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### **Evaluating Digital Resources in an Academic Consortium – from Theory to Practice**

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#### ***Abstract:***

*Analysis of usage information relating to digital bibliographic and full text resources provides libraries with important new criteria for evaluating the effectiveness of the services they provide, including their ongoing and retention value. Collection and analysis of this data in a consortium framework can provide also comparative data on member institutions with library, academic and administrative implications. The principles and problems of collecting and evaluating this information are presented with examples from the Israeli MALMAD academic library consortium.*

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#### **Introduction**

One of the most significant developments resulting from the increasing migration from print to digital library resources is the ability to receive detailed information on the actual use of services and resources. This data, properly evaluated, should be able to lead to decisions on renewal of subscriptions, renegotiating their costs, need for further training, marketing, etc. While this is true for all digital library situations, it creates particular challenges in a consortium framework. This paper will deal with the potentials and challenges in evaluating the use of digital resources both in principle and in practice in the framework of an academic library consortium, the Israeli MALMAD consortium.

#### **The MALMAD Consortium and its Services**

MALMAD - the Israel Center for Digital Information Services was set up in 1998 to serve as a common framework of the eight Israeli research universities. The creation of MALMAD follows several earlier cooperative steps between the Israeli university libraries (for an overview of MALMAD and its administrative framework, see: Adler, 1999). While 1998 was a 'pilot' year in which only three services were provided, beginning in 1999 a large and diverse package of services have been provided (in 2001: 19 services from a common budget of \$1,500,000, plus another 18 optional services at additional cost of close to \$1,000,000). For many of these services several years of usage data is now available, and potential users are by now, hopefully, aware of them, so the time is ripe to evaluate these services in terms of their contribution to the academic community and their cost-efficiency.

### **Collection of Usage Data**

The initial problem encountered by all institutions is the vast differences between the data supplied by various services. Despite the ICOLC [Guidelines for Statistical Measures](#) (International Coalition of Library Consortia, 1998) data is provided in a wide variety of levels of detail. While most e-journal suppliers do provide article 'download' counts which provide a fairly common denominator, few break them down by journal title (crucial to knowing whether the whole is indeed worth more than its parts). For bibliographic services there seems to be even less standardization, and the data received ranging from 'sessions' to 'searches' to 'accesses' which makes comparison of different services virtually impossible. Over the last three years we have seen several suppliers change their statistical systems, making multi-year comparisons difficult if not impossible. One major journal publisher only recently began supplying usage figures and for two services we are still awaiting any data at all. While consistent figures from the same service can indicate the ongoing level of use of that service, they are often not usable for comparison between services.

Just as the data itself differs between suppliers, so does its format and the steps needed to retrieve it. Data arrives in the form of spreadsheets, html pages, plain ASCII files and even hard copy printouts. Some suppliers have online statistics generators while others either 'push' the reports to the libraries or post them to a web site for collection. Some need to be prodded regularly to supply the needed data.

In a consortium framework the collection and maintenance of this data becomes much more complicated. While some suppliers seem to be aware of the fact that consortia do wish to receive data for all their member institutions, others are set up for individual institutions only. The consortium often needs to maintain lists of usernames and passwords for each institution's statistics in order to collect them one-by-one. At MALMAD, data is collected regularly from all suppliers and maintained in a series of EXCEL files. These files are subsequently used to produce an annual statistical report as well as on-demand statistics.

Many services do allow individual member institutions to access their own statistics. Our experience at MALMAD has been that most institutions do not avail themselves of this capability and depend on the consortium's data collection. When specific figures are needed, they will usually request them from the consortium rather than compile them themselves.

### **Confidentiality of Data**

Individual institutions are often sensitive regarding sharing or comparing their usage figures with others. In

the framework of a consortium it is, I believe, accepted that the consortium must maintain and provide comparative usage figures for the various services. At MALMAD, the above mentioned annual report is circulated amongst the member universities but not outside the consortium. Aside from professional interest, since the MALMAD institutional usage figures are used in apportioning each institutions share of the budget, the data must be openly available to all.

### **Evaluation of Usage Data**

Usage data received as above can be processed and used to answer a wide variety of questions:

To what degree are digital services being used? At MALMAD, the fact that we could show an increase in the total number of articles downloaded (all services) from 234,000 in 1999 to 643,000 in 2000 was an important factor in achieving an acquisition budget increase in 2001.

How does actual use of specific services by individual member institutions compare to potential use? For this comparison it is necessary to provide data on the size of the user community in the relevant fields. At MALMAD this is done to allow members to locate and evaluate areas of weakness in their local communities (or in their marketing and training efforts). No less important - both potential and actual use are factors in apportioning the MALMAD budget between members.

How many institutions are making significant use of a service? If only a small number, then the subscription cost may need to be adjusted (unless already set accordingly). At MALMAD we have usually factored this into the initial price so that, for example, legal services are not only priced according to the number of law students in the consortium institutions, but the cost of such a service (in the overall budget calculation) falls primarily upon those institutions.

How cost-effective are various services? Comparing usage of specific services per unit (article downloaded, search session, other) both for the same service over a period of time, and in comparison with other similar services. Of course, "similar" in this context may be hard to define and e-journals, just like print journals, have a wide span of prices. "Rented" journals in aggregator databases can also not be compared with permanent-access volumes purchased from a publisher, and the price of a volume purchased cannot be evaluated according to its use in a single year (in any event, very few suppliers provide usage statistics broken down by volume or year). At MALMAD we have produced some evaluations of services based on price-per-unit. Initial analysis indicates that some very expensive services seem reasonably priced when reduced to their per-unit cost, while the limited use of some moderately priced services does not seem to justify their cost. In the latter case the consortium may decide to either drop a service or to renegotiate its cost from a position of strength.

The above questions are of prime interest to both consortium and members. Usage data often includes information which is, however, of interest primarily to the specific institution: articles most frequently retrieved, time of day of activity, etc. While an institution may use such data to improve their internal marketing or helpdesk staffing, at the consortium level this data is often irrelevant.

### **What Don't Usage Statistics Tell Us?**

Usage statistics can tell us quantitatively how many transactions are taking place. These can then be

compared with those of previous months to indicate increase or decrease in use. They can also, if compatible, be compared with those of other services to indicate relative use and cost-per-transaction. However, they do not usually provide numbers of unique users (in the MALMAD case, because of the universal use of proxy servers an entire institution appears as one or two IP numbers). Furthermore they do not in any way indicate the gap between potential use and actual use – a 100% increase in use of a service may indicate that the active user group has increased from 40% of potential users to 80%, or only from 10% to 20%. It could also indicate increased use by the same number of persons.

In order to attempt to evaluate these factors, MALMAD has supported a research project of several faculty members at the Hebrew University of Jerusalem's School of Library, Archive and Information Studies. This project is based on questionnaires sent to a large sample of faculty members at seven of the eight MALMAD universities (one refused to cooperate in the name of privacy). The questionnaires examined the awareness, use and importance of digital resources to the faculty members in their teaching and research activities. Preliminary results of this survey should be available during Summer 2001.

## **References**

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