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The Big Deal, Interlibrary Loan, and Building the User-Centered Journal Collection: A Case Study

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Abstract

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Keywords

Big Deals, interlibrary loans, document delivery, electronic journals, serial publications, collection development, academic libraries, cost, library statistics

Disciplines

Collection Development and Management

Comments

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Finding the right balance between ownership of journals and access to the content of non-owned journal articles is a challenge to all research libraries coping with static budgets and increasing subscription costs. The Iowa State University Library has implemented an evaluation model utilizing both cost per use data and interlibrary loan cost figures to determine the overall cost benefit of two Big Deals, ultimately leading to the breakup of both. Interlibrary loan cost thresholds were utilized to subscribe to journals on an individual basis. Funds saved from the breakups were applied to the addition of new subscriptions identified as in high demand by interlibrary loan requests from the Iowa State University community. The use of interlibrary loan cost and use data was an important component in breaking up both Big Deals and adjusting the journal collection to be more in tune with user demand and contributing to a continued drop in demand for ILL service.

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Introduction

For better or for worse, the so-called Big Deal, a multiyear contracted license for a major publisher's ejournal content, has been with us since the early 1990s. Much has been written about these mega-bundles of ejournals, both positive and negative. After more than two decades of use and analysis, the jury still seems to be out regarding the Big Deal, yet this approach to collection building is seen by some as a viable, albeit expensive, option for many libraries (Boissy et al, 2012). In recent years, however, there seems to be a bit of a tilt away from committing to Big Deals in academia, with some libraries choosing to move back to an a la carte approach, paying for subscriptions to individual titles and relying on interlibrary loan and other services to fill in the gaps.

Big Deals have both financial and service implications for academic libraries which must be fully understood. Libraries are generally able to measure the financial impact of a Big Deal breakup, but measuring the impact on service is more elusive. The increased availability of ejournal usage data in the form of COUNTER reports has been a boon to the evaluation of Big Deals. Combining this information with cost data allows the calculation of an average cost-per-use for an entire Big Deal, as well as for individual journal titles within the package. This can help with the evaluation of the Big Deal and contribute to a decision to maintain or opt out. But what about after the breakup? Surely it is just as important to monitor the use of renewed and cancelled titles subsequent to a breakup, as well as the effects upon user service. The outcomes, or later effects, of Big Deal breakups are creeping into the

literature and this paper will expand on the discussion.

The amount of funding necessary to support the purchase of Big Deals can be quite substantial. When multiple big deals are held by a single library, they can take up a significant portion of the acquisitions budget, crowding out journal subscriptions from smaller publishers and eating into monographs funds. For materials outside Big Deal bundles, library users are often directed to utilize interlibrary loan/document delivery (ILL/DD) services. In this regard, the decision to retain Big Deals can potentially have a real impact on ILL/DD, conceivably leading to more requests and a heavier work load because less funding is available to acquire monographs and documents from other publishers. There are others who are concerned that breaking up Big Deals will lead to even further increases in ILL activity (Boissy et al 2012). It is important to understand that Big Deals have service considerations as well as financial implications regardless of whether a Big Deal is in force or not. The interplay of Big Deals and ILL/DD service will also be addressed in this paper.

The effect of Big Deals upon interlibrary loan/document delivery services is a manifest concern in the library literature. The opposite effect of ILL/DD services upon Big Deals is alluded to in the literature, but in a more oblique and limited way. Interlibrary loan/document delivery services reflect real demand from the library's users and can serve as a measuring stick for current Big Deals. ILL can also play an important role in evaluating the outcomes of Big Deal breakups. The interaction between Big Deals and ILL/DD is starting to gain more attention and is perhaps moving more in a direction of ILL/DD exerting an influence on Big Deals rather than the opposite.

This paper will utilize a case study approach to examine the interaction of ILL and Big Deals, outlining the steps utilized in the process of evaluating the Springer Big Deal at Iowa State University (ISU) that led to the ultimate decision to break up the package. Two full years have passed since this decision was made and the breakup implemented. It was deemed important at the time of the breakup to determine if there were any measureable adverse effects for the ISU Library's users. The discussion will include possible measures for determining negative effects of Big Deal cancellations. ILL data proved its value in multiple stages of this major collection development project, even providing a road map for future development of the entire ISU journal collection.

Review of the Literature

Literature on Big Deal evaluation has frequently covered usage and cost-per-use considerations, but interlibrary loan implications have generally been mentioned only when discussing the outcome of a Big Deal breakup decision.

A number of authors commented that the usage statistics for their Big Deal titles had surprised them with the large amount of patron use of titles to which the library had not previously subscribed. Titles which were available in online format seemed to be more heavily used than their print counterparts as well. Patrons were benefitting from the greater and more immediate access (Landesman 2001, Ball 2004, Gatten and Sanville 2004, Bucknall 2005, Franklin 2005, Wolfe et al 2009). Bucknall stated it this way: "It certainly appears that UNCG's careful selection of subscribed titles was not adequate to support the research needs of our faculty and students, and that our researchers are indeed benefiting from access to a greatly expanded title set." The cost-per-use analysis made the high journal costs seem reasonable

(Franklin 2005, Botero et al 2008, Wolverton and Bucknall 2008, Bucknell 2008, Ives and Fallon 2009). The large number of titles to which libraries had access now put them and their users on a par with colleagues in larger research universities (Ebert 2005).

However, there have been questions regarding the reliability of usage statistics. Bucknell has written a cogent article evaluating how reliable they really are, finding that “Usage statistics have rightly earned a place as a central tool in evaluating electronic journal subscriptions. However it is important that they are used responsibly and that those librarians who work most closely with them are aware of their limitations...” “Site design can cause increased usage statistics when both HTML and PDF uses are counted for a single transaction. Among the reasons for usage statistics being inconsistent across or within packages are: platform design not being comparable, years of journal content differing for titles, subject disciplines having unequal usage trends, short articles being preferred over long articles, usage spikes stemming from class assignments, publisher changes and title changes breaking up a journal’s usage figures, combined subscriptions lowering the apparent cost for all journals in a group, hybrid journals with higher usage figures due to occasional open access articles, aggregator platforms siphoning off usage from direct subscriptions, cost variance over the years needing to be calculated, and statistical fluctuation related to abnormally high use of themed issues (Bucknell, 2012). Nabe issued a similar caveat that “...download statistics are not an accurate indicator of demand.” (Nabe and Fowler 2012)

Some authors mentioned that usage figures, which were often used in support of the value of the Big Deal, tend to have an inherent bias towards the easily accessed titles which the library was providing through the Big Deal. Therefore titles from major publishers which offer Big Deals would tend to have higher impact factors than titles which were not made available inside a package (Peters 2001, Ball 2004, Edlin and Rubinfeld 2004). This would create a “vicious circle” where Big Deal journals would have inflated impact factors compared to other journals.

Big Deals have been compared to the kind of access which a Library would otherwise be obliged to offer through ILL/DD and pay per view. Mark Rowse (2003) reported that Big Deals were beneficial because they reduced the demand of article supply via ILL, pay per view (PPV), and similar article delivery systems. Rowse was also concerned about the cost of ILL service and its apparent slow delivery time. He offered a number of suggestions for libraries and publishers to adapt to the changing realities of libraries and the Big Deal, including a preference for core subscriptions, increased allocations to individual article supply, improving the coverage quality and user features of Big Deals, and new pricing models. Other authors still favored the ILL approach. For instance, Bucknall (2005) mentioned that interlibrary loan and document delivery services were already providing the needed access, albeit with the added cost of staffing this function, stating that, “... these same journals have always been available to faculty and students via inter-library loan (ILL) or, in some cases, alternative delivery mechanisms.”

Some institutions went to great lengths to compensate for the loss of access to Big Deal titles, post-breakup. For instance, Gibbs (2005) reported that Triangle Research Libraries Network libraries (TRLN), set up accounts with document delivery sources to facilitate “...quick and easy access to journals.” Specifically at Duke, credit card accounts were set up with commercial document suppliers such as Ingenta and CISTI to assist the ILL operation and maintain quick service. Gibbs further noted there was no upsurge in filling ILL requests after a breakup of two big deals. Similarly, Weicher and Zhang (2012) turned to pay-per-view (PPV) when unbundling their Big Deal with Wiley. They utilized a combination

of subscriptions to individual titles and the purchase of access tokens that could be used to access individual articles outside the set. At Mississippi State University, Jones, et al (2013) reported the breakup of Wiley and Springer big deals in 2012 largely due to budgetary issues. ILL service was promoted as an alternative to cancelled titles with an advertised turnaround time of 24 hours.

Some authors have discussed the drawbacks to relying on pay-per-view and ILL/Document Delivery. The University of Utah has recently reported on the use of ReadCube software as a new patron-driven acquisition option for journal articles, alluding to a survey that found when users were confronted by a pay-per-view wall, they chose to try interlibrary loan services only 25% of the time. The survey also reported that researchers bypassed libraries by file-sharing 40% of the time (England and Jones, 2014). McGrath (2012) reported that “universities that had withdrawn from Big Deals ... showed that the cancelling of even many hundreds of titles had minimal impact on document delivery.” However, he went on to suggest that the lack of higher document delivery demand could be due to end-users dropping an anticipated request if not immediately available. McGrath’s study also raised the issue that supplying article access to later years of canceled subscriptions may become an ever-increasing problem over the years, adding that this problem could be ameliorated by expanding open access.

Bucknall (2005), at the University of North Carolina Greensboro (UNCG), felt the Big Deal “...has proven more cost effective than ILL.” He went on to say ILL “...also provides a lower level of service than the Big Deal.” UNCG had a great deal of experience using PPV, but found that less than 25% of the users who started a PPV transaction actually carried it through the end of the process. Frazier (2005), however, felt that not having the Big Deal actually led to improved interlibrary loan services, a better commitment to resource sharing and enhanced article delivery services.

Librarians have anticipated that the effect of a Big Deal breakup will mean a large increase in borrowing requests. In an article titled, “Is the ‘Big Deal’ Dying?”, twelve written interviews were presented. Of these, eight of the interviews mentioned ILL as one of the areas of concern for libraries that chose to break up a Big Deal (Boissey et al 2012). In their 2013 article, Blecic, et al expressed a concern about the possible effects of a Big Deal breakup on interlibrary loan: “...so libraries that terminate a Big Deal need to be prepared for increased use of that service.” Despite the widespread assumption about ILL borrowing increases, the scant literature on the topic does not substantiate this concern. Gibbs (2005) at Duke University, for instance, said they “...have not seen a major upsurge in filling these ILL requests.” Nabe and Fowler (2012) also discussed ILL. After discontinuing agreements with Springer, Wiley and Elsevier, Southern Illinois University took a close look at ILL requests for specific titles that had lost access. Nabe indicated that “...ILL’s are a reasonable measure of the true impact, on all parties, of leaving ‘Big Deals’.” Fowler reported that the University of Oregon “saw only modest increases in their interlibrary loan requests in regards to their cancelled Elsevier titles...the increase in interlibrary loan requests was insignificant.”

Authors have started to explore ILL activity as a measure of the success, or failure, of breaking up Big Deals. In 2011 one of this article’s authors introduced the idea of using ILL costs to establish the break off point of where titles should be retained and cancelled (Pedersen, et al, 2011). Blecic, et al (2013) mentioned the use of ILL cost data as a point of comparison with Successful Full-Text Article Requests (SFTAR) reported in Big Deals. These authors mentioned a cost of \$12.00 for ILL and copyright clearance fees of \$40 per article.

Case Study of the Springer Big Deal Breakup at Iowa State University

Background

Iowa State University (ISU), located in Ames, Iowa, in Fall 2013 had an enrollment of over 33,000 and approximately 6,300 faculty and staff. At the end of Fiscal Year (FY) 2013 there were 3,017,893 volumes in the Library collections and 100,528 serial titles currently being received. Of the paid journal subscriptions, 95% were in an electronic format. The Materials and Access budget for the ISU Library in FY 2014 was 10.5 million dollars.

The ISU Library had contracted with three publishers for Big Deal packages of ejournals: Elsevier, Springer and Wiley. Big Deals have historically taken a large proportion of the ISU materials budget. With an approximate materials budget of \$9 million dollars in FY 09, and calendar year 2009 Big Deal expenditures of almost 2.65 million dollars, the 3 Big Deals with Springer, Wiley and Elsevier took close to one third of the Library's total materials budget. Finances were a factor, but not the primary motivator, for initiating a review of the ISU Library's Big Deals, starting in 2010. It was really more a matter of timing and the Library's lack of flexibility in managing its journal collections. Because the Big Deals tied up such a large percentage of the materials budget and there was typically little wiggle room in the contracts to add and drop titles, the Library could not effectively fund the addition of new titles, especially when inflation was figured in.

For years the ISU Library has maintained a cancel-to-add policy towards any new journal subscription. As a result, there was a concern the collection had stagnated, not keeping up with changes in the many academic disciplines across campus. With the growing availability of ejournal usage data and cost-per-use data, it was deemed appropriate to review these numbers to measure the appropriateness of the current collection to the needs of the Library's users. Springer just happened to be the first Big Deal up for renewal. In 2010 Acquisitions Department staff began to gather and organize Springer usage data in order to determine whether or not to renew the Springer Big Deal in January, 2012.

Evaluation Process

Titles which entered the Springer Big Deal as current subscriptions were consistently labeled as "Springer Core" titles in the subsequent reconciliation lists, because the package pricing was based on their subscription cost and because ISU would retain perpetual access rights if they were ever closed or canceled. At the time of the review, there were 466 "Core" titles, and the unsubscribed titles included in the Big Deal, labeled as "Springer Package" titles, numbered 1437.

Similar to the methodology of Blecic, et al (2013), ISU began the evaluation with a look at overall deal-level metrics. The focus was on overall cost-per-use of the packages for multiple years. It is not only important to have comparative information between packages, it is also important to have longitudinal cost information so that trends can be noted. Three years was deemed the minimum amount of time for an acceptable analysis, since it would allow us to account for anomalies in a given year that were out of line with the title's other years of usage.

From the data [see Figure 1] it was quite apparent that the overall usage of Springer was low at ISU when

compared with other Big Deals, and to the American Chemical Society, which was included to provide a comparative value. Lower levels of use for Springer titles inflated the aggregate cost-per-use to a level almost twice as high as the other packages. The overall cost-per-use figures at ISU supported a closer look at the Springer package and a title-level analysis was conducted by library staff.

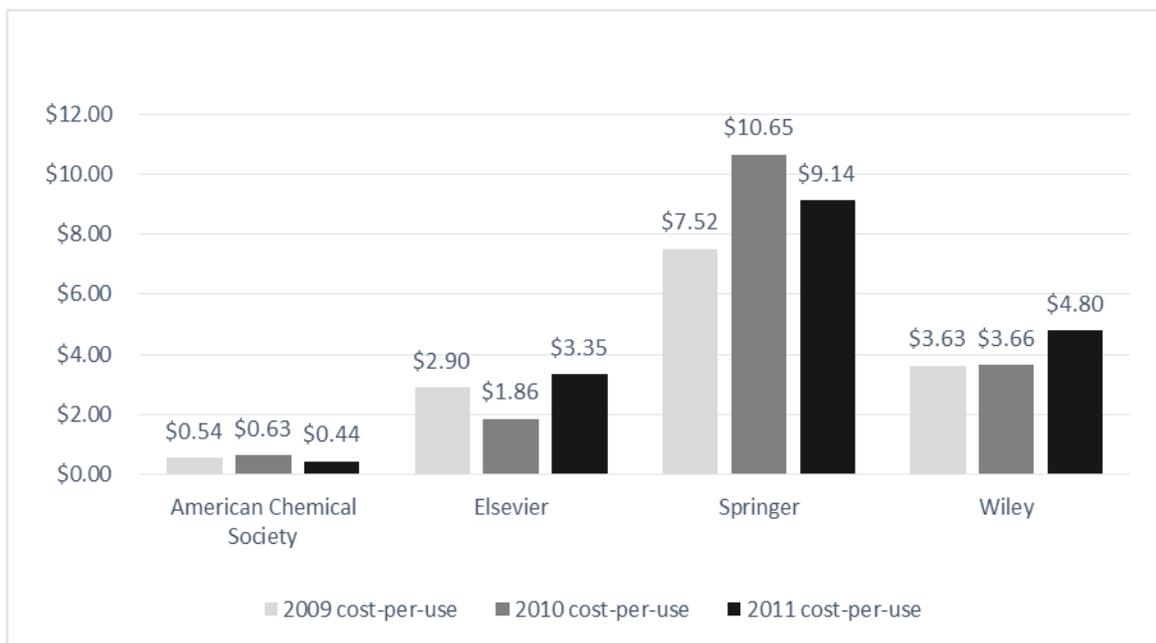


Figure 1. Deal-level Matrices

COUNTER compliant usage figures for the most recent full years, 2008 to 2010, were obtained from Metapress. Cost figures for four years (package costs for 2008 through 2010, plus the list price of the then current year of 2011), were obtained. There was no attempt to include the Ebsco service charge in these costs. Also, total reported usage figures were utilized without analyzing to see if some requests may have generated skewed figures by counting both HTML and PDF. The data was compiled into a spreadsheet, and simple equations were used to produce cost-per-use figures for the titles for each individual year and for the cumulative three-year period studied. In the resulting spreadsheet [Table 1], a retention threshold was inserted. The threshold utilized was an average interlibrary loan borrowing cost of \$17.50, which was the study mean from the most recent ILL cost study of the Association of Research Libraries (ARL) (Jackson 2003). This figure was a bit old, but at that time was deemed the best number available. The final spreadsheet was submitted to the ISU Library’s Subject Librarians for their review and input.

Table 1. Interlibrary Loan Cost Insertion Point for Springer

Title	Core Title status	2011 full list price	avg per yr use 2008-2010	2011 anticipated cost-per-use
Economic Botany	Core	\$205.00	398.3	\$0.51
Molecular Biology Reports	Pkg (not Core)	\$1,341.00	146.7	\$9.14

Qualitative Sociology	Core	\$1,120.00	75.0	\$14.93
INTERLIBRARY LOAN				\$17.50
Oxidation of Metals	Core	\$1,823.00	88.7	\$20.56
Cognitive Processing	Pkg (not Core)	\$597.00	21.7	\$27.55
Bulletin of Experimental Biology and Medicine	Core	\$6,213.00	22.7	\$274.10
Russian Mathematics	Core	\$3,077.00	1.0	\$3,077.00
Plasma Physics Reports	Pkg (not Core)	\$5,315.00	1.0	\$5,315.00

The Subject Librarians were given a deadline to finish their review of the spreadsheet. They had a number of questions about the data, but did not fundamentally question using ILL cost data as a retention threshold. They felt this was an acceptable demarcation point for keeping and cancelling individual titles. For journals with an average cost-per-use more than \$17.50 over a three year period, they were in general agreement the title could be dropped, understanding that subsequent ILL requests would likely be provided at a cheaper rate than actual ownership.

Interlibrary loan cost data was therefore the primary criterion for decision-making. However, it was supplemented with a second criterion that was entirely based upon usage. The Subject Librarians asked that any titles that averaged 100 uses per year over a three year period also be retained with active subscriptions.

Because the cost-per-use data was so obvious and clear cut in terms of evaluating journal retention needs, the Subject Librarians generally made their decisions without getting prior approval from the faculty liaisons of the campus departments. Lists of titles to be canceled were distributed after the decisions had been made, and there were few protests or changes at the time. However, a year later, three titles of the cancelled 1598 titles were re-subscribed because of faculty demand that had not been substantiated by the cost-per-use data (two were former “core” titles, and one was a former “package” title). Also due to the cost-per-use data, the Subject Librarians did not look at impact factor data, although some authors (Boissy et al 2012, Bleicic et al 2013) suggest this metric should be part of an evaluation process.

Library administration accepted the bibliographer recommendations, approved the breakup of the Springer Big Deal, and work commenced on cancelling titles and starting subscriptions to titles. A notable factor in this Big Deal cancellation was that the time needed to complete the Springer review was half a year in the online journal environment as compared to the two-year and one-year projects of the past, when print journals were the norm. Because campuswide involvement was generally limited to the department liaison level, and usage statistics and cost-per-use figures were more easily quantified and evaluated than the more subjective evaluations of the past, decision-making and consultation took only a few months.

A further analysis of subscribed and non-subscribed titles was rather surprising in that just 16% of the total Springer Big Deal titles were retained [see Table 2]. More surprising perhaps was that 36% of the Springer core titles were retained with current subscriptions. These core titles had been considered to be historically central to the research activities of the ISU campus.

Table 2. Springer 2012 Subscriptions from Core and Package Titles

	Springer
Core titles	
Maintained	168 (36%)
Dropped	<u>298 (64%)</u>
Total	466
Package titles	
Maintained	137 (10%)
Dropped	<u>1300 (90%)</u>
Total	1437
Complete Package	
Maintained	305 (16%)
Dropped	<u>1598 (84%)</u>
Total	1903

Effect of Breakup Upon Interlibrary Loan Borrowing Service

As mentioned in the literature review, there is somewhat of a general concern that breaking up a Big Deal will lead to a major increase in the Library's ILL borrowing activity. Yet some librarians who wrote of their post-break-up experiences have not seen these increases manifested. The preliminary outcomes at Iowa State since the Springer break up further support these findings: there was little or no discernible effect upon ILL operations. In fact, demand for ILL service continued to decline at a double digit pace.

Springer titles at Iowa State were cancelled effective at the beginning of calendar year 2012. One way of looking at the effect of a breakup upon ILL service is to examine the total number of borrowing requests. The overall volume of ILL borrowing at Iowa State University peaked out in FY 2009 at 17,754 filled requests. Since that time, there have been five consecutive fiscal years of decreases in this figure, dropping to 8,908 in FY 2014. This consistent decline occurred despite the cancellation of access to 1,598 Springer ejournal titles at the end of calendar year 2011. Staff members in the Resource Sharing unit were actually looking forward to a bump up in the volume of activity after the breakup, but it just never developed.

Another way of looking at the impact of a Big Deal breakup upon interlibrary loan activity is to monitor titles that hit the "suggestion of 5" copyright limit outlined by the CONTU (National Commission on New Technological Uses of Copyright Works) guidelines. As a routine part of the borrowing operation, interlibrary loan staff monitor article requests by individual serial title. If the number of article requests published in the preceding 5 years exceeds 5 during the course of a calendar year, copyright royalties were due to be paid by the borrowing library. ILL software, such as the ILLiad software used at Iowa State, is set up to monitor this type of usage. In 2012, the first calendar year subsequent to the Springer breakup, a total of 35 journal titles hit the "suggestion of 5" limit at Iowa State University and copyright royalties were paid to the Copyright Clearance Center (CCC) or a document supplier. Just one of these titles was a Springer journal. In the next year, 2013, six additional Springer titles showed up on the list

[see Table 3]. Interestingly, one of these titles, Oxidation of Metals, was the very first journal listed as having a cost per use exceeding the average ILL cost of \$17.50 (see Table 1) and was therefore cancelled effective January, 2012. Considering that the subscription cost would have been \$1,823.00 compared to copyright royalties of \$199.75, the cancellation could be viewed as cost effective.

Table 3. Springer Titles Reaching the CONTU Limit Post Breakup, 2012–2013

Title	Former Status	ISU Copyright Costs
Argumentation	Core	\$48.00
Information Technology and Tourism	Package	\$16.50
International Journal of Mental Health and Addiction	New	\$199.75
Maternal and Child Health Journal	Package	\$159.80
Methods in Molecular Biology	New	\$49.95
Oxidation of Metals	Core	\$199.75
Research on Chemical Intermediates	Core	\$119.85
Total		\$793.60

Two full years after the Springer breakup, there has been no additional stress placed upon the interlibrary loan operation and just seven Springer titles out of the 1,598 titles cancelled had demonstrated an appreciable amount of demand to necessitate the payment of copyright royalties. The total amount paid in royalties for Springer journal articles in 2012 and 2013 amounted to \$793.60.

In coming years, there may be some increase in interlibrary loan requests for later years of the canceled titles, as the gap between ISU Library journal holdings and the current material widens. But since these titles had low usage rates and the copyright costs were minimal, we feel confident that ILL is the best access option at this time.

Discussion and Follow-Up

At Iowa State University there were no special arrangements put in place to compensate for the breakup of Springer with PPV access or expanded commercial document delivery supply. It was deemed unnecessary due to a consistent decline in ILL borrowing service figures since FY 2009. This overall decline in demand for ILL borrowing service has been reported elsewhere (Wiley and Chrzastowski, 2005). ARL data also substantiated this drop for both ILL borrowing and ILL lending (Association of Research Libraries, 2012). Several reasons have been offered for this trend, including the growth of Open Access journals, a belief that ILL services are not fast enough, and users are pursuing other access options on their own. One possible reason for the decline in ILL demand that has not been discussed to a great extent is the effect of Big Deals. Rowse (2003) felt the addition of large bundles of ejournals to individual library holdings led to decreased demand for ILL services. Iowa State University's Big Deals with three different publishers, Springer, Elsevier, and Wiley, has probably contributed to the consistent decline in ILL demand over the last 5 years, but this is difficult to substantiate, especially since the decline has continued even after the break-up of the Springer Big Deal.

The interplay between the Big Deal and ILL plays out on two different levels: the individual library and

the scholarly communication system at large. In terms of the scholarly communication system, the Big Deal has been viewed by some as a collections behemoth, muscling aside serial collections more in tune with the needs of the local institution, while at the same time impacting local services such as ILL. In recent years the literature has reflected new roles for interlibrary loan data that have somewhat turned the tables on the influence of the Big Deal. Interlibrary loan now seems to be exerting its influence on the Big Deal rather than the other way around. This change is positive in that it reflects a renewed interest in what is best for the library's users. After all, interlibrary loan requests are a manifestation of explicit user demand that has not been met by local collection development processes. The case study presented here has shown how ILL data can play a central role at multiple points in the evaluation of a Big Deal-- evaluation phase, post-breakup evaluation, adjusting the journal collection-- contributing to a decision on its break up, and then providing guidance in subsequent serial collection development

ILL data in the Evaluation Phase

In the evaluation phase described above, average ILL cost data from the Association of Research Libraries was inserted into the title level spreadsheet. The \$17.50 average ILL cost was suggested by staff in the Acquisitions Department and adopted by the Subject Librarians as the threshold level to determine whether or not individual subscriptions should be continued into calendar year 2012. 84% of the titles in the Springer Big Deal were discontinued at the end of 2011, including 63% of the Library's Springer core titles. Subsequent to the Springer evaluation at ISU, new ILL cost data was published by Leon and Kress (2012). Although a limited study, it did provide for more granularity in such areas as copies versus loans and mediated versus unmediated requests. The average cost of borrowing a copy from another library via ILL was reported to be \$7.93, less than half the cost of \$17.50 used as the threshold value for the ISU Springer project. Had this figure been used, even more titles would have been cut. Using ILL cost data as a threshold was mentioned by Blecic, et al (2013), but utilized an unattributed cost of \$12.00 plus copyright clearance fees "... as high as \$40 per article." Adding on additional copyright fees is not necessary if ARL or Leon/Kress figures are used since these costs are figured into the overall average.

ILL data in the Post-Breakup evaluation

Copyright royalties for individual Springer titles did play a role in monitoring subsequent effects of the breakup. Almost \$300,000 was saved in cancelling Springer ejournals. With ILL being the only access option offered to the ISU Library's users, it was deemed important to monitor user demand for titles that were cancelled. Nabe, at Southern Illinois University, measured the impact of Wiley and Elsevier breakups by looking at subsequent ILL activity for the top 25% of the titles from these two publishers. He also looked at the impact of the breakups by "...comparing the download numbers in the final year of the participation versus the ILLs in the year post-departure." (Nabe and Fowler 2012) ILL borrowing activity at Iowa State dropped by 10% in FY 12, 12% in FY 13, and yet another 19% in FY 14 despite the cancellation of over 1,500 Springer ejournals. Any concerns about a breakup exerting pressure on the resource sharing staff proved to be unfounded.

ILL data in Adjusting the Iowa State Journal Collection to Meet User Demand

There was a clear connection between interlibrary loan and collection development in the review process at ISU. This ILL-collection development collaboration continued into the post-cancellation phase with

regular reporting of serial titles to collection development staff that were heavily requested by the Library's users. Titles were included on the list if they exceeded the CONTU guidelines. Lists of these journal titles, regardless of publisher, were sent to Subject Librarians at mid-year and at the end of the calendar year. The end of the year report was the most comprehensive and included a spreadsheet of titles that reached the CONTU limit in a specific year going all the way back to 1992. This provided a longitudinal perspective to heavily requested titles. A supplementary list of titles that hit the CONTU limit in multiple years was also provided. This so-called "Short List" provided a cursory look at serials in demand by users for five years or more. Copyright royalties have been paid on some of these titles for up to ten different years.

Despite the unreliability of funds to add new ejournal titles, significant inroads have been made in adding subscriptions to heavily requested ILL titles in the last couple of years. The 2011 "Short List" was considered by collections staff in the year 2012, the first year after the Springer breakup. There were 18 titles on the list with four reaching the CONTU limit 8 different years, 3 reaching this threshold in 7 different years and 11 reaching the limit in 6 different years. Because of the Springer breakup, funds were available for new subscriptions: 15 of these 18 titles had subscriptions initiated, leaving just three to be reconsidered in 2013. This aggressive adding of ILL-generated journal subscriptions is very likely a factor in the continuing drop in ISU ILL borrowing activity reported earlier. The 2012 "Short list" also contained 18 titles, including journals that reached the CONTU limit from 9 to 5 different years. Because less funding was available, subscriptions were started to just four of these titles. There were no subscriptions initiated to Springer titles from these two lists.

One thing that has been noticeable in journal titles reaching the CONTU limit at Iowa State has been the clustering of two publishers: Sage and Taylor & Francis. It appears that the existing "Big Deals" were demanding such a large part of the collections budget that the Library was not able to subscribe to some of their journals, even though they were in demand on the ISU campus. In 2012 almost one third of the collection budget was consumed by the two remaining Big Deals with Elsevier and Wiley. Of the 35 serial titles that reached the CONTU limit in 2012 and had royalties paid to the publisher through the Copyright Clearance Center (CCC), over half (18) were either Sage or Taylor & Francis titles.

Funding of new serial titles at Iowa State has long been a challenge to collection development staff, traditionally handled by cancelling an existing subscription. With inflation continuing to increase the cost of current subscriptions, as well as price increases which regularly outstrip inflation, there has been the need to conduct journal cancellations just because of the financial pressure; not because the content needed to be updated. The Springer Big Deal project represented a move away from a campus dialogue model and towards the use of explicit demand by the library's users via cost-per-use figures and ILL data.

Recommendations

ISU Library staff were generally satisfied with the process and outcomes of the Springer evaluation and breakup. They took away a great deal from the experience and arrived at some general recommendations for future Big Deal assessments that can serve as guidelines for other institutions:

- 1) Determine overall cost-per-use of all Big Deals for comparison. Focus initial attention on the package with the highest average cost-per-use. It may be that this package is simply not a good fit

for the campus clientele. However, an awareness of how usage on a particular platform is calculated will be necessary so that figures are not skewed by double counts of HTML and PDF for the same request.

- 2) Because of the time-intensive nature of examining the cost-per-use of individual titles in a Big Deal, it is advantageous to conduct these detailed analyses in different years. When negotiating Big Deals it is a good idea to stagger the cancellation dates of these packages to allow due diligence.
- 3) Cost-per-use data of individual titles within the package should be a prime consideration in measuring the appropriateness of a particular title for the Library's user population. Over-all use figures are also an important consideration.
- 4) Utilize the best available ILL cost data to establish a threshold for cancelling titles. The best option is to use ILL borrowing data that relates directly to your library and has the granularity to provide cost information for copy requests. If this is not available, an average ILL borrowing cost provided in the literature should be utilized.
- 5) Involve collection development staff and subject specialists within the Library when considering individual titles. They can apply other criteria, such as citation analysis, to the title level evaluation. Subject Librarians can also consult informally with campus faculty and staff on individual titles if necessary, but there may not be a need for a formal consideration outside the Library due to the ready availability of cost and usage data.
- 6) Any other criteria that are applied to the review should be clearly documented and criteria for cancellations should be established if there is a decision to break up the package.
- 7) If a package is discontinued, criteria for monitoring the outcomes of the breakup should be established and reporting mechanisms put into place. Future ILL borrowing activity for cancelled titles should be one aspect of this mechanism.
- 8) If a breakup is deemed appropriate, alternate methods of accessing content should be planned for the campus. ILL is just one option, but Library administrators should not be too concerned about the impact upon the ILL operation. Available information suggests the effects of a breakup upon ILL are negligible.
- 9) Establish a standing collections fund that can be utilized to purchase journal titles that have a history of high ILL demand regardless of the publisher or platform.
- 10) A system should be set up to identify current ejournals that are not receiving a reasonable level of usage. Certainly titles that have no use whatsoever should be considered for cancellation so that funding can be shifted to unsubscribed journals that are in demand. Standards of use should be established and monitoring systems put into place to refresh the journal collection on a yearly basis.

Subsequent Review of the Wiley Big Deal

The next Big Deal up for renewal at Iowa State was Wiley and the recommendations outlined above were applied. The renewal for this package was due at the beginning of calendar year 2014, so evaluation work was conducted in the spring and summer of 2013. With a 2012 overall cost-per-use of \$5.30, Wiley was a more cost effective package than the recently cancelled Springer deal, but was more expensive than Elsevier ScienceDirect at \$3.22. The cancellation threshold adopted for Wiley was lower than the \$17.50 applied to Springer. An ILL cost figure of \$13.94 was used, which was the average ILL borrowing cost for copies at Iowa State as determined by the Leon/Kress (2012) cost study database. Collection

development staff conducted a much more thorough evaluation of the individual titles on the list, accepting the ILL threshold as the main criterion, but asking for some individual exceptions to the cut list. There was no formal campus-wide involvement in considering titles other than subject specialists consulting with faculty and staff on an informal basis. The decision was ultimately made to break up the Wiley Deal in the fall of 2013 and work began to cancel titles based upon the breakdown in Table 4.

	Springer	Wiley
Core titles		
Maintained	168 (36%)	390 (59%)
Dropped	298 (64%)	275 (41%)
Total	466	665
Package titles		
Maintained	137 (10%)	84 (14%)
Dropped	1300 (90%)	533 (86%)
Total	1437	617
Complete Package		
Maintained	305 (16%)	474 (37%)
Dropped	1598 (84%)	808 (63%)
Total	1903	1282

The overall percentage of Wiley titles cancelled (63%) was not as draconian as those for Springer (84%), perhaps reflecting the better overall cost-per-use figures of Wiley. Also, more core titles were retained (59%) from the Wiley package than from Springer (36%). In total, 573 Wiley and Springer subscriptions were dropped to titles that had been considered core to the ISU library collections. The full extent of outcomes to the cancellation of the Wiley Big Deal is not yet known, since it occurred so recently. There has not been enough time to assess the continuing need for canceled titles, but monitoring systems are in place to reconsider titles with a significant level of ILL demand.

Conclusion

The breakup of two Big Deal packages at Iowa State University was conducted on a systematic basis over a three year period. Unlike some academic libraries, there was no overriding financial duress to save money and to enact cost savings in a short period of time. Breaking up Springer and Wiley did save some funds, but the real outcome was restoring the decision-making about journal collections to the Iowa State University campus. Having individual subscriptions to Springer and Wiley titles will allow for a more systematic and regular evaluation of the ISU Library's journal collection moving forward, adopting a system of dropping low use titles as determined by cost-per-use data and adding titles based upon actual user demand as reflected in interlibrary loan requesting. Combining the analysis of COUNTER reports and CONTU reports allows for a more holistic view of demand for journal content, allowing the user to dictate journal collections rather than publishers.

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