A POINT OF VIEW ON THE METHODS OF QUALITY EVALUATION AND IMPROVEMENT SERVICES IN A UNIVERSITY LIBRARY

Albu Cristina[1], Cristian Adriana[2] and Valter Narcisa[3]

[1] Associate Professor PhD, Manager Library, University „Politehnica" of Bucharest, e-mail:
cristina.albu@upb.com
[2] PhD Eng., Central Library, University „Politehnica" of Bucharest, e-mail: adriana_elena_cristian@yahoo.com
[3] Associate Professor PhD, Department "Engineering Graphics and Industrial Design"
University „Politehnica" of Bucharest, e-mail: narcisa.valter@yahoo.com

ABSTRACT: Originality of this paper consists in adapting the quality management techniques and tools in the university library activities and specific document elaboration. This paper describes the successful implementation and assessment of tools in order to improve the quality of services. We aim to find answers to some questions as: which is a "service" definition? (a different approach to the service concept in libraries); which are the possibilities of improving the quality in service delivering? which are the users' perception (feedback) regarding the services? There are also put forth the instruments that may be applied to the design of innovation strategies, and the analysis of innovative. The paper presents an example of an assessment of the provided services in an academic library by Ishikava chart.
KEYWORDS: user, university library, service, quality, innovation, innovation management, innovation capability, Ishikava chart, performance.

1. INTRODUCTION

The services represent a dynamic area in the modern economy being also a research field of theoretical interest. The quality improvement of university library services should be a continuous activity aimed at permanently increasing its efficiency. In this respect, a pro-active attitude means looking for solutions rather than waiting for problems to surface.

After providing the service, the university library must use appropriate methods and tools to assess the degree of user satisfaction. That is done with an aim at ensuring user loyalty. The evaluation of user satisfaction, if made periodically, should be a permanent objective of any the organization, and therefore the university library. The application of the Service Quality Management in the library related activity means the promotion of high-quality library services oriented towards the user, the beneficiary of these services.

2. ANOTHER APPROACH TO THE CONCEPT OF UNIVERSITY LIBRARY "SERVICE"

Any service provided to users in the university library features three specific elements:
- diversification and quality improvement;
- short-term response to user requests;
- competitive cost.

A suggestive graphical representation of a service is that of a three-dimensional plan of the variables quality-cost-time limit according to Figure 1: [1]
- OX axis represents the response time to user requests;
- OY axis: cost;
- OZ axis: quality and diversity.

The representative triangle of a service is defined in Figure 1, in three stages:
- the existing stage;
- the improved stage;
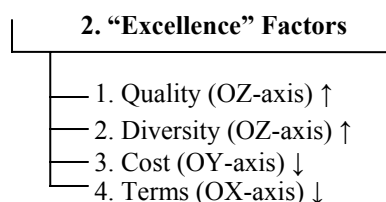- the deteriorated stage (poor management, etc.).

The arrows along the three axes of the coordinates indicate the direction of the action of improvement measures.

In the improved stage (university library "Excellence"), the triangle tends to be unbundled (ideally). In the worsened stage the triangle tends to be levelled.
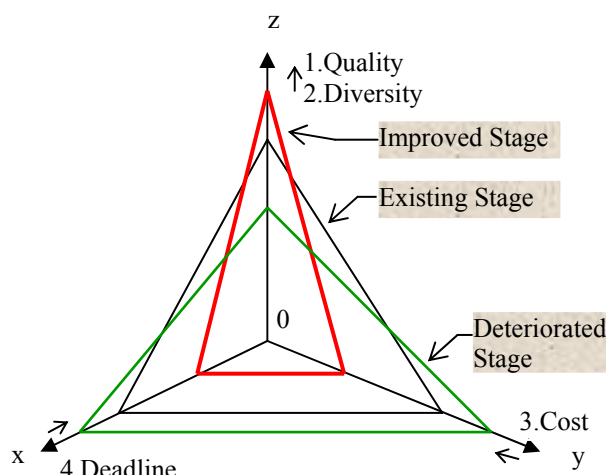

Figure 1. Graphical representation of a service

The factors that determine "Excellence" ("E") in the university library, are represented in Figure 2 (arrows indicate the direction of action). [1]

2. "Excellence" Factors

— 1. Quality (OZ-axis) ↑
— 2. Diversity (OZ-axis) ↑
— 3. Cost (OY-axis) ↓
— 4. Terms (OX-axis) ↓

Figure 2. "Excellence" Factors

In order to achieve "Excellence" it is necessary for the entire library staff to participate in bringing it about. The human factor is of particular importance in achieving "Excellence". Consequently, the library staf need continuous development and training.
The result of applying the concept of "Excellence" is shown in Figure 3. [1]

3. The result of applying the "E" concept

— 1. Operational economy ↑
— 2. Competitiveness ↑
— 3. Profit ↑
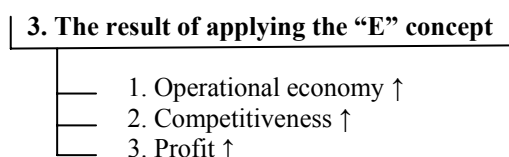
Figure 3. The result of applying the concept of "Excellence"

3. IMPROVING QUALITY IN SERVICE DELIVERY ACTIVITIES

In assessing service quality one should take into consideration a complex set of objective and subjective characteristics.
Objective features:
- access to required information;
- interface with operating program;
- charges;
- date limit for loans;
- availability of publications;
- opening hours;
- size and design of reading rooms, etc.

Subjective characteristics:
- librarian experience;

- counter waiting time;
- response time to complaints, etc.

The assessment of service quality by users is usually subjective. User behavior is one of the main factors that has to be known and taken into account when aiming to improve the quality of user satisfaction. User satisfaction is a concept commonly used in Quality Management and marketing.

The library staff is responsible for providing high quality services.

The attitude and behavior of employees can increase or decrease the reputation of the library (Figure 4). [2]
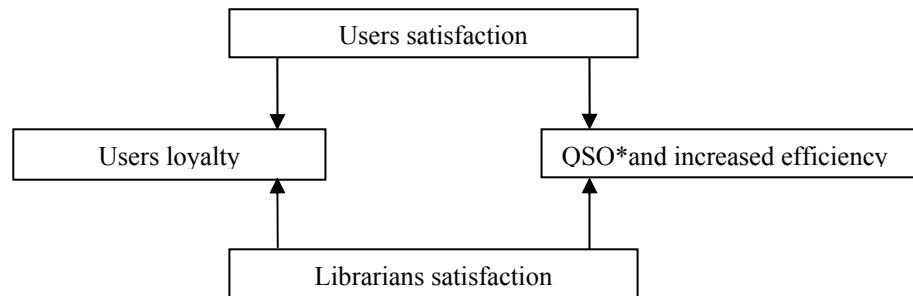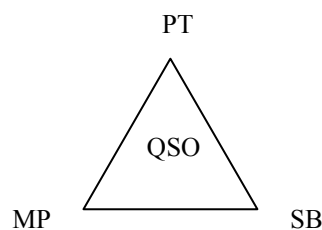

Figure 4. Relation between users and librarians satisfaction

QSO * - Quality of Services Offered

Improving the quality of service provision must be viewed in terms of three groups of factors (Figure 5):
- *professional training* of library staff (PT);
- *materials and processes* mapping out the service (MP);
- *staff behavior* (SB).

Figure 5. Triangle of QSO factors

3.1. Innovation management (IM) in the university library

The innovation process may be considered as the main factor of improving the quality of services offered to users in a university library. The need for library innovation is determined by four main factors:
- change in the information needs of users;
- fast changes in the academic environment;
- emergence of new technologies;
- increasing competition.

"Excellence in Innovation" requires three main steps:
1. Analysis of innovation capacity.
2. Improving innovation capacity.
3. Evaluation and correction.

For a library to be able to innovate, the creative initiatives of its employees should be met with a suitable framework for development and capitalization: the provision of a system of innovation management within the library. Otherwise, good ideas remain disparate and frequently disappear.

Innovation Management (IM) may be defined as a cyclic process underpinning the planning, organizing, directing and controlling of all activities involved in the generation and implementation of innovations. [3]

With respect to the study undertaken, the innovation based management of service quality is obtained on the intersection of three main components (Figure 6): [4]

- Quality Management.
- Services Management.
- Innovation.
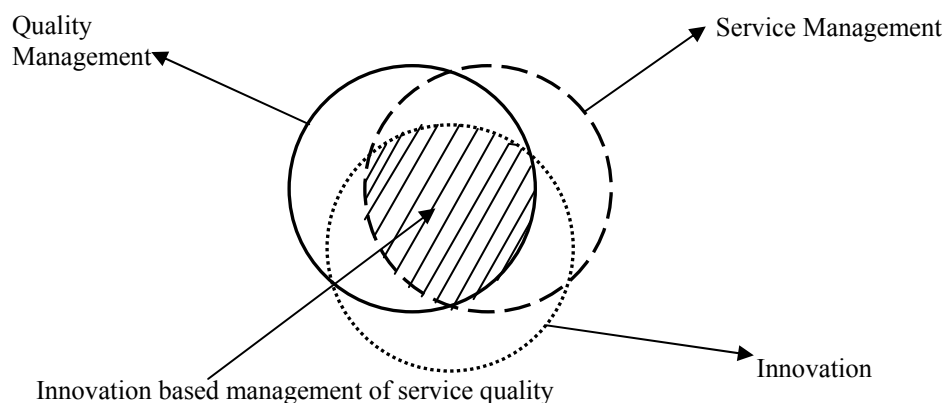
Figure 6. Representation of Innovation Management

The service management maps out all the activities to be undertaken in order to enhance the efficiency of efforts targeting progress in the academic community.

The ideal situation (total overlap of the three components), hence library "Excellence in Innovation" means reaching the target (provision of innovation capability).

Within the library, innovation management should aim at:

- innovation forms;
- generation of ideas;
- setting the innovation related goals;
- strategies that can be adopted;
- methods used in research;
- implementing the innovation goals through the development of innovation strategies;
- planning, organizing, directing and controlling the innovation process;
- creation of an organizational structure an corporate culture likely to promote innovation;
- teamwork;
- attracting users towards the innovation process;
- cost analysis.

The analysis of case studies showed that the factor that contributes most to the success of a project with an innovative character is qualified library staff (an efficient multidisciplinary team).

3.2. Library Innovation Capability (IC)

Literature provides quite a number of definitions about the *innovation capability* (IC) of an organization.

IC in a university library may be defined as the ability of a library to provide innovative services that are timely, qualitative and involve affordable costs.

For a library to have innovation capability, a number of requirements must be met (6 requirements: **F, W, L, A, I, P**):

- To be **F**ORCED to innovate (innovation should answer a need).
- To **W**ANT to innovate (provision of innovation strategy).

- To **L**EARN to innovate (to acquire the internal and external knowledge needed to innovate).
- To **A**LLOW innovation (to have a culture that supports innovation).
- To **I**MPLEMENT innovation (to capitalize on the available resources, to finalize existing projects).
- To **P**ERSEVERE in innovation (continuously innovate).

Innovation capability decreases when one of the requirements is not met.

It is not enough for the library to have innovation potential (capacity to innovate). Innovation must be sustainable, in other words conducive to innovation capability. Consequently, the innovation capability, that ability to innovate on a sustainable basis, is the outcome of activating and capitalizing on the library existing potential for innovation. The innovation management is responsible for this activation. It should be oriented towards the organization and allocation of available human, technical and economic resources in order to acquire fresh knowledge and generate ideas in order to obtain new services or improve the existing ones.

3.3. SWOT Method in library innovation

The dedicated tool for the situational analysis and the determination of the appropriate strategy for achieving innovation in the library is the SWOT model (Strengths, Weaknesses, Opportunities and Threats). The model allows the identification of generic strategies "Grand Strategies". They are obtained by combining internal factors (library strengths and weaknesses) and external factors (opportunities and threats). [3]

Figure 7 shows the SWOT matrix with the generic strategies associated with the four quadrants (situations). One obtains the library classification in one of the 4 quadrants and implicitly one is able to identify the appropriate strategy.
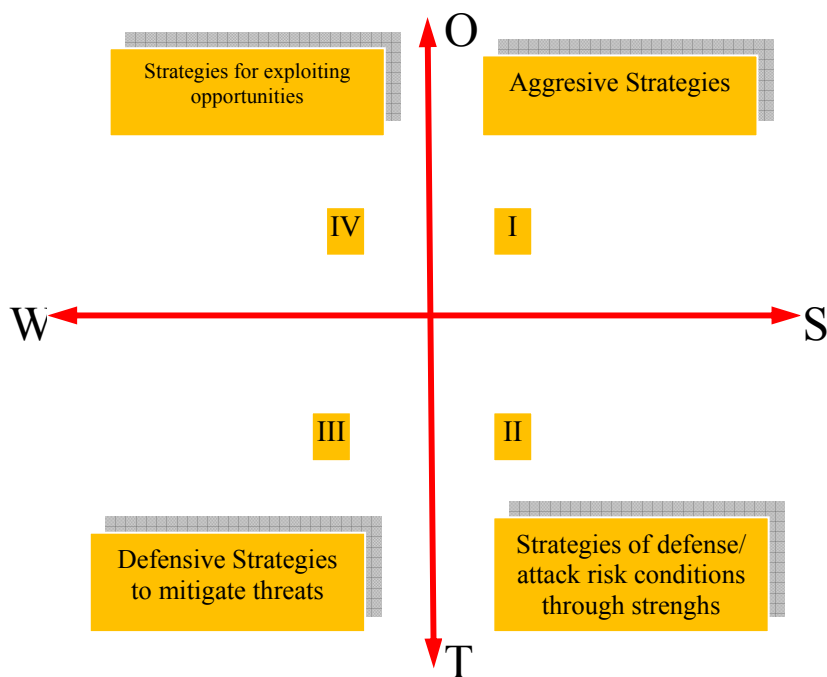
Figure 7. Graphic representation of SWOT model for overall strategies (Grand Strategies)

The SWOT analysis method involves two stages: [3], [5], [6], [7]
1. identification of SWOT quadrant;
2. development of appropriate strategy.
1. The first step may be carried out by managers on the basis of the internal and external factor evaluation matrices.

The internal factor evaluation matrix (IFEM) features the following steps (Table 1):
- identification of F_i factors that represent strengths and weaknesses (5-10 factors);
- assigning **importance coefficients Y_i** to i factors with values between 0 and 1, depending on their importance with respect to organizational success, so that $\sum Y_i = 1$;
- each factor is assigned a **rate N_i** from 1 to 4 that shows whether the factor is a weak point or a strong one. Thus: $N_i = 1$ for a very weak factor; $N_i = 2$ for a weak factor; $N_i = 3$ for a strong factor and $N_i = 4$ for a very important factor;
- for each factor one works out the product of values $Y_i N_i$ resulting in a **weighted score P** for all the factors across the organization:

$$P = \sum Y_i N_i$$

If the weighted score P obtained is below 2, the organization will be listed as having a weak internal potential. If the score is close to the value 4, the organization has a more important strategic position.

Matrix of external factors evaluation (EFEM) (Table 2):
- one identifies the main external factors (ranging 5-10) that may represent both opportunities and risks;
- factorial importance coefficients are determined as for IFEM. Higher coefficients are granted to more important factors, whether or not there are opportunities or threats to the organization work;
- each factor is assigned a rate from 1 to 4 as follows: 1 factor that represents a serious threat and 4 if the organization behaves appropriately in relation to that factor; rate 3 is given for an answer above average; rate 2 indicates an average assessment of that factor;
- one works out product **P** (weighted score), similar to the IFEM case.

Since the total weighted score may range between 1 and 4, it is considered that value 4 corresponds to the state of an organization that for ponds to the demands of the external factors, capitalizing on growth opportunities, and avoids dangers. Score 1 indicates fewer opportunities for the organization for adapting to the environment. The next step is identifying the SWOT grid quadrant: one marks the position required by the results of matrices IFEM and EFEM (Figure 8).

2. The determination of the actual strategy is based on the identification of the SWOT quadrant from the previous stage.

3.4. Illustration

The SWOT method is demonstrated by taking the Central Library of the University Politehnica of Bucharest as a study case. With this end in view, one has carried out the IFEM (Table 1), using the data from research conducted in the library.

Table 1. Assessment Matrix of main internal factors

Cr.nr.	Internal Factors F_i	Importance coefficient Y_i	Rate N_i	Weighted score P
1	Quality Management	0,1	3	0,3
2	Development of new applications	0,1	2	0,2
3	Quality control	0,15	3	0,45
4	Staff Training	0,15	3	0,45
5	User Satisfaction Level	0,1	4	0,4
6	Services delivered	0,1	1	0,1
7	Technology used	0,05	2	0,1
8	Library Facilities	0,05	3	0,15
9	Advisability of service taxation	0,05	1	0,05
10	Rector - Library Communication	0,15	2	0,3
		1	**-**	**2,5**

From Table 1, one can see that **P = 2,5.** The library may be considered as featuring an average internal potential.
The corresponding EFEM is shown in Table 2.

**Table 2.** Assessment Matrix of main external factors

Cr. nr.	External Factors F$_i$	Y$_i$	N$_i$	P
1	Marketing edge of library orientation	0,2	1	0,2
2	Inter-library Cooperation	0,1	2	0,2
3	Dynamics of users' information needs	0,2	2	0,4
4	Existing market competition (ex: Internet)	0,2	1	0,2
5	Continuous diversification of quality services on offer	0,15	2	0,3
6	Importance of services on offer (including software applications)	0,15	4	0,6
		1	**-**	**1,9**

According to Table 2, value **P = 1,90** reveals an average capacity of library adaptation to the demands of the external environment.
From Tables 1 and 2 one obtains the coordinates of the library position: **A (2,5; 1,9).**
The quadrant identification from the SWOT grid is given in Figure 8.
Figure 8 is highlights the library position according to the results obtained from IFEM and EFEM.
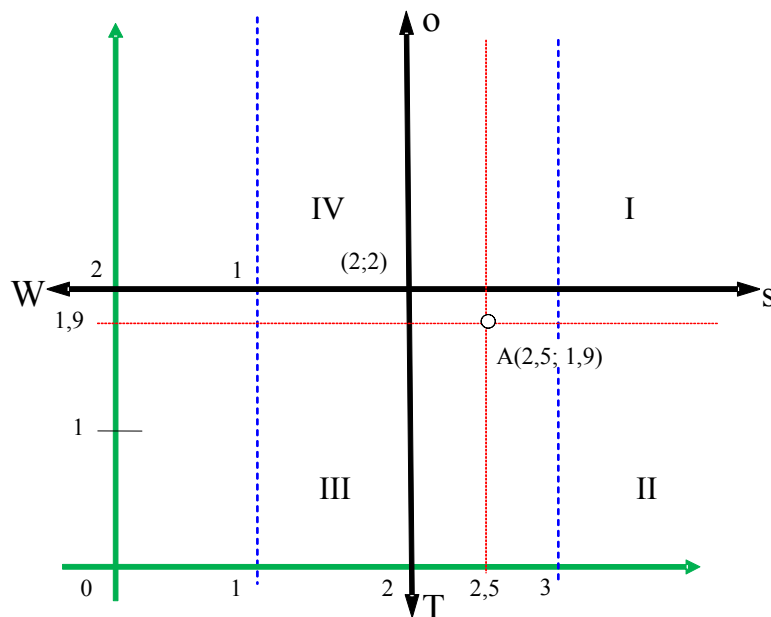
Figure 8. SWOT model for identifying the strategic quadrant

This quadrant (II) corresponds to a strategy of defense/attack against risk conditions through strengths.
The strategy plan will target the development of the strong points and the elimination or remedial of the weak ones. The development of the strategy plan must take into account the following elements:
• adaptation of organizational structure to innovation management requirements;
• preparatory organization for developing innovation projects;
• assignment of responsibilities and tasks in the management of innovation;
• ways of library strategy development;

116

- extent of the library strategy refinement;
- measures aimed at achieving competitive advantages through innovation;
- achievement of innovation goals.

4. SERVICE QUALITY ASSESSMENT METHODS

The quality assessment of university library services should be performed:
- from the view point of the recipient (user);
- from the view point of the provider (university library).

As assessment methods, one should use:
1. For the beneficiary (user):
   a) Questionnaire for feedback and suggestions.
   b) Surveys of user satisfaction.
   c) Focus groups.
2. For the provider (university library):
   d) Management and analysis of complaints.
   e) Causal loop analysis using an Ishikawa diagram.

a) Periodically users are asked to fill in questionnaires. The latter require specification of service strengths and weaknesses as well as suggestions for improving their quality.

In order to be relevant, questionnaire based surveys should cover a large number of users. The optimal survey format is tabular form. They should not have too many questions or be too complex. This is to avoid rejection of questionnaires by users. The total number of distributed questionnaires should represent at least 50% of the total number of existing users in order to make the survey representative.

b) The survey addresses, as a rule, a representative sample of users at different time intervals. These intervals may be shorter if one finds that users are dissatisfied.

c) Separate meetings are held with user groups who were either satisfied or dissatisfied with the service provided. This is to better understand user requirements and continue to provide better services in terms of quality.

d) User complaints are placed on record (complaints properly speaking or negative feedback). They are classified according to their importance in terms of the quality of the service provided as well as from the view point of its importance in the eyes of the user. The method allows to monitor trends in the users' perception of service quality. The weakness of this method is that users do not express their dissatisfaction if dissatisfied but rather simply turn down any further service.

When the university library is capable of solving the complaints submitted by its users one can make an estimate of how "user-oriented" the library is. Addressing the subject matter of the complaint in an objective and timely manner makes it possible to maintain "user satisfaction". Otherwise "losing users" is inevitable.

e) Diagrams are a diagnostic tool used in the field of service quality offered to users. They allow the analysis of the causes of problems (non-compliance). It also makes it possible to highlight and rank the (actual and potential) causes of a given effect. An issue arising in carrying out a library service is broken down into its main causes. Each main cause is broken down into secondary causes. The problem is noted at the fish head. [8]

4.1. Illustration

One examines the *obstacles that arise in arriving at "Quality Excellence Information Services" offered by the university library* (E effect).
The problem is defined in question form: WHY are there so many obstacles in achieving Excellence in the university library?
In the wake of research carried out in the library, the main causes are broken down into main categories (1, 2, 3, 4, 5). One identifies the secondary causes corresponding to the main causes that make up the "main bone" (Figure 9).
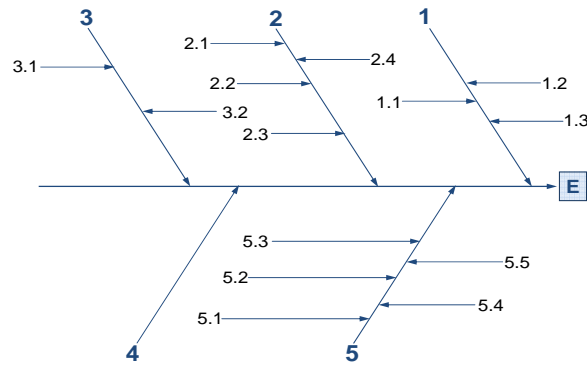
Figure 9. Causal Analysis (Ishikava) of barriers to achieving Excellence in university library

In Figure 9 we have:
1. Staff:
    1.1 understaffed;
    1.2 lack of motivation;
    1.3 lack of training
2. Procedures:
    2.1 low flexibility to suggestions;
    2.2 lack of involvement;
    2.3 faulty communication channels;
    2.4 insufficient collaboration between the library and the university
3. Policies:
    3.1 unclear policy;
    3.2 hesitating manager
4. Position (location)
5. Leadership:
    5.1 do as I say;
    5.2 leader does not listen;
    5.3 unilateral decisions;
    5.4 fear of criticism;
    5.5 impersonal treatment

The use of an Ishikava diagram (Figure 9) allows to highlight the main causes of non-quality of services and it also represents an important tool in quality planning. The diagram in this form (Figure 9) does not provide solutions to solving the problem. It only makes it possible to clearly define the problem under study. It may be used as a visual aid in the brainstorming session. It also stimulates participants to look for solutions to the problem analyzed. The proposals are processed according to the well known brainstorming technique and will ultimately yield solutions.

6. CONCLUSIONS

Research on the quality of service delivery activities in a university library holds a central position among other service related issues, both in terms of social-economic policy as well as theoretical outlook.
Every university library should be able to collect information from its users to use them in order to continuously improve the quality of service.
The final conclusion and the fundamental idea of this paper the could be expressed succinctly as follows: *to know, to understand, to assess, to gauge in order to cope with any kind of constraints*.

7. REFERENCES

1. Cristian, A., *Contributions regarding the improvement of quality and efficiency in the design, implementation and use of modulated control devices*, PhD Thesis, University Politehnica of Bucharest, (2011).
2. Looy, B., Gemmel, P., Dierdonck, R., *Services Management: An Integrated Approach*, Prentice Hall, (2003).
3. Stăncioiu, I., Militaru, Gh., *Management. Elemente fundamentale*, Editura Teora, Bucureşti, (1999).
4. Albu, C., Cristian, A., Aspects regarding the application of the quality   principles in the university library, *Library Management*, Vol. 33, No. 3, pp. 151 – 158, (2012).
5. Eiglier, P., Langeard, E., *Servuction: le marketing des services*, Mac Graw Hill, (1987).
6. Guran, M., *Managementul cercetării-dezvoltării şi al inovării*, Editura Agir, (2010).
7. Hertog, P., Knowledge-intensive business services as co-producers of innovation, *International Journal of Innovation Management*, Vol. 4, No. 4, pp. 491-528, (2000).
8. Oprean, C., Kifor, C. V., Suciu, O., Alexe, C., *Quality Integrated Management*, Editura Academiei Române, (2012).