
KEY ISSUES



Counting on Serials: Management and Serials Metrics

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It is hard to disassociate serials metrics from the wider realm of performance indicators and metrics that are employed in modern information services management. So it is worth beginning with a very brief overview.

The business of managing modern information services becomes increasingly challenging within a framework of escalating demands, resource constraints and a climate of greater accountability embodied in some cases in 'league tables' and prescriptive standards. Within this context the emphasis on an evidence-based approach to managing becomes stronger. There is a growth in the use of an array of quantitative and qualitative measures to support policy determination and strategic development as well as to assess operational effectiveness. Reliable performance and descriptive metrics are important for those who are seeking to understand the way in which organisations are functioning, to take account of what has been achieved, or not achieved, in the past and to plan where they may go in the future.

The trend towards greater accountability brings in its wake a feature of evidence-based management that involves going beyond counting what happens – inputs and outputs – to seeking an indication of what is being achieved – outcomes and impact. There is a growth in the application of 'soft indicators' to identify the subtle yet important changes that take place at a personal and community level in the wake of cultural, social and learning initiatives, including those centred on information and library services. The digital environment adds new dimensions to the assessment of performance. On the one hand, it holds the promise (not always fulfilled) of making activity more quantifiable and therefore more assessable; on the other hand, it makes the process of deciding far more complex and uncertain, because there are so

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many imponderables, not the least of which is the next costly turn that technology will take. Work on developing more relevant and useful metrics continues. Examples include the New Measures initiatives of the ARL^[1] and the work of the NISO Forum on Performance Measures and Statistics for Libraries^[2].

What then of serials metrics or rather, metrics that are appropriate to the serials world?

At the start it has to be appreciated that these may be viewed from various perspectives by different stakeholders in the communication chain, and they may not always have interests that are congruent. Among them are: authors, publishers, vendors, agents, aggregators, librarians, readers/users, paymasters and even governments. All will want performance that meets their best interests and balancing these interests as service provider becomes a formidable task. Interpreting the metrics is sometimes equally challenging. These notes are written mainly, but not entirely, from the outlook of one of those performing that balancing act, namely the library and information service manager.

Perhaps the first serials metric worth considering is just how many serials there are. At the last count there were over 164,000 titles according to *Ulrich's Periodical Directory*^[3]. The sheer volume of material, print and digital, available today is itself a troubling metric for those who need to select suitable titles to acquire and afford as librarians, or to read as users. We are accustomed to being told how overwhelmed people are by the volume of material to be read. The array of journals also presents potential authors with difficult choices as to where and how to publish new work. The flow of new titles continues both as print publications and increasingly as digital products. A recent trend analysis of exclusively online titles described over 2000 titles as currently active. It also identified just under 21,000 available as online options, with some 5000 titles on CD-ROM^[4].

What about managing a serials collection? Managing the collection requires a range of measures to ensure that operations are optimally organised. Managers do need to know a lot of things at the macro and micro level of operations.

A range of budget-related input data is

required for basic business planning. How much is spent on serials:

- in total?
- as a proportion of the institutional spend?
- as a proportion of the overall information service budget?
- as a proportion of the 'collections/resources' budget?
- expressed in terms of analogue and digital titles as well as combined subscriptions?
- expressed as a per capita figure for users (whether defined as researchers; academic staff; students; members of the public, etc.)?

In addition, the number of free titles needs to be ascertained because even these need managing.

The information needs ideally to be available in a comparable form over time to enable trends to be examined and to undertake chronological benchmarking. Put bluntly: is the organisation getting better or worse at doing what it is doing? Time series data can also offer an indication, but only an indication, of how the future may develop, for as John Sumsion has so succinctly put it: *Statistics, being essentially historical, can only provide information after the event*^[5]. The data gathered locally can also be judged or benchmarked against values in like institutions to establish how provision compares.

Serials prices, and especially increases in serials prices, rightly preoccupy managers, and they have to take the long view, given the lead times for cancellations and the way in which decisions become 'locked in' as subscriptions. Mapping trends in serials prices offers some yardstick for budgeting. For years the extensive data produced by Blackwells have helped managers and these have been continued by Swets Blackwell^[6]. Useful data is also available elsewhere, for example, Faxon Library Services, a division of Divine, publishes regular price projections based on a set of relevant parameters on the web^[7]. Much of this information is summarised and conveniently gathered in one place in LISU's *Annual Library Statistics* publication, with the permission of the various agencies^[8].

The advent of digital products has altered the face of planning for serials acquisitions not simply because alternative formats are now

available but also through the emergence of new models of acquisition comprising special composite and 'bundled' offerings from publishers. The NESLI approach to e-journal access in the academic community features an array of different acquisition arrangements that lend a new complexity to decision making. The metrics to support such decisions are still evolving and trespass almost into the realm of the speculative 'what if...' variety. LISU has played a role in this through its economic modelling activity on behalf of the NESLI Steering Committee and JISC⁹¹.

Regarding serials management at a more detailed level, some idea of the costs that are involved in achieving access to serials is important if the situation is to be managed as opposed to allowing it just to happen. There is a need for knowledge of processing costs. How much does it cost to:

- order a new title and create appropriate metadata information?
- process each issue that arrives?
- store a unit run of issues?
- discontinue an existing title and amend appropriate metadata information?
- discard discontinued titles and amend appropriate metadata information?

The opportunity costs surrounding consultation and decision-making regarding serials selection and deselection are also an issue, both in terms of management time and users' time. Some estimate of these may be appropriate.

In the digital world direct processing may be replaced by the mechanics of enabling access and therefore some of the metrics differ. The associated costs may involve a consideration for the infrastructure that has to be provided *and maintained* to facilitate access to material. Added to this are the costs of metadata creation and interface management to enable users to discover what is available and retrieve what they want. These factors need to be taken into account to gain an insight into the true costs of digital provision.

All these and similar data can be matched with the costs of similar operations in other institutions in comparative benchmarking exercises which can lead to refinements in operations.

Working on the basis that facilitating access to serials is only a means to an end, many

important metrics are related to exploiting serials collections, real or virtual, and to users' practices, behaviour and perceptions. Some of these measures come at a price in terms of the effort needed to collect data and the interruption to users' working. Moreover, it may not be feasible to establish precise data, and sampling to derive trends may have to suffice. Questions to ponder and answer are:

- what serials do users use?
and equally
- what serials don't they use?
- how do they use them?

In the print world the answers to these types of questions have been difficult to determine with any confidence. Various methods have been employed to establish usage data; none offer entirely convincing evidence. They include reshelving censuses, slip surveys, and even asking users through interviews. Some indication of use is also derivable from analysing interlibrary loan requests. The whole issue is of course predicated by the question of what constitutes use. Is it the same as demand? It is most likely not.

The availability of serials delivered digitally ought to enable a clearer picture of use to be divined and an assessment of system performance, both at the vendor end and the users' institution to be made. Moreover, within ethical and legal bounds, user (or at least group) profiling and subject profiling are also possibilities.

Given the 'automatic' nature of the transactions and the logging capacity of the computer, an extensive array of performance data is feasible including:

- hits per article/title/publisher/vendor
- downloads per article/title/publisher/vendor
- waiting time for downloads
- document requests per article/title/publisher/vendor
- waiting time for documents
- connect time per article/title/publisher/vendor
- turn-aways per source, refused through limitations on access for either licensing or technical reasons

In the current reality, however, this entire area is fraught with uncertainty. The problem arises

when managers wish to compare the performance of different delivery agencies and mechanisms and indeed seek to prioritise spending on similar titles from different publishers. There is no assurance that common criteria and definitions are used by the various vendors to describe performance. Moreover, different vendors offer metrics with different content and levels of detail. Judy Luther's superbly researched *White Paper*^[10] encapsulates the issues and offers some ways forward. Currently, LISU is exploring ideas to map the available vendor data as a helpful preliminary step. Within the serials community concentrated effort is being applied to reaching consensus on descriptive vendor data, and the signs are encouraging. In the UK the PALS Working Group on Vendor-based Usage Statistics, chaired by Richard Gedye, is making progress^[11]. The UKSG ran a very successful Seminar on the topic in October 2001, which is reported in several papers in this issue.

It ought also to be of interest to know what it costs the user in time and effort to access serials in print or digitally. A fact sometimes lost on providers is that value is not fully derived from a serials collection until users find what they want, read it and act on the information. Software may enable failed log-ons to be mapped, and appropriate sampling of search logs might yield clusters of data on search errors and reveal interface and systems limitations. In the print domain gathering statistics on serials-related enquiries may offer a diagnostic approach to facilitating better deployment and exploitation of the collection.

Gaining a measure of the value derived from serials is difficult. Even usage data goes only so far to satisfy the desire to know. Sometimes quantifying critical incidents that involve serials information may help but at some cost in collecting the evidence. This approach is possibly easier in the more confined context and relative scale of the corporate library environment.

Almost hand in hand with this issue goes the one of judging the quality and value of a title. Help comes, to some extent, from bibliometric data that offers an array of indicators to suggest quality levels^[12]. Thus, we have citation counts, citation linking and rankings by impact factor as well as immediacy index values and the more

arcane research fronts syntheses. Some of the indicators assist in prioritising acquisitions decisions – or perhaps more realistically de-acquisitions decisions! The data can also indicate the perishability or longevity of serials information and offer clues to archiving and storage strategies through half-life calculations. As with other measures, it needs to be remembered that the bibliometric data describes past performance and reputations, though it may be argued that once gained, a good reputation will, by a process of attraction, be maintained. Moreover, there is not universal agreement on how valid and consistent conclusions can be drawn from such information. Amin and Mabe have offered a useful description and considered criticism of some aspects^[13].

Authors and users have also in recent times devoted much attention to league tables of journals, not least because of the imperative of publishing, and being seen to publish in the most 'prestigious' journals. A major catalyst to this approach is the periodic Research Assessment Exercise that has a significant influence on academic research funding models in the UK, and which is based to a large extent on peer evaluation of research publishing and selected bibliometric factors. Here is an example of government practice having an influence that permeates well into the components of the communication chain, with the consequence that activity is tailored to the measure rather than vice versa.

Other quantitative data that interest authors include circulation figures and information on the interval between submission and publication of new material. The mechanics of peer review and quality control inevitably take time and the delay varies from title to title depending to some extent on the pressure to publish in a particular journal. Efforts to improve turn-round of manuscripts are evident. For authors and users an added concern with digital material published in parallel to the paper equivalent is the difference in time between the appearance of the two versions. Sometimes, curiously, it is the electronic version that appears in the wake of the paper one.

Before concluding, attention must be drawn to an excellent work on serials and serials management which takes into account a range of perspectives by Tenopir and King^[14]. It contains extensive discussion on many aspects of the

quantitative dimensions of serials management and, as might be expected of a Tenopir and King compilation, includes a great many tables of data.

This contribution has concentrated on the measurable and measured aspects of serials management. However, serials management is about applying a range of good practices to delivering information efficiently and effectively. Metrics facilitate the process but do not substitute for judgement based on wisdom born of knowledge and experience. There needs to be resistance to too mechanistic an approach to measurement. Metrics data must be collected carefully but not obsessively, interpreted intelligently and applied sensibly rather than blindly. The preoccupation with measuring (or thinking that we can measure) everything is tending to give the art of using metrics in management a bad name. Governments and corporations preoccupied with programmes and targets rather than people and quality have not helped. The next stage is 'getting the numbers to be what we want them to be' and this cynical approach does little to improve performance or enhance people's faith in managers (or data). David Boyle in a recent Royal Society of Arts Lecture explored these issues and uttered several notes of caution, but he also reminded his audience that '... a world that never measures or counts is really beyond our control.'¹⁵ So; keep measuring, but only when you need to, and know what you're doing.

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