

Comparing interfaces for electronic journal delivery

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Abstract:

During 1998 and 1999 the University of Melbourne Library evaluated four interfaces for managing electronic journal subscriptions and access. These are OCLC's ECO, SwetsNet, Ebsco Online and Blackwell's Electronic Journal Navigator. A small working group of librarians comprised the core of the trial. A set of defined criteria for evaluating the interfaces was used. The paper will report on the experiences of the evaluation and the conclusions reached.

INTRODUCTION

As the number of high quality journals available electronically increased in the mid to late 'nineties, it became clear that, to ensure their effective delivery to University of Melbourne customers, their supply needed to be integrated into the processes governing the acquisition of the rest of the journal collection. Library staff were expending considerable time and energy examining and negotiating licence conditions, and registering for institutional access on a title by title, or at best, a publisher by publisher, basis. These titles then needed to be delivered via the web OPAC and/or the Library's homegrown interface for delivery of electronic products, Buddy.

The decision by the traditional journal vendors to integrate electronic journal supply into their suite of service offerings was greeted with a sigh of relief by Library staff. Blackwell's EJN (Electronic Journal Navigator) was the first to appear, in 1997, but each of the major vendors now has its own product. Each offers the same range of services: subscription management, assistance with licence negotiations, electronic interface for content delivery to users, and management reports, such as usage statistics, to assist with collection management decisions.

THE PROJECT

Introduction

In 1998, a working group from the University of Melbourne Library was formed to compare four vendor interfaces: Ebsco Online, Electronic Collections Online (ECO, from OCLC), EJN (from Blackwell's) and SwetsNet. Since the Library already uses three of these agents for print delivery, and OCLC for electronic delivery, it was considered desirable to compare and contrast all of these interfaces before a decision was taken on which vendor to choose (if indeed one is chosen at all).

Underlying assumptions

The underlying assumptions behind the project were that the Library needed:

- to provide convenient access to all its electronic journals through a common interface;
- to obviate the learning burden on customers and staff, and the training burden on Library staff, incurred by use of a number of differing interfaces;
- to integrate print and electronic journal subscriptions.

Research aim

The purpose of examining and comparing the vendor interfaces was to establish whether any of them met the needs of the Library for efficient and effective electronic journal provision to its customers.

Literature review

The authors conducted no exhaustive literature review prior to undertaking this project; however, papers relevant at the time were read in the course of the usual scanning of library literature. To the best of our knowledge, no formal evaluation study such as that presented here has yet been reported in the literature. Calls in email discussion lists asking for replies from librarians undertaking such projects likewise resulted in silence. Roxanne Missingham's paper presented at *Online & On Disc 99* entitled "What's new in sci-tech online information since 1997?" comes closest to the sort of evaluation we were interested in conducting. Other papers read have been chiefly presented by the vendors themselves. Much information was gleaned from web sites of the vendors and personal communication with their representatives.

Approach

CONTENT

It was decided to limit the trial to twelve titles in two science disciplines (Chemistry and Computer Science). These two disciplines were chosen mainly because the scientists in these fields were already comfortable with the use of electronic journals. An additional reason was that the Royal Society of Chemistry (RSC) provided electronic access bundled with print subscriptions and so did Kluwer (which publishes a number of the Library's Computer Science journal titles), so in neither case did the Library incur the added expense of electronic subscriptions - an expense it could ill afford.

Although other publishers also bundle electronic access with their print subscriptions, registration for access was time consuming in early 1998, and the Library had already registered for institutional access with RSC and Kluwer for the titles held in print. The intention was to trial the interface, not the content.

WORKING GROUP

The members of the working group were chosen on the basis of their involvement in the STM (science, technology, medicine) areas from which the journal titles were selected, their participation in electronic information dissemination, and an expressed interest in the issues. The group included information librarians, the Research Consultant, School of Graduate Studies, the Electronic Resources Officer from the Information Resources Division, and the Electronic Information Coordinator. The Electronic Information Coordinator coordinated the trial, inviting representatives from the vendors to attend meetings and provide feedback.

CRITERIA

The group devised criteria to evaluate the interfaces. These criteria evolved from:

- knowledge of the existing electronic journal search software (such as OVID's);
- knowledge of search strategies used by academics, students, and Library colleagues;
- the Library's pressing need to provide seamless linkage between electronic journal delivery and related services:
 - ◆ web-based OPAC;
 - ◆ electronic abstracting and indexing tools;
 - ◆ bibliographic software packages, such as Endnote;
 - ◆ the Library's document delivery service;
- experience with electronic licence negotiations;

- experience of providing access to electronic information on campus and remotely;
- the requirement for permanent access to an archive of subscribed electronic journals (without this guarantee, academics will not accept solely electronic delivery);
- the need to have useful reports of electronic journal usage for collection management decisions;
- the usefulness to academic staff of an alerting service.

FACTORS TO CONSIDER

Introduction

In deciding upon a vendor interface for supplying electronic journals, the working group found many aspects to consider, covering economic and technical issues as well as those of an administrative and content-related nature. These evaluative criteria are spelt out in detail in points 1-5 below. The results of the analysis of the four vendor interfaces are spelt out in table 1 and table 2.

1. Administrative issues

- 1.1 The need for flexible authentication methods that enable access from anywhere in the world. Is validation provided by IP recognition and/or user name and password?
- 1.2 Is it possible to create different groups of users to allow for variations in access permissions? (e.g., the central campus may have access to all titles but not the smaller country sites, or maybe a title is restricted to, say, the Chemistry building, by the terms of the licence).
- 1.3 What management reports are included in the pricing, e.g. usage reports, levels of reporting? What are the formats of reports?
- 1.4 Is the privacy of individual users and the confidentiality of their use, including searches and stored SDIs, fully protected?
- 1.5 How helpful is the vendor with negotiations over the licences of the publishers?

2. Costs

Costs include price of the access, costs of staff time, including technical aspects, training and user education.

Questions to consider include:

- cost of access to the interface (this could be seen as comparable to the print world costs of shelving and binding);
- cost of simultaneous users to the interface;
- cost of site licence to the interface;
- is it possible to search all indexes and abstracts on the system or only those of the titles the Library subscribes to?
- is it possible to access titles not purchased through this vendor, and if so, is there a surcharge for this service?

3. Technical issues

- 3.1 System availability: will there be 24 hour access seven days a week? Or is there scheduled downtime on the system?

- 3.2 Is there a server in Australia? Or if not, do they use something like Digital Island so that the response time is reasonable?
- 3.3 Where are the data located - with the aggregator or with the publisher?
- 3.4 Is it feasible to create links between the interface and the Library's web OPAC?
- 3.5 Is it feasible to create links to abstracting and indexing tools, such as *Web of Science*?
- 3.6 Does the interface link to Endnote, the University's preferred bibliographical software?
- 3.7 Is there an SDI facility available?

4. Archiving

The archiving issue is vital for academic libraries. This does not mean that each individual library must maintain an archive, but must be assured of *access* relatively easily in the future, wherever and however the issues are archived. So the questions which need to be asked of the vendors are:

- 4.1 Do they archive? If so, does the Library have access to years it has paid subscriptions for? If the answer to that question is yes, how much is the annual fee for this? Or is access to archived material included in the annual access fee for the interface? Will they migrate the data to ensure continued intellectual access?
- 4.2 If the vendor does not archive, does the Library receive a CD-ROM (or similar) and have to maintain the archive itself? (Not a preferred option.)

5. Document delivery

- 5.1 Is there an option to pay per article for titles not subscribed to? If so, what are the payment mechanisms?
- 5.2 Are there links to commercial document delivery services?
- 5.3 Is it possible to link between the document delivery options and the Library's in house ILL (interlibrary loan) module?

6. Search Interface

The analysis of the vendor interfaces for these aspects are outlined in table 2.

- 6.1 The layout of each screen should be clear and uncluttered. Controlled use of colour should enhance screen clarity. No aspect of the display should be difficult to see.
- 6.2 Content must be available in *de facto* standards like html and pdf.
- 6.3 Instructions should be simple, concise and unambiguous. Any and all commands required from a particular screen must be clearly visible. Instructions for interrupting a task and for exiting gracefully from the database must be clearly visible from each screen.
- 6.4 The database must be arranged logically so that navigation is straightforward.
- 6.5 Terminology, instructions, layout, colours and fonts should be used consistently across search interfaces. Function keys should be used consistently, for example, ESCAPE must always return the user to the previous screen or menu.
- 6.6 Error messages should be comprehensible, specific, constructive, and no more technical than necessary. They must offer useful suggestions for action.
- 6.7 A structured online HELP facility, with table of contents and context-sensitive help available from all screens, is required. Documentation for searching and displaying needs to be available. All features available should be explained fully and clearly.
- 6.8 The search engine should provide both simple and advanced search facilities.
- 6.9 It must allow full Boolean operators (AND NOT OR NEAR) and the ability to do nested Boolean queries (grouping of terms within parentheses to create complex logic). There

should be all four proximity operators: within a field, within a paragraph, within a sentence and within a certain number of characters. It should be possible to specify order and proximity of terms.

- 6.10 The search facility should allow left, right and embedded truncation of both one character and more than one character, with wild card operators. The truncation facility should allow automatic or user-defined truncation. The wild cards for truncation should be supported, following the usual convention: the asterisk (*) for “anything” and the question mark (?) for “one letter”. Both wild cards should be available in left, right and middle truncation.
- 6.11 The user should be able to search across all fields or restrict the search to a single field, e.g., time period, or to a number of designated fields, for example, author, title and abstract. It should permit selection by journal title, issue, and article.
- 6.12 It should permit natural language queries.
- 6.13 It should permit structured queries from a controlled vocabulary.
- 6.14 There should be an online thesaurus and index. Term selection and browsing from the index should be available.
- 6.15 The total search history should be displayed. When a search is complete it should be obvious to the searcher what has happened and why.
- 6.16 It should be possible to modify search results.
- 6.17 The format for display of results should be user defined - it should be possible to sort retrieved records by any field and display in any required format, for example, short or long, by relevance ranking or alphabetical. By relevance ranking here is meant the position of the search term, e.g. in the subject, the title, or the abstract, as well as by how many times the term appears in the record.
- 6.18 Output options must cover output to screen, to printer, to email and to disk.

Conclusion

Once the evaluation period by the Library working group concludes at the end of September 1999, and the results are collated, the group will open the process to a focus group of academic staff and students to ensure a decision which satisfies all major parties. There had been some input from interested academics at the beginning of the trial in early 1998, but interest was not sustained, partly because of the limited range of titles available. In hindsight, the decision to limit the number of titles available to trial may not have been the right decision. At the time, there were not a large number of titles available “free” with print, and the procedures to provide access electronically were time consuming. If the decision were being made now rather than in early 1998, it would quite possibly be different.

A report on the results of the trial and the focus group sessions will be provided at the conference. Weightings were assigned by the working group to each major aspect of the vendor offering to show the relative importance of each in the decision making process. The weightings list forms appendix 3.

It may be that the Library decides not to go with any of these interfaces, with the limited range of titles available so far. Use of the free Ingenta interface, with the Library's usual subscription agents, is a distinct possibility, particularly as more and more publishers are introducing document delivery as an option along with subscriptions to their titles. This option would enable the Library to subscribe to high use, low cost titles, without cutting off access to high cost, low use titles where individual articles may be needed by researchers.

Another option is the use of links from the major abstracting and indexing services direct to the full text of journals to which the Library subscribes. *Web of Science*, for example, already has links to full text journals of the American Institute of Physics, Academic Press, SIAM and Elsevier's ScienceDirect, and is negotiating with HighWire Press. While this does not provide seamless access from one interface, neither does the use of any one of the vendor interfaces.

The appearance of options for full text delivery such as PubMedCentral and Open Archives throws yet another interesting possibility into the ring. The environment is still too fluid for any major decision for an interface to electronic content.

Appendices

1. Table 1 Comparing criteria for vendor interfaces
2. Table 2 Comparison of interfaces
3. Table 3 Weightings assigned to each major aspect of the vendor offerings

Appendix 1. Table 1 Comparing criteria for vendor interfaces

Criterion	Ebsco	ECO	EJN	Swets
1.Administrative issues				
1.1 Authentication	IP and username/password choice	IP and username/password choice, as well as webscript option	IP and username/password choice	IP and username/password choice
1.2 Create groups of users?	Yes	Yes	Yes	Yes
1.3 Management reports	Usage data are supplied. Initial implementation allows authorised users access to usage data for the institution via the web site. Later, the site will offer usage data in additional user defined formats suitable for import into the user's own analysis software as well as for printing out.	The Library would receive two types of activity reports monthly: session information and journal-usage information. Session information includes the number of sessions, session turnaways, and queries processed by the system. Journal usage information includes the number of abstracts and full-text articles viewed in journals to which the Library subscribes. Statistics will also be provided for articles purchased on a pay per article basis, should the Library go down that track. Statistics will be available from the web but will not be user-defined.	Blackwell's are currently reviewing the requirements of the reporting module for EJN, with an aim to improve the functionality provided. Reporting on the new platform will therefore be limited at first release, with improvements to follow.	Regular reports on usage data are provided to the administrator. The library manager can also log on to the administrator version of SwetsNet and see the actual usage data to date.
1.4 Privacy of users	The privacy of individual users and the confidentiality of their use, including stored SDIs, and searches, is fully protected. Ebsco will supply aggregate usage statistics to authorised parties, but no individual usage data will be supplied.	The privacy of the end user is protected as reporting does not show any information about the end user, only usage.	Privacy is under the control of the Library. Groups are given a common username/password, hence the granularity of user statistics is restricted to the group and not the individual.	The privacy of individual users and the confidentiality of their use of the database is respected.
1.5 Assistance with publishers' licences	Ebsco expect to have licences on their web page and will assist in licence negotiation, including working with libraries to gain publisher acceptance of a standard licence meeting the needs of libraries.	OCLC can act as a negotiator for an institution when negotiating the terms and conditions, but this is not their main role. OCLC are in the process of working on a standard set of terms and conditions that would encompass all publishers in the ECO program. This is still in the early stages of development.	Blackwell's are offering to manage electronic licence agreements with publishers, provide support and advice on electronic licence definitions and to store electronic versions of journal licences so that libraries have ready access to them. EJN handles the validation and access to electronic journals for the user community according to the licence provisions indicated by the publisher and eliminates the need for the library to maintain multiple passwords for different publishers and journals. In May 1999 Blackwell's launched a central store of electronic licence information called CLIC Here! (Co-ordinated Licensing Information Collection), which is available free of charge to customers who have journal subscriptions with Blackwell's. This web based service is fully searchable by publisher, and will provide libraries with easy access to information regarding licensing, pricing models, access and ordering details.	Swets offers help by knowing customers' configurations and publishers' requirements. They will mediate with publishers to find a suitable licence.

Criterion	Ebsco	ECO	EJN	Swets
2 Costs	Ebsco charge no fees for Ebsco Online beyond the usual subscription agent fees for journal supply. TOCs and abstracts of all titles on the server are available free. Ebsco does not offer the option of hosting subscriptions to online journals through other subscription agencies.	The access fee entitles subscribers to search the entire ECO database and retrieve citations and tables of contents. Abstracts will be accessible without charge if the publishers provide them. The access fee comprises 2 parts: a database fee and a collection management fee. The database fee is the costs of access to the database by the required number of simultaneous users, e.g. for 3 simultaneous users the cost per annum is \$US810. The collection management fee is \$US35 per journal per annum. There are volume discounts based on the number of journals accessed or for consortia purchases. (There is a CAUL offer which is likely to continue in 2000. This offer eliminates the database fee if enough titles are acquired.) There is no fee for using a different vendor for the subscriptions, as OCLC has only recently ventured into this area and still sees partnerships with traditional vendors as acceptable. Their charges are irrespective of serials subscription agent chosen.	There is no charge for accessing electronic journals through the Blackwell interface when the customer institution has its subscription with Blackwell's. EJN entitles the library to the full text of all journals for which they have a valid subscription with Blackwell's as well as the entire table of contents and abstracts database for all titles on EJN. EJN will host journals subscribed to through other vendors. This incurs a set-up administrative charge of \$A600 and an annual charge of \$A20 per title.	There is a base membership fee for access to SwetsNet of 500 Guilders (371 A\$) per annum. This price doubles if the journal subscription is not handled through Swets. This fee covers the basic usage of the system and includes: <ul style="list-style-type: none"> Administration functions and statistics Browsing of the tables of contents (TOCs) of over 14,000 titles Unlimited number of user IDs 250 TOC alerts 30 SDIs. Access to individual titles for which a full text subscription is held attracts a charge of 5 Guilders per annum (3.75A\$), but the maximum charge, including the base fee of 500 Guilders is 3,000 Guilders (2,229A\$) for 500 titles or above. For full text titles subscribed via SwetsNet the abstracts and TOCs are included. The costs for additional services are: <ul style="list-style-type: none"> TOCs: 18 Guilders (13.38A\$) per title Abstracts: 73 Guilders (54A\$) per title. There are discounts for orders exceeding 250 titles. SDIs: 300 Guilders (223A\$) per 25 SDIs TOC alerts: 300 Guilders (223A\$) per 100 email alerts. There are discounts for bulk purchases of each of these options also.
3. Technical issues				
3.1 System availability	24x7	24x7	The server is down each Monday 8 am to 10 am (UK time)	24x7
3.2 Server in Australia	No, but Ebsco uses Digital Island to ensure speedy response times to Australian libraries. Ebsco will pick up the international telecommunications charges; the Library will be paying only local charges.	The server is in the US. OCLC use Digital Island so that speed of access is not a problem, but the Library will accrue international telecommunications charges.	EJN has one central server in Oxford. Blackwell's claims that the improvements provided by the move of EJN to the new platform have negated the benefits of having mirror sites around the world. Blackwell's are committed to continue to monitor the level of the service provided and will review the need for mirror servers on a regular basis.	While the Swets server is located in the Netherlands, they use Digital Island to improve speed of response and minimise telecommunications charges.
3.3 Location of data	Full text are loaded either on the Ebsco server, or, where publishers disallow this, on publishers' servers, with links to the full text there.	All the journals are loaded on the OCLC server, not linked to from the publishers' home pages.	Full text are loaded either on the EJN or on publishers/ servers, linked seamlessly from EJN.	Full text is held either on servers at Swets or accessed via the SwetsNet gateway on publishers' own servers. TOCs and abstracts are loaded on the Swets server.
3.1 Link to web OPAC	Yes	Yes	Yes	Yes
3.5. Links with A&I tools	Links to EbscoHost. Negotiations taking place with SilverPlatter, Cambridge Scientific Abstracts and other vendors, to be in place by end of 1999.	ECO currently links from some bibliographic databases on FirstSearch only. OCLC also intend to negotiate with ISI to create links between ECO and Web of Science, and then consider other opportunities for linkages.	Links to Healthgate, ISI, Cambridge Scientific Abstracts, SilverPlatter, Dialog, UMI, Wilson.	Cambridge Scientific Abstracts, STN, SilverPlatter and MDL.

Criterion	Ebsco	ECO	EJN	Swets
3.6 Links with Endnote	Ebsco say links with Endnote will probably come with the next update.	At this point no but they are discussing	Since EJN does not currently support Z39.50 it is unlikely that Endnote will work with EJN.	Probably not. Still awaiting answer.
3.7 SDI available	Yes	Coming	Yes	Yes, 30 per account by user (or group), and additional SDIs at a price.
4. Archiving				
4.1 Will they archive?	Yes, <i>in so far as they can make arrangements with the publishers.</i>	Yes. A firm commitment backed up with demonstrated measures. The Library will have continued access to journals it has paid for, with the cost of an access fee.	Negotiating with publishers, but no commitments to permanent archiving yet.	3-5 years' archive.
4.2 Does the Library need to archive?	Yes	No	Yes	Yes
5. Document delivery				
5.1 Links with document delivery options	Ebsco will be offering electronic document delivery options in a future release. Currently there are no arrangements with any particular third party provider	OCLC plans to introduce "pay-per-article" online full-text option for ECO sometime in 2000. The service is expected to be available shortly after the final installation of the New FirstSearch. The pay per article service allows an end user to purchase the article if the library does not have a subscription and retrieve it in the same manner as articles obtained through a journal subscription. That is, they can view, print or email the articles.	They are offering a document delivery option, using British Library and UnCover. Blackwell's are reviewing offering pay-per-view (or transactional purchasing of articles not on subscription) as part of EJN when the move is made to the new platform.	None as yet. Discussing with BLDSC, CISTI, Uncover and INIST. Maybe ISI. Pay per view is planned to be implemented by the end of 1999.
5.2 Links to LIDDAS, the in house ILL management module	No reply as yet.	It will be possible for ECO to link to LIDDAS	There is currently no interface with LIDDAS.	No reply as yet.
6. Search interface (see table 2 for details)				

Appendix 2. Table 2 Search interface evaluation criteria

Criterion	Ebsco	ECO	EJN	Swets
6.1 Layout clear and uncluttered	√	√	√	√
6.2 Content in de facto standards	√	√	√	√
6.3 Instructions clear and unambiguous	√	√	√	√
6.4 Navigation clear	√	√	√	√
6.5 Consistency	√	√	√	√
6.6 Error messages	√	√	√	√
6.7 Help screens	√	√	√	√
6.8 Simple and advanced search options	√	√	√	√
6.9 Boolean operators	√	√	√	√
6.10 Truncation	√	√	√	√
6.11 Search across all fields or limit to one or more fields	√	√	√	√
6.12 Natural language searching	√	√	√	√
6.13 Controlled vocabulary indexing	through EbscoHost (LCSH, MESH etc.)	LCSH	planned as a feature in 2000	no
6.14 Index searching	through EbscoHost links	in FS	x	x
6.15 Search history displayed	√	not yet	?	√
6.16 Can you modify search	No, need to rerun the search	√	?	√
6.17 Sorting of results: by date, by author?	in future releases	by date	by date	relevance ranked
6.18 Output:				
printer	√	√	√	√
email	through EbscoHost	√	√	can be done but is complicated
disk	√	√	√	√

Appendix 3. Table 3. Weightings for aspects of electronic serials vendors' offerings

Aspect	Weighting
1. Administrative aspects (e.g. assistance with licences,)	5
2. Costs	10
3. Technical issues	35
4. Archiving	20
5. Links with document delivery	10
6. Search Interface	20