Evidence Based Library and Information Practice

The Transition from Print to Electronic Journals: A Study of College and University Libraries in Indiana

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Abstract

Objectives – This study examines what factors are considered by college and university libraries in Indiana when making the decision to cancel subscriptions to print journals when an electronic equivalent is available. The study also looks at who the primary decision makers are in this regard. Libraries at public and private institutions of varying sizes were included in the study.

Methods – An online survey was sent to seventy-three libraries in the consortium, Academic Libraries of Indiana. Structured interviews with administrators at nine libraries were also conducted.

Results – Academic libraries in Indiana use subscription cost, redundancy of formats, student preference, budget reductions and usage as the primary factors in cancelling print journal subscriptions in favour of their electronic counterparts. There is also a preference for the electronic format for new subscriptions even when a print version is also available.

Conclusions – The study indicates that subscription cost is the most important consideration in the journal cancelation process with other factors also having an effect on the preference of libraries for electronic versions of journals. The study also shows that libraries at public and private colleges and universities are at different

stages of moving away from print to an online-only journal format. At the same time, there is consensus that a small collection of print titles will still be needed. The primary decision-makers are librarians, faculty, and library administrators.

Introduction

Electronic journals have both beguiled and bedeviled academic libraries since being introduced on a broad scale in the early 1990s. Librarians were interested yet cautious about this new, untested format. Kownacki (1991) posed the question "do our patrons really want THESE journals in THIS format?" (p. 81). In a matter of years, that question was answered with a resounding "yes." As the technology continued to improve and interfaces became more user-friendly, it was evident that e-journals were very much welcomed by patrons.

Over the past two decades there has been a steady march toward electronic-only journal subscriptions in academic libraries. From the initial uncertainty regarding user acceptance of the electronic format to its current ubiquitous use, users not only embrace but expect online access. Academic libraries have moved from a print-centric environment to an electronic world where access to thousands of journal titles is within the reach of even the smallest of institutions.

In a time of increasing fiscal constraint reducing print subscriptions is a means of reducing library expenditure, particularly when these are duplicated in an electronic collection. However what are the factors involved when academic libraries make decisions about journal subscriptions and are these factors the same regardless of size or background of the institution?

Literature Review

Previous research in this area has focused on single aspects of print to e-journal transition. There have been studies of a single institution (Kalyan 2002; Maple, Wright & Seeds, 2003), studies of a particular discipline such as medical libraries (Gallagher, Bauer & Dollar,

2005; Weston & Acton 2009), studies of ARL libraries (Rupp-Serrano, Robbins & Cain, 2002; Prabha 2006), studies of selected academic departments (Frazer & Morgan, 1999), and a study of small college and university libraries (Spencer & Millson-Martula, 2006).

Historically the two most common factors driving journal cancelation decisions are cost – increasing subscription prices and shrinking budgets. Both commercial and non-commercial publishers have often had subscription price percentage increases in the double digits. Johnson and Luther (2007) report on interviews with ARL member libraries, private and public, which cite these two cost issues as key factors in assessing whether or not they can sustain paying for two formats. In a study of small college and university libraries, Spencer and Millson-Martula (2007) found that subscription cost was the primary factor prompting a serials review, and it was the third highest factor in cancelation decisions.

Subscription cost does not stand alone as a factor in journal retention decisions. As libraries have moved from a print-centric environment to one in which e-journals dominate, the target for cost cutting has changed from cancelling duplicate print subscriptions to cancelling print subscriptions that are now redundant to their electronic equivalents including those available in database aggregators. The question is which redundant print titles to cancel and how to determine which factors to utilize in making those decisions.

Some libraries include use as a factor to employ for decision making. An example of a usage study is one carried out at by Gallagher et al. (2005) at the Yale University Cushing/Whitney Medical Library. Staff undertook a three month study of the library's 1,249 current print journals. They found that

657 (53%) of titles received no use during the study and only nine titles (7%) were used more than once a month. As a result they cancelled 212 existing print subscriptions when that was permitted by license agreements. In a study of print serials use over a ten-year period 1992-2002, Rosati (2006) found that as the library's electronic resources grew print use plummeted. Her study used statistical data to identify the one hundred most used journals in 1992 and then tracked their use over ten years. The top ten titles in that list of the one hundred most used print journals showed a total decrease in print use of 85.4% over the course of the usage study. During that same time period, use of the bottom ten titles decreased by 85.8%. These findings were used to inform print cancellation decisions. In the absence of a systematic usage study, however, even a casual look at a library's uninhabited reading room is a visible indicator of low use. Another factor to consider in the decision-making process is the preference by students for the electronic format. There is general agreement that both students and faculty prefer electronic access to e-journals. This preference was confirmed by a study in 2002 comprised of interviews with over 3,000 undergraduate and graduate students, and faculty at colleges and universities. Researchers found that students and faculty were regular users of e-journals whether in the library or off-campus (Maple et al. 2003).

User preference notwithstanding, librarians must question whether e-journals are exact duplicates of the print versions. Despite assurances from publishers that the electronic version is equivalent to the print, many case studies have shown otherwise. A study conducted at Old Dominion University found that there was more content in the print than in the electronic for several full-text titles provided in the IAC Infotrac Searchbank database. The authors found that entire articles were missing as were supplementary materials such as editorials, book reviews, and job postings (Frazer & Morgan, 1999). In a study at the University of Colorado at Colorado Springs Kraemer Family Library

(KFL) an analysis was carried out of 79 peer-reviewed journals primarily in the social sciences and humanities all of which were covered in one or more of five database aggregators. In this study only major articles were examined and supplementary material was not evaluated. The findings showed that only 83% of the major articles were available online (Sprague & Chambers, 2000). In a follow-up study 10 years later, 20 of the original 79 titles were still available in aggregators subscribed at KFL. An improvement was seen as a comparison between the print and electronic versions showed nearly 100% coverage of major articles in the online edition (Thohira, Sprague & Chambers, 2010). In a study at the National Library of Medicine, 149 titles were examined for what the authors call "divergent content" between the print and electronic editions. This study looked at both articles and supplementary material. Findings show that while 63.76% of titles included all articles in both print and electronic formats, 36.24% published some articles only in the electronic edition. In looking at editorials, in 89.69% of instances they were published in both the print and electronic editions, while 3.09% appeared only in the online version and 7.22% were published only in the print. The study found similar instances of divergent content in all other categories of supplementary material such as book reviews and letters/commentary (Weston & Acton, 2009). In light of findings such as these publishers need to be asked which is the version of record? Hunter (2007) raises this question of version control in light of the user demand to see journal articles as soon as possible. What if an article is subsequently updated and re-released? Which is now the version of record?

As electronic journals continued to displace print journals as the preferred format, concerns arose around the need for a permanent digital archive. Unlike print, there was no longer a physical object to retain. In describing their experience at the MIT Libraries, Duranceau, Lippert, Manhoff and Snowden (1996) determined that it was not feasible for them to maintain a local electronic

archive and that it was likely to be a difficult role in general for research libraries to take on. Rupp-Serrano et al. (2002) conducted an e-mail survey of ARL libraries to learn whether they had collection development policies in place for e-journals. Their purpose in collecting and analyzing the data was to develop potential criteria that might assist academic libraries in formulating de-selection policies for redundant print subscriptions. They stated that libraries needed to determine what for them what would constitute a "reliable archive." They suggested that libraries ask publishers whether they planned to maintain an electronic archive so that libraries would no longer need to continue maintaining a print archive.

Hunter (2007) noted progress made since the mid-1990s in developing a permanent electronic archive of the digital record, one in which libraries and publishers alike would have confidence. She observed that there was a shared recognition by both libraries and publishers for the need to participate in such an endeavor. To that end, two entities, Portico and LOCKSS, were created to collect and maintain "dark archives" for a portion of the digital record. Moghaddam (2007) discussed the emergence of the National Library of the Netherlands as another and larger archival entity where publishers' electronic output could be deposited with the assurance of long-term preservation.

As noted above, much of the previous research focuses on single institutions. This study examines factors considered by college and university libraries across Indiana when making the decision to cancel subscriptions to print journals when an electronic equivalent is available. The study also looks at who are the primary decision makers in this regard. The goal of the study was to obtain a snapshot of the current status of the transition from print to electronic journals in this particular group of academic libraries. The consortium which was studied, Academic Libraries of Indiana, offered a demographic cross-section of libraries as it included both public and private colleges and universities of varying sizes.

Methods

Sample

Academic Libraries of Indiana (ALI) is a 73-member consortium whose mission is "to enhance and enrich access to the full range of information resources and services required to improve the quality of teaching, learning, research, and engagement in Indiana's colleges, universities, and seminaries through collaboration, resource sharing, and advocacy." ALI members are from both private and public institutions of varying enrollments ranging from 200 to over 50,000. There are 71 unique institutions represented in the ALI membership. Two universities – Indiana University and Ivy Tech Community College – have multiple campuses though each campus is an ALI member in its own right.

Survey

An online survey comprising 12 questions (described in the tables below) was sent in July 2010 to the designated contact at each ALI member library. The survey was available for two weeks. Responses were received from 26 member libraries for a response rate of 36%. Not all respondents answered all questions.

Interviews

Structured interviews were conducted in August 2010. There were eight open-ended questions for the interviews (see Appendix). Interviews were conducted by phone or on-site. The interviews were carried out to obtain details for some of the decision factors included in the survey as well as for other questions that could not be easily collected from the survey alone.

Results

Survey

Data in the online survey were collected for three demographic categories: status of parent institution (private or public), FTE enrollment,

and highest degree offered. Of the total survey responses 57.7% (15) were from libraries at private colleges and universities and 42.3% (11) were from public colleges and universities.

Respondents reported enrollments ranging from under 1,000 (26.9%) to over 25,000 (3.8%) (Table 1). Regarding highest degree offered the responses were Associate 8.3%, Bachelor 20.8%, Master 37.5%, and Doctorate 33.3%.

Table 1
FTE Enrollment

	Percentage Responding	Libraries Responding
Under 1,000	26.9%	7
1,001 - 5,000	42.3%	11
5,001 - 10,000	23.1%	6
10,001 - 25,000	3.8%	1

Data regarding total materials budgets are provided in Table 2. The largest group of respondents included seven libraries (30.4%) which reported budgets under $100,000 while the second largest group of five libraries (21.7%) were at the opposite end of the spectrum, reporting materials budgets over $1 million.

Table 2
Total Materials Budget

	Percentage Responding	Libraries Responding
Under $100,000	30.4%	7
$100,001 - $250,000	17.4%	4
$250,001 - $500,000	13.0%	3
$500,001 - $1,000,000	17.4%	4
Over $1,000,000	21.7%	5

There were two questions on the survey addressing how materials budgets were allocated between print and electronic journals. Twelve respondents (54.5%) reported spending under $50,000 on print subscriptions

and three (13.6%) reported expenditures from $250,001-$500,000 (Table 3).

Table 3
Expenditures for Print Journals

	Percentage Responding	Libraries Responding
Under $50,000	54.5%	12
$50,001 - $100,000	22.7%	5
$100,001 - $250,000	9.1%	2
$250,001 - $500,000	13.6%	3

Results for e-journal expenditures –single-title subscriptions, titles available in aggregators or in publisher packages – are shown in Table 4. Responses covered a range; six libraries reported expenditures under $50,000 and one reported spending over $1 million on e-journals.

Table 4
Expenditures for Electronic Journals

	Percentage Responding	Libraries Responding
Under $50,000	27.3%	6
$50,001 - $100,000	18.2%	4
$100,001 - $250,000	22.7%	5
$250,001 - $500,000	18.2%	4
$500,001 - $1,000,000	9.1%	2
Over $1,000,000	4.5%	1

Regarding the number of print subscriptions, 58.3% responded they subscribe to under 500 titles and one library reported current print subscriptions from 2,001 – 5,000 (Table 5).

Table 5
Current Print Subscriptions

	Percentage Responding	Libraries Responding
Under 500	58.3%	14
501 - 1,000	25.0%	6
1,001 - 2,000	12.5%	3
2,001 - 5,000	4.2%	1

Two survey questions addressed responsibility for decision making in journal cancelation decisions (Tables 6 and 7). When asked who is involved in the cancelation of print journals, survey responses indicated a high level of involvement by librarians (90.5%), faculty (52.4%) and library administrators (33.3%) (Table 6).

The responses regarding decision-makers for e-journal cancelations parallel those for print: librarians (95.2%), faculty (57.1%) and library administrators (33.3%) (Table 7).

Three questions central to the survey presented different scenarios regarding specific factors considered in making a decision to cancel a print subscription in favour of its electronic counterpart. Each question provided a list of ten factors to consider:

- Budget reduction
- Subscription cost
- Redundancy
- Faculty recommendation
- Usage statistics
- Confidence in perpetual access
- Space
- Print used less than electronic
- Electronic preferred by students
- Change in curriculum

Results for each of the three scenarios are found in Tables 8, 9, and 10. For the first scenario, *general cancelation factors*, the top five responses were subscription cost (81.8%), electronic preferred by students (81.8%),

Table 6
Who Is Involved in the Cancelation of Single-Title Print Journals?

Decision-Makers	Percentage Responding	Libraries Responding
Librarians	90.5%	19
Faculty	52.4%	11
Library Administrators	33.3%	7
Library Committee	14.3%	3
Librarian/Faculty Committee	9.5%	2
Faculty Committee	4.8%	1
Students	0.0%	0

Table 7
Who Is Involved in the Cancelation of Single-Title E-Journals?

Decision-Makers	Percentage Responding	Libraries Responding
Librarians	95.2%	20
Faculty	57.1%	12
Library Administrators	33.3%	7
Library Committee	14.3%	3
Librarian/Faculty Committee	4.8%	1
Faculty Committee	0.0%	0
Students	0.0%	0

Table 8
When Making the Decision to Cancel a Single-Title Print Subscription in Favor of its Electronic Version, What Factors Are Considered?

	Percentage Responding	Libraries Responding
Subscription cost	81.8%	18
Electronic preferred by students	81.8%	18
Redundancy	63.6%	14
Print used less than electronic	54.5%	12
Budget reduction	45.5%	10
Confidence in perpetual access	40.9%	9
Change in curriculum	31.8%	7
Faculty recommendation	27.3%	6
Usage statistics	27.3%	6
Space	27.3%	6

Table 9
When Making the Decision to Cancel a Single-Title Print Subscription When There is a Duplicate Version in an Aggregated Database, What Factors Are Considered?

	Percentage Responding	Libraries Responding
Subscription cost	81.8%	18
Redundancy	81.8%	18
Electronic preferred by students	72.7%	16
Print used less than electronic	54.5%	12
Budget reduction	45.5%	10
Usage statistics	40.9%	9
Confidence in perpetual access	31.8%	7
Space	31.8%	7
Change in curriculum	27.3%	6
Faculty recommendation	18.2%	4

redundancy (63.6%), print used less than electronic (54.5%), and budget reduction (45.5%) (Table 8).

The second question offered a scenario regarding considerations when *cancelling a title in an aggregator*. Survey respondents indicated that the top five factors were the same as the general scenario but the second and third highest ranked factors – electronic preferred by students, and redundancy - were reversed (Table 9).

The third scenario sought information on factors taken into account if a journal title were to be *cancelled outright*. Results are shown in Table 10. As with the two previous scenarios, the top factor is subscription cost (95.5%), followed by budget reduction (65.6%), usage statistics (59.1%), faculty recommendation (54.5%), and redundancy (40.9%).

Table 10
When Making the Decision to Cancel a Journal Subscription Outright, What Factors Are Considered?

	Percentage Responding	Libraries Responding
Subscription cost	95.5%	21
Budget reduction	63.6%	14
Usage statistics	59.1%	13
Faculty recommendation	54.5%	12
Redundancy	40.9%	9
Change in curriculum	40.9%	9
Electronic preferred by students	27.3%	6
Print used less than electronic	22.7%	5
Space	18.2%	4
Confidence in perpetual access	13.6%	3

Interviews

Interviews took place with library administrators – eight deans and directors, and one head of a periodicals division - at nine college and university libraries, five private and four public. In terms of institution size, at the private institutions, enrollments ranged from 200 to 3,000 while at the public institutions enrollments ranged from 4,500 to over 16,000.

Administrators were asked if they had experienced changes in their budgets in the previous two years. Six reported budgets that were either static or had enjoyed a "periodic influx of money" (three public, three private). Two libraries reported decreased materials budgets; one private had a 7% decrease and one public university library had a 25% decrease. Only one private university library reported a budget increase in each of the two previous years.

When asked what percentage of the materials budget is allocated to all e-resources – single-title subscriptions, aggregators, publisher packages – library administrators had a variety of responses. For the public colleges and universities, the responses were 33, 54, 60, and a high of 80% of funds dedicated to electronic resources. For the private colleges and universities, administrators reported that the current budget allocations for all electronic resources were 20, 30, 35, 50, and a high of 80%. Most said the majority of their electronic journal holdings are in database aggregators. Most library administrators emphasized the number of journals they have access to now via aggregators as compared to what was available ten years ago. This was often remarked as a sort of "selling point" to faculty as evaluations were being made for potential print cancelations; that though it may be necessary to make some cancelations, the library would remain information rich because of its subscriptions to numerous aggregator databases such as EBSCOHost Academic Search Premier and Lexis-Nexis Academic Universe.

Another question asked of administrators was if they would see the day their library went totally electronic with journals. One replied "that's a sad question but I think it will happen." A couple of administrators said they could see the collection being at least 80% electronic. All see a rapid decline of print journals. Several reasons for retaining print subscriptions were articulated. In addition to maintaining a browsing collection and keeping print for titles with graphics, they cited the need for a core list of "must-have titles." Another reason to continue a print subscription was if it were embargoed in an aggregator. If that were the case, they would

consult with faculty to see how long they could wait for a current issue to be available. Finally, one administrator noted that their accrediting agencies required that certain core titles be maintained in print. Regarding the number of current print subscriptions; public colleges and universities reported print subscriptions of 100-600; private colleges and universities 200-700.

Deans and directors emphasized the consultative nature of managing electronic collections. While librarians have a predominant role in decision making, those who were interviewed discussed the important role of faculty in the decision-making process. All administrators remarked how critical it is to develop and maintain cordial working partnerships with faculty. However, administrators underscored the primary goal of the library is to support the curriculum and not just to support faculty research. A variety of approaches are used to inform and engage faculty in decision-making. Most of these libraries use a librarian-liaison arrangement with both formal and informal contacts. A variety of means of communicating cancelation recommendations are employed such as email sent to individual faculty or to all faculty members in a department, or perhaps posting a proposed list of print cancelations to the library's website. Two libraries reported using a systematic journal review by department every three or four years so that faculty can identify what is no longer used or needed. Such a review is also an opportunity for faculty to identify titles that should be acquired. Another dean said that library/faculty collaboration is educational in that it gives the library a chance to discuss the materials budget and the constraints that entails in making collection decisions. As she put it, "faculty need to understand the budget is finite."

Library administrators indicated that they use many of the same cancelation factors as survey respondents reported. Four of nine stated that subscription cost is a deciding factor when either substituting electronic for print or cancelling print outright. Five of nine directors identified redundancy as a primary factor in a cancelation decision. One director at a public university said "we can't pay for this level of duplication." A librarian at a private college said a duplicate print subscription may be cancelled to add a new subscription "that would benefit the many rather than the few." A dean at a public university remarked that a journal does not have to be redundant to cancel.

Several directors said there is a clear preference by students for e-journals. One dean observed that if an e-journal is temporarily unavailable he cannot persuade students to use print even when he offers to walk them to the journal. Low usage of print journals was mentioned by four librarians as a cancelation factor. Though none of the libraries had done a formal usage study, one dean said that "if a print title is gathering dust it is a candidate for cancelation." Another said print cancelations are based on observation and instinct. Budget reductions are used as a decision factor as well. Print titles may be cancelled "to repurpose funds for something needed." Only one dean at a public university observed that she would cancel print only if the electronic version was a true full-text duplicate of the print.

In the survey and interviews, perpetual access is defined as having ongoing access to journals in aggregators when they are no longer provided by that aggregator. When asked if they had concerns regarding perpetual access, six of nine administrators responded in the affirmative noting that the content of aggregators is "churning." The dean at a private university remarked that "my nightmare is that it will all go away." On the other hand, another dean at a private university said that "if it happens it happens. It doesn't worry me much." Four administrators noted that if a needed title was dropped by an aggregator they would reinstate the title. However, they would reinstate as a print subscription only if an electronic version was not available.

Discussion

This study and the literature review have areas of commonality as well as of divergence. There is one thing in which all are unanimous. Across the board – in the literature, in the survey, and in the interviews – subscription cost is the primary factor considered in cancelling redundant print journals when an electronic equivalent is available. Rising subscription costs are one of the fiscal realities libraries must address. The other is declining materials budgets and the two frequently occur in tandem as many libraries have experienced. In such situations the collection decisions libraries must make become that much more difficult. Libraries have always had to operate within the constraints of their materials budgets and have always had to make difficult decisions about where to direct resource dollars, of choosing what to forego in order to maintain the necessary. In many libraries there is not much left to cut and to continue print subscriptions to journals that are available electronically – often in more than one aggregator – is becoming more difficult for libraries to justify.

Regardless of the size or status of an institution, common factors were apparent in decision making regarding journal cancelation. When asked to rank factors involved in cancelation decisions (whether in general or when the title was held in an aggregator*)*, the top five factors were the same though in different orders. One difference is with the factor "electronic preferred by students," which was ranked second (18 libraries) in general factors and third (16 libraries) when in an aggregator. When asked about outright cancelation (the third question), however, this criterion was ranked sixth (6 libraries). While the preference of students for the electronic format merits consideration in cancelation decisions, only six libraries indicated student preference was a factor in an outright cancelation decision. This seems to speak to the value of the content rather than the format. When merely swapping formats – electronic for print—there is no loss of content. It is the prospect of losing future content to a

valued journal that seems to be the difference. It is possible that in such situations libraries might look for other cost-saving measures such as directing materials dollars away from monographs and moving those funds to journals.

There has been much written about usage studies and how that data can be applied in making journal cancelation decisions. At interview library administrators agreed that there is value in usage studies but at the same time they had not conducted any formal studies at their own libraries. The survey yielded mixed results regarding usage studies as a factor to consider in their journal cancelation decisions – 27.3% (6 libraries) in the general cancelation scenario, 40.9% (9 libraries) when in an aggregator, and a high of 59.1% (13 libraries) in the cancel outright scenario. A possible explanation for this high of 59.1% is that because an outright cancelation is being considered, actual use data would be beneficial before making that final decision.

Journal subscriptions are typically a library's largest single budget expenditure. Decisions regarding journals are made with care and consideration, are done in consultation with faculty, and are made to support the teaching and learning mission of the university. Regarding "faculty recommendation" as a factor, it was chosen by six libraries in the general cancelation scenario, by four libraries when in an aggregator, but by 12 libraries in the outright cancelation scenario. It is referenced throughout the literature and is common practice that librarians are consultative with their faculty. That it was ranked fourth out of ten factors in the outright cancelation scenario confirms the importance of the role of faculty in building the collection. Administrators interviewed also emphasized the role of faculty in collection decisions. This finding confirms how important their input is when it comes to journal cancelation decisions.

Another survey factor was confidence in perpetual access for content in aggregators with results of 40.9% (nine libraries), 31.8%

(seven libraries), and 13.6% (three libraries) across the three scenarios. This suggests some measure of confidence in the general stability of aggregators. On the other hand, the matter of a permanent archive is discussed in the literature as a key factor in the overall examination of whether to give up print in exchange for e-only access. This is a more pressing concern for university research libraries that have an obligation to preserve the scholarly record which smaller universities do not have. While a satisfactory long-term solution is being developed (Hunter, 2007), most libraries continue to rely on print as their archive. At the same time, small colleges and universities are addressing this issue albeit it on a smaller scale. For example, one dean at a private university told me an effort is underway in Indiana to develop cooperative print archiving among peer institutions to alleviate their concerns that publishers can guarantee they will provide stable electronic archives.

Neither change in curriculum nor space was rated high as a cancelation factor overall. Across the three scenarios for change in curriculum, the highest response was nine libraries (40.9%) in the cancel outright scenario where changes in curriculum would have an obvious impact on what titles to retain. Regarding space, it did not weigh heavily as a cancelation consideration with responses of six, seven, and four libraries with the high of seven being a factor when the title is in an aggregator.

One item not in the survey but about which a great deal has been written is whether or not an electronic version of a journal is an exact duplicate of the print version, i.e., "how full is full-text." While this shortcoming was largely resolved a decade ago, there remain concerns by some libraries that this has not been addressed satisfactorily. A case in point is the study by Weston and Acton (2009) at the National Library of Medicine. Though the universal assumption is that e-journals provide cover-to-cover complete coverage of all content in the print version, that study (and others) demonstrated otherwise. However

only one library administrator in this study reported that full-text electronic coverage is a factor in determining whether to cancel a print subscription.

In this study, the two private institutions reporting the lowest percentages of total materials dollars going to electronic journals – 20 and 30% – are at religious-affiliated institutions whose users' needs are specialized and narrow. It is a niche market served by small publishers who may not have the financial capability to convert their print publications to electronic. This is not to say that those publishers eschew e-journals but rather that their subscribers are well served by print. At the other end of the print-to-electronic ratio, one private college library and one public university library report that 80% of their materials budgets are given to electronic resources. The public university library suffered a 25% budget cut in a single fiscal year leaving few viable alternatives other than to cancel print titles that were redundant and/or costly. However, since they were already transitioning to more electronic access this deep budget cut has merely accelerated that process. The library at the private university has not experienced a budget cut but rather is deliberately moving away from print. These two libraries report approximately 200 active print subscriptions.

Though the pace of the change varies, most libraries expect that their print journal collections will continue to shrink. In a study conducted from 2002-2006, Prabha (2006) reports on the mix of journal holdings in ARL libraries. She examined three formats: print-only, print + electronic, and electronic-only. During this period, print-only subscriptions decreased from 64% in 2002 to 30% in 2006. During that same period, e-only subscriptions increased from 5% in 2002 to 36% in 2006. Few libraries, however, have made the transition to a one hundred percent online-only journal collection. Even Drexel University, who took the dramatic step to move "overnight" from a primarily print collection to an e-journal collection, retained around 200 titles in print (Montgomery & Sparks, 2000).

The results demonstrate that decision-makers are librarians, faculty, and library administrators. The percentages of participation were very close whether cancelling print or electronic journals. Three committee configurations were also offered as decision-maker options: library committee, faculty committee, and librarian/faculty committee. When cancelling print journals, three libraries used a library committee, one a faculty committee and two chose a librarian/faculty committee. As to the cancelation of e-journals, three libraries worked with a library committee, none with a faculty committee, and one with a librarian/faculty committee. Students were not involved in these decisions, in contrast to expectations prior to the survey. The low use of a committee structure seems to suggest that librarians and faculty act in a collaborative way outside the committee format.

Conclusions

This study of college and university libraries in Indiana shows a consistent pattern of movement away from print journals to their electronic versions regardless of institution size or status. When considering cancelling journals, subscription cost was the highest ranked factor in each of the three survey questions: cancel in general, cancel when in an aggregator, and cancel outright. Two factors – redundancy and electronic preference of students – were ranked second and third for both general cancelations and when in an aggregator. When considering cancelling journals outright, the second and third ranked factors were budget reduction and usage. According to the results of this study, these five factors are those that will most likely influence journal cancelation decisions in college and university libraries in Indiana.

Based on the rankings of the ten cancelation factors, the survey has shown that these libraries are making careful decisions as they proceed down this increasingly electronic path. Whether it is to cancel a print subscription available in an aggregator or to cancel a print subscription completely,

librarians and library administrators act in a consultative way by including faculty in the decision-making process.

Though most current print subscriptions are expected to be phased out, there was agreement that there will always be a small core collection of print titles in libraries, such as journals with graphics and browsing-type titles such as newsweeklies. As reported from the interviews, it is not likely we will see the end of print. What we can expect to see is that more publishers will make the conversion to electronic-only journals.

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