

Agents in Place: Intermediaries in E-Journal Management

R2 consulting

A White Paper

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"Building and managing electronic journal collections is a high-cost, high-maintenance activity." [1]

In this document we examine workflow steps required to support electronic journals from selection to access. We then consider the services that subscription agents and other intermediaries can provide to assist with those tasks. As with print journals, it may transpire that significant cost savings and workflow support can come from outside the library.

Introduction

According to recent estimates, 75% of all currently published scholarly journals are now available online. The remaining 25% are expected to follow shortly [1,2], driven by user demand and the estimated 16% additional margin that accrues to publishers on electronic-only titles [3]. The rapid growth in popularity and availability of e-journals has left libraries struggling to adapt to the new demands imposed by this new form. MIT Libraries, for instance, estimated at the end of FY 2002 that "33% of its total serial dollars were devoted to e-resources", and that 87% of its new serial dollars went to electronic content [4]. Given this remarkable shift, library procedures, business relationships, systems, and staffing all require re-thinking and re-invention, a process that will continue into the foreseeable future, as e-journals and the services that support their acquisition and access evolve.

With all their convenience for users, e-journals have ushered in a period of unprecedented complexity for library workflows and systems. The straightforward (if at times tedious) tasks related to selecting, acquiring, renewing, cataloging, paying for, and binding print journals – in which the subscription agent played a major supporting role—have been

supplemented and in some cases supplanted by a host of newer, more complex tasks. These include license parsing and negotiation, direct dealings with publishers who decline to deal through agents, evaluating multiple "deals" for the same content, configuring link resolvers, troubleshooting access problems, and constant maintenance of holdings records and URLs. Given the learning curve and the potential workload, it's possible to imagine a serials librarian pining for the days of check-in and claiming, where routines were well established.

E-Journals and Library Staffing

The complexity that has evolved in working with electronic journals has implications for library staff, both in the amount of work involved and the skills and knowledge required. In 2002, as preface to a survey of 30 academic libraries, Duranceau and Hepfer [4] posited that "the problem of staffing for e-resources has reached a crisis level in our profession that demands data, attention, and action." Of nine functional areas related to e-journal acquisition and management, staffing for six was considered "inadequate" by most respondents, including "licensing; cataloging; non-OPAC record management; troubleshooting access problems;

site monitoring for content changes; and setting up links between I&A databases and full text" [4]. Responses regarding staffing for purchasing and acquisition of e-resources proved more divided, but still troublesome. More indicative still of the increased complexity facing librarians is that the authors "find few, if any, 'routine' tasks related to digital resource management, but many, many complex and interdependent tasks that require a broad knowledge of library systems, the campus network, and a proxy server, as well as broad and deep knowledge of the particular products we have purchased."

Library administrators certainly recognize the problem; a cursory review of the classifieds in any library periodical reveals a spate of Electronic Resource Librarian openings. But the growth in workload and complexity is clearly outpacing libraries' ability to respond, as indicated by some recent e-mail exchanges from SERIALST: "...keeping electronic holdings up to date is virtually (even literally!) impossible....we have 4-5 people working on this part of their time (we probably have 1.5 FTE librarians per month taking care of the many tasks that need to be done.)" [5]. Or another: "There are lots of places to update and reference, and it takes a few days each time we do it, but it is worthwhile when our patrons know immediately that they should be able to get what they need." [6]. The conclusion from Duranceau and Hepfer's informal survey underlines the point: "...more staff is needed to support e-collections which are growing rapidly in size and significance." [4].

Increased staffing, of course, is only one possible response to increased workloads. Automated support is another, and in fact many libraries have begun to develop their own Electronic Resources Management systems (e.g., University of North Carolina-Greensboro's Journal Finder, Drexel's WEBRAT, MIT's VERA and The Digital Library Federation's ERMI [7]). Some ILS vendors, subscription agents and access management entrepreneurs are already bringing similar products to market. NISO and EDItEUR have tasked a Joint Working Party to propose enhancements to the ONIX for Serials standard to support the exchange of serials subscription information, which would facilitate machine-to-machine updating of holdings and linking data. [8] Although it's debatable whether it's cost-effective for multiple libraries and groups to develop (and perhaps more importantly, maintain) such systems independently, that discussion is beyond the scope of this paper. Suffice it to say that these development efforts demonstrate the urgency and the magnitude of the problem.

The Role of Subscription Agents

The most immediate relief, in fact, may come from existing relationships with subscription agents, and new relationships with e-journal access management providers; that is, from outsourcing. Librarians have consistently recognized the advantages of using vendor services from cataloging and selection to workflow support and shelf preparation. And although the specific tasks differ, the same principle applies to e-journal management. It makes sense to consider

carefully what subscription agents and other intermediaries can offer in support of beleaguered library staff—and to take advantage of those services to the fullest extent possible.

In the print journals world, libraries relied, and continue to rely, on intermediaries to extend their staff, by helping to manage the thousands of titles to which they subscribe. Since the late 19th century, subscription agents have provided consolidated ordering and billing, price comparisons and projections, consolidated claims handling, pre-payment plans, and one-stop customer service. As subscription management became more automated, agents built authoritative databases (accessible free of charge to customers) to provide title, price, and availability information to libraries. They implemented standard EDI transactions for orders, claims, claim responses, and invoices, often leading the movement to develop standards. They cultivated relationships with ILS vendors, to assure that transactions worked across vendor and library systems. Agent transaction systems produced title-by-title invoices and customized management reports. Prepayment accounts helped extend library purchasing power (with some notable exceptions, but they are exceptions).

Perhaps most important, though, agents developed effective relationships with many publishers, so the library could focus on other tasks. Less well recognized and perhaps undervalued is the fact that agents also developed relationships with many libraries, consolidating the market for publishers. The time-consuming "many-to-many" relationships became distilled to "few-to-few"; i.e., each library dealt with only a handful of vendors, and each publisher with only a few buyers. The industry is in danger of re-creating a problem it had previously solved, by reverting to cumbersome "many-to-many" relationships.

E-Journals as a "Disruptive" Technology

As journals became available electronically, library-agent-publisher relationships were disrupted. Publishers saw and seized an opportunity to sell content directly to libraries. Libraries formed consortia (in this context, essentially "buying clubs") in order to negotiate lower prices with publishers. Libraries and consortia saw a chance to expand the number of journals available to their patrons, by participating in "big deals" offered by several large publishers, and to save money in doing so. The agent was relegated to servicing print subscriptions and lower-margin material. Gradually (if anything can be said to happen gradually in a market less than 10 years old), as patron enthusiasm for e-content became clearer, and as "flip" pricing took hold in 2000-2001, the electronic versions of journals became dominant. Libraries began to cancel more and more print subscriptions for content they licensed electronically; some, like Drexel University, cancelled all but a handful [9]. Having been excluded from a significant role in e-journal distribution, subscription agents were in danger of becoming marginalized.

Simultaneously, other kinds of intermediaries began to appear and rise in importance. Hosting services, such as HighWire Press, Ingenta and Project MUSE assumed electronic distribution for many publishers, creating another type of entity in the market, one that could operate with or without the help of subscription agents. Traditional content aggregators (such as ProQuest and Gale) continued direct sales to libraries, bypassing the agent. Some agents began to offer journal gateway services themselves, expanding their own roles. Over time, new intermediaries, providing document supply services, link resolution services, e-journal access management tools, and even independent negotiation, entered the disrupted market, stepping into relationships with publishers, libraries and ILS vendors, solving some pressing problems, and further increasing the competitive pressure on agents.

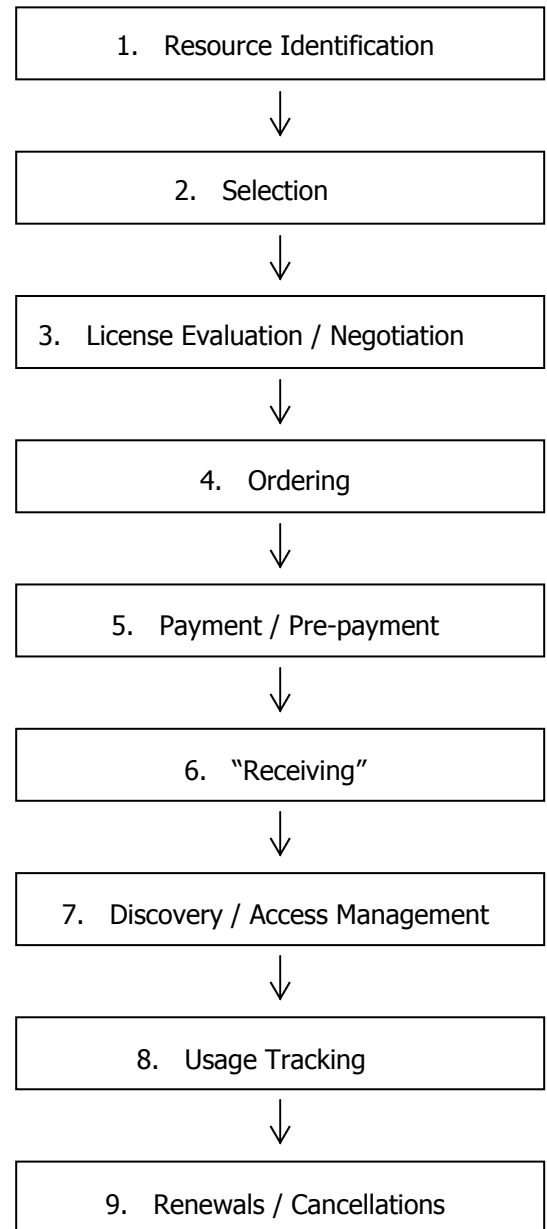
The Drawbacks of Buying Direct

Markets are messy places, but at times the invisible hand shows itself. As libraries struggle to fund and recruit for Electronic Resource Librarian positions, many also find they are nearing their limit on dealing individually with publishers, and perhaps vice versa. In a pair of Charleston Advisor articles [10, 11], Hamaker and Miller assert that libraries dealing with publishers directly can lead to problems, particularly because many publishers cannot produce accurate lists of a library's subscriptions and are inexperienced in direct customer service. These tasks are, of course, the core competencies of subscription agents; so, in response to pressure from libraries, Elsevier allowed some agents to handle the invoicing for libraries' electronic journal subscriptions, for subscription year 2003. This approach forces both publisher and agents to innovate and rethink their practices, but it also takes advantage of long-held expertise in their respective roles.

In short, the inherent logic of consolidating acquisition activity with a few competent sources has reasserted itself. Publishers have begun to understand the level of customer service expected by libraries, to recognize how much it costs to provide, and to reassess the value of the agents that have historically performed that function. Agents have realized the need to innovate, to re-invent themselves as trackers, licensors, and brokers of electronic content—and to combine management information for print and electronic subscriptions. Libraries have begun to reconsider large-scale publisher bundles and big deals, and to exercise more selectivity in the e-journals they license [12]. This results in a greater number of individual subscriptions with a larger number of publishers, which again argues for consolidation.

For a closer look at all of this, libraries should consider the workflow steps required to support electronic journals from selection to access. Within each step, subscription agents and other intermediaries can provide valuable services that support those tasks. As with print journals, it may transpire that a major source of cost savings and workflow support can come from outside the library.

Figure 1: E-Journal Workflow



The E-Journal Workflow in Libraries

A generic e-journal workflow is shown in Figure 1. Before addressing it in detail, though, it's important to acknowledge that adoption of electronic-only journals has effects other than simply creating new work. In fact, elimination of print subscriptions also eliminates many routine tasks, such as check-in; maintenance of check-in records; claims; claim responses; labeling; ownership stamping; barcoding; shelving and shifting; pulling issues for binding; tracking and replacement of missing issues; bindery control operations

(packing, record maintenance, bindery system updates, unpacking, re-shelving, shifting); and movement to remote storage.

Some of these tasks have corollaries in the e-journal workflow (e.g., claiming is replaced by access monitoring), but many simply disappear. As noted earlier, however, these relatively straightforward processes are typically replaced with unfamiliar and more time-consuming tasks (e.g., licensing replaces ordering), requiring a higher level of staff, so that workflow efficiencies may not result in cost savings for the library. Cooperative purchasing through consortia, while attractive in terms of price, often requires more communication and meetings, prolonging the decision-making process. Actually, if space costs are excluded from consideration, the selection, acquisition, and management of electronic journals is now significantly more expensive than print.

In a Drexel University cost comparison between print and electronic journals, for instance, combined selection and acquisition costs for electronic journals exceeded those for print by 2.6 times (\$26,000 vs. \$10,000). Record creation and maintenance costs were 60% higher for e-journals, despite the fact that Drexel elected not to create OPAC records for them. System and administrative costs were also higher. [9] Similarly, in a study commissioned by the Association of Subscription Agents, "over two-thirds of respondents felt that, [...] electronic journal subscriptions are harder to set up than print subscriptions." [13]

The overall annual savings of \$210,000 realized by Drexel stemmed almost entirely from reduced space and binding costs—not from reduced workload or staff. Other studies of print vs. e-journal costs are forthcoming, including the carefully designed Collection Management Initiative from the University of California system (see <http://www.ucop.edu/cmi/welcome.html>), due by the end of 2003.

If, as the Drexel and ASA studies and the electronic resources staffing crisis suggest, it actually costs more to acquire and manage e-journals than their print counterparts, libraries need the competencies of agents and other intermediaries more than ever. In fact, as stated in the ASA study "almost half of those who responded said that, ideally they would prefer to purchase their electronic subscriptions via a subscription agent." [13]

What follows is a broad outline of library activity required to manage e-journals effectively. A brief summary of each function is followed by a description of the assistance that intermediaries can provide, and on which libraries might rely to support the continuing growth of electronic resources in their collections.

1. Resource Identification

Libraries need to be aware of new titles and packages as they come on the market. Publisher marketing efforts and Web sites play a role here, as do reviews and

recommendations from faculty and students. But, as with books, of the making of electronic resources there is no end, and it is difficult and time-consuming to keep track of and seek out the works of hundreds of individual publishers.

Vended Solutions: Historically, subscription agents and library booksellers originated for just this reason. Agents consolidate the task of monitoring many titles and packages from many publishers, on behalf of many libraries, and will notify their customers when new titles or e-versions of existing titles become available or when the contents of a package change. The economies of scale created by this approach have allowed agents to develop automated support for tracking, in the form of large-scale Web-accessible databases that combine information on print and electronic availability. Many agents, alone or in cooperation with partners, provide access to Tables of Contents and abstracts of non-subscribed journals through their gateway services. Perhaps most usefully, subject-based alerting services provided by agents can reduce the time spent seeking relevant new content, by automating and organizing it, and making it available through a single source.

2. Selection

If an identified title or package is of possible interest to a library, it must then be evaluated for relevance, quality of content, functionality, extent of back-file coverage, embargoes, etc. Typically, an Electronic Resource Librarian or a cross-departmental committee (with representation from Collection Development, Acquisitions, Reference, and others) will arrange for a trial, after which they'll come to a preliminary decision. Often, license terms are known and discussed at this point, and areas of negotiation identified. Because multiple resources are under consideration during the same and overlapping time periods, most libraries maintain some type of tracking system to document where each evaluation stands, and to record selection/rejection decisions.

Once a selection decision has been made; i.e., the content and coverage are deemed acceptable, that decision is recorded and responsibility for identifying a preferred source may move from Collection Development to Acquisitions. In many cases, the library can obtain the desired resource through more than one avenue. There may be variants of a package to consider. One or more consortia in which the library participates may offer special terms. Various aggregators may offer access, and of course, the publisher may sell the resource directly. Again, a record of the final choice should be made.

Vended Solutions: Agent databases and e-mail newsletters can provide detailed information on options, e.g.:

"New Options for Royal Society of Medicine journals: RSM has announced the following subscription options for 2004: Beginning in 2004, the Royal Society of Medicine will offer an online-only version of those journals that are available online. The price for online-only access will be approximately 90% of the Standard subscription price for print plus online. A print-only rate is only available for selected titles which are not yet available online. Subscriptions include access to all online back-files and TOC alerting services. A 2004 pricelist is available at <http://www.rsmprss.co.uk/04subrates.pdf>. Please advise [your agent] as soon as possible if you want to change any of your Standard subscriptions to online-only, so that your 2004 renewal invoices will be accurate." [14]

Agents can also provide notification when online versions of print subscriptions become available.

3. License Evaluation/Negotiation

Although licensing has become more standardized, and libraries now have more experience with the task, it remains a different order of task than creating a purchase order. The library may need to obtain the publisher license, review it, forward it to the legal office for further review, negotiate with both the publisher and the legal office, create an Addendum, and provide local information as part of the licensing process. That local information may include FTE counts, Carnegie classification, number of campuses or branches (sometimes a very thorny issue), contact information, consortial relationships, fund codes, registration requirements, and proxy server information. Libraries often use locally developed spreadsheets or databases to track the status of licenses under negotiation, and to collocate information from signed agreements.

Vended Solutions: Most vendors maintain a list of links to publisher licenses, enabling convenient retrieval, and up-to-date information. Because agents represent many libraries, they may be able to negotiate troublesome points once with the publisher, with subsequent library customers benefiting from the amended license. Over time, a simpler and more standardized license may result. In some cases, the agent can be empowered to negotiate on behalf of a library, if the library gives the agent power of attorney.

4. Ordering/Order Tracking

For individual e-journal titles, this means creating and sending a purchase order. For larger packages, signing the license may constitute the order, with the license agreement incorporating the additional local data mentioned above.

Vended Solutions: For individual orders or renewals, most agents support EDI transmission of order and details, and have worked out appropriate protocols with

ILS vendors. For licensing, agent systems can store details such as IP ranges, FTE counts, IDs and passwords, URLs for publisher mirror sites, and other administrative details.

5. Payment/Pre-payment

Libraries are accustomed to paying for many of their serials in advance, and often rely on credit offered by agents for advance payments to extend their purchasing power. Publishers are unfamiliar with such arrangements, and perhaps uninterested in extending such terms. Libraries also rely on title-by-title invoices to help allocate journal costs among various departments and budget lines, to relate cost to usage, to confirm coverage, and to allow easier management of cancellations and renewals. However, publishers typically invoice their electronic products by package or collection, on a one-line printed invoice.

Vended Solutions: Agents have long provided interest-bearing prepayment accounts for print subscriptions, and similar services are available for electronic subscriptions. Consolidated invoices reduce the overall number of invoices, and all the major agents can provide large title-by-title invoices in EDI format. Again, they have typically worked with ILS vendors that support serials EDI invoices to implement automatic processing of them.

6. "Receiving"

Although there is no physical item to receive as such, libraries must perform a number of analogous procedures to "receive" an e-journal or package. First, the library should be notified when payment has been processed, and when patrons are authorized to begin using the resource. Then, depending on the publisher or provider, the library may need to register, activate the service, and verify that their users can indeed access the resource. Once identified, the library needs to record and store the Web address that links the user to the resource.

Vended Solutions: Agents are capable of performing activations on behalf of publishers, and can notify their library contacts when access has been authorized and activated. Publishers can also notify agents of changes in registration or activation requirements, and the agents can pass these on to the libraries as they do notifications of pricing or content changes – typically via e-mail. The agent's title list or database typically already stores the URLs for electronic resources, eliminating the need for the library to search them out.

7. Resource Discovery and Access Management

These functions probably represent the biggest workload increases for most libraries. When a resource is initially obtained, a decision must be made whether to catalog it for the OPAC, make it available via a separate A-Z listing, or both. For OPAC records, the library must

choose between creating a single or separate record, and complete union listing if required. To assure access from outside the OPAC, the A-Z list must be maintained, and the library's link resolver must be configured to direct users to the appropriate full-text target from abstracting & indexing databases.

Once access has been activated, there are a number of ongoing maintenance tasks required to assure that access remains consistent. These include site monitoring, URL maintenance, content or coverage changes, missing or incorrect ISSNs, titles differing among multiple sources, and distinguishing multiple sources for the same content. If an OpenURL resolver has initially been configured to link from I&A databases to full text, those links must be maintained in the resolver's administrative module anytime a publisher, provider, or URL changes.

Access problems can arise when links are not updated regularly. Solving these problems can be immensely time-consuming, requiring first a re-checking of the link to be certain it's broken, and then some investigation. Has the library paid for the resource? Has the subscription expired? What entity did the library license from? Where is the contact information for that entity? Is there a known problem with the library network or proxy server? If the library has paid, is the problem technical or administrative? If the patron who cannot access the resource is waiting, a certain urgency attends these investigations. Often, the responsibility for resolving the problem is unclear, i.e., the broken link is brought to the attention of Public Services, but license and contact information may be accessible only to Technical Services staff.

Vended Solutions: Along with the increasing workloads, this area has also seen the most innovation, by libraries, systems vendors, subscription agents, and entrepreneurs promoting brand-new services. The kind of administrative support envisioned (and in some cases built) by libraries include dynamic updates of Web page builders (for e-journal lists), search indexes, remote configuration of proxy servers, usage tracking against which vendor-supplied data can be compared, and utilities to load updates from vendors.

Agents have also begun to supply CONSER MARC records with up-to-date links in the 856, as have Access Management Services. (In practice, this means that most libraries end up with separate records for print and electronic versions of a journal, which is not universally accepted.) Access management services, whether purchased independently or through an agent, typically arrive pre-populated with current data on the library's subscriptions, and current information on the contents of aggregators' packages. Every agent can provide libraries with the ability to create an A-Z list, either directly or by supplying data to an access management service; this

applies to individual subscriptions as well as pre-packaged aggregations, and to print subscriptions as well as electronic. Libraries can supplement the data in these listings with print holding from other suppliers, creating a single point of entry for patrons. The listings themselves can be customized and branded by the library.

8. Usage Tracking

If libraries make electronic resources accessible, will patrons use them? Which ones generate the most consistent use? How much does each use cost? Which titles are seldom or never used? This information is critical to the ongoing management of an electronic resources list, to inform pricing decisions, and to weed and replace little-used titles. It's also important to have independent confirmation of usage statistics, rather than simply relying on information provided by the publisher.

Vended Solutions: Agent management reports can help with some aspects of this, by listing all of a library's subscriptions, noting which are available electronically and on what terms. Access management services can also provide data, by tracking sessions, searches, link-outs, and link-outs by target, all from the A-Z lists. These can provide at least some benchmark for evaluating usage statistics from the publishers.

9. Renewals/Cancellations

At renewal time, which for electronic resources may be three years rather than one, libraries typically review their subscriptions title-by-title, confirming those they wish to renew and identifying candidates for cancellation. For e-journals, this review may be informed by usage statistics, and information on potential changes in terms, licensing, or coverage. Renewal lists need to be generated early enough to provide sufficient time for review; this is especially true for electronic products, because publishers can cut off access immediately upon the subscription's expiration, and because consideration needs to be given to back-files and archiving, if the library retains access to previously licensed content.

Vended Solutions: The processing of renewals has historically been a strength of agents, based on accurate title lists, generated in sufficient time for a library to review—preventing gaps in coverage. Agents with extensive knowledge of product characteristics can advise libraries on back-file and archiving options, and can provide information on grace periods and other ways to complete both cancellations and renewals without loss of access.

Conclusion

The relationship between publishers and the distributors of their content to libraries has always been fraught with potential misunderstandings. It's tempting for a publisher to view the "middleman," who receives a percentage of the selling price and/or adds a service fee for its role, as an

unnecessary layer---even a barrier---between content provider and customer. Although the work performed by subscription agents has proved to be of great value (to both publishers and libraries) for print journals, ambivalence about the agent's role surfaced as soon as significant amounts of content became available electronically and the means of distribution changed.

These misgivings persist because of a limited conception of what the agent actually does. It's not simply a question of consolidated ordering, tracking, invoicing, and reporting, although these services are crucial to libraries. The way in which libraries need these services performed is highly individualized and variable, as publishers are now discovering. So agents actually serve to organize the market, bringing together a wide range of library customers. By mediating and absorbing individual library requirements for invoicing, fund coding, title-level tracking, pre-payments, and more, agents make business with libraries more uniform for the publishers. Rather than dealing with hundreds of libraries with differing requirements and knowledge levels, the publisher deals with a handful of knowledgeable agents.

For libraries, agents organize the publishing universe, and synthesize information about thousands of products into convenient forms. As content has evolved from print to electronic, subscription agents have evolved and built new tools to put in the hands of librarians. In some cases, that evolution has occurred within a single company; in others, agents have collaborated with e-journal access management companies. Whichever strategy has been pursued, the direction has been the same: to combine the traditional services of subscription agents with newer services to support the electronic format. Underlying all these tools is a foundation of customer service and knowledge of library practice that has been built through experience, and enables problem solving, workflow support, and extension of library staff through a single point of contact.

There certainly are some cases in which dealing directly with publishers is more effective, and when an additional layer of communication can make problem solving harder. But these are rare, and as agents and other intermediaries gain experience, such exceptions will be rarer still. In most respects, handling electronic subscriptions, though more expensive than handling print, requires the very same skills and service orientation that agents have developed over many decades. In wrestling with the fundamental change of content delivery from print to electronic, librarians (and publishers) can and should look to their long-term partners for help.

Or, as clearly stated by one Acquisitions Librarian in a recent SERIALST posting: "I've started shifting more of my electronic subscription business to an agent, including billing for a couple of consortial purchases. [...] Overall, I believe the core reasons for using agents apply to electronic subscriptions as well as the print. And I believe this to be true not only for the libraries, but the publishers too." [15]

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References

1. Watson, Paula D., "E-Journal Management: Acquisition and Control." *Library Technology Reports, March/April 2003*. American Library Association.
2. Cox, John and Laura Cox, "Scholarly Publishing Practice: the ALPSP report on academic journal publishers' policies and practices in online publishing." June 2003, 5-6. Association of Learned and Professional Society Publishers. Available: www.alpsp.org/publications/pub7.htm
3. Gooden, Paul et al., "Scientific Publishing: Knowledge is Power." September 30, 2002, 3. Morgan Stanley Equity Research Europe. Available: www.alpsp.org/MorgStan300902.pdf.
4. Dureanceau, Ellen Finnie and Cindy Hepfer, "Staffing for Electronic Resource Management: the Results of a Survey." *Serials Review 28/4 (2002)*, 316-20. Elsevier Science.
5. Heft, Sandy, "Maintaining electronic journals holdings information." *SERIALST Archives—September 2003 (#36)*. Available: <http://list.uvm.edu/archives/serialst.html>.
6. Krawczyk, Christina, "Maintaining electronic journals holdings information." *SERIALST Archives—September 2003 (#37)*. Available: <http://list.uvm.edu/archives/serialst.html>.
7. Chandler, Adam, and Tim Jewell, "A Web Hub for Developing Administrative Metadata for Electronic Resource Management." Available: www.library.cornell.edu/cts/elicensestudy/home.html.
8. Jones, Ed, "The Exchange of Serials Subscription Information: a white paper prepared for the National Information Standards Organization, with support from the Digital Library Federation." NISO Press, 2002. Available: www.niso.org/standards/resources/SerialsWP.html.
9. Montgomery, Carol Hansen, and Donald W. King, "Comparing Library and User Related Costs of Print and Electronic Journal Collections." *D-Lib Magazine, August 10, 2002*. Available: www.dlib.org/dlib/october02/montgomery/10montgomery.html.

10. Hamaker, Chuck, "The New Elsevier's Surprising Service Problems." *The Charleston Advisor, Volume 4, Number 3, January 2003*. Available: www.charlestonco.com/features.cfm?id=121&type=ed.
11. Hamaker, Chuck and Rebecca Lenzini. "EBSCO and Elsevier: Pitt's New Experiment, a Discussion with Rush Miller, Director of Libraries at the University of Pittsburgh." *The Charleston Advisor, Volume 4, Number 3, January 2003*. Available: www.charlestonco.com/features.cfm?id=122&type=ed.
12. Foster, Andrea L., "Second Thoughts on 'Bundled' E-Journals." *Chronicle of Higher Education, September 20, 2002*. Available: <http://www.chronicle.com/free/v49/i04/04a03101.htm>.
13. Rowland, Fytton and Mari Connal, "Research into Libraries' Purchasing and Access Requirements." *Serials, Volume 15, Number 3, November 2002*. 191-199.
14. HARRASSOWITZ News No. 72, September 4, 2003. *LIBLICENSE-L posting*. Available: www.library.yale.edu/~llicense/ListArchives/0308/msg00168.html.
15. Corbett, Lauren, "Using agents for electronic subscriptions," *SERIALST Archives, August 2003 (#65)*. Available: <http://list.uvm.edu/archives/serialst.html>.

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