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Service Quality Assessment in Agricultural and Medical University Libraries of Haryana and Punjab States of India by Applying LibQUAL+ Model

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Abstract

The aim of the present study is to assess the quality of services being provided by the agricultural and medical university libraries of Haryana and Punjab states of India by using three dimensions of LibQUAL+ tool, *i.e.*, 'Affect of Service', 'Information Control', and 'Library as Place'. Based on the feedback from the different categories of users', it has been tried to assess the perceptions and expectations of users towards the quality of library services. Total 800 well structured LibQUAL+ questionnaires were distributed among the respondents of four universities under study but 601 were returned, which forms the response rate @ 75.12%. Findings of the study revealed that the respondents of agricultural university libraries were more satisfied with the facilities and services provided by the library as compared to the users of medical university libraries, as most of the dimension items get positive scores on 'service adequacy gap'; however, there is also found negative scores on "service superiority" level for all the university libraries under study, which shows that the services are not up to the desired expectations of the respondents. The paper concludes with suggestions to university libraries under study that how to ameliorate the dwindling quality of library services and achieve ultimate users' satisfaction.

Keywords: Perceptions, Expectations, Service Quality, Library and Information Centres, LibQUAL+, LSQ, Agricultural Universities, Medical Universities, India

1. Introduction

In past, libraries were recognized as a storehouse of books and other documents and their librarians were treated as the custodian or caretaker of it. The common peoples were not allowed to visit the library and using the books stored in it's but rich peoples or influential categories of society were allowed to use the library. Gradually, the period has been changed and the thought process of peoples were also changed and they were make themselves aware on their equal rights in the society. During the era of industrialization in Europe, the education system was totally changed. New institutions and libraries were established in that

era and all the peoples of society were allowed to be the member of that library or get the admission in the institution and able to use the resources of the institution or library.

After 1950, the concept of modern library came into being in vogue. Now, the intellectuals and the society feels the need of digital resources alongwith the print resources. However, the concept of electronic or digital resources was not much get success due to many reasons. After the invention of Internet, the concept of libraries has totally been changed and a big challenge was ahead to the libraries to change their document collection concept and service delivery pattern.

The recent advances in Information and communication Technology (ICT) and exponential growth of data in digital form have made compulsory to every library and information centres to acquire the digital information resources on priority basis. Agricultural and medical universities and there libraries in India are playing very important role in providing education, research and extension activities and they are the biggest stakeholder who are producing information extensively. On the other hand, faculty members, scientists and students want required information related to their concerned field of specialization in print as well as in electronic form. In this era of ICT and cut throat competition, users want quick and pin pointed information. Nowadays, the agricultural and medical university libraries particularly in Indian scenario are using new technologies to give better-quality services to its users. However, to know, how much the users are satisfied with the resources and services being provided to them by the library, quality assessment surveys are very important. We can know the strength and weakness of the library by conducting service quality assessment surveys on frequent basis by using various available tools or models.

Therefore, a study was planned to assess the quality of services being provided by the agricultural and medical university libraries of Haryana and Punjab states of India by applying LibQUAL+ tool.

2. Service Quality

The late American Management guru Peter F. Drucker (n.d.) said that *quality in a product or service is not what the supplier puts in. It is what the customer gets out and is willing to pay for*. Therefore, in general, it can be said that quality is a degree of excellence towards the resources and services provided to the users, and similarly, the users can get the maximum satisfaction and feel delighted. Quality service is said to be one, which satisfies users' expectations.

In the context of library, Jena and Dalbehera (2013) defined service quality as the difference between users' expectations and perceptions of service performance and the service reality. On the other hand, Parasuraman *et al.* (1985) stated that service quality is a measure of the extent to which the service delivered meets the customers' expectations. From the customer's viewpoint, service quality means meeting the customer expectation for service, therefore, a service quality can be defined as customers' perception whether it is good or bad and acceptable or unacceptable service.

3. LibQUAL+ Model

“LibQUAL+ is a way of listening to the users. In other words, LibQUAL+ is a tool for measuring library users' perceptions of service quality and it identifies the gaps among minimum, desired and perceived expectations of service. It uses a scalable interface and protocol to ask library users about their library service expectations. The LibQUAL+ survey was developed jointly by the Association of Research Libraries and Texas A&M University Library to measure library service quality and to identify best practices. LibQUAL+ is a standardized survey for measuring library users' perceptions of service quality. It is designed to identify gaps among minimum, desired and perceived expectations of service” (Bavakutty and Majeed, 2005).

“The LibQUAL+ instrument was initially proposed in 2000 with 41 items categorized under five dimensions. In the latest version of 2004, there are only three dimensions covering 22 items, which is also taken in this study to get the response from the defined populations. The first dimension, *i.e.*, *Affect of Service* represents the staff related issues, *i.e.*, to know how competent the library staff members are to handle the information related queries or problems of users. On the other hand, *Information Control* dimension is related to information resources and availability of tools based on modern technology to access the library resources, whereas, *Library as Place* dimension deals with space and other physical facilities available with and provided by the library” (LibQUAL+, 2020).

4. Agricultural and Medical Universities of Haryana and Punjab

4.1. Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar

“After the division of Punjab State, the first established university in Haryana State in 1970 is Haryana Agricultural University, which is one of the Asia's biggest agricultural universities. In 1991, it was renamed after India's seventh Prime Minister Chaudhary Charan Singh. Thus, now it is known as Chaudhary Charan Singh Haryana Agricultural University, Hisar. Being a leader in agricultural research, it significantly contributed to Green and White

Revolution in India in 1960s and 70s, respectively. In starting, it was a small campus of Punjab Agricultural University, Ludhiana. However, after the formation of Haryana in 1966, it became an independent university on 2nd February 1970 through a Presidential Ordinance, which later ratified as Haryana and Punjab Agricultural Universities Act 1970 passed by the parliament on 29th March 1970. The university covers an area of 8645 Acres, out of which, 7219 acres at main campus and 1426 acres at sub-campuses. The Nehru Library of the University currently have 3,69,718 information resources in its collection and 7,246 active registered members” (CCSHAU, 2020).

4.2. Punjab Agricultural University (PAU), Ludhiana

“The Punjab Agricultural University was established in 1962. On division of Punjab in November 1966, Haryana Agricultural University was separated by the Act of Parliament in February 1970, Himachal Pradesh Krishi Vishvavidalya in July 1970 and Guru Angad Dev Veterinary and Animal Science University (GADVASU) at Ludhiana in 2006. The Punjab Agricultural University is spread in an area of 1510 acres on its main campus and 4615 acres at sub-stations. The PAU has played a significant role in Green Revolution in India by increasing agriculture production several folds. It has also contributed in increasing livestock and poultry production. The Mohinder Singh Randhawa Library of the University currently have 4,12,332 information resources in its collection and 3,205 active registered members” (PAU, 2020).

4.3. Pt. Bhagwat Dayal Sharma University of Health Sciences (PBDSUHS), Rohtak

“PBDSUHS was initially started as Guest Institute in 1960 at Medical College, Patiala. Due to high demand for medical education and a deficient patient care services in southern part of Haryana, which was then part of Punjab, it was shifted to Rohtak in 1963 during the tenure of Sardar Partap Singh Kairon who was then Chief Minister of Punjab. Later, the college was upgraded as Pt. B.D. Sharma Postgraduate Institute of Medical Sciences, Rohtak, which in 2008 was upgraded and granted the status of university by the Haryana Act No.26 of 2008. It is named after the first Chief Minister of the Indian State of Haryana Pt. Bhagwat Dayal Sharma. This is the first University of Health Sciences in the Haryana State, which is spread over 350 acres of land on the outskirts of historic city Rohtak. The Central Library of the University currently have more than 70,000 information resources in its collection and about 1,100 active registered members” (PBDSUHS, 2020).

4.4. Baba Farid University of Health Sciences (BFUHS), Faridkot, Punjab

“Baba Farid University of Health Sciences was established in 1998 at Faridkot by the Punjab Act No. 18 of 1998 on the name of great Sufi Saint Sheikh Farid Ganj-E-Shakar

(1173-1265 A.D.) for the purpose of teaching, training and research in Modern and Indian Systems of Medicine. The purpose of the University is to generate intellectual, academic and physical environment, which may be conducive to free flow of ideas and exchange of information between various faculties of the university and other universities of Health Sciences in the country and abroad. It is the fifth of its kind in India and first in Northern India. University is playing a key role in enhancing the health of Punjab people. At the time of its establishment, only 26 Health Sciences Colleges were affiliated to this university, but now, 138 colleges are affiliated. The Central Library of the University currently have more than 40,000 information resources in its collection and about 800 active registered members” (BFUHS, 2020).

5. Literature Review

Some of the relevant literature related to the current study has been reviewed and discussed as follows:

Anil Kumar and Mahajan (2019) conducted a study through LibQUAL tool at Maharshi Dayanand University (MDU), Rohtak (India) to know the service quality and revealed that amongst three dimensions of LibQUAL+ tool, the library users have maximum desired expectations in ‘Library as Place’ (LP) dimension, whereas, the actual library performance was also reported maximum in ‘LP’ dimension, followed by ‘Information Control’ (IC), and ‘Affect of Service’ (AS) dimensions; however, overall ‘perceived library service quality’ (LSQ) was less than their desired level of LSQ. Baada, *et al.* (2019) determine users’ perception of the quality of public library services in the Greater Accra Region of Ghana by applying the LibQUAL+ model and revealed that patrons of public libraries in the Greater Accra Region were generally dissatisfied with the quality of service provisions across all branch libraries because they were found to be inadequately resourced in terms of current print and electronic reading materials, state of the art infrastructure and reading spaces that meet current trends. Bhanu Partap (2019) conducted a comparative study to measured the service quality and user satisfaction in medical university libraries of Haryana and Punjab states of India by using LibQUAL+ tool and found that the users of both the health science university libraries were not satisfied with the services, which was provided to them currently as most of the items of all three dimensions of LibQUAL+ tool shows the negative scores on ‘adequacy’ and ‘superiority’ level. Mallya and Payini (2019) evaluated the student’s perceptions of library service quality in hospitality institute in India using LibQUAL model, and revealed that the needs of UG and PG students in hospitality

institute differ as well as “there is a difference in the perception” of UG and PG students towards the service provided by the library. Nasibi-Sis, *et al.* (2019) conducted a study with the help of LibQUAL+ tool in Iran to assess the service quality of libraries of 12 hospitals of Shahid Beheshti University of Medical Sciences (SBUMS), and found that “the hospital libraries have succeeded in satisfying the minimum expectations of its users but could not meet the customers’ desired expectations that make them delighted, further found that the users were more satisfied with general hospitals library services than specialized ones in all dimensions”. To know the library customers’ expectations and satisfaction towards the library services, Cristobal (2018) conducted a study at the library of the University of Saint Louis (USL), Philippines with applying LibQUAL+ tool and noticed that the USL library did not meet the expectations of the customers by comparing the desired service level *vis-a-vis* with observed actual service performance level provided, however, the customers were satisfied with the circulation service, internet/online service, library instruction, current awareness services, reference service, multimedia service, and depository area/service, and furthermore the researcher also observed that customers’ satisfaction is directly correlated with their loyalty towards the library and its services. Ziaei and Ranjgar Korjan (2018) conducted a study at Tabriz Central Library, Iran to assess its services quality from the users’ point of view based on LibQUAL+ model and observed that the overall quality of Tabriz Central Library is more than the minimum expected level of users and there is little gap between existent level and the maximum expected level; however, service quality on all the dimensions was found satisfactory. Bhanu Partap and Joshi (2017) assessed the library service quality by applying LibQUAL+ tool at Baba Farid University of Health Sciences (BFUHS), Faridkot, and noticed that the users were in general satisfied with the library services; however, there was some shortfall in the services provided by the library to the users on all three dimensions of the LibQUAL+. Khan, and Tripathi (2016) conducted performance audit through LibQUAL+ tool at Burdwan University and Visva-Bharati University libraries, and found that Visva-Bharati Library (VBL) performs better in all respect than Burdwan University Library (BUL) specially overall library performance of VBL (3.20 mean score), whereas, BUL (3.34 mean score) in West Bengal, India. Using LibQUAL+ model, Mardani, Alavi, and Nazarzadeh Zare (2014) conducted a study to measure the service quality at Tehran University of Medical Sciences' Libraries and found the service superiority gap for all the services in the libraries under study were negative and the mentioned libraries were very distant from meeting the expectations of users on the maximum level meaning that the quality level of services in libraries was not up to the

satisfaction level. In the study of medical college libraries of Karnataka, Goud (2013) observed a gap across the dimensions of LibQUAL+ instrument and found that the library users were quite dissatisfied with the library services and resources. In selected university libraries of Hyderabad, Rao (2012) observed “wider gap on all the indicators of *information control* dimension and found the users dissatisfied with the *information control* dimension and rated all the indicators *superior* by the respondents with regard to *service adequacy* gap of *library as place* dimension”. While investigating the service quality of central library of Iran University of Medical Sciences and Health Services (IUMS) using LibQUAL+ instrument from the viewpoints of female and male users of the library, Hariri and Afnani (2008) found that the users were not satisfied with the quality of services provided by the library as they scored negative to maximum items. In Florida A&M University Libraries (Swan, 2004) revealed that respondents had very high expectations from library, even then, they were satisfied with the services of their University Libraries.

There are too many studies conducted in foreign countries to evaluate the service quality of libraries using LibQUAL+ tool but there are very few studies in India particularly on agricultural and medical university libraries of India, hence, the present study was therefore planned to fill this gap.

6. Scope and Limitation of the Study

The scope of the present study was limited to measure the service quality of the following agricultural and medical university libraries of Haryana and Punjab states of India:

1. Chaudhary Charan Singh Haryana Agricultural University (CCS HAU), Hisar, Haryana
2. Pt. Bhagwat Dayal Sharma University of Health Sciences (PBDSUHS), Rohtak, Haryana
3. Punjab Agricultural University (PAU), Ludhiana, Punjab
4. Baba Farid University of Health Sciences (BFUHS), Faridkot, Punjab

The study is limited to those respondents, who have responded to the request for filling up the LibQUAL+ questionnaire.

7. Objectives of the Study

The foremost objective of the present study was to explore the service quality in agricultural and medical university libraries of Haryana and Punjab states of India. However, the following specific objectives were intended to be achieved:

- To determine service expectations and perceptions of users from agricultural and medical university libraries of Haryana and Punjab states of India using three LibQUAL+ dimensions
- To identify the gap between the level of expectations and perceptions of library users towards different quality dimensions of library services
- To ascertain the level of users' satisfaction
- To suggest measures for improving the service levels of agricultural and medical university libraries of Haryana and Punjab states of India

8. Research Methodology

In order to measure the service quality of Agricultural and Medical University Libraries of Haryana and Punjab states of India, the survey approach with the help of locally modified LibQUAL+ instrument was used to collect data from the undergraduate and postgraduate students and faculty members/scientists. During the selection of sample of population, first year students were excluded from the study because most of the students were not having much interaction with the library. There are in total 41 questions in the LibQUAL+ questionnaire designed for the users, however, for this study, cumulative assessment was done for all the three dimensions. The Likert's nine-point scale (where 1= strongly disagree and 9= strongly agree) has been used as scaling pattern. Each dimension was measured and assessed cumulatively by three perspectives as reported by the users, *i.e.*, *minimum*, *desired* and *perceived* service level (actual service existing).

From each University Library, a sample of 100 UG students, 50 PG students and 50 faculty members/scientists has been chosen randomly during the doctoral research. Total eight hundred questionnaires were distributed in the month of October-November 2016 among the four universities but 601 were returned. Thus, 75.12% response was achieved in the study. The collected data were entered on MS-Excel Spread Sheet and analyzed with the help of "Statistical Package for Social Sciences (SPSS)" version 26 (IBM, Chicago, USA). The data were presented in different forms like tables and graphs.

9. Data Analysis and Results

The comparative analysis of data is presented in the following tables:

Table 1: Service quality on 'Affect of Service' dimension

(LibQUAL+ Dimension) Affect of Service Service Quality	Agricultural Universities				Medical Universities			
	HAU (n= 183)		PAU (n= 165)		PBDSUHS (n= 138)		BFUHS (n= 115)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Minimum	5.51	1.16	5.26	1.04	4.99	0.93	5.32	0.83
Desired	7.45	0.78	7.27	0.75	7.34	0.64	7.09	0.79
Perceived	5.72	1.15	5.35	0.89	4.26	0.98	4.96	0.95
Service Adequacy	0.20	1.07	0.08	1.11	-0.72	1.13	-0.35	0.85
Service Superiority	-1.73	0.98	-1.92	0.79	-3.07	1.06	-2.12	0.81

The perusal of data in Table 1 depicts that with regard to *Affect of Service* dimension, the *minimum service quality* was better at HAU library (5.51) as compared to PAU library (5.26) among the agricultural universities. Similarly, among the medical universities, at BFUHS library (5.32), the *minimum service quality* was revealed better as compared to PBDSUHS library (4.99).

The Table 1 clearly demonstrates that on *Affect of Service* dimension, the *desired service quality* at HAU library (7.45) was reported better by the respondents than PAU library (7.27). Among the medical universities, the users responded the PBDSUHS library (7.34) better as compared to BFUHS library (7.09).

With regard to the *perceived service quality* on *Affect of Service* dimension, among the agricultural universities, the HAU library (5.72) had better *perceived service performance* as compared to the PAU library (5.35). Among the medical universities, the *perceived service performance* was more in BFUHS library (4.96) as compared to PBDSUHS library (4.26).

On the *service adequacy* on *Affect of Service* dimension, the HAU library (0.20) had better service adequacy as compared to PAU library (0.08). Similarly, the BFUHS library (-0.35) had better *service adequacy* as compared to PBDSUHS library (-0.72) among the medical universities.

With reference to *service superiority* on *Affect of Service* dimension, the HAU library (-1.73) had better service superiority as compared to PAU library (-1.92), whereas, among the medical universities, BFUHS library (-2.12) had more service superiority as compared to PBDSUHS library (-3.07).

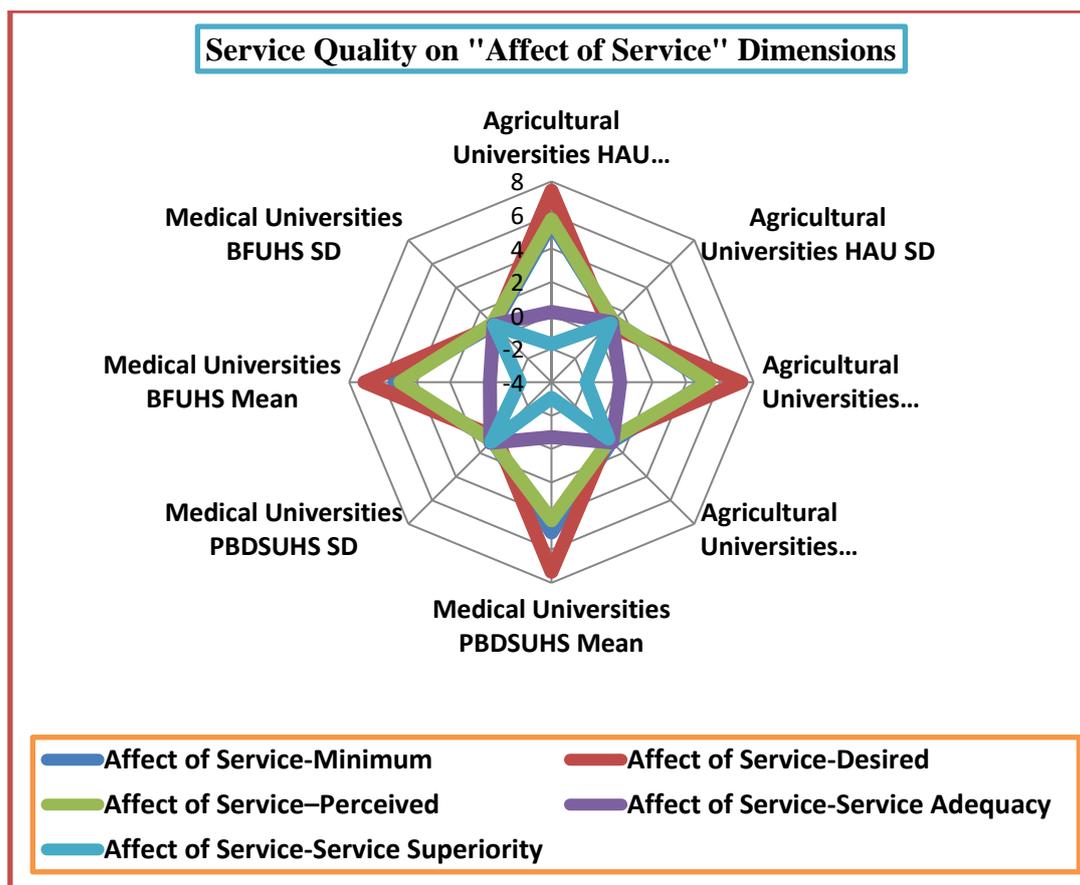


Figure 1: Comparative Analysis of Service Quality- *Affect of Service* Dimension

Table 2: Service quality on 'Information Control' dimension

(LibQUAL+ Dimension) Information Control	Agricultural Universities				Medical Universities			
	HAU (n= 183)		PAU (n= 165)		PBDSUHS (n= 138)		BFUHS (n= 115)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Service Quality								
Minimum	5.66	1.30	5.39	1.12	5.66	1.30	5.22	0.88
Desired	7.62	0.80	7.37	0.73	7.62	0.80	7.56	0.68
Perceived	6.43	0.90	5.35	0.91	6.43	0.90	3.54	0.62
Service Adequacy	0.76	1.03	-0.04	1.16	0.76	1.03	-1.67	0.97
Service Superiority	-1.18	0.64	-2.02	0.85	-1.18	0.64	-4.01	0.82

The Table 2 shows that in case of *Information Control* dimension, the respondents revealed the *minimum service quality* at HAU library (5.66) better as compared to PAU library (5.39) among the agricultural universities. On the other hand, among the medical universities, the *minimum service quality* at PBDSUHS library (5.66) was revealed better as compared to BFUHS library (5.22).

The Table 2 demonstrates that on *Information Control* dimension, the *desired service quality* at HAU library (7.62) was explored by the respondents better than PAU library (7.37).

Among the medical universities, PBDSUHS library (7.62) had better *desired service quality* as compared to the BFUHS library (7.56).

With reference to the *perceived service quality* on *Information Control* dimension, among the agricultural universities, the HAU library (6.43) had better *perceived service performance* as compared to PAU library (5.35). Among the medical universities, the *perceived service performance* was more in PBDSUHS library (6.43) as compared to BFUHS library (3.54).

On the *service adequacy* on *Information Control* dimension, the HAU library (0.76) had better service adequacy as compared to PAU library (-0.04). Among the medical universities, PBDSUHS library (0.76) had better *service adequacy* as compared to BFUHS library (-1.67).

With respect to the *service superiority* on *Information Control* dimension, the HAU library (-1.18) had better service superiority as compared to PAU library (-2.02), whereas, among the medical universities, the PBDSUHS library (-1.18) had more service superiority as compared to BFUHS library (-4.01).

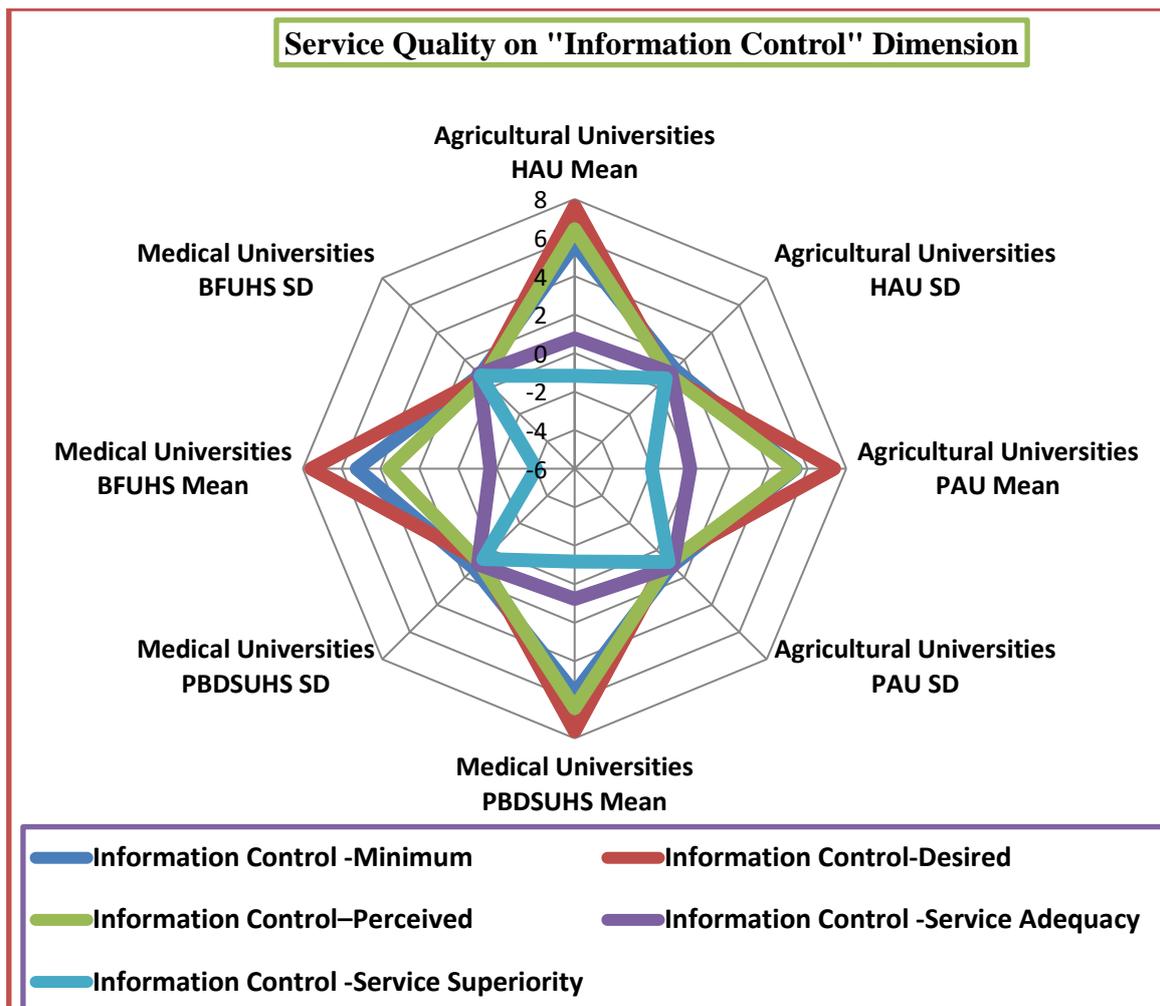


Figure 2: Comparative Analysis of Service Quality- *Information Control* Dimension

Table 3: Service quality on ‘Library as Place’ dimension

(LibQUAL+ Dimension) Library as Place	Agricultural Universities				Medical Universities			
	HAU (n= 183)		PAU (n= 165)		PBDSUHS (n= 138)		BFUHS (n= 115)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Service Quality								
Minimum	5.85	1.43	5.48	1.30	5.30	1.24	5.74	1.00
Desired	7.71	0.84	7.38	0.80	7.53	0.72	7.45	0.80
Perceived	6.35	1.01	5.37	1.02	4.78	0.72	5.30	0.84
Service Adequacy	0.50	1.02	-0.10	1.11	-0.51	1.13	-0.44	0.93
Service Superiority	-1.35	0.76	-2.00	0.84	-2.74	0.75	-2.14	0.82

The presented data in Table 3 show that with respect to *Library as Place* dimension, the *minimum service quality* was better at HAU library (5.85) as compared to the PAU library (5.48) among the agricultural universities. Similarly, among the medical universities, at BFUHS library (5.74) the *minimum service quality* was revealed better as compared to PBDSUHS library (5.30).

The above table reveals that on *Library as Place* dimension, the respondents depicted the *desired service quality* at HAU library (7.71) better than PAU library (7.38). Among the medical universities, the PBDSUHS library (7.53) had revealed better desired service quality as compared to BFUHS library (7.45).

With regard to the *perceived service quality* on *Library as Place* dimension, among the agricultural universities, the HAU library (6.35) had better *perceived service performance* as compared to PAU library (5.37). Among the medical universities, the *perceived service performance* was more in BFUHS library (5.30) as compared to the PBDSUHS library (4.78).

On the *service adequacy* on *Library as Place* dimension, the HAU library (0.50) had better service adequacy than PAU library (-0.10). On the other hand, BFUHS library (-0.44) had better *service adequacy* as compared to the PBDSUHS library (-0.51) among the medical universities.

With reference to *service superiority* on *Library as Place* dimension, the HAU library (-1.35) had better service superiority as compared to PAU library (-2.00), whereas, among the medical universities, BFUHS library (-2.14) had more service superiority as compared to the PBDSUHS library (-2.74).

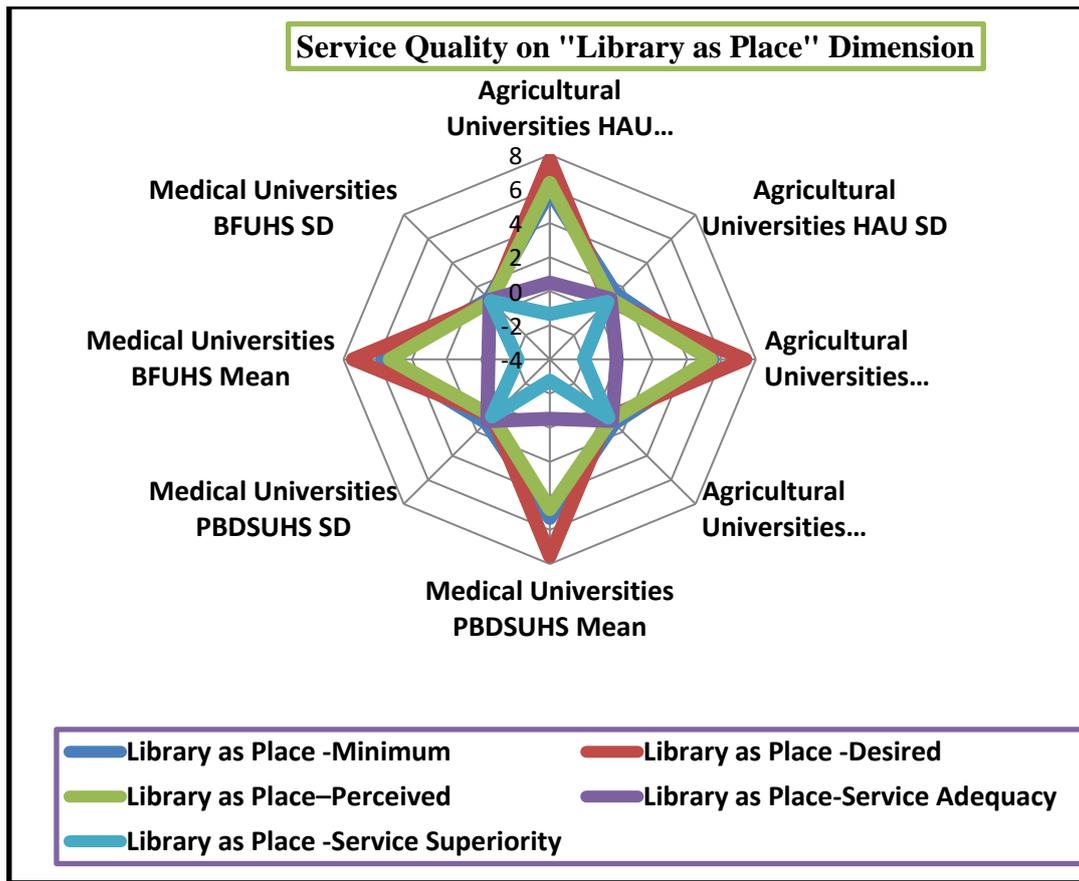


Figure 3: Comparative Analysis of Service Quality- *Library as Place* Dimension

6. Conclusion and Suggestions

After comparative analysis of data collected through LibQUAL+ tool, the findings shows that among the agricultural universities, the HAU library was providing better services to the users as compared to the PAU library. Similarly, among the medical universities, the BFUHS library was providing better services to the users as compared to the PBDSUHS library. In overall, among the agricultural and medical universities, HAU was on first place, PAU on second place, BFUHS on third place and PBDSUHS on fourth place in service quality aspects and user satisfaction. In another way, it is concluded that the respondents of agricultural university libraries were more satisfied with the facilities and services provided by the library as compared to the users of medical university libraries. However, there is also found negative scores on “service superiority” level for all the university libraries under study, which reflects that the services are not up to the desired expectations of the respondents. Therefore, it can be suggested hereby that all the university libraries under study have to evaluate their services on frequently bases and try to upgrade the level of services up to the desired expectations of the users so that ultimate users’ satisfaction could be achieved. Furthermore, more concentration should be given to enhance the personal and professional skills of library staff and upgrade their existing ICT based resources and infrastructure

on the satisfaction level of users. So far concerned with future implications of this study, this research work would provide insights for further research in this field, which in turn would eventually help authorities/decision makers to improve service quality in their respective libraries.

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