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Abstract: The purpose of this study is to identify the significant dimension of LibQUAL[+] that has a greater influence on hospitality students' satisfaction towards the quality of the overall service provided by a library. Authors of this study have used a modified (a shorter performance-only) LibQUAL+ tool to measure the perceived service quality of a library. The data for this study is collected from both graduate and post-graduate students from a single hospitality institute in Karnataka, India. The regression analysis is used to test the hypotheses. "Affect of Service" emerged as a significant dimension accounting for hospitality students' satisfaction. The study gives practical insights to library managers about students' perceptions of service quality for improved decision-making and help them to reallocate human resources effectively by identifying the most important predictor of library service quality.

Introduction:

Higher education is the key driver for economic growth of any country and is becoming an increasingly competitive market. Students are regarded as the customers of higher education (Thomas & Galambos, 2004), therefore, their satisfaction plays an important factor for the success of educational institutes . The more satisfied the students are with the quality of services provided by an institute, the more their chances are to attract prospect students in the long term. High satisfaction also contributes to lower attrition rates, a sturdier grit in learning, and higher motivation in pursuing additional courses (Kuo, Walker, Belland, & Schroder, 2013).

Meanwhile, Thomas and Galambos (2004) identify campus services and facilities including classrooms, computer labs, library services, academic counselling, and attitude of staff towards the students as predictors of student satisfaction. Similarly, (de Lourdes Machado, Brites, Magalhães, & Sá, 2011) contend that an institutional climate that students perceive as supportive has the highest influence on students' satisfaction. In fact, the overall satisfaction about any institute may have a positive association with the students' perception of the services of the institute's library. In other words, the performance of libraries at institute may play an significant role in retaining students, suggesting that library managers need to pay attention on quality of the services provided at institute (Duffy et al., 2008; Saunders, 2008; Brochado, 2009). Hence, this study aims to identify the most important predictor of overall satisfaction in relation to the quality of the library service offered by an institute. To achieve this objective, the present study adopts a modified performance-only version of LibQUAL+ tool with 22 core items to measure the

perceived service quality of the library service provided by the college under study. It is evident from past literature that library administrators have effectively used this tool to measure the perceived service quality of their library service (Cristobal, 2018;Helgesen & Nesset, 2011; Karim, 2018; Killick, van Weerden, & van Weerden, 2014; Pedramnia, Modiramani, & Ghavami Ghanbarabadi, 2012; Veasna, Chun, & Nimol, 2015; Zhang, Bi, & Xiao, 2017; Ziaei & Fatema, 2018)

Literature review and hypotheses development

In order to assess and measure library service quality, LibQUAL+ was developed in 1999 as an extension of SERVQUAL by the Association of Research Libraries (http://www.arl.org), in alliance with Texas A & M University (Parasuraman, Zeithaml, & Berry, 1988). Since then, this tool has been frequently used by library administrators to measure the perceived library service quality and has been found to be a reliable and valid survey instrument. In addition, this measurement model has been tested and validated in various libraries across the world (Dole, 2002; Helgesen & Nesset, 2011; Khan, 2016; Killick, van Weerden, & van Weerden., 2014; Moon, 2007; Morales, Ladhari, Reynoso, Toro, & Sepulveda, 2011; Pedramnia et al., 2012; Sahu, 2007). Additionally, libraries have successfully used this tool to analyze the shortfall and efficiently reallocate library resources, based on customer perceptions. The three dimensions of service quality measured by LibQUAL+ are: Affect of service (AOS), Information Control (IC), and Library as a Place (LP). The AOS dimension comprises of nine items related to the human dimensions of library service: courteous, willingness to help, knowledge, helpfulness, responsiveness, and understanding the needs of students. The second dimension IC, which has eight items, is linked to student's ability to access and find data in the format of their choice independently. This dimension includes factors such as access to print and electronic resources, link to library website, access from home or hostel, and modern equipment provided to access the electronic resources of the library. The third dimension, LP, as the name suggests comprises of five items relating to library as a physical space and it is mainly concerned about the physical environment of the library, and the comfortable and inviting space provided for both individual and community learning.

The LibQUAL+ model is based on the Expectation Confirmation-Disconfirmation theory. This theory assumes that customers develop some level of expectation in their minds about the product or services before availing them. After availing the service or a product, the customer rates the performance of the service or product at three different service levels: minimum acceptable level of service, desired or expected level of service, and perceived level of service. The gaps are then calculated by subtracting the scores between the desired, perceived and expected levels of service. However, Anna Guidry (2002) reports that few respondents were not able to differentiate the differences among these three service levels, i.e., minimum, desired, and perceived, on which the gap model is grounded. Another criticism of the gap theory of customer satisfaction (Hidalgo & Hernandez, 2001) is that when expectations are measured after consumers' experience as in the case of library service, the expectations are subject to be manipulated by the experience itself. Moreover, Babakus & Boller, (1992), posited that customers rarely rate experience higher than the desired level of service. In the same way, people

often find it difficult to express their expectations if they are new to the given product or service, resulting in unreasonable expectations and ratings (Westbrook & Newman, 1978). Meanwhile, Roszkowski, Baky, & Jones (2005) conclude that it is best to consider the perceived rating of the library service than the superiority gap scores as the basis for measuring the satisfaction. Also, the findings of studies working with SERVQUAL and its other adoptions conclude that the performance-only assessment is the most valid form for measuring satisfaction (Brady, Cronin, & Brand, 2002; Hudson, Hudson, & Miller, 2004; Lee, Lee, & Yoo, 2000). After all, customers can be satisfied without having their expectation levels met (Hughes, 1991;Yüksel & Rimmington, 1998).Therefore, authors of this study adopted only the perceived level of service quality on the three dimensions of LibQUAL+, since the primary objective of this study is to identify the major predictor of hospitality students' satisfaction, Subsequently, the following research hypotheses are formulated:

H1: Affect of Service is a significant predictor of the overall satisfaction relating to library service quality

H2: Information Control is a significant predictor of satisfaction relating to library service quality

H3: Library as a place is a significant predictor of satisfaction relating to library service quality

Background of the study

This study is conducted at one of the constituent hospitality institutes of a leading private Deemed University in Karnataka, India. The institute offers four-year bachelor's Degrees in Hotel Management (BHM) and two-year master's degrees in Hospitality &Tourism Management, (MSc.HTM) and Dietetics & Applied Nutrition (MSc. DAN). The subjects offered for the programs range from hospitality-operational subjects to non-operational and management subjects. The curriculum includes On the Job Trainings (OJTs), Practice School (180 days), Research & Dissertation, Professional Development & Event Management, Outreach and Community Extension programs. The institute has a well-established library for all the graduate and post-graduate students. Students and faculty members have access to books, journals, magazines, online journals, and databases. The library offers off-campus access (hostels/residence) to the online databases and journals through institutional credentials.

Research design and a respondent profile

Through a survey method, data were collected from the final year students of BHM, MSc.HTM and MSc. DAN by administering a structured questionnaire. Purposive sampling technique was used because researchers believed that final-year students are more fit because they had a higher number of years of experience. In total, 124 questionnaires were distributed to students in classrooms and library. Researchers received 114 filled questionnaires, out of which only 95 were considered for the final analysis, resulting in a 77% response rate. The final sample consisted of 50 males (53%) and 45 (47%) female students. Out of 95 respondents, 40 (42%) are

undergraduates, and 55(58%) are postgraduate students. The average age of respondents is 22 (SD=1.58)

Survey instrument and measures

The survey instrument has two parts: the first part consists of a modified performance-only version of LibQUAL+ tool with 22 core items from LibQUAL+, and one statement on the overall satisfaction for the quality of library services, i.e., In general, "I am satisfied with the overall quality of the service provided by the library". The 22 items of the performance-only scale are further divided into three dimensions of library services; Affect of Services (AOS), Information Control (IC) and Library as a place (LP). The first dimension of LibQUAL+, i.e. AOS contains nine items relating to library staff, including readiness to help, knowledge, courtesy, handling problems related library, paying attention to students etc. The IC dimension encompass eight questions relating to the print and electronic library resources, modern equipments provided by the library, library websites, accessing tools and their ease of access by the students etc. Finally, the third dimension LP comprises of five questions relating to the physical aspects of the library such as comfortable and inviting location, gateway for study and learning, community space etc. The students are asked to rate the performance of the library on these 23 items on a 7-point Likert scale, with 1 representing "low" and 7 representing "high". It is evident from the past research that the 7-point Likert's can be successfully used to measure the LibQUAL+ dimensions (Stewart Saunders, 2008). The second part of the survey instrument captures the demographic data about the students such as age, gender, type of education.

Data Analysis

Sampling adequacy, factor structure, and reliability

The mean and standard deviations for all items are calculated and presented in Table I. Table II illustrates that the KMO measure of sampling is above the recommended value of 0.6 (0.92), and Bartlett's test of sphericity is significant ($\chi 2$ (435) = 3297, p < .01), further confirming sample adequacy for factor analysis (Kline, 1994).

Table I: Mean and Standard deviation of variables

	Items	Mean	SD
1	Instill confidence in users	5.38	1.35
2	Giving users individual attention	5.33	1.51
3	Consistently courteous	5.51	1.58
4	Readiness to respond to users 'questions	5.54	1.37
5	Knowledge to answer user questions	5.57	1.34
6	Deal with users in a caring fashion	5.32	1.44
7	Understand the needs of their users	5.51	1.44
8	Willingness to help users	5.60	1.39
9	Handling users'service problems	5.53	1.53
10	Making electronic resources accessible	5.64	1.47
11	Library Web site to locate information on my own	5.40	1.61
12	The printed library materials I need for my work	5.46	1.51
13	The electronic information resources I need	5.58	1.54
14	Modern equipment that lets me easily access needed information	5.40	1.55
15	Easy-to-use access tools that allow me to find things on my own	5.51	1.56
16	Making information easily accessible for independent use	5.49	1.51
17	Print and/or electronic journal collections I require for my work	5.31	1.68
18	Library space that inspires study and learning	5.52	1.52
19	Quiet space for individual activities	5.36	1.65
20	A comfortable and inviting location	5.35	1.55
21	Library as a gateway for study, learning or research	5.59	1.40
22	Community space for group learning and group study	5.19	1.79
23	In general, I am satisfied with the overall quality of the service provided by the library	5.71	1.12

Table II: KMO test of Sampling Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.922
Bartlett's Test of Sphericity	Approx. Chi-Square	2349.72
	df	231
Sig.	0.001	

The factorability of all the 22 items is examined. It is found that all the items were loaded to respective dimensions of LibQUAL+ with the recommended factor-loading value (Table III). The factor analysis extracted three dimensions of LibQUAL+ with eigenvalues >1, explaining 78 percent of the total variance, with factor loadings ranging from .618 to .867. The reliability coefficient (Cronbach's alpha) of the dimensions are calculated and it is found that all are above the recommended value of 0.6 (Table III).

Table III: Factor loadings based on the principal component analysis with varimax rotation for 22 items of LibQUAL+ and reliability coefficients

Dimensions	items	Factor Loading	Cronbach's Alpha
Affect of Services	1-9 items	0.618 to 0.829	0.96
Information Control	10 to 17	0.675 to 0.867	0.96
Library as Place	18 to 22	0.699 to 0.843	0.94

Relationship between the three dimensions of LibQUAL+ and the overall satisfaction of students regarding library services

The strength and magnitude of the relationship between the three constructs and the overall satisfaction of students regarding the quality of library services are measured using the multiple regression method (Table IV). The model is found to be statistically significant with $F_{(3, 91)}$ =25.01, $p<0.001$, accounting for 45 % of the variance of the overall satisfaction relating to quality of library services.

Table IV: Model Summary: Dimensions of LibQUAL+ and the overall satisfaction about the quality of library services

Model 1	R	R^2	Adjusted R^2	SE	F	P
	.672a	0.452	0.434	0.84212	25.012	0.000*
a. Predictors: (Constant), Library as place, Information Control, and Affect of Services						
* Significant at p < 0.01						
Source: Primary Data						

Table V demonstrates the standardized regression coefficients of the three dimensions of LibQUAL+. The Affect of Services (β= 0.488, p<0.01) emerges as a most influential predictor of the overall satisfaction about library services followed by information control (β= 0.285, p<0.05) whereas Library as a place has no significant influence on the overall satisfaction.

Table V Standardized regression weights

LibQUAL+ Dimensions	β	SE	p
Affect of Services	0.488**	0.107	0.000
Information Control	0.285*	0.098	0.018
Library as Place	-0.063	0.093	0.594
Notes: *, **Significant at p< 0.05 and p< 0.01, respectively			
Source: Primary data			

Discussion and conclusions:

The purpose of this study is to identify the most contributing dimension of LibQUAL+, which mainly accounts for the satisfaction of the hospitality students with the overall quality of services provided by the library. To achieve this objective, three hypotheses with theoretical underpinning were tested.

According to the findings of this study, the dimension AOS emerged as the dominant predictor, accounting for 49% of the variance in the overall satisfaction (Table 1). A one unit increase in AOS will result in 0.49-unit increase in the overall satisfaction of students. This is in line with the studies conducted by Roszkowski, Baky, & Jones (2005);Heinrichs, Sharkey, & Lim (2005) and Pedramnia, Modiramani, & Ghavami Ghanbarabadi, (2012). This dimension focuses on the perception of students about the competency and the helpfulness of the library staff; therefore, library administrators need to focus more on improving the human element involved in library service. This finding stresses upon the importance of human dimensions and service aspects of the library, such as responsiveness, assurance, empathy, and reliability. There must be increased efforts from the library personnel to improve the communication channels between them and

the students to build a better academic relationship. Library personnel skill development programs and communication seminars should yield significant improvement in the user's overall satisfaction of the library (Heinrichs et al., 2005).

The findings of this study also suggest that the dimension IC as the second significant predictor of the overall hospitality students' satisfaction relating to service quality of the library, signifying that the library administrators must focus on the five aspects of Information control. This dimension refers to the information users receive regarding the print and electronic resources available in the library. Studies in the past showed that the average graduate student is not aware of more than half of the services provided by the library (Jankowska, Hertel, & Young, 2006). Also, it is challenging for the library administrator to communicate with the students who rarely visit the physical space of the library and this demand new approach of reaching out such students. In this regard, the library website, often the single and primary point of contact, should be clear in scope and purpose, and should offer variety of help in accessing and retrieval of information from the different databases. Another way of reaching out students would be through emails. A previous study suggests that the graduate students use electronic resources substantial and they are in favor of network-based library resources and services. However, in her research, Patricia Maughan (1999) contends that even the most frequent users of electronic resources expressed a need for detailed information about services provided by the library. Additionally, the study conducted by Carol Tipson stresses on the optimized communication by the library .She suggests different types of orientations, tutorials, searching methods and review procedures for accessing the electronic public access catalog (EPAC) and electronic resources provided by the library. To improve the access and utility of the library services, it is suggested that the library administration may focus on more activities, such as updating the students about the addition of new materials, services provision, hands on workshops, awareness programs and email alerts.

Meanwhile, the third dimension of LP is found to have no significant influence on hospitality students' satisfaction about library service quality. This is in line with the study conducted by (Asemi et al. (2010), Killick et al.(2014), and Heinrichs et al. (2005). Further, Heinrich and his colleagues also point out that the survey questions that comprise the LP dimension address a quiet physical space for solitude, whereas the stated mission of a library is to provide open gathering space for group studies. Hence, it can be theorized that there is a need for group and community study for hospitality students. However, this is in contrary to the findings of Lippincott and Kyrillidou (2004) who noted that despite the availability of electronic resources, the importance of the physical space of library has not lessened among undergraduate students. Moreover, they exhibit much higher rating for the desired level for physical space than faculty members. Further, Jankowska et al. (2006) reveal that though post-graduate students rate Information control as the most desirable dimension, but for the undergraduates, LP remains the most desirable dimension of LibQUAL+. However, with the adoption and access to electronic resources and the trend towards Internet usage by students for academic activities, the nature of their study as well as reading can take place at home or hostels. Keeping in mind the shift in

usage pattern, this dimension should be examined and survey questions should be altered (Heinrichs et al., 2005).The research conducted by Killick et al. (2014) also suggests that the LP dimension has the least impact on the overall satisfaction or dissatisfaction towards the library service. The reason for the non-significant influence of LP on students' satisfaction could be attributed to the fact that a substantial part of the learning occurs outside the classrooms through activities like professional development, industrial training, and on-the-job training.

Further, Table IV also exhibits that the if all the dimensions are increased by one unit, students' satisfaction is estimated to increase by 0.45. This suggests that students' satisfaction does not depend solely on the three dimensions of LibQUAL+. Hence, library administrators need to focus on other attributes that can influence students' overall perception regarding library service quality, such as information seeking behavior, information retrieval, informational literacy skill, situational factors, personal factors. Library management, therefore, should conduct regular user surveys, such as focus group interviews and qualitative surveys to overcome this diffidence. Conducting students' surveys and analyzing the data sets allow library administrators to identify the important factors influencing the satisfaction regarding the services provided by the library. Survey results help library administrators in reallocating the resources to activities important to students' satisfaction. Therefore, future research should concentrate on developing additional measures of user satisfaction to capture students' voices to translate them into library service specification.

Limitations:

The findings of this study need to be interpreted considering its potential limitations. First, the sample was homogeneous regarding age and category of users; therefore, generalizations of these results to other samples should be undertaken with caution. Second, only performance-level scores were used in the survey. The use of only performance-level score may result in a confounding factor since minimum expectations were not calculated in study. The third limitation was sample size. A sample size of 95 is small compared to the other surveys conducted worldwide to identify the dimensions of LibQUAL+. Therefore, future study should include a more substantial sample size. Since this study used the perception-only score of LibQUAL+ items to measure the library service quality, it does not provide details about the inadequacy. Thus, it is suggested that future studies can gather information on the needs and requirements of students through some other method like open-ended questions in the survey instrument, qualitative research, and focus group interviews. Any conclusions drawn from the findings of this study should take into consideration that this research is limited only to the hospitality students pursuing their studies in one single institution. Also, this study has not investigated the reasons for the non-significant influence of the third dimension, i.e., library as place for students' satisfaction. Therefore, it is recommended that future research should consider all these factors in their research to fill this gap.

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