Assessment of Impact and Value in the Academic Libraries: a literature review
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Abstract: Librarians and academic libraries managers are questioning the growing risk of the academic library visibility because electronic scientific resources are increasing so fast. This paradigm may make libraries especially vulnerable when institutions have to make difficult financial decisions, such as cuts intended for specific departments or areas of activity. In the current circumstances, it is particularly important for libraries to be able to show that they function efficiently, but also that they provide services with impact and value to the success of institutional goals. There is a lot of literature of assessment academic libraries; here we present a brief literature review. In times of severe economic downturn and budget constraints these methods may still provide useful data for Library Advocacy. Negotiate and defend services by demonstrating their impact and value to the governments and society.

Keywords: Academic libraries; Assessment, Impact, Value

1. Introduction

The question of library evaluation in the management of these services emerges more strongly in the 1950s. Previously, librarians were not concerned about this issue because they did not need to evaluate. Lancaster (2010), at the QQML conference, in Crete, said that "Libraries were universally accepted as "good" by the communities they served, so why did they need evaluating?" He still stated that "librarians did quantify. They knew how many books were borrowed, how many reference questions were received and answered, perhaps how many people entered in the library. But quantifications are not the same as evaluations". Their collected statistics showed only successful events. Nothing was quantified about possible failures in services. On the other hand, today we recognize that the five laws proposed by S. R. Ranganathan in 1931, "Books are for use; every reader his/her book; every book its reader; save the time of the reader; library is a growing" can be analyzed as good criteria for the evaluation of the libraries because they show issues related to the expectations of library

users (Lancaster, 2010). The changes of academic libraries in the last three decades within the paradigm of information technologies took to the evaluation processes of the services' other questions. There have been major investments in scientific information and technology in many countries around the world. In this context, the importance of evaluating the effectiveness of academic libraries and determining their impact and value in the community in which they are inserted is an important topic to understand how services are developed and improved, in order to support decisions in the next future, and for the Library Advocacy. There is an extensive literature on library assessment. In this literature review, the main purpose is to describe concisely a way to systematize the main characteristics of the analysis methods of academic libraries evaluation in the last thirty years.

2. Assessment Library Based in Services and Resources

In the decade of the 80s the concepts used in the evaluation techniques of the libraries were based in inputs/outputs. In the 90s, such concepts delved further into the perception of the services' quality and evaluation techniques were focused in the outcomes (Van House… et al., 1987, 1990). The determinations of the quality of the services and their outcomes were estimations that differed substantially from the techniques of measuring the inputs/outputs; however, there was a relation between them. After 2010, the evaluation methodologies have changed to the conceptions of value and impact. The assessment of libraries appeared as a response to the need to verify the role of libraries in a society in which information, now in digital form and in the Internet, appears with very different characteristics. The Figure 1, shows the scheme for libraries' evaluations, proposed by John Carlo Bertot (2003).
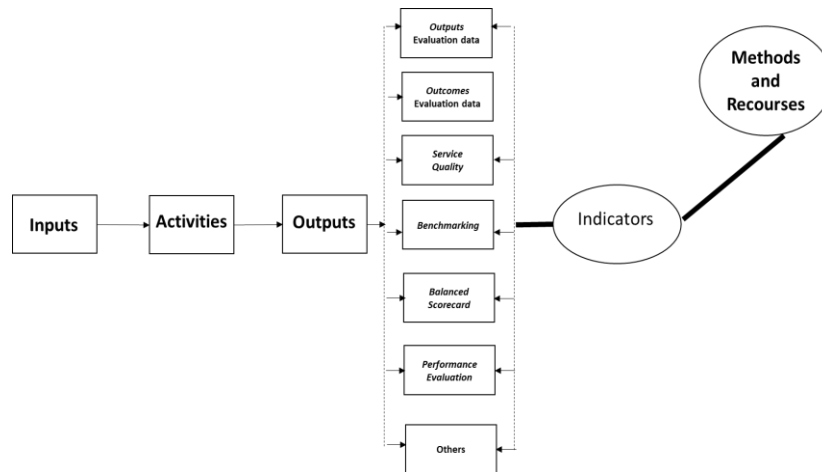

Figure 1. Scheme for libraries' evaluations in terms of the services and the resources (Bertot, 2003)

Inputs are the sources of library investments (e.g. money, human resources, space, collections, computer equipment and online commercial databases). Activities are the library services/resources that transform the inputs (for example: technical information processing, electronic publications, licenses available). Outputs are the services/resources resulting from the libraries' investments; their evaluation makes it possible to quantify the work done (e.g. the number of books in circulation, the number of replies to reference requests, the number of available as well as accessible databases, the amount of material printed on the library terminals). The assessment of outputs is the evaluation of the work produced by the library, this process involves the identification of the number of activities performed by each library service (e.g. the number of documents consulted, the number of sections in a database, the number of items examined, the number of training courses conducted). The Quality assessment is the measure of the degree of satisfaction of the user in relation to the services/resources. The Evaluation of Outcomes is the determination of the impact of the services/resources of the library on the user, or the benefits, or variations of the knowledge of the users which develop from the services/resources, that is, the changes the users present in function of the contacts they had with the library, its resources and programs. Peter Hernon (2002[a]) explains the notion of Evaluation of Outcomes, stating they are related to the library's programs and services during a certain period of time (for example: length of academic achievement) in which a change was made. The evaluation of Outcomes refers to a transformation of behaviour, skills, knowledge, perception or attitudes resulting from contact with library programs, training actions, workshops or services (Hernon, 2002[b]).

Foot (1998) refers that benchmarking can be defined as a method of measuring the processing and performance of services and systematic comparison with other performances to obtain better practices. This technique is currently practiced in many libraries and involves the concepts of systematic comparison, processes, performance, and research of better practices. According to Rowena Cullen (2003), it is assumed that benchmarking applied to libraries focuses on two issues: First in data collection and comparison inputs" and "outputs. This practice includes statistics of several types of libraries: national, university and public; comparison of budgets; number and value of purchases; number of professional staff; reference transactions and electronic services. Second in the relationship of functional analysis and processes with similar institutions. This usually is executed with the intention of participants to benefit from this exercise and learn from each other.

Balanced Scorecard is a management tool whose concept has emerged in the commercial sector but can be adapted to the conditions of libraries and information services. It interprets an institutional planning perspective (mission, strategic vision and objectives) into a system of performance indicators covering the following performance areas: financial, users, internal processes and

improvement of activities. The system integrates financial and non-financial data, inputs and outputs, external (user and internal) perspectives (processes and human resources), objectives and measures to be implemented, causes and results which can produce a balanced library (Poll, 2001). The Performance Evaluation is the collection and data analysis that describes the performance of the library, i.e.: "Comparing how the library is performing (performance) with what it means to accomplish (mission) and what it wants to achieve (objectives)" (Poll and te Boekhorst, 1996).

Measuring Quality: international guidelines for performance measurement in academic libraries, published in 1996, is an important book wrote by Poll and te Boekhorst. At that time, these librarians participated in the Statistics and Evaluation Section of the International Federation of Library Associations and Institutions (IFLA) for academic and specialised libraries. This book was quickly recognised by all professionals in the field of Libraries and Information Science all over the world as a good tool to the libraries' evaluation. A few years later, in 2007, Roswitha Poll and Peter te Boekhorst published the revised and expanded second edition of the manual, titled Measuring Quality.

In 2000, the LibQUAL+ project was created. Based on the SERVQUAL (which developed from the theory of Gaps), this theory emerged from the studies and research of North American researchers Parasuraman, Zeithaml and Berry (1985). These works led to the creation of the first specific models, where the criteria appeared, for the quality assessment of the services provided. This theory defines five gaps identified between the expectations and the perceptions of the services' users. Cook and Thompson, in 2002, updated the model considering the following dimensions: tangibility, credibility, receptivity, guarantee and empathy. Based on the SERVQUAL model, the Association of Research Libraries (ARL) in collaboration with the Texas A & M University developed a project with LIBQUAL+ designation. This project aims to define a wide range of library quality assessment. LibQUAL+ is an instrument for the quality of products and services of the libraries, in the perceptions and expectations of the users. This evaluation instrument, which consists in 22 questions, considers 3 dimensions: library as a space, practice of service and control of the information. In 2003, this project involved 308 institutions in the United States, United Kingdom, Canada and Germany, in a total of about 130,000 users. The participating institutions were universities, schools, health science institutions, the military, public readers and the State (Cook, Heath and Thompson, 2003).

In 2000, the PAQ - Programa de Avaliação da Qualidade dos Produtos e Serviços do Sistema Integrado das Bibliotecas da Universidade de São Paulo, SIBi/USP, (SIBi/USP – Quality Evaluation Program) - was developed to acknowledge the users' needs is and create new services to the USP's libraries. The experimental phase used self-developed instruments and identified strengths and weaknesses, it also concluded by the urgency on the

implementation of an effective evaluation system from the users' point of view. The main goals defined by the program were the following: to develop its own research instrument and its measurement scale; to implement a pilot evaluation and present the results for future evaluation; and finally to incorporate the evaluation as a managerial process at SIBi/USP (Sampaio, et al., 2004). The electronic questionnaires were elaborated according to the model's dimension SERVQUAL, totalising five different instruments which evaluated the dimensions: responsiveness, empathy, assurance, reliability and tangibility. After analysing the research results, the data was converted into actions implemented in favour of the users, once they supported the SIBi/USP strategic planning, after 2003. At the end of the first stage, it could be verified that the PAQ was confirmed as being an efficient and adequate system to capture the users' opinion on the services offered by libraries integrated into the system. In 2004, the second phase of PAQ started, with the goal of identifying the users' needs to obtain information and resources at SIBi's website – SIBiNet, and contributing to the improvement of the relationship between users and this important resource of information retrieving. For this stage of the program, it the Technique of Critical Incident was selected, as a tool for data gathering. According to Caminada Netto, Siqueira, Rotondaro and Formica (2003): "A valid critical incident, that can define the customer needs, must fulfil two issues: specificity and ability to describe the services provider in behavioural matters, or the product, or service, with peculiar adjectives."

The paradigm of electronic information services in the library created new needs and new indicators to the assessments appeared. The tool ISO/TR 20983:2003 Information and documentation -- Performance indicators for electronic library services defines a few performance indicators for electronic library services.

Poll argued (2008) that the physical space of the library, contrary to all expectations, has not lost its value. There is a very significant increase in the number of activities occurring there. In these places, the information is stored in various supports. This abundance created excellent conditions for group work, attracting many users. These spaces serve for users to carry out their academic tasks and their investigations. Libraries have become places of intense cultural activity, privileged spaces for the occurrence of exhibitions, presentations of new publications, discussion of literary groups, lectures of various areas of knowledge and cultural and educational actions.

Performance assessment methodologies have been developed on the basis of the concept of a performance indicator which, according to ISO11620, defines: "as the symbolic or verbal numerical expression derived from the library statistics and given to characterize the performance of the library" (ISO, 1998) The ISO11620 presents a set of definitions and methodologies, which are the result of much practice accumulated in the different places of the world where this subject deserved a notorious knowledge. ISO 11620: 1998 contains the

definition of 29 performance indicators associated with one or more methods of obtaining data and analysing the results. In 2003, an update of this standard was published, where five more performance indicators are defined (ISO11620: 1998 / Adm. 1/2003). The ISO11620 does not include performance indicators for the training of users, nor for electronic services in general. In order to fill this gap, in relation to the measurement of electronic information products, there is currently the ISO2789: 2013 - Information and documentation - International Library Statistics that "includes definitions and counting procedures for all types of resources and services that libraries offer to their users" (ISO, 2006). This standard is a powerful guiding tool in the process of obtaining statistics and evaluating the performance of libraries and information services. The evaluation of libraries should be based on several strategies simultaneously, depending on the librarian's need to obtain certain data, for the preparation of their planning, management and service organization reports. Bertot, reflecting on this issue, says: "Libraries need to know which Inputs produce Outputs to determine the quality and the Outcomes of these services / resources" (Bertot, 2003).

3. Assessing the Impact and the Value of the Libraries

In 2014, the ISO 16439 Information and documentation -- Methods and procedures for assessing the impact of libraries presents a set of concepts already created and new indicators. It is an important tool for assessing the impact and value of libraries. The methods described in this standard do not reflect all possible methods or techniques of evaluation but are the ones that are most widely observed worldwide and have proven to be most effective in assessing the impact of the library. There are many different types of libraries, with different tasks and populations, having a scale of specific characteristics (structure, funding, management, etc.) that affect numerous factors. There is a wide variation, it is important to understand that not all variables are present in these standards. However, these international standards of evaluation can be used in any type of library. The ISO16439:2014 defines terms for impact assessment of libraries and specifies methods for the following issues: strategic planning and internal quality management of libraries; comparison of library impact over time and between similar type and mission libraries; promotion of the role and value of libraries for learning and research, education and culture, social and economic life; and, supports policy decisions in service levels and strategic goals for libraries (ISO, 2014). This international standard considers the impact in an individual or group resulting from the contact with library services.

Jager (2017) said

Regarding the academic library value Tenopir (2017) has carried out several studies in several academic libraries in Europe and the United States of America. She refers that "quantitative data can show Return on Investment (ROI) and trends, while qualitative data can tell a story or put a personal face on data... libraries need to focus on measuring outcomes, not inputs, and use this evidence to demonstrate the role of the library in helping with the success of the faculty, graduate students, and undergraduate students." In academic libraries,

one approach to establishing the economic value of services is Return on Investment (ROI) relating money spent in the library with money generated by library services. University libraries have typically not generated money, but research scholarship income can in fact be generated with the support of library resources so that it is possible to calculate the amount of money the library generated for the university in comparison with the amount that the university spends in the library (ISO16439:62).

Other alternatives to the economic value calculation approaches are as follows: evaluating costs when users are required to use business alternatives to find the information they need; estimation of the costs of using the library, i.e. the transportation costs of users and the cost of their time spent in the library (expressed in wages proportions). (ISO, 2014: 57-61).

Determining the costs of a service does not necessarily demonstrate the benefit the service offers. However, the contingency valuation is used to designate the value for items that are not in the market. For example, "The Cost/Benefit ratio was calculated for the services b-on - Online Knowledge Library (consortium of Portugal), as a function of the time gained, obtaining the ratio 1: 5.35. The cost/benefit ratios were estimated based on the Contingency Assessment Method (MAC), including null values, 1: 2.38 and excluding null values, 1: 3.62. "(Melo, Pires, 2009).

In 2002-2003, at the same time with the International Standards for Library Statistics and for Performance Evaluation, a series of theoretical studies about the concept of quality and of evaluation applied in library science environment were elaborated within the University Central Library "Carol I" Bucharest, based upon these standards and analysing the European expertise in the area about the performance indicators, their correct selection and interpretation in order to carry out the library evaluation.

In Romania, the National Program "Romanian Performances in Public Libraries - PROBIP 2000" (1998-2000), a research project that focused on the evaluation of the library activity and whose purpose was the efficiency of the library activities was carried out.

Romanian preoccupations in the field of online libraries evaluation were materialized in the LiBEVAL Project - Evaluation of the quality and performance of online libraries, funded by ANCS and carried out during 2007-2010, in partnership with the National Institute for Computer Science Bucharest, University of Bucharest and the Library of the Romanian Academy.

4. Conclusions

Since 1950 librarians have been realising that performance, value and impact evaluation are important for the improvement and visibility of the services. The

methodologies, the instruments and the indicators analysed for these evaluations have shown changes according to the needs and the adaptations these services and resources of the academic libraries have presented over time. Throughout the world it has already been recognised that these data are essential for management, decision making and Library Advocacy.

The results of the involvement of Romanian libraries in evaluation projects - as many as they were - and the professional benefits gained from these initiatives, as well as the progress noticed in the work of foreign libraries involved in international projects, are arguments for adapting models and examples of good practices to local socio-economic realities and apply them in the evaluation of our libraries.

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