CASE STUDY AND ANALYSIS FOR A SUSTAINABLE QUALITY MANAGEMENT IN A UNIVERSITY LIBRARY

Cristina Albu[1], Narcisa Valter[2], Adriana Cristian[3] and Mioara Duca[4]
[1)2)3)4)] University "Politehnica" of Bucharest, Romania
E-mail: cristina.albu@upb.ro; E-mail: narcisa.valter@yahoo.com;
E-mail:adriana_elena_cristian@yahoo.com; E-mail: mioara_duca@yahoo.com

Abstract
Putting a service into place in such a way as to avoid any major difference between expected quality and perceived quality requires an analysis aimed at identifying the means for improving its quality. In this respect, the paper presents such an analysis based on service provision processes and methods involving SERVQUAL type questionnaires filled in by library users. In our case study we have mapped out the current state of service quality perception in a university library. Furthermore, we have made a comparison with the results obtained in similar studies on info documentary structures running in different operating conditions. We have also listed recommendations for ensuring sustainable success in university libraries that are operating now in a rapidly changing environment.

Keywords: quality management, university library, evaluation, SERVQUAL questionnaire.

JEL Classification: I25, L31, M14, O32

Introduction

The steady concern over obtaining continuous improvement is likely to yield expected results. At the same time, quality, in its threefold status (planning, control, improvement), enables the organization to achieve its objectives.
The provision of services in the university library is an activity focused on satisfying the demands of internal and external users. Among the criteria that fundamentally distinguish service provision from goods manufacturing activities we might include:

- intangibility: services through their very nature are intangible;
- inseparability: the overlapping of services production and consumption in time;
- un-stockability: services cannot be stored for later use;
- variability: the service cannot be repeated identically;
- user-librarian (provider) interaction: the user is physically (online) present.

Experts have proposed criteria for the classification of services. Here are some examples of criteria for the classification of services listed in table no. 1. This view has been supported by Looy, Gemmel and Van Dierdonck (2003).

Table no. 1: Service classification criteria

Classification criterion	Characteristics
Degree of service standardization	Services may be by far more standardized (as opposed to goods that are accessed off the shelf). The service provider can develop a service to suit user requirements.
Degree of intangibility	Intangibility involves operating problems. Intangibles are difficult to standardize. In this case the service quality is dependent on the librarian
Degree of inseparability	Production and consumption take place simultaneously.
Degree of stockability	It is closely linked to the degree of intangibility and inseparability. The management of the operating system affects both employees and users. Example: an operating system can effectively decrease the waiting time for users, but it can also help workers to adopt a flexible approach.
Degree of user interaction	The demand for service is instant, it cannot be stored. In this case, employee training is very important.
Degree of variability	Variability within larger organizations that have extended contact with users is higher. Thus standardization may contribute to reducing variability.
Degree of acknowledging efforts required	Service delivery covers a wide effort range. Therefore hiring, training, rewarding staff should be a priority for human resources management in the case of high-effort services.

Source: Authors

Based on a study conducted by Zeithaml, Parasuraman and Berry (1990) on 60 000 respondents it has been demonstrated that services feature the same kind of expectations regardless of service. What makes the difference between one user and another is the importance attached to a number of 10 expectations. In a university library, these expectations might be the following:

1. Responsiveness: promptness of response to user requests (including response to complaints);
2. Courtesy: library staff attitudes towards the user;
3. Understanding: the extent to which the librarian understands user requirements;
4. Degree of understanding: the ability to provide the same quality service every time;
5. Communication: quality of information provided to the user;
6. Competence: knowledge resulting from service;
7. Tangible service features: the state of the natural resources used in providing the service (buildings, equipment, etc.);
8. Credibility: confidence in the services offered by the library;
9. User's physical safety or the security of storing user related information;

10. Access: user's ease in personally or electronically addressing library contacts.

Further research (Androniceanu and Drăgulănescu, 2012) showed that the users, usually, assign different weight to each of these expectations. Thus the library needs to understand its users' preferences.

1. Research methodology

To provide a sustainable quality management in an university library, in this paper, we have done an adaption of SERVQUAL questionnaires to the assessment of user satisfaction.

After Parasuraman, Zeithaml and Berry (1998),the SERVQUAL questionnaire is one such technique used for obtaining user feedback. With its help we can determine both the perceived and the expected quality of the service provided including likely differences between them.

The questionnaire features compliance with the prerequisites of a market research tool:

- it can be quickly filled in by users;
- it allows a standard approach to collecting information from users;
- it has a standard analytical procedure to guide the interpretation of results.

The SERVQUAL questionnaires proposed by Parasuraman, Zeithaml and Berry (1998),are used both to investigate user expectations (questionnaires SERVQUAL(E)) and to assesstheir perception(SERVQUAL polls (P)). SERVQUAL questionnaires(E) will be distributed before improving the service, in order to acquire appropriate information regarding expectations. After a certain service has been performed, a user has to fill in the SERVQUAL questionnaire (P) that will provide information on perceived quality.

The questionnairecontains22 questions. According to economics analysts, the assessment of the dimensions of user satisfaction (i.e.service quality) features the following dimensions (**RATER**):

- reliability (**R**)-questions1 to 5;
- assurance (**A**) -questions 6 to 9;
- tangibles(**T**) -questionnaire questions10 to 13;
- empathy(**E**) -questions 14 to 18;
- responsiveness (reaction speed) (**Rs**)-questions19 to 22.

SERVQUAL scoring is to be done in three steps:

Step 1*:*Calculation of values for average perception/expectation "x_i", in reference to question "i".

For each of the22 questions, one calculates the value for the average perception/expectation "x_i", using the formula:

$$x_i = \sum n_{ij} / N \quad i=1\ldots22;\ j=1\ldots N^* \qquad (1)$$

where: *i* is the number of the questionnaire question; *j*-the number of respondents, n_{ij} – grade awarded by respondent "*j*" to question „*i"*, N-number of questions for each dimension, *N**-number of respondents. The evaluation scale ranges from 1-5: grade1 means strongly disagree; grade 2-disagree; grade 3-neither agree or disagree; grade 4-agree; grade 5-totally agree.

Step 2: Calculation of perception/expectation average.

It is calculated for each dimension of the specific service quality:

R_p (R_e)- reliability perceived or expected
A_p (A_e) -assurance perceived or expected
T_p (T_e) -tangibles perceived or expected
E_p (E_e) -empathy perceived or expected
Rs_p (Rs_e) -responsiveness perceived or expected

Step 3:Interpretation of results.
The service score is interpreted in relation to the amount of difference D to each dimension. Thus, if the value obtained:

D>0the perceived quality of service is higher than expected quality
D=0 the perceived quality of service is as expected
D <0 the perceived quality of service is below expected level

2. Case study
A number of ***N*=100 SERVQUAL*** questionnaires was distributed to users of the Central Library of the University Politehnica of Bucharest (academics, PhD students, master students and licence students) before and after the administration of the loan service (at home and/or reading room) (*before and after the move to the new library headquarters).*
SERVQUAL questionnaire (*E*) was completed before service delivery in order to obtain information on user expectations *before and after the move to the new library headquarters).* SERVQUAL questionnaire (*P*) was completed by users after the service underwent improvement as compared to year 2015 in order to provide information on the user's perception of the service.

Calculus of SERVQUAL Score
*Phase 1***:** One calculates the average perception/expectation value „x_i, referring to question "i" in the set of 22 questions (table no. 2) and the values have been plotted in figure no.1.
Phase 2: Calculation of average perceptions/expectations for each dimension of service quality (reliability, assurance, tangibles, empathy and solicitude) according to table no. 3.
Phase 3. One calculates the difference between the average perception and average expectation for each dimension of service quality of (see table no. 3).
According to table no.3 (by analyzing the differences in value of the five dimensions of service quality), it appears that there is an improvement compared to 2015. Nevertheless, particular care still needs to be given to issues of *solicitude* and *empathy.*

3. Results
A feature of service delivery in the university library (which determines management peculiarities) is the direct contact between user and librarian.
Therefore, the management should be designed to ensure:

- ✓ an appropriate strategy for services;
- ✓ user-friendly systems;
- ✓ user-oriented staff.

The successful implementation of quality management in the university library services has serious consequences for:

- ✓ an improved market share;
- ✓ efficiency improvement;
- ✓ improvement of service provision and increased user satisfaction.

Table no. 2: Average perception/Average expectation

No.	Average Perception 2016(P 2016)	Average Perception 2015(P2015)	Average Expectation (E)	Difference 2015 (D2015)	Difference 2016 (D2016)
1	4,1	3,7	2,9	0,8	1,2
2	4,9	4,0	3,0	1,0	1,9
3	4	3,7	3,1	0,6	0,9
4	4,3	4,2	3	1,2	1,3
5	4,9	4,7	3,3	1,4	1,6
6	3,3	3,3	3,0	0,3	0,3
7	4,9	4,7	3,2	1,5	1,7
8	3,8	3,5	3,6	-0,1	0,2
9	3,8	3,3	2,8	0,5	1,0
10	4,9	4,1	3,5	0,6	1,4
11	4,2	4,5	3,6	0,9	0,6
12	3,9	3,6	3,7	-0,1	0,2
13	4,8	4,5	4,4	0,1	0,4
14	3,7	3,5	4,0	-0,5	-0,3
15	3,9	3,2	4,8	-1,6	-0,9
16	3,8	3,4	4,0	-0,6	-0,2
17	3,7	3,6	3,8	-0,2	-0,1
18	3,9	3,5	4,1	-0,6	-0,2
19	3,2	2,5	3,1	-0,6	0,1
20	3,2	2,6	3,3	-0,7	-0,1
21	3,1	3,0	3,3	-0,3	-0,2
22	3	2,8	3,2	-0,4	-0,2

Source: Authors

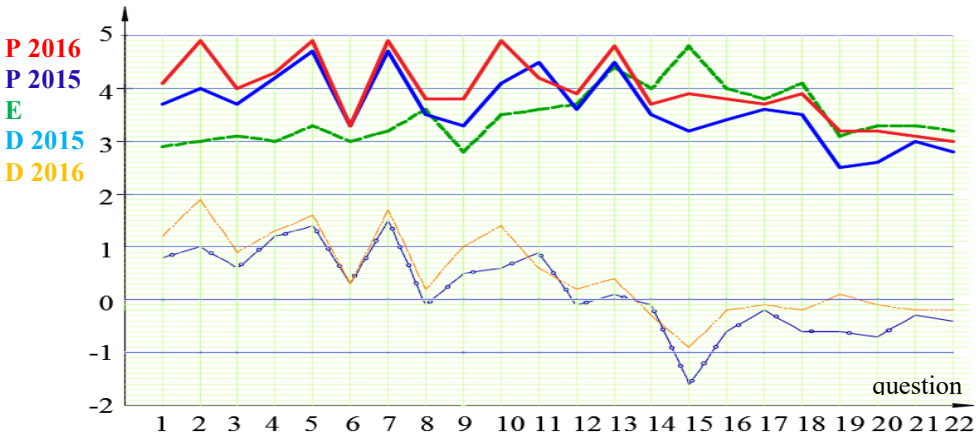

Figure no.1: Graph representation of average perception/average expectation

Source: Authors

As is shown also in Constantinescu (2005) and Suciu et al. (2011), the organizations that providing service, need to implement an approach that takes into account the specific peculiarities of quality management, for example the "Conceptual Model of Quality

Services" (CMQS). CMQS highlights the factors that influence the quality of the expected service as well as the process that determines the quality of the service as it is perceived (figure no. 2).

As shown in figure no. 2, the causes of the discrepancy between the expected and perceived quality of the service provided (lacks or shortages) are mainly generated by internal library factors. Improving the quality of the service rendered requires the identification of the factors that cause lacks and the finding of solutions for eliminating them.

As was shown graphically in figure no. 2, we identified these gaps, named L:

L1 occurs when there is a difference between the management perception with respect to user's expectations and demands, and the service expected, when one is ignorant of the user's expectations;

L2 is triggered by the difference between the management perception with respect to user's expectations and demands and the specifications of the service quality when the standards for service quality are inappropriate;

L3 occurs when there is a difference between the service quality specifications and service delivery in the case of service failure;

L4 occurs when there is a difference between (internal and external) user communication and service delivery when the service does not match promises;

L5 occurs when there is a discrepancy between the expected service and perceived service.

Table no. 3: Average perception/expectation values

Perception level			**Expectation level**			**SQ=P-E**
Perception average values		Average perception	Average expectation	Expectation average values		
Reliability	4,440	4,1	2,9	**R**eliability	3,06	1,380
		4,9	3,0			
		4	3,1			
		4,3	3			
		4,9	3,3			
Assurance	3,950	3,3	3,0	**A**ssurance	3,150	0,800
		4,9	3,2			
		3,8	3,6			
		3,8	2,8			
Tangibles	4,450	4,9	3,5	**T**angibles	3,800	0,650
		4,2	3,6			
		3,9	3,7			
		4,8	4,4			
Empathy	3,800	3,7	4,0	**E**mpathy	4,140	-0,340
		3,9	4,8			
		3,8	4,0			
		3,7	3,8			
		3,9	4,1			
Solicitude	3,125	3,2	3,1	**S**olicitude	3,225	-0,100
		3,2	3,3			
		3,1	3,3			
		3	3,2			

Source: Authors

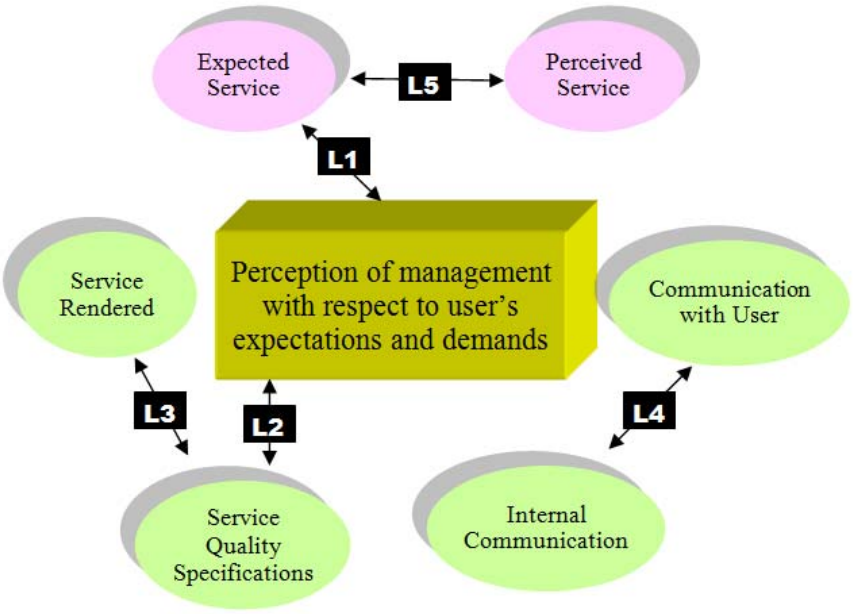

Figure no. 2: Drawing a critical path factors (L1 ... L5) causing gaps in the work of a university library
Source: Authors

Conclusions

An important role pertains to staff training as well as their behavior. The user often evaluates service quality based on the librarian's ability to grasp the user's preferred type of interaction.

The selection and training of customer first team who are in direct contact with users has great significance. The users' feedback and complaints may be taken as a starting point if the library plans to improve its services. It is never possible to make all users happy, no matter how high the service quality is. Yet, there must be some tolerance zone for acceptable service. From the analysis of questionnaires, some of the users' complaints seem to suggest the need for:

- ✓ improved internet connection (more efficient location of Internet outlets);
- ✓ longer lasting/more durable reader permits;
- ✓ more internet cables;
- ✓ switch to Wi-Fi connection;
- ✓ internet supply in individual cabins;
- ✓ more efficient air-conditioning in reading rooms during summer;
- ✓ more lecture halls opened during the exam session;
- ✓ more kindness from the staff;

- ✓ shorter time for processing doctoral theses.

The SERVQUAL Questionnaires represent a model for improving service quality from the user's point of view, starting from the discrepancy between the perception and expectations regarding the service to be rendered. The measurement of this discrepancy takes into consideration five dimensions: reliability, assurance, tangibles, empathy, solicitude.

The analysis of users' satisfaction is the basis for finding procedures of continuously improving service quality. One approach needed to ensure continuous improvement of user satisfaction is the use of the "Conceptual Model of Quality Service".

The degree of user satisfaction can be measured by different methods. Example: SERVQUAL questionnaires.

The Quality Management system should take into account the issue of human resources commitment in:

- creating an appropriate environment;
- considering human relations as an essential part of service quality (user-person in direct contact with the user);
- recognizing the importance to be given to the user's perception of the image, culture and achievements of the library;
- developing the qualification and capability of library employees;
- motivating employees.

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