THE EVALUATION OF ELECTRONIC RESOURCES AS STRATEGIC FACTOR IN DECISION MAKING PROCESS: TOOLS, CRITICAL POINTS, FEASIBLE SOLUTIONS

The progressive evolution of biomedical libraries from a traditional typology towards the new frontiers of digital and virtual library leads also to a deep change of methods and tools used for the gathering of statistical data, for the analysis of performance results and for the use of electronic resources.

Electronic resources especially are constantly growing and represent right now the principal (and in some cases) the only way to reach information.

In this scenario measurement and evaluation of library performances and services for users hold an increasingly value in order to define the choices to carry out and strategies to follow.

In measurement activity there are many factors that we must consider and also some issues arising from the particular structure and features of surveying tools and of statistical data.

The growth of electronic information have produced a parallel rapid increase in statistical data that can be obtained in an automatic way. Nevertheless this wide availability has not always given rise to a corresponding readability and easiness of interpretation and use of these data. There are some critical points, that we can fundamentally abridged in:

1. A lack of homogeneity and a consequent difficulty in comparing and merging data originated from different sources
2. Troubles in data's grasp deriving from their excessive quantity and from the usage of a not univocal or standardized terminology

1) The first item emerging from a comparative analysis of statistics originated from different sources is their scant uniformity that can bring to a difficult overlapping and matching of data between them. The way of splitting, identifying and aggregating the log files can differ a lot according to the specific setting operated on recording system or to the features of platforms that generate them. What does it means in practice:

- the impossibility to compare data that apply to a specific resource, like e-journals, databases, web sites, but provided by different publishers or systems
- difficulties in adding statistics concerning the same resource (for example the same journal) reached through different channels, such as publisher web site, consortium mirror site, vendors web site

Moreover, it must be add the not rare possibility to obtain statistical data distorted or not correct because of a bad setting out of survey parameters or lack of corrective filters. A typical case on this purpose should be the double click on the "send" key of the keyboard for the same entry counted twice or on the contrary, in a proxy server environment, repeat request for a document stored in a cache memory that not reach the server and no statistical entry is recorded in the log file.

2) Several times the data involve interpretation troubles essentially due to:

- the way they are gathered and/or visualized ... but also
- the scant attention assigned to the use of a controlled terminology that allows to precisely identify the field or the function described.

It can happens frequently that the same item should be called with different words and terms in a number of statistical reports, and this means to lost the possibility of a correct gathering. In other cases, instead, it may occur that the term used to identify an item does not enable to clearly limit the reference frame, producing a duplication in counting data. Moreover, sometimes the system outputs are very complex, fastidious to read, made more for a use by a computer specialist rather by the librarian who is the final receiver of the product and consequently they are not much useful.

The need of librarians to have at their own disposal tools easy to understand and to handle, has found a corroboration in the wish of all information vendors (publishers, aggregators, data base producers) to have those same data in order to better understand the market trends and to meet the needs of customers.

According to these remarks has started off the COUNTER project, one of the most remarkable and interesting initiatives of this last years. It represents the evolution of results of a working group created in 2000 by representatives of JISCS and of some publishers associations (PA – Publisher Association and ALPSP – Association of Learned and Professional Society Publishers) with the brief "to look at developing common standards for the collection and dissemination of vendor-based usage statistics for digital resources".

COUNTER (**C**ounting **O**nline **U**sage of **N**etworked **E**lectronic **R**esources) was formally launched in March 2002 and become operating in December of the same year with the issuing of the release 1 of a Code of Practice exclusively focused on electronic journals and bibliographic databases and not analyzing other information supports, such as for instance e-books or web sites. Reports have been kept simple and readable in order to facilitate both the understanding of librarians and the data harvesting of publishers, especially of small publishers with limited technical resources.

The highlights of this first release show the important step forward for getting the goals of clarity, uniformity and simplicity:

- code contains a controlled list of data elements and used terms; this allows to remove or at least sensibly reduce the two main risks of statistic surveys already analyzed in point n. 2, that are data wrong identification and duplicating
- only intended usage are recorded and all accidental requests removed because of they should spoil a correct data reading (for example all double clicks on a http link within 10 seconds or 30 seconds on a pdf link)
- there are few reports, only 5 in total, 2 for the electronic journals (Journal Report 1: number of successful full-text article request by month and journal; Journal Report 2: turnaways by month and journal) and 3 for the databases (Database Report 1: total searches and sessions by month and database: Database Report 2: turnaways by month and database; Database Report 3: total searches and session by month and service)
- all reports must be delivered at least monthly and provide for a download in a Excel compliant format such as CSV in order to assure an easy process by users.

The good quality of this general lines is evidenced by the massive support to the code that in 2004 could rely on more than 30 publishers and aggregators. Up to now Counter compliant statistics may be obtained from all the most important vendors' groups, such as Elsevier, Springer, Wiley, Blackwell, Nature, ACS, Ebsco, Ingenta, Swets and Counter is on the way to becoming a standard "de facto".

If Counter project has been an important step towards easy, compatible and credible statistics, this does not means that all matters have found solution with the launch of Release 1 of the Code. It remains indeed some critical points such as:

- not all vendors' products or services (of small vendors in particular) are or could be Counter compliant: this entail to assign the compatibility level to the single product (for example a database) rather than to the vendor/publisher on the whole
- some publishers, also if Counter compliant recognized, have been issues in adapting statistics to requirements and in reliability of achieved results (for example Blackwell in 2004)
- the respect of technical requirements is not always sufficient to ensure the full comparability of data and the readability of contents: in some cases (for example Kluwer) there is a seaming higher data detail but not a correspondent accuracy in single items identification.

The publishing in April 2005 of the draft of second release of Code of Practice (the final issue will be provided in January 2006) has already improved the first one, especially in terminology field,

demonstrating in the same time that the project is in continuous development and attentive to follow users' advices.

Counter is not the only initiative that can support managing and evaluating activities. We can cite some of many, like E-Metrics Project (2003-2004) and the LibQUAL+ programme both of ARL, the Association of Research Libraries, or the Guidelines for statistical measures of usage of web-based resources (2001) of ICOLC, the International Coalition of Library Consortia.

A very important role in order to achieve level and reliable statistics is carried out by ISO standards. There are two main standards concerning statistics and performance indicators in library, n. 2789 of 2003 (Information and Documentation – International Library Statistics) and n. 11620 of 1998 (Information and Documentation – Library Performance Indicators) both by ISO TC46/SC8 – Quality. Statistics and Performance Evaluation. In March 2003 was added to these two the Technical Report TR 20983 – Performance Indicators for electronic library services, that is not a standard but, like any other TR, must be considered a working progress towards a revision and an improvement of existing ISO 11620 and whose contents – 15 new indicators –, where appropriate, will be incorporated in a future version of this standard.

The first standard is a fundamental guide about methods of collecting and reporting library statistics. The third edition was published in 2003, 12 years after the second (1991) and is now already in review phase to identify and overcame problems in its practical application and to adapt it in the light of developments in electronic services. Its goal is "to ensure conformity between countries for those statistical measures that are frequently used" and "to encourage good practice in the use of statistics for the management of library and information services". The standard is divided in six parts, the most important of those are the third (terms and definitions), where are exactly identified and defined terminology and definitions for each used item, and the sixth (collecting statistical data) that shows fields of application and recommends how each element should be counted. In this last release some annexes were also added, the most relevant concerning "measuring the use of electronic library services", in which are delineated guidelines and explanations in order to face and solve relevant aspects, such as:

- Issues of measuring the electronic collection
- Issues of measuring use
- Use of electronic services.

Equally well important is the 11620 standard on performance indicators that sets criteria for the evaluation of efficiency and effectiveness of library activity and services. The role this standard can carry out in the library management activity is very interesting because measuring impact and outcomes it allows to analyse not only the quantity like a mere statistic but also the quality of provided services. There are due basic rules to follow in the application of this standard (see chapter 5.2):

1. "It is important to understand that not all established performance indicators are useful to all libraries" and "the list of indicators... is best seen as a menu of possible performance indicators that could be used in a range of library settings" ... and as a consequence

2. "libraries... will need to decide which indicators are most appropriate to a particular situation. This decision must be made in the light of the mission, goals and objectives of the library"

The standard collect in a separated list (Annex A) 32 indicators divided into three different categories:

- User Perception (1 indicator)
- Public Services (26 indicators)
- Technical Services (5 indicators)

In the Annex B are then illustrated for each indicator objectives, scopes, definitions and methods of application and computation. An amendment of 2003 has added 5 more indicators.

In this our short analysis we have underlined as the use of standards and uniform protocols and programmes should have great importance in order to achieve valid and easily comparable results in

automatic statistics field. Nevertheless the single use of these tools is not sufficient to solve the complex issues linked with the surveying and evaluation of library performances and they must be integrated by other supports, such as users surveys, studies on users features, manual gathering of data on paper materials and more.

In the same way statistical analysis certainly provide a tangible and valid help in decisional processes but they are not the only element to consider in this activity. To verify the use level of a resource, to analyze its cost related to number of users and quantity of log-in, maybe are the most relevant elements in benchmarking but they must be supported by other evaluation tools and factors. In this light will take an important weight also other elements beyond the automatic relation cost/benefit, as for instance:

- the strong interest of the researcher to have at his disposal resources that even if very expensive or for a sectorial use are fundamental in developing researches in strategic institutional sectors
- the need to keep up in the library catalogue titles with an historical value and to preserve the integrity of collections
- the duty, if you are partner of a consortium, to maintain or to take responsibility for acquiring information resources of common use.

The general scenario is continuously evolving and new items appear on the horizon, first of all the Open Archives phenomenon, that is bound to produce a deep impact on the way of managing and transmitting scientific information. We are sure that this topic will represent in a very close future an unavoidable landmark for every measuring and evaluating activity and for decision making processes. But that's quite a different story...