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The Hybrid Environment: Electronic-Only Versus Print Retention

Mark Rowse

Ingenta

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Scenarios for Print Issue Retention
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shelves have been packed full for many years
and library building proposals are not as well
received as in the past. Previously, libraries
could alleviate space problems in a few ways
—weeding the collection, microfilming, remote
storage, or installing compact shelving. The first
two methods both reduced access to some de-
gree while the third preserved access to materi-
als that increase in price by more than 5 times
inflation will dictate moving from Scenario 1
to Scenario 4. Libraries may save direct sub-
scription costs of anywhere from 5% to 25%
depending on the publisher. In addition, librar-
ies may realize substantial saving on associated
costs like sales taxes, postage, or shipping and
handling charges.

Furthermore, indirect costs can be signifi-
cantly reduced if print issues are not purchased
or retained. A not unsubstantial amount of our
staff time is devoted to making sure print issues
get to the correct place for handling, issue check-
ins, security tapping, barcoding, stamping, and
shelving the issues are labor intensive activities
that absorb entire job descriptions or multiple clerk
hours every day. Reducing the material that is
receivable and processing heavy will allow a
library to devote more staff resources to other
tasks, or reduce staff overall. Other indirect costs
may include claims, replacement issues, stor-
age, and binding.

Aside from strictly monetary concerns, the
second most important consideration is archi-
val responsibility. Many libraries consider them-
selves or are considered by a consortia or re-

gional group to be the archive of record for all
or a portion of their collective print collection.
It will continue to be their responsibility to main-
tain print issues for those items that are their
archival responsibility. Libraries who either
determine that they are not archival conserva-
tors for print journals or who have cooperative
archival agreements with other institutions can
safely move to electronic only subscriptions
where appropriate. Archival responsibilities
may also be shifted to publishers through per-
manent archiving clauses in site license agree-
ments for electronic journals or through third
party providers who can maintain print and elec-
tronic archives for other institutions. Futher-
more, a library may feel safe enough to discard
print issues if they are guaranteed archival elec-
tronic files from the publisher and have the tech-
nical infrastructure in place to utilize that op-
tion. I suspect that large, comprehensive,
academic research libraries will continue to
archive print issues either individually, through
cooperative subject or publisher based agree-
ments, or collectively at regional depositories.
Small, specialized, and less well funded institutions
will have to choose wisely what journals they wish
to retain in print and which ones they can safely
assume are needed only electronically.

Closely related to monetary and archival
considerations are space considerations. Library

The Hybrid Environment: Electronic-Only Versus
Print Retention

by Mark Rowe  (Chief Executive, Ingenta)

Introduction

We exist in a hybrid print-electronic envi-
ronment and will continue to do so for many
years to come. However, with libraries purchas-
ing increasing amounts of electronic resources
and on-going pressure on acquisition budgets,
the feasibility of sustaining duplicate print and
electronic collections has come under review.
Many institutions are choosing to reduce print
budgets in order to sustain and expand electronic
purchasing.
In addition, the way libraries and their users respectively manage and access information is undergoing change, with more emphasis falling on collaborative resource sharing and multisite access to centrally held electronic content. The situation is further complicated by the shift in business and distribution models, which mean that libraries tend no longer to "own" content, but to license access to online resources via publishers’ or other vendors’ servers.

At the same time, print remains an important medium, particularly in those disciplines where a core electronic literature is not yet established. While the advantages of electronic collections are numerous, digital preservation and guarantee of perpetual access will be needed if institutions are to migrate to online-only collections of content in the longer term. The following article looks at some of the factors affecting the ratio of print to electronic holdings within this evolving environment.

**Pressure on Print Budgets**

Even before the onset of the electronic revolution, the well-documented “serials crisis”—in which journal subscriptions have risen at levels well beyond increases in library acquisition budgets—was impacting directly upon the ability of libraries to build comprehensive core collections for current users and long-term archives.

While this does not directly affect print retention policy per se, libraries have to face an increasingly tough challenge in catering for specialists, as well as core, user needs, in the face of budgetary constraints that have at times led to dramatic cuts in book acquisition and journal cancellations.

Print journal subscriptions have been declining at a rate of around 3 to 5% per annum; if decline is sustained at this rate, print journals will have lost 50% of their circulation within 14 to 24 years.

The U.S. Association of Research Libraries (ARL) reports that the average ARL library subscribed to 16,312 serials in 1986, but by 2000 that number had fallen to 15,223 serials, despite the fact that more titles are being published and the average library is serving more users. At the same time, ARL statistics show that U.S. research libraries are now spending on average 16% of their acquisition budget on electronic resources, as compared to 4% ten years ago.

**New Purchasing Models**

In the earlier stages of the electronic environment, electronic publishing models tended to parallel print offerings—with an electronic version of current journals frequently offered free with print, or for a supplement. E-only titles tended not to be dramatically discounted (often offered at 90% of the full subscription price). With no proven preservation and archiving solutions in place, the tendency was to retain both print and electronic collections.

The recent emergence of new purchasing models—in particular, the adoption of consortial site licenses and the advent of the “Big Deal”—has played a significant part in the rapid uptake of electronic content by users throughout the world, and has had a profound impact on the way libraries provide access to content to their users. Although aggregators have been offering full-text journal databases for many years, it was not until the late 1990s that major academic publishers began to put together packages of current journals for library consortia—often consisting of the publisher’s entire list—sold on a one-price, one-size-fits-all basis.

For libraries, it has expanded the amount of content they deliver to their users, but has also meant a move from a price-based “owned” collection of journals, to a licence-based right to access online content. Bundled packages of journals have a lower per title cost than electronic titles purchased individually, and have brought a measure of budgetary stability via price-capped multiple year deals. Where average increases for subscription print holdings were running at between 16% and 22%, consortial licence increases have averaged around 6% to 7%.

The extent of uptake of consortial licenses over the last half decade has been far-reaching: research undertaken for the 2002 Ingenta Institute program showed that the proportion of consortia-member libraries’ holdings derived from consortium deals averages around 50%-60%. Smaller libraries in particular have been given access to a vastly increased number of electronic titles for relatively little extra cost.

Accelerated development of electronic collections was actively encouraged at institutional, state and national levels with, in many cases, extra funding made available to enable libraries to participate in “big deal” offers. However, where no external financing was forthcoming, money had to be found from existing budgets, often via cuts in book purchasing, ILL activity or cancellation of non-Big Deal journal subscriptions.

As consortial licenses come up for renewal, however, it is widely anticipated that extra funds will no longer be available, and that there will be a relative reduction in purchasing power within the market. With some librarians already concerned about the impact of all-inclusive big deal packages of e-journals on their ability to select specialist and niche titles, it remains to be seen whether the market will cut back still further on print subscriptions and book acquisition to finance new consortial deals, or whether publishers will be prompted to consider unbundling some content from whole-list electronic packages and experimenting with new pricing models which enable their customers to customize purchases to actual user needs.

**Cost Considerations**

A number of studies into the comparative cost of print and electronic material have shown that electronic content is often more cost effective on a per use basis. A study recently undertaken by Drexel University, for example, reported that while certain costs associated with an online collection are higher—including staff and administration costs, collection development and acquisition costs—electronic purchasing would nevertheless appear to be more cost effective.

Drexel’s study of its own collections found that the cost per use of bound print titles was as high as $230 (80% of which is accounted for by space costs); print subscriptions averaged $5.50 per use, while individually acquired electronic journals averaged approximately $4 per use. Journals that formed part of publishers’ collected or bundled packages ranged from around $3 to $2 per use, while those that were included in full-text databases averaged less than $1.

**Collaborative Networked Environments**

While cost is clearly an important consideration, there are many other factors influencing the development of electronic collections and the retention—or otherwise—of print, not least of which is the potential to supply an expanded set of services around online material to a greatly expanded user base.

In part due to budgetary pressures and the cost and efficiency benefits of resource sharing, and in part driven by developments in technology that have led to increased potential for resource exposure and sharing, collaboration between research libraries has been more recent years to a more formalized and coordinated footing, with strong emphasis placed on shared access to distributed digital resources.

Collaborative agreements between libraries and information networks have also enabled the library to open up access to its services to a greatly expanded user base, including users from other institutions, distance learners, part-time students, and members beyond the academic and university community.

These are real advantages, and the commitment to offering quality and comprehensive electronic resources to a broader user base is illustrated not only by the increases in the purchase of online content, but also by the numerous digitization projects being undertaken within the research library community. The new emphasis on networked information has impacted on the library as a physical place or space, holding physical material. Libraries now are developing into technological centers where users may come to access networks and online resources (not necessarily held on the library’s server).

**Eliminating Duplication**

In their incessant search for savings in costs with which to plug the holes in their declining budgets, or fund price rises or new resources, librarians are beginning to understand that in many cases they are paying several times for the same content. Whether this means print version versus electronic version, or e-journal plus aggregated database from a vendor, institutional subscription plus consortial access rights, librarians are increasingly able to harness the power of their networked environment to identify this duplication, and the cost-saving decisions. These decisions beg many questions that go to the heart of librarianship: is an unbroken sequence of a journal collection worth paying for when many of the issues are available through aggregators? Does learning online access replace traditional collection development? How should usage and value for money be evaluated where one hardly-used resource may be more efficient.
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nevertheless be critical for a small, specialist department? Solutions to these issues are driving librarians further towards an online-only environment.

These changes will increasingly rebound onto the business models of the publishing community, who will need to have a much clearer focus on the implications of signing consortial deals, or deals with aggregators, which may undermine their existing revenues.

New Publishing Models

In addition to the pressure put on print acquisition by the consortial site licence and the benefits of handling e-only extra titles, the shift in the print-electronic ratio has also to take into account the growing body of born-digital information—both commercially and non-commerci ally produced—which is now available to the library.

The steady launch of new e-only titles by commercial publishers, scholarly societies, alternative publishers, and other bodies, has produced a significant body of purely digital content, with e-only titles often exploiting the speed and flexibility of the electronic medium, through the inclusion of multimedia components, and by the immediate posting of articles on acceptance for example.

The number and quality of e-only journals and e-print repositories varies by discipline. It is also the case that the broader scholarly communication system will take time to integrate this literature more fully into the information services that support the discovery of and access to research literature, including the abstracting and indexing services, citation analyses, online catalogs, and other resources. Nevertheless, there has recently been a discernible increase in the number of e-only journals being indexed by major indexing services.

Moreover, collection development has extended beyond the formally published literature. The “informal” literature, such as open access publications and e-print repositories, has become increasingly important within certain disciplines, and there are now in place a number of nationally co-ordinated initiatives making seed-funding available to support the development of a new information infrastructure amongst research libraries, universities, museums and other scholarly and research bodies.

Currently, there are now over 120 “data providers” or e-print repositories registered on the Open Archive Initiative site, and service providers, which harvest and aggregate records from these repositories, estimate that they regularly harvest over one million records from distributed e-print archives and other repositories, with many additional projects being undertaken by libraries, laboratories, faculty, museums and heritage institutions.

Libraries are now in a position where they are looking to provide access to material and resources they may not actually have purchased and which they may not host locally. It is also the case that some will be seeking on a new role, running and maintaining a research repository on behalf of their institution, and taking responsibility for the curation of the digital research and educational output of its members.

User Preferences

This is not to say that there is no demand on the user’s part for print. On the contrary, the pace of change is highly variable: while we have seen some highly sophisticated electronic resources becoming established in certain disciplines, other subject areas have seen much lower levels of development, with corresponding differences in expectations and preferences amongst user groups.

Recently, the Digital Library Federation (DLF) and Council on Library and Information Resources (CLIR) commissioned Outsell, Inc., to undertake a study of some 3,000 undergraduates, graduate students, and faculty members from a range of academic institutions.

They found that at the current time, “most faculty, graduate students and undergraduates seem to prefer a hybrid information environment in which information in electronic form does not supplant information in print but adds to the range of equipment, resources, and services available to teachers and students.” (Source: Amy Friedlander, Dimensions and Use of the Scholarly Information Environment: Introduction to a Data Set Assembled by the Digital Library Federation and Outsell, Inc. Washington, D.C.: Council on Library and Information Resources, 2002, http://www.clir.org/pubs/abstract/pub110abstract.html.)

While respondents may make use of a mixture of print and electronic materials in their reading, it has become apparent that they have become fully accustomed to discovering and locating that content online. The individual user has assumed more responsibility for article discovery and retrieval in recent years, and is making use of a wide range of automated search engines and navigational tools including links from citations in journals, A&I databases, online library catalogs, Web directories, subject-related Web pages, and Internet search engines. Nearly all respondents in the survey answered “online” when asked how they set about discovering relevant information.

Evidence shows however, that in the vast majority of cases the user prefers to actually read the content on paper: over 90% of the respondents to the UK’s 2000 Super Journal project printed out electronic articles locally for subsequent review. Maybe the electronic environment is merely moving the print function from the publisher to the library or institution.

Shift in the Print-Electronic Ratio

While e-collections have many advantages associated with them, there is still concern within the community about the absence of a solution to the problem of archiving. Digital preservation and guarantee of perpetual access will be needed if libraries are to migrate to online-only collections. Content in the long term, but the costs involved are beyond the resources of almost all individual libraries.

The area of archiving is being addressed, within the library community itself, by publishers and intermediaries, and by central public or national libraries. With a number of pilot projects and programs in place, there is growing confidence that solutions will be found in the course of time that will enable a more widespread development of electronic-only collections.

The library’s role is evolving. Traditionally, to satisfy current and future user demand, libraries have maintained core collections, and title selection, collection and archiving have been fundamental to the role of the librarian. More recently, however, print has become an element of a broader spectrum of resources, both owned and licensed, both hosted and accessed remotely, some of which may be purchased, some of which may be available for free, but for which the library nevertheless takes on managerial responsibility for its users.

While print will always have a place within the library’s collection, there are, in conclusion, a number of factors that are impacting directly on the ratio of print to electronic resources. With increases in electronic purchasing looking set to continue, and solutions to archiving and preservation under development, it is likely that more and more libraries will start to cut down on duplicate print/electronic collections, in favor of online-only collections.

In part, this will be to ensure access to holdings is maximized for an increasingly dispersed user-base. However, it is also a priority for many institutions to make savings by eliminating duplication and reducing storage, binding and space costs. Lastly, libraries need to ensure they are in a position to service their users’ requirements for the growing body of born-digital research by developing core capabilities in the management, integration and presentation of online information.

<http://www.against-the-grain.com>

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Bangladesh, did a big interview with him. Go to http://www.dailystar.com/magazine. Look up “interview.”

The Association of Research Libraries has published its Annual Salary Survey. The report analyzes salary data for all professional staff working in the 124 ARL member libraries during 2002-03. Data were reported for 9,469 professional staff in the 114 ARL university libraries and for 3,804 professional staff members at the 10 non-university ARL institutions. The university population is generally treated as three distinct groups: staff in the general library system, staff in the university medical libraries, and staff in the university law libraries. The 2002-03 data show that ARL librarians’ salaries are barely keeping up with inflation. The combined median salary for U.S. and Canadian ARL universities was $51,636, an increase of only 1.8% over last year. The Consumer Price Index in the U.S. increased by 1.5% last year and in Canada by 2.1%. The ARL Annual Salary Survey was continued on page 80.