Do Pakistani Users Differ on Library Service Quality?

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Abstract

To create stability and confidence among library users, library administration needs to identify and understand the similarities and differences on library service quality among different groups of library users. So that their expectations can be met. Therefore, the current study was conducted to assess the individual differences in library service quality across user type, gender, and academic disciplines. The data were collected through LIBQUAL survey from 1473 users of 22 university libraries of Pakistan. Users rated 21 core survey items on three columns side by side on 1(*low*) to 9 (*high*) scales for a minimum, desired and perceived performance scores. The study results did not find significant difference on the basis of gender and users types (except on affect of service dimension). However, the users were significantly different on the basis of academic disciplines.

Key Words: library service quality; LIBQUAL Urdu; user difference; library service quality-Pakistan; university libraries of Pakistan.

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Introduction

In the present scenario of global competition, facilitating service quality is a key factor for success, and many researchers agree that service quality is one of the most dominant trends currently reshaping marketing and business strategy (Nejati & Nejati, 2008). The role of service quality as a key factor of user satisfaction and organizational performance is now widely recognized and has led to a major research thrust in recent years (Lewis & Mitchell, 1990). The growing importance of the service sector and the focus on service quality has gone far beyond theoretical discussion (Oluseye, Kolade, & Mercy, 2011). Managers of many service organizations have concluded that quality is one of the major contributors to their success of organization(Mefford, 1993). Improvement in service quality can improve the library's competitive position. In order to compete effectively in the market place, university libraries need to differentiate themselves from competitors (Joseph & Joseph, 1997). Providing quality service as per users' expectations is considered as an essential strategy for success and growth in today's world of competition. Most of the research on service quality "focused on determining what it means to customers and developed strategies to meet customers satisfaction" (Hadikoemoro, 2001, p. 48).

Better understanding of perceptions and expectations of each individual group of users is a prerequisite for delivering high quality services according to their expectations. Due to the growing demand of multiple factors such as accountability in higher education, multiple information providers, globalization of competition have given new horizons to the funding bodies. Now funding bodies are compelling library administrators to satisfy and meet the expectations of each user group. In Pakistan, contrary to the developed world, the input of different types of user is hardly invited in the collection building process (Rehman & Pervaiz, 2007). Various research studies (Ameen, 2006b; Haider, 2004) indicate that library services are not user-centered, rather collection centered.

The scholarly literature is frequently available on the various aspects of library service quality in the developed countries but there were only a few studies from developing countries with no comprehensive study on the university libraries in Pakistan. There are many studies that have examined the significant difference on perceived service quality on demographic variables (user types, gender, and academic disciplines) but these studies produced mixed results. Some studies (Boykin, 2002; Creaser, 2006b; Hitchingham & Kenney, 2002; Shank, Walker, & Hayes, 1996)suggested that users had significantly different opinions on perceived service quality but most of the studies (Cook & Heath, 2001a; Cook, Heath, &

Thompson, 2001; Dole, 2002; Hariri & Afnani, 2008; Johnson, 2007) discovered no difference. Thus, there is wide gap on literature in library service quality in the context of the developing countries such as Pakistan. It is, therefore, needed to explore the differences and similarities among users across gender, types, and academic disciplines for overall service quality, individual services and dimension level. For this reason, the researchers examined in detail, the effects of different demographic variables (user type, gender, and academic disciplines) on Service Adequacy Gap (SAG) and Service Superiority Gap (SSG). This study is an effort to identify and fill out the gap in the measurement of individual differences on service quality in university libraries of Pakistan. To the best of knowledge of the researchers, the current study is a first comprehensive attempt to address this gap by assessing the differences and similarities in service quality among different groups of user.

Objectives of the Study

The objectives of this study regarding assessment of library service quality in university libraries of Pakistan are:

- To examine the differences in library service quality among faculty, graduates and undergraduates library users.
- To check the gender effect on library service quality.
- To investigate the differences in library service quality among users of various academic disciplines.*

Literature Review

The literature review is presented below.

Library Service Quality

Historically, quality of library services has been evaluated by traditional quantitative measures including collection size, numbers of visitors, issuing and returning statistics, size of budget and quantity of staff (Weiner, 2005). However, none of these factors indicate about the modern concept of library service quality. Now, library service quality is defined as the difference between users' perceptions of actually received service and expectations about the service. A "negative gap" indicates that the service performance is below the level of expected services, whereas a "positive gap" indicates that the service performance has fulfilled or exceeded the expected service" (Morales, et al., 2011). Zeithaml, Berry and

Parasuraman(1993) pointed out that customer have two types of expectations: minimum expectations" and "desired expectations". The former represent the minimum level of service that users would find acceptable and later refer to the level of service that users personally want. The difference between minimum expectations and desire expectation is called zone of tolerance (ZOT). The difference between perception score and minimally acceptable score is called service adequacy gap (SAG) and difference between perception score and desire score is termed as service superiority gap (SSG).

LIBQUAL

LIBQUAL is well known and recognized instrument that libraries use to "solicit, track, understand, and act upon users' opinions of service quality" (Association of Research Libraries 2010). More than 1.5 million library users from twelve hundred libraries have participated in LIBQUAL since its inception. The instrument was developed in collaboration between ARL and Texas A&M University. LIBQUAL instrument is an attractive tool to easily identify service quality from the customers' perspectives. As a result of various refinements, the current LIBQUAL version measures library service quality through 22 core questions on three dimensions: "effect of service" (AS), "information control" (IC) and "library as place" (LP).

Various studies (Cook et al. 2001; Thompson and Cook 2002; Thompson, Kyrillidou, and Cook 2008; Thompson, Cook, and Heath 2003; Thompson, Cook, and Kyrillidou 2005; Thompson, Cook, and Kyrillidou 2006) confirmed the psychometric integrity of LIBQUAL instrument with different well known approaches such as "structural equation modeling, reliability analysis, factor analysis, taxonometric analysis and latent trait item response theory" (Miller 2008, 37).

Individual Differences on Library Service Quality

To create stability and confidence among library users, library administration needs to identify and understand the similarities and differences on LSQ among different groups of library users. Library should need to adapt services keeping in view the specific priorities and needs of individual and group users. So that their expectations can be met. In coming section, the researchers will report the available literature on differences and similarities on the library service quality based on types of users, gender and academic disciplines. The researchers will also highlight overall as well as dimension level difference among various categories of library users.

Difference among user type

There are various academic user groups in university libraries. Core user groups consist of faculty, undergraduate students and graduate students. In general, undergraduate students were under-represented in the sample, and faculty over-represented. It is a long debate whether different groups of library users think in similar way or they have different perceptions and expectations regarding library service quality. Cook and Heath (2001a) found that university library users perceived library service at a global level. The results suggested that there were no significant differences among various types of users on perceived library service. Hence they think in a similar way about library service quality (Cook, Heath, & Thompson, 2001).

Dole (2002) discussed users' perceptions and expectations with Washburn University's Mabee Library. The library got users' feedback by participating in LIBQUAL 2001 Survey and two focus groups (October 2001 and March 2002). The results from LIBQUAL survey and two focus groups were almost similar and no significant difference was found between faculty and students perceptions about library service quality. Both faculty and student expected an "updated building"; "remote access to library's online catalog and online databases"; "modern equipment"; "easy access to collections"; and "a proactive and caring library staff". However, study did not report dimension wise difference across user type, gender and academic subjects.

Waubonsee Community College Library (Johnson, 2007) found no significant difference in students' perceptions and expectations. Faculty's perceived level of service quality was above their minimal level in AS dimension (ability, attitude and willingness of staff).

Similarly, Sharma, Anand and Sharma (2010) did not find significant difference on perceived service quality across age and educational qualifications. Boykin (2002) found difference of perceptions (in some areas) of library service quality between students and faculty. The perceptions of faculty were positive, but undergraduates had negative gaps in three services: "providing services as promised", "keeping users informed about services", and "easy access of information for independent use". Both faculty and students perceived LP dimension according to their expectations. The detail comparison across the various categories of user groups regarding their perceptions and expectations (minimum and maximum) was not made.

Contrary to aforementioned studies, perceptions, needs and priorities consistently changed according to different types of users at University of Washington Libraries (Hiller, 2002). Different survey results revealed significant difference between faculty and undergraduates on overall quality of services and LP dimension. The student, especially undergraduates, had high expectations with LP dimension.

The Duke University Medical Center Library (DUMCL) found significant difference among faculty, graduates and staff. The DUMCL faculty had higher perceptions scores than graduates and faculty of Association of Academic Health Sciences Libraries (Peterson, Murphy, Holmgren, & Thibodeau, 2004).

The University Libraries at Virginia Tech (Hitchingham & Kenney, 2002) found difference in perceptions among graduates, undergraduates and faculty. Among user groups, graduates were found more satisfied than undergraduates and faculty in the case of overall service quality. The perceptions of undergraduates were higher in personal control dimension (IC dimension). Graduate students perceived high performance, whereas faculty perceived the lowest scores on LP dimension. In 2008, five French institutions participated in LIBQUAL Survey. The survey results(Cook, et al., 2008) showed that users' opinions were different in IC dimension. Faculty was the most dissatisfied user group.

Review of different studies suggested that users' opinion about library service quality was almost similar as most of the studies did not find significant differences among faculty, graduates and undergraduates. Hence, they think almost in a similar way about library service quality.

Gender Effect on Service Quality

The difference in gender may affect the perceptions and expectations of LSQ. Male users are usually more aggressive, autonomous and exploratory than female users (Hoffman & Hurst, 1990; Pulkkinen, 1996). Babin and Boles (1998) found that female showed a relatively high tendency of emotion, lack of confidence, feel stress at workplace. Theses difference in behaviors across gender may result in different opinions while evaluating library services. Gender based cultural differences with respect to the sexual role in society, has often been ignored concerning to the assessment of library services. Earlier research (Bem, 1981; Chéron & Nornart, 2010; Meyers-Levy, 1986; Wajda & Hu, 2004)has noticed female tendency to focus on points of differentiation and use a greater number of descriptors in their assessment of quality of products and services. However, literature suggested both differences and similarities in perceptions and expectations with library service quality on the base of gender.

Ruby (1996) in his doctoral study found significant differences on perceptions of *service* quality on the basis of gender. The female *students* had higher expectations and perceptions of service quality than male *students*. Cook and Thompson (2002) found no gender difference among users' perceptions of service quality. Hiller (2001) reported gender differences at University of Washington libraries in computer access and library instruction. Some studies reported mix results for relationship between gender and satisfaction (Heinrichs, et al., 2005). The gender-based difference was found in the AS dimension. However, no difference was found in the minimum acceptable level. Females had higher desired expectations and lower perceptions than male on 'library as place' dimension.

Hariri and Afnani(2008) investigated the service quality of University of Medical Sciences and Health Services (IUMS), Iran on the basis of gender. The data were collected through Persian translated version of LIBQUAL from a sample of 361 users (female = 62.9%, male 37.1%). The study results revealed no significant difference in gap score between female and male. The library met users' (both male and female) minimum acceptable expectations in some service areas but did not meet their overall service expectations as well as their desire level of service expectations. The overall service superiority gap for male and female were negative. Like other LIBQUAL survey results, users' desired level of service quality was not compared on the base of gender by IUMS Library.

Sharma, Anand and Sharma (2010) did not find significant difference on perceived service quality across gender in a survey of two Indian university libraries. Posey (2009) also found no significant gender difference on three service quality dimensions at WSCC. It can be concluded that males and females library users think somewhat similar in different socio-cultural contexts and their perceptions and expectations of library services are somehow global.

Effect of Academic Discipline on Service Quality

The users of different disciplines have different expectations and perceptions. The subject-wised analysis of users (Wilson, 2004) showed that humanities users' minimum expectations were not met for "complete run of journal titles", "convenient business hours", "comprehensive print collections", and "convenient access to library collections". The libraries were just meeting the minimum expectations of "performing and fine arts" and "health sciences" users. The most pleased and satisfied disciplines were business, science, and mathematics in the areas of: "print collections", "complete run of journal titles" and "giving users individual attention".

The users of education, mass communication, law, social sciences and psychology were not pleased with "library staff" and "quiet study space".

Lessin (2004) found in discipline wise comparison that users from education, communication, and law subjects were satisfied, but users from social sciences, psychology, humanities, business, engineering and pure science were dissatisfied.

When compared on the basis of subject disciplines, Creaser (2006b) found significant differences on frequency of library use, priorities and opinion on library service quality. There was positive relationship between subject disciplines and onsite library services. There were two groups which had significant differences in perceptions on the basis of subject disciplines. The students from group one (business, engineering & technology, political studies and social economic) had different opinions than from group two (humanities, education, design and creative arts).

The Association of Academic Health Sciences Libraries (AAHSL) participated in 2002 LIBQUAL Survey (Lee, 2004) as consortium. There were 13,976 respondents from faculty, graduates, undergraduates and staff. The survey result revealed overall satisfaction across all user groups and service quality dimensions. The health science library users' perceptions about actual services were higher than that of all other groups. The frequency of library use (in most of the cases) was weekly both for physical and remote access. The services below users' minimum expectations were varied across users groups. For the aggregate user group, a satisfaction gap occurred for electronic resources accessible from home or office. The remote access of electronic resources was area of concern for all types of library users. Three themes emerged from users' comments (a) more demand for journals, especially electronic ones (b) frustration and dissatisfaction with issues related to remote access and (c) positive perceptions about staff.

Service Quality and University Libraries of Pakistan

In Pakistan, library service quality is an unfamiliar topic and practices of regular assessment of library service quality rarely exist at any level. Some user studies, satisfaction surveys and service evaluation studies of individual libraries initiated this topic. Normally university library performance is assessed from various statistics presented in annual report submitted to university administration. These statistics consists of number of collections, staff, library members as well as various usage counts (numbers of borrowed books and library visitors).

Review of various studies related to service evaluation, user satisfaction survey and service quality studies related to Pakistan found no evidence whether various types of Pakistani users think in similar manner or they differ in their opinion about service quality. For instance, Awan, Azam and Asif (2008)investigated the service quality of seven university libraries of Lahore. But they did not explore the difference and similarity on service quality across user type, gender and academic disciplines. Similarly, Arshad's (2009) study on users' perceptions with departmental libraries of Punjab University was also silent about similarity and difference on the base of different demographic variables. Moreover, Rehman, Shafiq and Mahmood (2011) did not investigate the significant difference among various user groups. Despite the plenty of literature on library service quality in the developed countries, there is no research studies available which guides the library managers, policy maker and other authorities about similarity and differences of Pakistani users across user type, gender and academic disciplines. This research study was conducted to fill the gap by investigating the discrepancies on service quality based on types, gender, academic disciplines.

Method

Following section will discuss the research design, sampling technique, and measurement scale and data collection procedure of the study.

Research Design

The researchers used cross- sectional research design in this empirical study and survey method was used to collect the data on a self-reporting questionnaire. The data were collected by the first author by personal visits of the sites of relevant universities of Pakistan. This study is a part of a larger research project. The data used in this research were collected in the context of that project, where wider ranges of variables were obtained. This study reports the finding concerning the three research questions.

Sample and Sampling

Sampling was done on two stages. In first stage, random sampling was made from 43 universities of Punjab province and federal capital of Pakistan having central libraries. In the second stage from each of the 22 selected universities (public =13, private = 9) 25 undergraduates, 25 graduates and 25 teachers of different age, experience, department, gender and qualification were conveniently selected to administer the questionnaires for data collection. The convenient sampling method

was selected due to non-availability of complete list of population. However, the researchers made every possible effort to collect the data from representative user groups. The sample fairly represents various types of users (faculty, graduates, and undergraduates), public/private sector, geographical location, age, academic disciplines, gender and qualification.

Measure

The researchers measured the users' opinion through LIBQUAL instrument. The modification and adaptability of the latest LIBQUAL English version into Pakistani context was made through a nine member's focus group. The slightly modified version of LIBQUAL (American English) was translated in Urdu using standard procedure of forward-backward translation. The psychometric properties of instrument were established through exploratory and confirmatory factor analysis. The final instrument consisted on 21 items that measured the service quality on three dimensions: (1) AS, (2) IC, and (3) LP. The "AS dimension" consists of eight questions related to courtesy, knowledge and helpfulness of library staff in delivering user services. The "IC dimension" addresses (through eight questions) on the adequacy of print and electronic collection, easy to use access tools, modern equipment, library website and self-reliance in information access. The third, "LP dimension" focuses on user perceptions to quiet, comfortable, inviting and reflective study space that inspires study and learning. The Cronbach's alpha coefficient result showed that all three dimensions of LIBQUAL had high internal consistency and reliability in Pakistani context because Cronbach Alpha (Cronbach, 1951)coefficients for AS, IC and LP   and total scaleswere equal to .931, .931, .814 and .943 respectively that were adequately greater than the recommended value of 0.7 (Nunnally, 1978). Users rated all items on three columns side by side on 1(*low*) to 9 (*high*) scales for perception, desire and minimum services.

Data Collection

Out of 1650 total distributed questionnaires, 1497 filled questionnaires were returned successfully with response rate of 91%. Acquired responses revealed that 66% of the respondents were male and 34% were female; 34 % of the respondents were graduates, 37% were undergraduates and 29 % were faculty members. Sixty percent (60%) of the respondents were from public and 40% were from private universities. These respondents represented eight major categories of academic disciplines (sciences 10%, engineering and technology 22%, management 29%,

social sciences 17%, agriculture 4%, health 10%, education 4%, and 3% other than mentioned above).

Data Analysis and Interpretations

The quantitative data analysis was carried out by using the softwares Statistical Package for the Social Sciences (SPSS) and Analysis of Moment Structures (AMOS). After the initial data screening (e.g. missing values, descriptive statistics, normality, detection of multivariate outliers, and correlation analysis) the final sample size was reduced to 1473 cases for further data analysis.

General Overview of Perceived Service Quality

The researchers have acquired users' responses on three service levels (minimum, desired, and perceived level). Overall libraries were not meeting minimum and desire expectations of users because overall perception mean score was less than minimum and desired expectations. The four items having highest "minimum/desire expectation scores" were related to the LP dimension. These items were "the library has comfortable and inviting location"; "the library has space that inspires study and learning"; "the library is a getaway for study, learning, or research"; and "the library has quiet space for individual activities" (see Table 1). Examination of perception score (opinion about actually received services) revealed that the three items having highest perceive score were also related to LP dimension. These items were: "the library has comfortable and inviting location"; "the library has quiet space for individual activities"; and "the library is a gateway for study, learning, or research" (see Table 1). The lowest performed five items belonged to IC dimension. These items were: "electronic resources of the library are accessible from my home or office"; "the library has modern equipment that lets me easy access to the needed information"; "the web site of library enables me to locate information on my own"; "the library has electronic information resources, I need"; and "the library has printed materials, I need for my work" (see Table 1). It seems that libraries were performing better in LP dimension and poor in IC dimension.

Difference in Perceived Service Quality among User Type

ANOVA test is the most effective and highly recommended parametric statistics to see the difference of opinion among three and above independent groups. As there were more than two groups of users, ANOVA test was conducted to investigate the difference in SAG (perception-minimum expectation) and SSG (perception- desired expectation) among user groups. Users were divided into three

user groups i.e., faculty, graduates, and undergraduates. The results of ANOVA demonstrated that there was no significant difference among the three groups for SAG (F = 1.02, p =.362) and SSG (i.e., F = .908, p =.404). The faculty, undergraduates and graduates did not differ in overall SAG and SSG (see Table 2).An inspection of mean scores of SAG revealed that undergraduates had higher overall negative SAG (m = -.12) and faculty had positive SAG (m =.03, see Table 2.).

After exploring the overall difference, the researcher further investigated the dimension wise significant difference for SAG among user types. As there were three dependent variables (AS, IC, LP), the Multivariate analysis of variance (MANOVA) test was appropriate to see the effect on two or more dependent variables. Therefore, MANOVA test was performed to see the difference among user type. Three dimensions of perceived service quality were used as dependent variables: AS, IC and LP. The independent variable was user type i.e. faculty, graduates and undergraduates. The statistically significant difference (see Table 3) was noticed only for AS dimension (F = 3.02, p = .049). Post Hoc Tukey result further indicated that the significant difference was found between faculty and undergraduates only. An inspection of mean scores indicated that faculty had a better opinion than graduates and undergraduates on AS dimension (see table 3). Thus result suggested that library staff treat the faculty better than students.

Gender Difference on Perceived Service Quality

The researchers also explored the gender effect for overall SAG and SSG scores. The independent variable consisted on two independent groups - male and female. So independent sample t-test is most appropriate statistical technique to check the difference of opinion between the two independent groups. Therefore, an independent sample t-test was conducted to compare the overall SAG and SSG between male and female groups. The t-test result showed that there were no significant differences in SAG (t = -.66, p= 0.5) and SSG (t = -.64, p = 0.5) based on gender and both male and female have almost similar opinion on perceived service quality *(see Table 4).*An inspection of overall SAG and SSG (see Table 4) mean scores indicated that both male and female had negative adequacy gap. However, male had slightly higher negative SAG and SSG (SAG= -.07, SSG = -1.84) than female (SAG =-.01, SSG = -1.78).

Effect of Academic Disciplines on Perceived Service Quality

The researcher also explored the effect of academic subject on overall perceived service quality. As there were more than two independent groups, ANOVA statistics was conducted to investigate the significant difference on SAG and SSG among users of various academic disciplines. The subjects were divided into eight groups according to their academic disciplines (science, engineering and technology, management sciences, social sciences, agriculture, health science, education and others).

Effect of Academic Disciplines on SAG

The results of ANOVA found significant difference based on academic disciplines i.e. F = 3.21, p = .002 (see Table 5) for SAG. The users of various academic disciplines differed in overall SAG. Post-hoc comparison using the Tukey HSD test further indicated that mean score of social science users were significantly different than from users of health science (p = .007), engineering & technology (p = .02), and agriculture (p =.006). The researchers further investigated through contrast test whether one to one significant difference on three categories of academic users (health science and social science; engineering & technology and social science; agriculture and social science) exists with all others academic users or only at bivariate level. The result of contrast test (see Table 5) revealed significant statistical difference of agriculture with all other academic users (p =.02). The result reported in Table 5 indicated no significant contrast exists for health science (p=.10) and engineering & technology users (p = .64). An examination of mean scores for users of individual subject disciplines' indicated that agriculture users had highest overall negative SAG (m = -.56) and social science users had highest positive overall SAG (m = .34) among all categories of academic disciplines (see Table 5).

Effect of Academic Disciplines on SSG

The effect of academic disciplines on overall SSG was also investigated through ANOVA test. The results of ANOVA indicated that significant difference existed among academic disciplines for overall SSG i.e., F=3.26, p=.002 (see Table 5).

Post-hoc comparison using the Tukey HSD test further indicated significant difference between: social science and agriculture (p = .015); social science and health (p = .012); agriculture and education (p = .046).

The result of contrast test (see Table 5) demonstrated that significant statistical difference existed for agriculture and all other academic users (p =.009). The study results also found contrast (see Table 5) between health science and users of all other academic subjects (p = .021). However, contrast between engineering & technology (see Table 5) and all other academic disciplines was not found (p =.64). Observation of mean scores for users of individual subject disciplines indicated that agriculture (m = -2.30) and health science (m = -2.12) users had the highest negative SSG and education (m = -1.43) and social science (m = -1.54) had the lowest negative SSG among all categories of academic disciplines (see Table 5).

Discussions

This section discusses the individual differences on perceived service quality. Do various library users' groups have similar opinion on perceived service quality or they differed with each other? Library should need to adapt services keeping in view of specific priorities and needs of all user groups at individual level. So, libraries can reduce the gaps between users' expectations and perceptions. For the purpose of this study, the researchers checked the differences among users' types (faculty, graduates and undergraduates), gender and academic disciplines. Since, this study is first of its nature that examined the perceived service quality in ULP. It is, therefore, not possible for us to compare our results with the existing Pakistani literature. However, the study results will discuss with other available literature.

Difference in User Type

Finding suggested that faculty, undergraduates and graduates do not differ in overall service adequacy gap for library services. These findings support previous service quality studies (Calvert, 2001; Cook & Heath, 2001; Cook, Heath, & Thompson, 2001; Dole, 2002; Johnson, 2007) that also found no significant difference based on user types. However, findings are not consistent with some studies (Ahmed & Shoeb, 2009; Boykin, 2002). The researchers further examined this difference at the dimension level and did not find a significant difference among user groups (except AS dimension). There was significant difference between faculty and students on AS dimension. The possible reason for difference between student and faculty on AS dimension that library staff may give more attention and preference to faculty library users due to their status and involvement in different decision making regarding libraries. Majority of university teachers are chairperson of library committee. Moreover, they are administrative head of university library in a few universities. Pakistan is very high on power distance index

(PDI=55: (Hofstede, 2001) and people usually maintain distance among hierarchies. So teachers being a powerful group of university are treated better than students. Thus, library staff of ULP treats faculty members differently from students.

Difference on Service Superiority Gap (SSG)

The study results did not find significant difference among the three groups of users for overall service superiority gap. An inspection of dimension wise mean scores indicated that all three types of users had high negative SSG for all three dimensions i.e. AS, IC and LP. These finding validated previous studies about similar perception of library users (Cook & Heath, 2001a; Cook, Heath, & Thompson, 2001; Dole, 2002; Hariri & Afnani, 2008; Johnson, 2007; Thompson, Kyrillidou, & Cook, 2007).

Gender Effect

The independent sample t-test results on gender effect showed no significant differences between male and female library users on SAG and SSG. The mean score value for individual dimension indicated that males have high negative gap on IC and LP than females. On the other hand, females showed more concern in AS dimension as compared to men. This result may be explained by the fact that Pakistan has a male dominant society, where males are usually more expressive, aggressive, and independent than female users. The present findings seem to be consistent with other researches (Cook & Thompson, 2001; Cook & Thompson, 2002; Hariri & Afnani, 2008; Heinrichs, et al., 2005; Posey, 2009) that also found no significant gender effect on perceived library service quality.

Effect of Academic Disciplines

Based on ANOVA test, the researchers found significant difference for SAG (F = 3.21, p =.002) of academic disciplines of users. The difference was noted between social science and health science users (p =.007); agriculture and social sciences (p = .006). The result of contrast test (both SAG and SSG) further confirmed that significant statistical difference existed between agriculture and all other academic users (p = .02). An inspection of mean scores of individual subject disciplines' indicated that all academic disciplines have negative SAG except social science discipline (m =.34). There are studies (Creaser, 2006b; Lessin, 2004;Wilson, 2004) that found significant differences among users on the basis of their academic disciplines. The social science users have positive opinions because their expectations and requirements were low as compared to other disciplines i.e. health, science,

engineering, and technology. The one to one difference among users' academic disciplines (social science - health science, agriculture) is due to fact that health and agriculture users need quick, easy, latest and timely access as compared to social science users. On the other hand, social science users are not very much demanding and libraries can meet their demand easily. So, these groups have large variation between them. A possible explanation for this might be poor state of library service quality in agriculture (SAG = -.32) and health science (SAG = -. 55) related collection and access facilities as compared to social science (gap =.34) related collection and access services.

Implications of the Results

The results of the study suggest the following implications for the management of university libraries, HEC, Government of Pakistan and policy makers to improve the quality of library services.

- The data calculated from service adequacy gap, difference among faculty and students on AS dimension implies that library staff may treat each user group differently. So the library staff should consider these findings and pay more attention to undergraduates.
- The overall, individual service and dimension wise gap scores revealed that libraries were not meeting minimum requirements of graduates and undergraduate users in collection, access (IC dimension); staff skill, abilities and attitude (AS dimension). The library administration can isolate these problematic areas and make plans for immediate action based upon these results.
- Libraries should keep in mind that users have different opinions based on academic disciplines. So libraries should plan services keeping in view of this difference. Libraries should make more efforts to improve the material and human resources related to agriculture and health science as they found to be more displeased academic users.
- The study result showed that collection and access related services were very poor across user type, gender and academic disciplines. Library management should consider how to minimize the gap in collection and access related services.
- It was found that "remote access of electronic resources"; "modern equipment"; "the library web site"; "electronic resources"; and "printed materials" were ranked the poorest services by all categories of user.

Therefore, HEC, universities, and other concerned authorities should immediately increase the budget allocation for above mentioned services.

- The data calculated from SAG and SSG suggested that male users have comparatively higher negative gaps than female users. Therefore, library management should pay more attention to male users.

- The examination of SAG mean scores for users of individual subject disciplines' indicated that users from science, engineering, management have negative SAG. So libraries should make more efforts to minimize the gap for above-mentioned academic subjects.

Limitations and Future Research Directions

The findings of the study should be considered in view of certain limitations. First limitation of the study was related to the upholding of our results across different cultures and population sectors in our country. Although the researcher considers that the findings may be generalizable to other types of libraries (special, public), having similar situation. However, in order to make the findings of this study generalizable to other types of libraries, future researchers should try to replicate our study in public and special libraries of Pakistan. Secondly, the study used convenient sampling method for data collection thus sample may not be true representative of population. The future research should be conducted through random sampling. Finally, the study measures the users' opinion on library service quality through quantitative method so future research may be conducted through qualitative methods such as focus group and interviews.

Conclusions

The finding of study demonstrated that there was no significant difference among faculty, undergraduates and graduates in overall service quality. However significant difference was found between faculty and undergraduates on staff related services (AS dimension). Overall faculty had better opinion than students.

Similarly, male and female have almost similar opinion on perceived service quality. However, male had slightly higher negative gap than female. The users have different opinions based on academic disciplines. The agriculture and health science users were the most dissatisfied and social sciences were the most satisfied among all academic disciplines.

The study identified similarities and differences on perceived library service quality across the user types, gender, and academic disciplines. The previous studies (Cook, Heath, & Thompson, 2001; Dole, 2002; Hariri & Afnani, 2008; Johnson, 2007; Sharma, Anand, & Sharma, 2010; Thompson, Kyrillidou, & Cook, 2007) identified the difference on gender or user types based only on overall service quality (or only on service superiority gap). This study first time investigated the difference among various types of users (faculty, graduates, and undergraduates), gender and academic disciplines not only on overall service quality but also investigated the difference on three service quality dimensions, both for service adequacy and service superiority gap. Furthermore, this study first time investigated the difference among various academic subject users through contrast test.

Table 1

Overview of library service quality

Item Code	Service Quality item	Minimum Mean	Desire Mean	Perceived Mean	Adequacy Gap	T
IC-5	The library has modern equipment that lets me easy access to the needed information	5.804 (1.83)*	7.590 (1.53)	5.288 (2.14)	-0.516**	1.96***
IC-1	Electronic resources of the library are accessible from my home or office	5.672 (1.84)	7.513 (1.51)	5.217 (2.23)	-0.454**	1.312
IC-4	The library has electronic information resources, I need	5.888 (1.79)	7.553 (1.52)	5.440 (2.06)	-0.448**	0.73
IC-2	The web site of library enables me to locate information on my own	5.720 (1.85)	7.507 (1.50)	5.295 (2.22)	-0.426**	0.918
IC-3	The library has printed materials, I need for my work	5.816 (1.76)	7.497 (1.53)	5.443 (2.03)	-0.373**	0.634
LP-5	The library has community spaces for group learning and group study	5.729 (1.91)	7.539 (1.58)	5.540 (2.34)	-0.189**	-0.13
IC-8	The library has print and/or electronic journal collections, I require for my work	5.753 (1.94)	7.542 (1.65)	5.608 (2.01)	-0.146**	0.509
AS-7	Library staff understands the needs of its users	5.698 (1.82)	7.478 (1.55)	5.690 (2.04)	-0.008**	0.514
AS-8	Library staff is always willing to help users	5.776 (1.81)	7.545 (1.49)	5.808 (2.06)	0.032	-6.436***

AS-9	Library staff shows dependability in handling users' service problems	5.643 (1.84)	7.420 (1.58)	5.676 (2.02)	0.033	-6.213***
AS-5	Library staff has knowledge to answer users' questions	5.694 (1.82)	7.485 (1.53)	5.735 (2.06)	0.040	-5.698***
AS-3	Library staff is consistently courteous	5.889 (1.85)	7.608 (1.55)	5.936 (2.13)	0.047	-6.599***
AS-4	Library staff is always ready to respond to users' questions	5.636 (1.87)	7.376 (1.63)	5.694 (2.14)	0.058	-7.507***
LP-1	The Library has space that inspires study and learning	5.940 (1.75)	7.706 (1.29)	6.013 (1.98)	0.072	1.964***
AS-2	Library staff gives individual attention to the users	5.383 (1.83)	7.244 (1.60)	5.466 (2.16)	0.083	2.454***
AS-1	Library staff instill confidence in users	5.389 (1.64)	7.413 (1.39)	5.506 (2.01)	0.117	-2.154***
IC-6	The library has easy-to-use access tools that allow me to find things on my own	5.746 (1.82)	7.504 (1.56)	5.873 (1.99)	0.127	1.174
IC-7	The library makes the information easily accessible for independent use	5.726 (1.73)	7.469 (1.45)	5.877 (1.88)	0.151	4.083***
LP-4	The library is a getaway for study, learning, or research	5.938 (1.76)	7.620 (1.49)	6.141 (1.97)	0.203	4.936***
LP-2	The library has quiet space for individual activities	5.932 (1.83)	7.599 (1.49)	6.179 (2.05)	0.247	3.417***
LP-3	The library has comfortable and inviting location	6.022 (1.75)	7.722 (1.45)	6.314 (2.00)	0.291	-2.673***
	Overall	**5.75**	**7.52**	**5.70**	**- 0.5**	

* Standard subdivision, ** outside the ZOT,   *** significant difference was found between users' minimum

Expectations and perception   Adequacy Gap (perception-minimum)

Table 2

Difference on User Type

Variable	Faculty		Graduates		Undergraduates		Overall		F	Sig
	N	Mean	N	Mean	N	Mean	N	Mean		
SAG	426	.04	501	-0.04	546	-0.13	1473	-0.05	1.02	.362
SSG	426	-1.86	501	-1.74	546	-1.85	1473	-1.82	9.08	.404

Table 3

Dimension Wise Difference on User Type

Variable	Faculty	Graduates	Undergraduates	F	Sig
	SAG	SAG	SAG		
AS	.24	- .008	- .04	3.02	.049
IC	- .21	- .269	- .28	0.15	.858
LP	.11	.268	.001	2.81	.060

Table 4

Gender Difference

Variable	Male		Female		T	F	Sig
	N	Mean	N	Mean			
SAG	969	- 0.07	504	- 0.01	- 0.65	2.68	.10
SSG	969	-1.84	504	- 1.78	-.64	0.75	.38

Table 5

Effect of academic disciplines on SAG

Variable	Subjects	N	Mean	F	Sig	Contrast
Overall SAG	Science	151	-0.07		.	
	Engineering and Technology	324	-0.15			.644
	Management Sciences	427	-0.04			
	Social Sciences	247	0.34			
	Agriculture	65	-0.56			020*
	Health Sciences	143	-0.33			.105
	Education	65	-0.01			
	Others	51	0.03			
	Total	1473	-0.05	3.21	.002	
Overall SSG	Science	151	-1.80			
	Engineering and Technology	324	-1.87			.644
	Management Sciences	427	-1.84			
	Social Sciences	247	-1.54			
	Agriculture	65	-2.30			.009*
	Health Sciences	143	-2.13			.021*
	Education	65	-1.44		.002	
	Others	51	-1.71			
	Total	1473	-1.82	3.27		

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