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## Going online: academic libraries and the move from print to electronic journals

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### Abstract

Academic libraries are increasing the number of electronic journals (e-journals) in their collections. While patrons enjoy access to articles with the click of a button, librarians face the complex process of implementing and maintaining e-journal subscriptions. This study discusses the results of a survey of academic librarians and details the problems and concerns that arise during an e-journal project, the issues that persist throughout e-journal acquisition and management, and the phases in which these problems arise. The study found that librarians considering a switch to electronic access must be prepared to face continuing problems with access, archiving, cost, staffing/workflow, and technology. The study also indicates a lack of consensus between the different levels of administration regarding problems and concerns with e-journal management, suggesting a need for better administrative communication.

### Introduction

Academic libraries have embraced electronic journals (e-journals) because of their accessibility and convenience. Patrons can instantly retrieve numerous full-text documents from a database search and they appreciate the convenience of electronic access. Yet electronic access does not come without complications. According to Dygert (2005-2006), "The decision to move from print to online-only journals is fraught with uncertainty" (p. 22). Libraries experience problems with e-journal collections that they may or may not have been able to anticipate. Problems do not end once e-journals are added to the collection. When introducing the electronic format to their collections, what issues must academic librarians address, what problems do they face, and when do these issues and problems arise?

A review of the literature provides an overview of some of these issues. American University Library spent several years preparing for electronic-only journal access by studying the usage statistics of their bound periodicals collection, developing licensing guidelines for electronic resources, and exploring

### Contents

1. Abstract
2. Introduction
3. Method
4. Results
5. Table 1
6. Discussion
7. References
8. Appendix
9. Author's Bio

products such as link resolvers, which connect users to content in different e-resources (Dygert, 2005-2006). Though other libraries may not follow the American University model and devote as much time to researching and preparing for this new format, Dygert's report addresses important concerns about preservation and future access that are important for all libraries to consider. Cole (2005) also identified missing archives content as one of several "annoying practices" (p. 142) of publishers that makes electronic resource management difficult. In addition, passwords that change regularly (or cannot be chosen by the librarian), title changes, missing URLs, poor customer service, and requiring a subscription number from a print journal mailing label to register for electronic access all contribute to a less than ideal experience.

Content stability is a major concern in e-journal management. Sprague and Chambers (2000) studied the dependability of full-text databases and the consistency of content between print and electronic versions. The study revealed that nearly half (45%) of titles available in full text were delayed: that is, the latest print issue was not available online. In terms of stability, 164 unique titles were added over the six-month study and 51 unique titles were lost. As Cole (2005) reported, publishers do not always inform libraries that access to a title has been removed.

Sprague and Chambers (2000) found that continued monitoring of coverage would be necessary if the library were to rely on full-text services for access, which adds to staff workload (p. 30). E-journal registration and maintenance require staff to learn new, professional-level skills (Kara & Stamison, 2004; Li & Kopper, 2005-2006; Rupp-Serrano, Robbins, & Cain, 2002). Support staff can expect their workload to shift "from step-by-step processes to more dynamic, complex tasks" (Li & Kopper, 2005-2006, p. 20) such as information gathering, troubleshooting for online access, and coordination and cooperation with other units for e-resource management. Often, "more time is spent on maintaining the current e-journal collection than adding new titles to it ... flexibility is essential because [e-journal] management does not consistently follow a sequential process that is easily documented" (Kara & Stamison, 2004, p. 310).

Some libraries have determined that acquisitions and serials departments are best equipped to share the responsibilities associated with implementing and managing e-journals; acquisitions staff handle the purchasing of e-journals while e-journal procedures are managed by the serials staff (Howell, Wilder, & Perrotta, 1997; Li & Kopper, 2005-2006). While serials staff encounter many of the same issues associated with print subscriptions as they do with their electronic counterparts, new issues exist that are unique to electronic access, including changes in pricing (especially as print subscriptions are no longer a guarantee of free online access), journal cancellations, and the changing content of package deals (Kara & Stamison, 2004; Sprague & Chambers, 2000).

Libraries that go online may cancel their print subscriptions, although some have chosen to retain print titles "as a safety net" (Rupp-Serrano et al., 2002, p. 369). Subscription costs are rising, forcing some libraries to choose between the two formats. Potential criteria for canceling print subscriptions include licensing concerns, electronic providers, local politics (e.g., consortia, faculty, user and institutional preferences), publication structure, technological considerations, and local resources, such as cost, space and staffing limitations (Rupp-Serrano et al., 2002, pp. 372-377). Li and Kopper (2005-2006) reported that the University of California&em;Davis libraries thought of print journals as duplicates when electronic access was available, and chose to cancel the print subscriptions.

Although issues related to e-journal implementation and management are well documented in the literature, the tendency to focus on each library's unique circumstances and individual characteristics may not prove useful for academic libraries that have yet to undertake an e-journal project. It would be more practical, then, to identify common problems and concerns of which an academic library should be aware. This can be accomplished by comparing the experiences of different libraries to identify these issues and to pinpoint when they occur during e-journal implementation and management.

## Method

Staff members at three academic libraries were asked to participate in a survey about their experiences with e-journal selection and management of their libraries' e-journal collections. Participants received an e-mail message describing the project, which contained a link to the confidential, online survey (see Appendix). The messages were initially distributed to the library directors, who were asked to forward the message to the appropriate staff members involved in the process (primarily in acquisitions and serials). At times, it was not possible to contact the director. At one library, a staff member offered to distribute it to her colleagues, while a staff member at another library supplied the names and e-mail addresses of his colleagues.

The survey consisted of 11 open-ended questions encompassing several phases of e-journal implementation: the time prior to the library's introduction of e-journals, the vendor selection process; the registration process, the initial introduction of e-journals, the cancellation of print subscriptions, current matters, and plans for the future. Participants were asked to comment on problems and concerns encountered during these phases. At the end of the survey, participants had the opportunity to indicate a job title.

Survey results were downloaded from the survey host site (SurveyMonkey: <http://www.surveymonkey.com>) in an Excel spreadsheet. Responses were compared on a question-by-question basis to identify points during the project when specific problems and concerns arose. Individual surveys were studied to determine which issues persisted throughout e-journal implementation and management. The surveys of people with similar job titles were assessed as a group. Topics mentioned by participants were compared to those found in the literature review.

## Results

Five people completed the survey. Respondents reported that prior to introducing e-journals, their primary concerns included issues of archiving, access, and technology. Publicity and impact on staff workflow were less frequently mentioned concerns.

When asked about the process of choosing vendors and services, participants listed concerns about content reliability, stability, and access, as well as services provided by the vendors and the ease with which these services would integrate into the existing system. Cost was mentioned by only one participant (20%) as a concern.

The registration process also raised concerns about access. Participants specifically addressed technological issues, such as Internet Protocol (IP) authentication versus password access, and content-related problems that occur when publishers sell or change the access to some titles. Two participants (40%) responded "Don't know" and "I defer to acquisitions folks on this."

Participants were asked about the problems and concerns that arose after e-journals were added to their collections. Stability was again raised as an issue: participants were concerned about retaining access to archives and titles that were part of packages. Most participants (60%) mentioned their concerns about cost increases after e-journals were added. Other concerns involved staffing, access for remote users, and maintaining accurate records and links.

All participants reported that their libraries canceled some print subscriptions because the titles were available to their patrons electronically. Problems related to this process included workload increases (updating catalog records to include the URL, handling print materials that continued to arrive after cancellation), access (titles that were "dropped from a database," leaving the library without access), and complaints from faculty members who were uncomfortable with electronic-only access or otherwise preferred print versions.

Most respondents (60%) mentioned that access remains a problem, and one participant expressed concerns about electronic resource management. Archiving, an aspect of access, was also mentioned, as well as rights (e.g., what can be sent through ILL) and licensing for resources.

When asked to identify problems the library did not anticipate, respondents listed issues related to technology and support. One participant mentioned a proxy server that needed to be replaced; another remarked that the “lack of systems support prevents us from fully utilizing link resolvers and federated searching;” and another commented that the complexity “of journal registration was unanticipated.”

The e-journal collections at the participants’ libraries ranged from under 10,000 to over 20,000 unique titles, and all participants mentioned that their libraries plan to expand their collections. Some indicated that their periodicals collections would one day be almost entirely online. Common concerns for the future were journal reliability and availability of archives, as well as funding, staffing issues, in-library use, and the ability to conduct accurate usage studies of e-journals.

Most respondents (60%) identified themselves as directors. As a group, directors identified fewer problems and concerns than the other participants, and their concerns were often different from those in other professional positions. Two of the directors and one other respondent declined to answer some questions, stating that they were not involved with the phase in question.

The survey identified problems and concerns that develop during e-journal implementation and management, the specific phases at which they appeared, and the problems that persisted throughout the process. Many of the issues that occurred during the selection and implementation of e-journal collections remained even after the resources were added. As shown in **Table 1**, the issues mentioned most frequently by survey participants were access, archiving, and staffing/workflow. These concerns appeared before e-journals were added to the libraries’ collections, remain current issues, and top the list of anticipated issues in the future.

**Table 1**

Common Problems and Concerns With E-journal Implementation and Management and the Phases in Which They Arise					
Phases	Problems and concerns				
Before implementation	access	archiving		staffing/ workflow	technology
Vendor selection	access		cost		technology
Registration process	access				technology
Journal added to collection	access	archiving	cost	staffing/ workflow	

Print cancellation	access			staffing/ workflow	
Current issues	access	archiving			

Access was the most frequently named concern, and was mentioned in responses to all seven of the questions in which participants were asked to list specific problems and concerns. Most respondents (80%) specifically used the word access, and every participant mentioned some form of access, such as reliability, stability, and technological issues. At the early stages of e-journal selection, libraries addressed access by comparing vendors while shopping for resources. If not addressed at the vendor selection phase, the problem of IP authentication versus password access to journals arose during the registration process, creating more work in an already complicated phase. IP authentication was the preferred method of access for libraries, as it more easily controls access. One concern when canceling print subscriptions was that titles may be removed from the database by the vendor or publisher, leaving the library with no access to the title. Respondents anticipated that this problem would continue to occur in the future.

Archive access was mentioned frequently in the survey, particularly as a current issue and as a concern that libraries expect will continue in the future. Libraries took archiving into consideration early in the process when they addressed licensing issues. Despite licensing agreements, a journal's archive may disappear when a title is sold to another publisher.

Cost was a consideration when selecting vendor packages. Participants noted that as subscription rates constantly change libraries may be forced to switch from print to electronic access, or, if they have both formats, to cancel their print subscriptions. Significant increases in subscription rates were considered a problem that will continue in the future as library funding may not allow for such expenses.

Staff training, redefining job descriptions, and changing workflows were not always addressed at the beginning of the e-journal implementation process. The process of managing e-resources is new and complex. The only participant who mentioned staffing as an early concern noted that the "impact [of e-journal management] on staffing remains an open question."

Technology impacts many aspects of e-journal management, and many of the participants' unanticipated problems were associated with technology. Libraries are exploring ways that technology can make e-journals easier to access, such as implementing federated searching and link resolver products. Libraries must also plan for the maintenance of their own hardware and software.

## Discussion

The results of the survey show that librarians confirmed the concerns reported in the literature. Archiving was an important consideration while selecting vendors and services (Cole, 2005; Dygert, 2005-2006). Participants also expressed concern that publishers and vendors removing access to titles would continue to be a problem in the future (Kara & Stamison, 2004; Rupp-Serrano et al., 2002; Sprague & Chambers, 2000). Rising costs forced libraries to cancel print subscriptions (Li & Kopper, 2005-2006; Rupp-Serrano et al., 2002). Issues relating to staffing changes and new workflows were mentioned several times in the survey results (Li & Kopper, 2005-2006; Kara & Stamison, 2004; Rupp-Serrano et al., 2002). Participants also pointed out the importance of committing to ongoing maintenance and upgrades of the hardware and software that support e-journal access (Rupp-Serrano et al., 2002).

Respondents identified five primary areas of concern: access, archiving, cost, staffing/workflow, and

technology. The survey further indicated the phases in which these concerns arise; this information can help libraries yet to undertake e-journal projects to anticipate these issues and create a plan to address them.

There are several potential solutions to the issues of access and archives. Libraries may seek out vendors and products that address the access and technology problems presented here. Kara and Stamison (2004) further advise librarians to talk to subscription agents and explain what their libraries need in an effort to work towards more coverage and better service. There may be advantages in joining a consortium that shares e-resources. Libraries should also support initiatives like the Directory of Open Access Journals (DOAJ), which provides free, full-text access to thousands of articles on their website (<http://www.doaj.org>), and by participating in LOCKSS (Lots of Copies Keeps Stuff Safe; <http://www.lockss.org>), a world-wide open source article archiving initiative (Dygert, 2005-2006).

Cost was not reported as one of the initial concerns. However, it is clearly a factor in the decision to adopt electronic journals as much as it is a determinant in the type of access. Prices of print and electronic journals increase annually, and the cost concerns that arise later in the e-journal project could be easier to address if rising subscription rates are accepted as an inevitable fact.

Though mentioned infrequently by participants, the concerns about publicizing e-journal collections and faculty discomfort with the format are important issues related to the success of an e-journal collection. These concerns would be best addressed by reference librarians, who can provide instruction (such as online tutorials and bibliographic instruction classes) to students and faculty. Anxiety may lead faculty members to avoid the use of electronic resources in their courses. Just as faculty should seek to provide bibliographic instruction to their classes, reference librarians must be willing to reach out to faculty members and offer such instruction. In addition, because reference librarians are more likely to hear about access problems directly from patrons, open communication between reference staff and those responsible for e-journal management and troubleshooting should be encouraged.

Participants also voiced the importance of communication between departments. Though the bulk of the work may fall to acquisitions and serials staff, electronic journals also impact other library departments. As indicated in the survey responses, interlibrary loan, collection development, cataloging, and technology/systems support departments are all involved in work related to e-journals. Communication between departments is important during the planning stages and throughout e-journal management in order to ensure a smooth transition and ample support for patrons.

The survey showed that responses differed between those who identified themselves as directors and those who indicated a different job title. Directors were less likely to identify problems or knowledge of any problems during a given phase, indicating their lack of direct involvement in many aspects of e-journal management. The non-directors reported several different problems and concerns in those same categories, demonstrating that there is a difference in the awareness and perception of problems in the e-journal management process between different levels of administration. This indicates a need for improved communication between directors and their staff. It is crucial that librarians have advocates who are in a position to allocate funding, create or change policy, and otherwise help make e-journals accessible to patrons.

A library director must approach the e-journal project with an understanding of the experiences of other libraries that have gone before. The director should also be attentive to the progress of the project and the changing needs of his or her staff. In turn, library staff members are responsible for keeping the director informed of their progress. The director should encourage and facilitate communication between all departments so all staff members involved are aware of obstacles that might inhibit progress, as well as initiatives that would aid the project.

A key to successful e-journal management is proper staffing and proper training. Library directors and department heads need to support staff members by recognizing the changes to their roles, providing and encouraging training opportunities, and addressing staffing and workflow needs. During their shift to

online-only subscriptions, Dygert (2005-2006) and her colleagues discovered that their existing staff could not manage the new workload. The creation of a new position in their department solved the problem, and other libraries may also find it necessary to hire additional staff (p. 24).

After viewing the survey results, it is clear that conducting a wider study could reveal other areas of concern. Having identified primary areas of concern, a follow-up survey focusing on these topics would identify the issues in more detail. This would provide a more vivid look at e-journal implementation and management.

This study draws the topics in the literature together in one document and identifies a timeline for when the issues arise. It provides academic libraries that are planning to create (or significantly increase) an e-journal collection with a resource that identifies problems by the phase in which they occur and gives attention to the major issues. With this information, libraries can approach their e-journal project with an understanding of what to expect on this complex and inevitable journey.

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## Appendix: Research Materials

### Letter to participants (e-mail)

Dear (Director):

I am a graduate student in the Information and Library Science program at Southern Connecticut State University. As part of the degree requirements for the Master of Library Science, I am studying libraries' experiences with switching from print to electronic journal access. I am writing to you (and members of your staff whom you select) to complete an online survey. Participation is voluntary and confidentiality will be maintained. If you choose to participate, please visit <http://www.surveymonkey.com/s.asp>

[u=109202295895](mailto:109202295895) and complete the survey in the next few days. Please feel free to contact me if you (or your staff) have any questions about this study.

Thank you for your consideration. I look forward to hearing from you.

Sincerely,

Toni Fortini  
Colchester, VT  
[e-mail address]

### Questionnaire (online)

Please answer the following 11 questions based on your library's experience with electronic journal selection, registration, and access. The survey is approximately 20-30 minutes long.

Thank you for your participation. Please contact Toni Fortini at [e-mail address] if you have any questions.

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Southern Connecticut State University  
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July 2006

1. When did your library introduce electronic journals?
2. What were the first problems and/or concerns that the library faced with the introduction of electronic journals?
3. What problems and/or concerns occurred during the process of choosing vendors and services?
4. What problems and/or concerns occurred during the process of registering electronic journals?
5. What problems and/or concerns arose after electronic journals were introduced?
6. Are print subscriptions ever canceled because of the availability of full-text electronic access? If so, what problems and/or concerns are associated with the cancellation of print subscriptions?
7. How many unique titles does the library provide in full-text electronic form? What percentage of the total titles in the serials collection does that number represent?
8. Currently, what are the major problems and/or concerns the library staff is dealing with in relation to electronic journals?
9. What unanticipated problems and/or concerns have come up during the development of the library's electronic journal collection?
10. What are the library's plans for future development of its electronic journal collection?
11. What, if any, problems do you anticipate in the future development of the library's electronic journal collection?

Please indicate in which area of the library you work.

Choose not to reply

Director

Serials

Acquisitions

Other (please specify) \_\_\_\_\_

Thank you for your participation. When you are finished, please select "Submit Survey" below to submit your responses.

Please contact Toni Fortini at [e-mail address] if you have any questions.

## Author's Bio

Toni Fortini received her MLS from [Southern Connecticut State University](#) in 2007. She was a 2007 [North American Serials Interest Group](#) (NASIG) student grant winner, and is currently a Cataloger and Online Access Assistance Coordinator at the [University of Vermont](#). Toni maintains a [blog](#) of her experiences with e-resource maintenance.

[Go to Top](#)