The Coming of Full-Service Access

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SUMMARY. This paper provides criteria for document delivery vendor selection and substantive data to support an innovative realignment of budget allocations, staffing, and services to better meet the expectations and needs of the academic library user. A review of two projects incorporating document delivery into ready reference and acquisitions is followed by an extensive analysis of four major document delivery vendors as part of a research project funded by The University of Montana Faculty Grant Program and the Mansfield Library. Criteria to assess four commercial document delivery vendors are analyzed based on their use by faculty representing three academic departments. The findings of all three projects support the integration of document delivery services within a framework of integrated collection development, technical services and public services. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]

INTRODUCTION

Opportunities abound and capabilities are evolving daily to provide unlimited horizons in which libraries can offer new and expanded services to an ever-growing demand for documents and full-service delivery. The first wave of electronic databases provided unprecedented access to information. This wave of access has been followed by an
ever-growing expectation and demand for instant retrieval of complete copies of documents (Fitzsimmons 1996). Even more compelling is that the capability exists to fulfill these expectations and demands with new electronic services that merge libraries, education, and business within the larger information industry (Mosher 1995, Stockton and Whittaker 1995).

Innovative projects combined with innovative funding and partnerships must be piloted to test these new areas of service. At The University of Montana Mansfield Library, three pilot projects have been underway to explore new models of information retrieval, collection development, and serials access. Document delivery was implemented as a ready reference service in support of undergraduate research. Second, academic departments were able to use a portion of their library acquisition funding for document delivery beginning with the 1995/96 academic year. Third, a grant was received for the 1996/97 academic year to evaluate document delivery vendors as an alternative resource for serials acquisitions.

This paper provides a review of the two initial projects and an extensive analysis of four major document delivery vendors as part of the research funded by The University of Montana Faculty grant program and by the Mansfield Library.

BACKGROUND

Beginning spring semester 1994, three new processes were implemented simultaneously. First, three full-text databases—IAC Expanded Academic Index, IAC Business Index, and Newsbank—were incorporated into LaserNet, the electronic database network. Second, all undergraduate patrons with interlibrary loan requests were referred to the reference desk. Third, document delivery access to The UnCover Company (UnCover) was implemented as a ready reference service.

The three full-text databases provided a sound base of inter-disciplinary access to academic periodical literature and current event information. Full-text availability increased the library’s current periodical holdings by 463 titles and newspaper holdings by 79 newspapers and 6 wire services. Currently, newspaper access has expanded to include 500 titles. These databases operate as a part of the electronic database network on 30 stations throughout the library. The IAC databases are also available through remote access.
Undergraduate referrals to the reference desk combined with mediated document delivery as a reference service provides a successful example of the use of technology to provide a new method of information delivery in a cost-effective manner (Samson and Brown 1996). The benefits to our library have been threefold. First, undergraduate patron interlibrary loan requests for periodical literature have been significantly reduced by this service, dropping from 21% of all interlibrary loan requests received in fiscal year 1993 to 11% in fiscal year 1995. As a result, interlibrary loan personnel are able to focus their services on graduate students and faculty, the original user group for this service.

Second, undergraduate reference service has a value added dimension. Because of the referral from interlibrary loan, students who might not previously have requested reference assistance are now able to receive direct support for their assignments. In addition, periodical holdings can be supplemented in a prompt, individualized method to students who frequently are working on short assignment deadlines (Waltner 1997).

Third, new and innovative technological access to information has been successfully incorporated into everyday reference service. Without increasing staff, a cost-effective reference service has been implemented by changing to a new model of information access. As librarians and students have become comfortable with the process, the service has proven more and more successful.

Mansfield Library is also exploring document delivery as part of collection development to improve access to current journal literature. Based on a formula, academic departments at The University of Montana receive annual allocations for library monograph acquisitions. Beginning with the academic year 1995/96, departments were able to use a portion of their annual acquisition funds for the purchase of journal documents using UnCover, the vendor chosen for this program. Five departments participated, requesting a total of 196 articles from 123 separate journals. Expenditures for the documents totaled $2,634.00. Subscription costs for these same titles would have been $67,500 for one year, establishing cost savings of 96.1%. These same departments were anxious to continue this access for another year and further expansion of this model is being explored in conjunction with a current serials cut of 12%.
Information access is essential to academic faculty for both teaching and research. Faced with limited funding, the Montana Commissioner of Higher Education recommended that new technologies be utilized as a way of reallocating monies and redefining processes (Crofts, pers. comm.). An alliance between the library and commercial document delivery services offers the potential to accomplish these goals (Jaramillo and Lamborn 1996). A review of the literature revealed several evaluative studies of document delivery services (Truesdell 1994, Walters 1995, Mancini 1996), particularly as a comparison to interlibrary loan services (Kurosman and Durniak 1994, Jackson 1995, Waltner 1997). In fact, Kohl (1995) reports that The University of Cincinnati reduced annual journal costs by a net $180,000 while providing access to a much larger segment of academic journal publishing through CARL document delivery. None of these studies, however, evaluate the major document delivery services currently available to provide comparative data necessary to establish a standard set of criteria for expanding a new paradigm in the field of information management (Hong and Wang 1997, Marcinko 1997).

The state-of-the-art electronic databases network at The University of Montana Mansfield Library has provided our faculty and students with an increasing awareness of the universe of journal articles. Our currently configured network was accessed 36,542 times during autumn semester 1993 and 52,084 times during autumn semester 1994, an increase of 70.1% in one year. During the same time, interlibrary loan transactions also increased from 11,874 during autumn semester 1993 to 13,181 during autumn semester 1994, an increase of 11.0%. This period of growth in user access came at a time when a combination of budget restrictions and escalating serial subscription costs had required a freeze on the purchase of new journals with a serials cut expected. These data reflect trends at academic libraries nationwide. Thus, an exploration of a new paradigm of information access and retrieval was designed using faculty to serve as a model for analysis.

**Objectives**

This study establishes comparative criteria for document delivery services in order to evaluate their use as a mechanism to reduce the
reliance on the traditional print journal subscriptions. Specifically, it was designed to: (1) create a profile of four major commercial document delivery services using standard criteria and establish their applicability to three focus areas—humanities, sciences, and social sciences; (2) assess the use of these services by faculty from the three focus areas using standard criteria; (3) determine the level of satisfaction by faculty to this method of access; and (4) evaluate the appropriateness of document delivery as an alternative or supplemental model of serial collection development.

Methodology

Three academic departments—English, Geology, and Management—representing humanities, sciences, and social sciences, were selected to participate in document delivery consumer trials. Four major document delivery services—EBSCOdoc, Faxon Finder, FirstSearch, and UnCover—were analyzed using specific criteria to determine two document delivery services for use by each department.

The participating departments were allocated $2,000 for each delivery service to be used for accessing journal literature. Thus, faculty in each department could access each of two services to an amount not to exceed $2,000 per service, a departmental total of $4,000. The project leader provided training as needed to initiate the trials and assistance throughout the trial period. Document delivery accounts were available from July 1 to December 31, 1996.

At the end of the trial period, surveys were distributed to departmental faculty to evaluate each document delivery service as a consumer product. A scale of 1-5 was used to measure the response of each participating departmental faculty member.

Results

A profile of the commercial services provided the basic selection criteria to determine which services should be used by each department (Table 1). These criteria must be reviewed frequently since vendors constantly change their interfaces, contents, and services. Three of the vendors—EBSCOdoc, Faxon Finder, and UnCover—have similar services and provide direct comparison. Essentially, an account with one of these services requires an annual fee which provides access to
their collection of periodical articles. UnCover is unique in providing complete access to its database free of charge; an account provides a lower fee per article requested. Access to complete citations from EBSCOdoc and Faxon Finder requires an account. All three can be searched by name or title keywords. However, none are designed to be searchable databases similar to databases provided by companies such as IAC, SilverPlatter, or Wilson. These document delivery vendors focus their service on providing prompt delivery of documents—not on searching for information. Table of contents access is available free from UnCover and at a cost from EBSCOdoc. Individual search profiles of particular periodical tables of contents and word searches are also provided at additional cost from all four vendors.

FirstSearch has a unique structure. It provides access to a wide range of databases that are designed to provide access to information. Document delivery services are linked to its databases to provide direct ordering. For example, after a search is completed in a FirstSearch database, supply information is provided for each article and the user can order from a variety of document delivery services. It is necessary to have an account with this service as well.

The main criteria used in the selection process was the percentage

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TABLE 1. Profile of commercial document delivery services. Information provided by direct contact with the companies.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>EBSCOdoc</th>
<th>Faxon Finder</th>
<th>FirstSearch</th>
<th>UnCoverWeb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual fee</td>
<td>$900</td>
<td>$1,050</td>
<td>$5,500</td>
<td>$900</td>
</tr>
<tr>
<td>Cost per document + copyright</td>
<td>$13.50 (50p)</td>
<td>$11.00 (20p)</td>
<td>$2.75</td>
<td>$6.50</td>
</tr>
<tr>
<td>Years of coverage</td>
<td>Variable</td>
<td>1990-</td>
<td>Variable</td>
<td>1989-</td>
</tr>
<tr>
<td>Table of Contents service</td>
<td>$3.50/unit</td>
<td>NA</td>
<td>NA</td>
<td>free</td>
</tr>
<tr>
<td>Individual Profile Services</td>
<td>$35.00/profile</td>
<td>$2.00/profile</td>
<td>Alert</td>
<td>$20/profile</td>
</tr>
<tr>
<td>Number of titles</td>
<td>28,000</td>
<td>11,500</td>
<td>13,374</td>
<td>17,000</td>
</tr>
<tr>
<td>Humanities titles</td>
<td>&lt;20% &amp; soc sci</td>
<td>18%</td>
<td>14%</td>
<td>9%</td>
</tr>
<tr>
<td>Science titles</td>
<td>70%</td>
<td>55%</td>
<td>61%</td>
<td>51%</td>
</tr>
<tr>
<td>Social Science titles</td>
<td>&lt;20% &amp; hum</td>
<td>23%</td>
<td>25%</td>
<td>40%</td>
</tr>
</tbody>
</table>

1UnCover Complete provides documents prior to 1989.
2Personal communication with vendor.
of coverage of relevant journal titles to each focus area. Accounts with Faxon Finder and FirstSearch were established for English, EBSCO-doc and Faxon Finder for Geology, and FirstSearch and UnCover for Management. Access to these accounts was made available from July 1 to December 31, 1996.

Table 2 tabulates use of the four document delivery services by each department. UnCover received the most use of any of the services; 116 articles were ordered from 53 periodicals. It was also used by the most participatory department; 20.7% of the Management faculty used the service. However, First Search received no use by either the English or Management departments. Its unique structure and the need for additional accounts with document delivery vendors made its use more complex. Further analysis of faculty responses at the end of the consumer trial provide additional information on its lack of use. EBSCO-doc was used to access 84 articles from 48 journals and Faxon Finder for 17 articles from 10 journals. Significantly, cost savings for document delivery versus comparable subscriptions ranged from 43.4% for the receipt of 3 articles from Faxon Finder to 95.0% for the delivery of 98 articles from EBSCOdoc. Total costs savings for all articles from all vendors were 93.8% over comparable subscriptions.

Use of the vendors provided a means of comparing both fill rates (Table 3) and costs (Table 4). EBSCOdoc provided the highest fill rate at 97.6% and the highest cost per article at an average of $18.76 per article. Fill rates for Faxon Finder (88.2%) and UnCover (87.1%) were similar as were their average costs per article at $15.73 and $15.79.

To determine the level of satisfaction of the faculty to this model of periodical access, surveys were distributed at the end of the trial period to all faculty eligible to participate. Response to the survey included 25.0% of English department faculty, 56.3% of Geology faculty, and 62.1% of Management faculty. The primary purpose faculty cited for using document delivery during the trial period was for academic research, followed by teaching and academic development; personal interest was selected least often (Table 5). For those faculty who did not participate in the trial, lack of time was selected most frequently as the reason; lack of proper equipment was the next most common reason; and no interest or need and a preference for paper indexes were selected least often.

Participating faculty were asked to assess six specific criteria to analyze each document delivery service (Table 6). Comparing all cri-
<table>
<thead>
<tr>
<th>Criteria</th>
<th>English Department</th>
<th>Geology Department</th>
<th>Management Dept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Total Faculty</td>
<td>40</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>Number of Participating Faculty</td>
<td>1 (2.5%)</td>
<td>5 (31.3%)</td>
<td>6 (20.7%)</td>
</tr>
<tr>
<td>Vendor Selected for Departments</td>
<td>Faxon Finder</td>
<td>First Search</td>
<td>EBSCOCdoc</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Faxon Finder</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>First Search</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UnCover</td>
</tr>
<tr>
<td>Number of Articles</td>
<td>3</td>
<td>0</td>
<td>84</td>
</tr>
<tr>
<td>Number of Journals</td>
<td>3</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>Document Delivery Costs</td>
<td>$17.00</td>
<td>$0.00</td>
<td>$1,575.70</td>
</tr>
<tr>
<td>Subscription Costs</td>
<td>$30.00</td>
<td>$27,498.00</td>
<td>$8,605.00</td>
</tr>
<tr>
<td>Cost Savings</td>
<td>43.4%</td>
<td>94.3%</td>
<td>97.5%</td>
</tr>
</tbody>
</table>

TABLE 2. Use of four document delivery services by faculty from three academic departments, July 1 to December 31, 1997.
TABLE 3. Fill rates of commercial document delivery vendors used by faculty July 1 to December 31, 1997.

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Documents Ordered</th>
<th>Documents Received</th>
<th>Unfilled Requests</th>
<th>Fill Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBSCOdoc</td>
<td>83</td>
<td>81</td>
<td>2</td>
<td>97.6%</td>
</tr>
<tr>
<td>EconFinder</td>
<td>17</td>
<td>15</td>
<td>2</td>
<td>88.2%</td>
</tr>
<tr>
<td>UnCover</td>
<td>116</td>
<td>101</td>
<td>15</td>
<td>87.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>216</strong></td>
<td><strong>197</strong></td>
<td><strong>19</strong></td>
<td><strong>91.2%</strong></td>
</tr>
</tbody>
</table>

TABLE 4. Article and subscription costs of commercial document delivery vendors.

<table>
<thead>
<tr>
<th></th>
<th>EBSCOdoc</th>
<th>Faxon Finder</th>
<th>UnCover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>$18.76</td>
<td>$15.73</td>
<td>$15.79</td>
</tr>
<tr>
<td>High</td>
<td>$49.50</td>
<td>$18.00</td>
<td>$23.50</td>
</tr>
<tr>
<td>Low</td>
<td>$11.20</td>
<td>$13.00</td>
<td>$8.50</td>
</tr>
<tr>
<td>Annual Subscription</td>
<td>$900.00</td>
<td>$1,050.00</td>
<td>$900.00</td>
</tr>
</tbody>
</table>

TABLE 5. Analysis of purposes of faculty use of document delivery. Median value presented where 1 is low and 5 is high; number of respondents in parentheses ( ).

<table>
<thead>
<tr>
<th>Academic Departments</th>
<th>English</th>
<th>Geology</th>
<th>Management</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic research</td>
<td>5 (1)</td>
<td>5 (5)</td>
<td>4 (8)</td>
<td>5 (14)</td>
</tr>
<tr>
<td>Teaching and curriculum</td>
<td>2 (1)</td>
<td>4 (5)</td>
<td>3.5 (8)</td>
<td>4 (14)</td>
</tr>
<tr>
<td>Academic development</td>
<td>4 (1)</td>
<td>4.5 (4)</td>
<td>4 (7)</td>
<td>4 (12)</td>
</tr>
<tr>
<td>Personal interest</td>
<td>5 (1)</td>
<td>2 (3)</td>
<td>3 (5)</td>
<td>3 (9)</td>
</tr>
</tbody>
</table>

teria, UnCover received the highest ranking in each criteria. Of the 6 criteria, UnCover received a median value of 5, 4.5, and 4 in each of two criteria. EBSCOdoc and FirstSearch received similar series of rankings although FirstSearch was not ranked for two of the criteria. The unique configuration of FirstSearch provides access to numerous databases, some of which are linked to document delivery vendors.
TABLE 6. Analysis of commercial document delivery vendors used by faculty, July 1 to December 31, 1996. Median value presented where 1 is low and 5 is high; number of respondents in ( ).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>EBSCOdoc</th>
<th>Faxon Finder</th>
<th>First Search</th>
<th>UnCover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of computer interface</td>
<td>3 (4)</td>
<td>1.5 (4)</td>
<td>3.5 (6)</td>
<td>4.5 (8)</td>
</tr>
<tr>
<td>Success of searches</td>
<td>3 (4)</td>
<td>1.5 (4)</td>
<td>3.5 (6)</td>
<td>4 (7)</td>
</tr>
<tr>
<td>Adequate training</td>
<td>3 (3)</td>
<td>3 (3)</td>
<td>4 (6)</td>
<td>4.5 (8)</td>
</tr>
<tr>
<td>Speed of delivery of articles</td>
<td>4 (4)</td>
<td>4 (2)</td>
<td>NA</td>
<td>5 (7)</td>
</tr>
<tr>
<td>Quality of articles</td>
<td>3.5 (4)</td>
<td>3 (2)</td>
<td>NA</td>
<td>4 (7)</td>
</tr>
<tr>
<td>Relevance of database to field</td>
<td>3.5 (4)</td>
<td>2 (4)</td>
<td>3.5 (6)</td>
<td>5 (7)</td>
</tr>
</tbody>
</table>

However, subscriptions to these vendors were not made available for the trial period. Thus, use of FirstSearch resulted in a standard interlibrary loan request, negating direct comparison with the three other vendors on two of the assessment criteria—speed of delivery of articles and quality of articles. Faxon Finder received the lowest rankings overall although it had the same ranking as EBSCOdoc for speed of delivery of articles and adequate training. Faxon Finder received a rank of 4 in one criteria, 3 in two criteria, 2 in 1 criteria, and 1.5 in 2 criteria.

To evaluate the appropriateness of document delivery as an alternative or supplemental model of serial collection development, faculty were asked to assess seven statements about periodical access and traditional subscriptions (Table 7). Faculty in all departments provided high median scores for the effectiveness of document delivery as a method of acquisition for periodical literature in support of teaching and research. Statements in support of electronic access, document delivery, speed of access and desktop access received median scores of 5. The use of faxed or e-mail articles and the acquisition of more expensive literature through document delivery received scores of 4. The lowest ranking was a 3 for the statement supporting the traditional model of periodical ownership.

CONCLUSIONS

Three major conclusions can be drawn from this study. First, dramatic savings were realized during the trial period with the use of
TABLE 7. Analysis of faculty response to survey requesting response to periodical access options.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English</td>
</tr>
<tr>
<td>Electronic access to periodical citations is an effective method of acquisition.</td>
<td>4 (1)</td>
</tr>
<tr>
<td>Access to databases and document delivery provide good support for teaching and research.</td>
<td>5 (1)</td>
</tr>
<tr>
<td>Speed of access to articles is beneficial to research and/or teaching needs.</td>
<td>4 (1)</td>
</tr>
<tr>
<td>Desktop access to articles is beneficial to research and/or teaching needs.</td>
<td>5 (1)</td>
</tr>
<tr>
<td>Faxed or e-mail articles are adequate for research and/or teaching needs.</td>
<td>4 (1)</td>
</tr>
<tr>
<td>Document delivery is a good alternative for periodicals that cost &gt;$300/yr.</td>
<td>4 (1)</td>
</tr>
<tr>
<td>I prefer the traditional model of periodical.</td>
<td>2 (1)</td>
</tr>
</tbody>
</table>

Document delivery over the purchase of traditional subscriptions (savings ranged from 43.4% to 97.5%). The savings aspect is further substantiated by the first two pilot projects implemented by Mansfield Library. During the four year implementation of the ready reference project, only two titles have been identified where the number of articles ordered exceeded the annual subscription costs. Overall savings in this project are 97.7%. Similarly, the use of acquisition funds by academic departments for document delivery provided a 96.1% cost savings over comparable subscriptions.

Second, the standard evaluation criteria established in this paper can be used as a base of information to dovetail document delivery services within a framework of integrated collection development, technical services and public services (Young 1994). Redefining the role of serials acquisitions and processing within the broader scope of serials access services provides the opportunity to realign budgets and staffing based on emerging technologies and user expectations. Cost savings could be reallocated to implement a rapid document delivery system designed to integrate reference, interlibrary loan, serials acquisition and processing, and collection development (Khalil 1993, Hewison et al. 1995, Ferguson 1996). Again, these findings are sup-
ported by the results of the previous two pilot projects which integrated document delivery into a value-added reference service for undergraduates and provided faculty with desktop access to journal literature.

Third, faculty are receptive and anxious to participate in an effective method of document delivery as an alternative or supplemental model of serial collection development (Zastrow 1996). Participating faculty strongly endorsed this model of access. Even those faculty who were unable to participate largely were limited by time or equipment rather than lack of interest in the project. Working directly with the faculty to set up the accounts and provide training brought about rewarding dialogue about new access to information. The most significant part of the project was collaboration with the faculty which is central to the mission of the academic library. Although criteria and assessment of vendors are critical to decision making, the value of faculty collaboration is the single most important aspect of this study. Faculty remain the primary user of the academic library both through their own research and teaching needs and as the motivators of student use of the library.

The results of this study provide a base of criteria for document delivery vendor selection and substantive data to support an innovative realignment of budget allocations, staffing, and services to better meet the expectations and needs of the academic library user.

REFERENCES