP dimension. The IC dimension secured second position with mean value of 6.41. The patrons were least satisfied with AS dimension (6.19). Therefore, the Vivekananda library needs to focus on AS,

especially on issue of “individual attention” and “courteous behaviour”. In all dimensions, the actual delivered (perceived service) level was found adequate from the minimum service level based on positive SAG scores. Conversely, the SSG score in all three dimensions were found negative and hence, users’ perceived SQ level was less than their desired service level. In order to satisfy patrons, the library needs to match or exceed their desired level of services. Although, the overall perceived LSQ (6.35) is good, yet it is still less than the desired level of services (7.29). The library does well on local items but disappointed on interlibrary loan service, where it could not meet even minimum expectations of its users. Therefore, the library has to improve its performance on interlibrary loan service. The item “Library has space that inspires study and learning” (LP-18) has the highest level of both SAG (1.08) and SSG (-0.50) scores. The highest SAG and SSG scores revealed that LP-18 is the most adequate and satisfied service item and the library is doing comparatively well (needs less effort to satisfy maximum users’ expectations) on this item, whereas “Library has space for group learning and group study” (LP-22) have reported the lowest SAG score (-0.97) and the lowest SSG score (-2.36) as well. Such lowest SAG and SSG values on LP-22 showed that SQ is inadequate and the perceived LSQ level has a greater distance from the users’ desired level. Therefore, in order to satisfy patrons, library authorities have to provide space for group study. It is imperative to discuss that each of LibQUAL core item got the negative SSG score and hence, the Vivekananda library could not match the desired level of SQ on all items. Further, it was quite surprising to note that the items (LP-22, IC-10, and AS-9) were lying below the zone of tolerance due to high negative SAG scores (perceived < minimum) and these should be on the top priority of the librarian to improve the service level. Furthermore, the respondents were reasonably satisfied with regards to their library treatment, support for learning, research, and /or teaching needs, and overall quality of the services offered by the Vivekananda library. The respondents largely feel good about library as a whole; nevertheless, the central library needs to focus on deficit service items (negative comments) and suggestions provided by the users. The outcome of qualitative comments more or less support quantitative results of this study. Thus, the survey results will be of great value for the librarian and library management of the Vivekananda library to discover strong and weak areas of library services. The results can also be used to develop future planning and improvement of library services.

9. Limitations of the study

This study also has few limitations Firstly, the survey is restricted to central library of MDU only Secondly, it was carried out with small sample size and Thirdly, the researcher excluded the option “Not applicable” (N/A) from the questionnaire, as a result constrain users to reply on such service item(s) on which he or she does not want to respond for various reasons. .

References

- Arshad, A., and K. Ameen. 2010. "Service Quality of the University of the Punjab's Libraries: An Exploration of Users' Perceptions." *Performance Measurement and Metrics* 11(3): 313–325.
- Asemi, A., Z. Kazempour, and H.R. Ashrafi. 2010. "Using LibQUAL+™ to improve services to libraries: A report on academic libraries of Iran experience." *The Electronic Library* 28(4): 568-579.
- Blixrud, J. 2002. "Evaluating library service quality: Use of LibQUAL+™." Accessed December 26, 2016.
<https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1556&context=iatul>
- Bower, T., and B. Dennis. 2007. "How to get more from your quantitative LibQUAL+™ dataset: Making results practical." *Performance Measurement and Metrics* 8(2): 110-126.
- Cook C., B. Thompson, F. Heath, and R. Thompson 2001. "LibQUAL+: Service quality assessment in research libraries." *IFLA journal* 27(4): 264-268.
- Cook, C. 2002. "The maturation of assessment in academic libraries: The role of LibQUAL+." *Performance Measurement and Metrics* 3(2): 40-42.
- Crowley, G.H., and C.L. Gilreath. 2002. "Probing user perceptions of service quality: Using focus groups to enhance quantitative surveys." *Performance Measurement and Metrics* 3(2): 78-84.
- Dahan, S.M., M.Y. Taib, N.M. Zainudin, and F. Ismail. 2016. "Surveying users' perception of academic library services quality: A case study in Universiti Malaysia Pahang (UMP) Library." *The Journal of Academic Librarianship* 42(1): 38-43.
- De Jager, K. 2015. "Place matters: Undergraduate perceptions of the value of the library." *Performance Measurement and Metrics* 16(3): 289-302.
- Dole, 2002. "LibQUAL+™ and the small academic library." *Performance Measurement and Metrics* 3(2): 85-95.
- Forte, E. 2009. "Assess, Improve, and Share: Using LibQUAL+™ to provide a quick and easy assessment for accreditors, administrators, and users." *The Idaho Librarian* 59(2). Accessed May 28, 2019.
https://scholarworks.boisestate.edu/cgi/viewcontent.cgi?article=1016&context=lib_facpubs
- Gatten, J. N. 2004a. "Measuring consortium impact on user perceptions: OhioLINK and LibQUAL+™." *The journal of academic librarianship* 30(3): 222-228.
- Gatten, J.N. 2004b. "The OhioLINK LibQUAL+ (™) 2002 Experience: A Consortium Looks at Service Quality." *Journal of Library Administration* 40(3-4): 19-48.
- Haricombe, L. J., and B.J. Boettcher. 2004. "Using LibQUAL+ (™) data in strategic planning: Bowling Green State University." *Journal of library administration* 40(3-4): 181-195.

- Hariri, N., and F. Afnani. 2008. "LibQUAL+™ in Iran: A subgroup analysis by gender." *Performance Measurement and Metrics* 9(2): 80-93.
- Heath, F., M. Kyriallidou, and C. Askew Eds. 2004. "Libraries act on their LibQUAL+™ findings: From data to action." *Journal of Library Administration* 40: 1–239.
- Hernon, P., D.A. Nitecki, and E. Altman. 1999. "Service quality and customer satisfaction: An assessment and future directions." *The Journal of Academic Librarianship* 25(1): 9-17.
- Hitchingham, E. E., and D. Kenney. 2002. "Extracting meaningful measures of user satisfaction from LibQUAL+™ for the University Libraries at Virginia Tech." *Performance Measurement and Metrics* 3(2): 48-58.
- Hoseth, A.E. 2007. "We Did LibQUAL+ (r)-Now What? Practical Suggestions for Maximizing Your Survey Results." *College & Undergraduate Libraries* 14(3): 75-84.
- Hubbard, W. J., and D. E. Walter. 2005. "Assessing Library Services with LibQUAL+: A Case Study." *The Southeastern Librarian* 53(1): 35-45.
- Khan, B. 2016. "Performance audit through LibQUAL+ technique: the experience of Burdwan University and Visva-Bharati library users." *Library Philosophy and Practice* (E-journal). Accessed March 5, 2019 <https://digitalcommons.unl.edu/libphilprac/1406/>
- Kumar, A., & P. Mahajan. 2019. "Evaluating library service quality of University of Kashmir: A LibQUAL+ survey." *Performance Measurement and Metrics* 20(1): 60-71.
- Kyriallidou, M., and A. C. Persson. 2006. "The new library user in Sweden: A LibQUAL+™ study at Lund University." *Performance Measurement and Metrics* 7(1): 45-53.
- Maharshi Dayanand University (MDU), Rohtak. 2017-18. "40th Annual report." Accessed May 22, 2019. <http://mdu.ac.in/UpFiles/UpPdfFiles/2019/Apr/40th%20annual%20report.pdf>
- Manjunatha, K., and D. Shivalingaiah. 2004. "Customers' perception of service qualities in libraries. *Annals of Library and Information Studies*" 51(4): 145–151.
- Martensen, A., and L. Grønhold. 2003. "Improving library users' perceived quality, satisfaction and loyalty: an integrated measurement and management system." *The Journal of Academic Librarianship* 29(3): 140-147.
- McCaffrey, C. 2013. "LibQUAL in Ireland: Performance assessment and service improvement in Irish university libraries." *The Journal of Academic Librarianship* 39(4): 347-350.
- McCord, S. K., and M.M Nofsinger. 2002. Continuous assessment at Washington State University Libraries: a case study. *Performance Measurement and Metrics* 3(2): 68-73.
- McNeil, B and J. Giesecke. 2002. "Using LibQUAL+™ to improve services to library constituents: A preliminary report on the University of Nebraska-Lincoln experience." *Performance Measurement and Metrics* 3(2): 96-100.

Mohindra, R. and A. Kumar. 2015. "User satisfaction regarding quality of library services of AC Joshi Library, Panjab University, Chandigarh." *DESIDOC Journal of Library & Information Technology* 35(1): 54-60.

Moon, A. 2007. "LibQUAL+™ at Rhodes University Library: An overview of the first South African implementation." *Performance measurement and metrics* 8(2): 72-87.

Nitecki, D.A. 1996. "Changing the concept and measure of service quality in academic libraries." *The Journal of Academic Librarianship* 22(3): 181-190.

Partap, B. 2019. "A Review of Service Quality Assessment of Library and Information Centres." *Library Philosophy and Practice* (E-journal). Accessed June 10, 2019 <https://digitalcommons.unl.edu/libphilprac/2333/>

Ramezani, A., S.J. Ghazimirsaeed, F. Azadeh, M.E. Bandboni, and M.H. YektaKooshali. 2018. "A meta-analysis of service quality of Iranian university libraries based on the LibQUAL model." *Performance Measurement and Metrics* 19(3): 186-202.

Rao, S.S.S. 2012. "Users' perceptions about service quality in select university libraries of Hyderabad: A LibQUAL+™ Approach (Doctoral Thesis)." *Indira Gandhi National Open University (IGNOU)*, New Delhi.

Rehman, S. U. 2013. "Service Quality Assessment in University Libraries of Pakistan." *Canadian Journal of Information and Library Science* 37(1): 59-80.

Sessions, J. A., A. Schenck and A.K. Shrimplin. 2002. "LibQUAL+™ at Miami University: A look from outside ARL." *Performance Measurement and Metrics* 3(2): 59-68.

Shorb, S. R., and L. Driscoll. 2004. "LibQUAL+ (™) meets strategic planning at the University of Florida." *Journal of Library Administration* 40(3-4): 173-180.

Thapisa, A. P. N., and V. Gamini. 1999. "Perceptions of quality service at the University of Botswana Library: What Nova says". *Library Management*, 20(7): 373-383.

Voorbij, H. 2012. "The use of LibQUAL+ by European research libraries." *Performance Measurement and Metrics* 13(3): 154-168.

Wall, T. B. 2002. "LibQUAL+™ as transformative experience." *Performance Measurement and Metrics* 3(2): 43-48.

Wei, Y., B. Thompson, and C.C. Cook. 2005. "Scaling users' perceptions of library service quality using item response theory: A LibQUAL+™ study." *Portal: Libraries and the Academy* 5(1): 93-104.

Wilson, F. 2004. "LibQUAL+ (™) 2002 at Vanderbilt University: What do the results mean and where do we go from here?" *Journal of Library Administration* 40(3-4): 197-240.