CASE STUDIES

Breaking inertia: increasing access to journals during a period of declining budgets: a case study

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Beginning in January 2012, a 1-year pilot pay-per-view (PPV) service was implemented. Twenty-four journal subscriptions were canceled to fund the service, and through the PPV service, the library was able to offer patrons access to over 700 previously unavailable biomedical journals. At the end of the pilot period, the total PPV cost for each journal accessed was compared to the subscription cost to determine if PPV was an effective use of library money. While remaining essentially budget neutral, the number of full-text articles accessed increased over 400%. PPV can be a cost-effective method for expanding access to journals.

INTRODUCTION

For libraries that have endured years of declining or static budgets and, consequently, have been forced to cancel journals and other resources in response to their budget situations, pay-per-view (PPV) offers an appealing alternative that promises to expand access for patrons, reduce costs for libraries, and assist with collection development. PPV is the acquisition of individual articles from a publisher without a subscription to the journal. A typical arrangement is for a library to create an account with a publisher through which patrons can initiate the purchase of articles at the library’s expense [1]. These transactions can be mediated, which means library personnel are required to access and retrieve the article for the patron, or unmediated, which means that patrons have direct access to the publisher’s full inventory of publications. Libraries are beginning to experiment with PPV services in response to budgetary cuts, the inflationary cost increases of journal subscriptions, while having the potential to significantly reduce journal costs. They find PPV to be more economical than subscriptions to journals that are rarely used because the library only pays for the articles that patrons used [6]. Fisher et al. recommend PPV as a more efficient model than subscriptions because it is user focused and requires the library only to pay for what the patron needs [4]. King et al. highlight PPV’s potential as a collection development tool that allows libraries to develop a clear picture of what patrons want and use [7]. Wolverton and Bucknall discuss that journals that surpass cost effectiveness can simply be added to the subscriptions base. This is evidence-based collection development using tangible user data as opposed to speculating which journals patrons need [8].

While PPV has many positives, it also has potential problems. First, Hardwood and Prior indicate that PPV involves less budgetary predictability and more risk than with conventional journal subscription models [9]. The second problem is the potential for abuse and misuse. Golderman and Connolly foresee scenarios where patrons use PPV for articles that are readily available in the library’s print collection or even the online collection “out of laziness, ignorance, habit, or desperation” [10]. Weicher and Zhang reported that 29% of their tokens were used for systematic downloading [11]. Wolverton and Bucknall mentioned concern regarding abuse and misuse but did not experience any in their trial [8]. In their survey of libraries using PPV, Carr and Collins also did not find these behaviors to be a significant problem [1]. A third area of concern is the potential barrier to patrons. Kohl believes that PPV introduces cost considerations into the use of library resources, which may prevent some faculty and students from using the service [12]. For example, the PPV transaction can be confusing to patrons who may mistakenly believe they are responsible for these costs rather than the library. It also may deter some patrons from accessing the article because they do not want to incur cost to the library. The implication of these cost considerations and what impact they will have on faculty assignments, research conduct, or even ability to keep up with current research are uncertain [1, 8, 12]. Finally, libraries need to consider the long-term impact that PPV will have on their collections. Sowards discusses the lack of perpetual access to articles obtained through PPV and the concern that the scholarly record will not be preserved. However, electronic publishing has already eliminated the traditional goal of possession of the physical works, and the difference between licensed perpetual access to electronic journals and access through PPV may not be as great as it appears [13].

METHODOLOGY

The Health Sciences Library (HSL) at the University of Tennessee Health Science Center (UTHSC) serves a faculty, staff, and student population of approximately 3,000 full-time equivalents (FTEs). From 2008–2011, the HSL was forced to cancel numerous subscriptions, totaling approximately 30% of the journal collection, unfortunately a common experience for many libraries [5, 7, 14]. Limited access to information at a time when the university was placing an emphasis on research and grants was detrimental for faculty, and
the HSL faculty were concerned that the reductions to the library collection were putting the students’ educational experience at risk. The HSL considered entering into more consortial and multiyear agreements to save money and preserve access, but those arrangements also limited budget flexibility and were not long-term solutions to the problems being faced. It was in this context that the HSL turned to PPV as a potential solution to the problems of loss of access, cost control, and declining patron satisfaction.

HSL faculty were interested in determining if PPV could be a solution to canceling journals and limiting access to patrons. The HSL planned to use PPV to expand the library’s access to journals, but PPV also needed to be cost effective within a static budget. Several publishers—such as Elsevier, Wiley, and Karger—offer PPV services through either deposit accounts or prepaid tokens [15–17]. Because the HSL was locked into multiyear contracts with other publishers, the library chose Wiley, which has a token-based PPV service called ArticleSelect with a large selection of biomedical journal titles.

ArticleSelect allows patrons to access individual articles from Wiley’s online journal collection using tokens. Token prices began at $33.25 each when purchasing the minimum of 100 tokens and were discounted more than 63% down to $12.25 when purchasing over 1,500 tokens. The risk involved with getting the greater number was that tokens were only valid for 1 year and were not refundable. Once a patron used a token to access an article, it became available to the entire campus for 24 hours, after which another token was required to access the article again [11, 15]. Wiley also includes an allowance for use of articles obtained via PPV in electronic course reserves and on course management systems, such as Blackboard.

After selecting Wiley’s PPV service, the library determined how much of the budget could be made available for this 1-year pilot service. The HSL first examined the previous 3 years of usage statistics for the 103 Wiley journals to which the library subscribed, with a particular focus on the high cost-per-use titles. The cheapest price for tokens when purchased in bulk was $12.25; the library therefore analyzed Wiley journals that had a cost-per-use of greater than $30.00 to consider for cancellation. The HSL chose a conservative cost-per-use amount because of fluctuations in journal statistics from year to year. The library did not want to cancel a journal subscription only to end up spending more on that title in tokens. The library identified 24 Wiley subscriptions that met the criteria, and the total subscription costs for these journals was $147,999.00. Cancelling these journals meant the library could purchase 12,081 tokens at $12.25 per token, and the pilot PPV service would remain budget neutral.

To determine if 12,081 tokens would be enough, the HSL conducted a second analysis of the usage statistics of the 24 titles marked for cancellation. The average number of uses for these titles over the 3 years examined was 3,068. To that number was added 2,813 turn-aways that Wiley reported, in which UTHSC faculty and students had tried to access articles in Wiley journals that the library did not subscribe to. It was important to factor in these turn-aways because HSL patrons would have access to Wiley’s full journal listings with the PPV service. This brought the usage estimate to 5,881; however, patrons now would be able to access articles from journals not previously in the collection, and they were likely to access articles from these journals at a greater rate than the turn-away number might indicate. The library did not want to run out of tokens, but also did not want to overestimate the number of tokens needed and have them go unused. These problems were solved by the HSL choosing to provide unmediated access to the PPV service, which the library believed would encourage patrons to use the service, and through the contract with Wiley, which allowed the HSL to plan to purchase all 12,081 tokens if needed, but did not obligate the library to purchase all of the tokens if it was determined they were not needed.

Unmediated access, however, raised the concern of individuals abusing or misusing the PPV system. The HSL initiated three efforts to minimize these concerns. First, the library engaged in a comprehensive patron education effort through several venues: the library web page, print flyers, library tips sent to faculty and student email discussion lists, library newsletter articles, and instructional workshops. Second, the HSL serials librarian added only in-scope Wiley journals to the link resolver, EBSCO’s A-to-Z list; Innovative Interfaces’ Millennium, the integrated library system (ILS); and PubMed, thereby making out-of-scope Wiley journals more difficult to discover and access. Third, daily monitoring of the PPV service kept track of usage to ensure that misuse or abuse was not occurring. Daily monitoring would also allow the library to track trends in usage, and if unmediated access was using too many tokens too quickly, the library could change the service to mediated access.

For patrons, the only difference between accessing an article from a Wiley subscription journal and an article requiring the PPV service was one additional pop-up screen that informed patrons that the UTHSC Library was paying for the article. The pop-up screen required patrons either to click Continue to go on to the article or click Cancel if they had changed their minds. The HSL believed this feature would be another safeguard against accidental clicks on the full-text links, and it fit nicely with the library’s efforts to brand its resources and better inform its patrons of what it had to offer. The library had no evidence that this additional pop-up screen prevented any misuse of tokens because Wiley did not provide statistics on the number of people who clicked cancel; however, the HSL faculty decided to leave the pop-up screen in place because it informed patrons that the HSL was providing them the access to the article.

**OUTCOMES**

The HSL announced the coming of the pilot PPV service in its winter 2011 newsletter, with the PPV...
service scheduled to start January 1, 2012. Over 1,000 journal articles were accessed using tokens in January 2012, and this number continued steadily over the course of the entire year. The PPV service was so successful that the HSL eventually needed to amend its contract and purchase more tokens.

By the end of the trial, HSL patrons accessed a total of 12,761 journal articles from 764 different journals in 2012. The library spent $156,322.25 on tokens, which was $8,323.25 over the estimated cost for the year. In 2011, the HSL paid $147,999.00 for subscriptions to 24 journals that generated approximately 3,068 downloaded articles (Table 1). The popularity of the PPV service and the apparent need on campus for access to this wider selection of journals made a compelling argument for continuing the service and for university administration to further support the library in these efforts to expand access to journals for the faculty and students.

There were other benefits and savings, not all of which had been considered when the HSL first initiated this pilot PPV service. The copyright royalties that the library would have had to pay to get these articles through interlibrary loan (ILL) would have been substantial. Using PPV as a collection development tool was an enormous success. The HSL was able to monitor which Wiley journals were used the most and consider subscribing to these titles when the subscription cost was cheaper than the PPV cost. The library decided that when the PPV cost for a journal title exceeded 120% of the subscription cost for that title, it would add that journal to the subscription list. Since instituting the PPV service, the HSL has added 14 Wiley journal subscriptions based on its PPV statistics. The library has also canceled 2 Wiley journal subscriptions due to low usage statistics and moved these titles to the PPV service. It should be noted that none of the 24 Wiley journal subscriptions that were cancelled to fund the pilot PPV service were a part of the journals added as subscriptions due to PPV statistics.

The analysis of token usage reports from Wiley indicated no abuse of the PPV service. The library has seen no indications of systematic downloading of entire journal issues or any other suspicious activities. There was some evidence of misuse of tokens, however, as usage reports indicated that nearly 15% of tokens were used to access the same articles more than once, but not enough detail was given in Wiley’s usage reports to determine if these were cases of the same person accessing the article again after the initial 24-hour access period or if another person accessing the article at another time, which would not be a misuse of tokens.

### DISCUSSION

Based on this one-year pilot, the HSL believes a PPV service can greatly expand access to journals for patrons and be cost effective. Libraries whose budgets have forced journal subscriptions cuts may want to consider adopting a PPV service model. The HSL was able to add access to over 700 in-scope journals to its collections, and the entire PPV service remained essentially budget neutral. Other libraries have had even more success and experienced substantial cost savings through their PPV services [1, 8, 18]. Libraries should also consider the ILL savings possible through PPV. Brown reports that using PPV to fulfill ILL requests is a significant cost-saving alternative for requests that require copyright royalty payments [19].

PPV provides precise usage statistics that allow libraries to make informed decisions about journal collections. PPV usage statistics give libraries data, which can be added to other collection development tools such as a collection development policy and patron surveys, to guide the library’s collection decisions. At least one article in the library literature suggests that librarians have been less than successful in selecting the journals that are most wanted and needed [20]. PPV might prove a useful tool to improve library collection development efforts.

Wiley does provide token usage reports, but these reports are somewhat limited in value and need to provide more comprehensive information to maximize their usefulness. Weicher and Zhang also suggest that Wiley give libraries “[t]he ability to block access to certain titles, or certain dates within a title,” as this “would help to prevent tokens from being needlessly spent on resources available elsewhere” [11].

Administration of the PPV service proved no more difficult or burdensome than managing typical journal subscriptions, which was in line with what was found in the literature [1]. The only task that was added to the workflow was daily monitoring of PPV statistics. This was necessary not only to monitor abuse and misuse and to identify journals to consider moving to the subscription list as previously mentioned, but also to monitor the number of available

### Table 1

| Pay-per-view (PPV) costs compared to subscriptions costs |
|---------------------------------------------------------|
| Year | Number of journals available | Number of articles accessed | Average cost-per-use | Our subscription costs | What we would have paid using PPV* | Difference | Our PPV costs | What we would have paid in subscriptions† | Difference |
|------|-----------------------------|-----------------------------|----------------------|-----------------------|-------------------------------|----------|--------------|------------------------------------------|-----------|
| 2011 | 24                          | 3,068                       | $48.24               | $147,999.00           | $37,583.00                    | $10,416.00 |              | $156,322.25                              | $1,265,866.00 |
| 2012 | 764                         | 12,761                      | $12.25               |                       |                               |          |              | $1,109,543.75                            |           |

* 2011 token costs were projected at largest bulk discount price of $12.25 per token (3,068 × 12.25 = 37,583).
† 2012 subscription costs were projected based on 2012 Wiley journal pricing (no discounts factored in).
tokens and add tokens when the account was running low. Despite the many benefits of PPV, there are still concerns over abuse and misuse, particularly with an unmediated PPV service. The literature suggests that in most cases these concerns have not been a problem [1]. Reasonable precautions such as daily monitoring and patron education efforts will help reduce these concerns. Libraries should also be cautious about purchasing too many tokens at one time, again, to aid in preventing abuse of the PPV service.

The more serious concerns about PPV are in regard to the long-term effects it will have on collections and the introduction of cost considerations to the use of libraries resources. Kohl states, “The real problem is that PPV inserts the financial issue directly into the local individual use of information by student, professors and academic staff. The formerly safe harbor of local information use without financial constraint in order to pursue academic goals disappears as does the library’s ability to pursue an agenda of encouraging information use within this safe harbor” [12]. Kohl’s concern certainly has merit; however, if PPV is executed thoughtfully and with due diligence, this concern can be largely mitigated.

Libraries can choose from a range of options in PPV services to fit their particular needs. For example, libraries can select mediated or unmediated access to their PPV services or a combination of the two, such as unmediated access for faculty but mediated access for students. Libraries can decide to use PPV only for high-priced journals in particular subject areas, such as chemistry or engineering, to narrow the scope and better control access. The HSL, with its highly specialized faculty and students, was able to select the unmediated option for both faculty and students, and the results were outstanding. The library went from 3,068 articles accessed from 24 journal subscriptions to 12,761 articles accessed from 764 journals via PPV for essentially the same cost. In this case, PPV was instrumental in encouraging information use and in no way deterred or prevented patrons from using it.

As for the long-term effects to the library’s collections, it is a question of ownership versus access. PPV may not be right for every library, especially those libraries with commitments to developing and preserving their collections, though some feel that declining budgets and electronic access to information has made the model of libraries as great repositories of knowledge unsustainable [13]. For libraries that have a primary focus on providing their patrons access to timely and cost-effective information, however, PPV is an excellent alternative to journal subscriptions [1]. Technology continues to develop and change at almost exponential rates, and now that most libraries have started the transition from print to online journal subscriptions, librarians may want to rethink how long their “perpetual” access will really last. Ownership of online journals might end up being different than print journals. An option for those libraries concerned with losing ownership of online journals due to PPV would be to purchase e-journal archives, which are typically cheaper as the journals get older and are in less demand, to fill in gaps created from PPV services [11]. There is also a concern over the scalability of PPV services. Attempts at PPV services at larger institutions have had mixed results, and the negative aspects of PPV, such as decreased cost control and increased administrative burdens, seem to be accentuated in these larger environments [1, 13]. On the other hand, for smaller academic libraries, health sciences libraries, and hospital libraries, a PPV service is a cost-effective method of increasing access to journals for patrons and the potential negative aspects of PPV are manageable.

CONCLUSION

PPV is a viable alternative to the traditional journal subscription model. It has the potential to expand journal access for patrons, reduce costs for libraries, and assist with collection development. There are some risks and concerns with PPV, and a library would be well served to fully understand these before instituting a PPV service. There are concerns regarding abuse and misuse of the PPV service, some cost uncertainties associated with instituting a PPV service, and questions as to how it will affect libraries’ overall collection development. However, the experience of the HSL suggests that these risks are minimal, and with proper planning, these concerns can be appropriately addressed. As a result of the success and popularity of the PPV service, the HSL will continue to look at other publishers and their PPV service models, hoping to expand its PPV offerings.

REFERENCES

1. Carr PL, Collins M. Acquiring articles through unmediated, user-initiated pay-per-view transactions: an assessment of current practices. Ser Rev. 2009 Dec;35(4):272–7. DOI: http://dx.doi.org/10.1016/j.serrev.2009.08.006.
2. Pollard M, Tucker C. Library collaboration: exploring new business models: an interview with Marvin Pollard. Collaborative Lib. 2011;3(4):217–20.
3. Tenopir C. New directions for collections. Lib J. 2010 Jun 1;135(10):24.
4. Fisher ES, Kurt L, Gardner S. Exploring patron-driven access models for e-journals and e-books. Ser Lib. 2012 Apr;62(1–4):164–8. DOI: http://dx.doi.org/10.1080/0361526x.2012.652913.
5. Sammonds LI. Sustainable collections: the pay-per-view model. Ser Lib. 2012 Aug;63(2):173–7. DOI: http://dx.doi.org/10.1080/0361526x.2012.700778.
6. Schell LE, Giaanni K, Heet B. Playing the field: pay-per-view e-journals and e-books. Ser Lib. 2010 Apr;58(1–4):87–96. DOI: http://dx.doi.org/10.1080/03615261003623062.
7. King M, Nichols A, Hanson M. Pay-per-view article delivery at the University of Wisconsin–Stevens Point. Ser Lib. 2011 Apr;60(1–4):223–8. DOI: http://dx.doi.org/10.1080/0361526x.2011.556038.
8. Wolverton Jr. RE, Bucknall T. Are consortium “big deals” cost effective? a comparison and analysis of e-journal access
mechanisms—workshop report. Ser Lib. 2008 Dec;55(3):469–77. DOI: http://dx.doi.org/10.1080/03615260802059858.
9. Harwood P, Prior A. Testing usage-based e-journal pricing. Learned Publishing. 2008;21(2):133–9.
10. Golderman G, Connolly B. Pay by the slice. Lib J. 2007 Spring;18–26.
11. Weicher M, Zhang TX. Unbundling the ‘big deal’ with pay-per-view of e-journal articles. Ser Lib. 2012 Jun;63(1):28–37. DOI: http://dx.doi.org/10.1080/0361526X.2012.688167.
12. Kohl DF. From the editor…Dr. Jekyll and Mr. Hyde or how reasonable ideas can turn out badly. J Acad Lib. 2006 Jul;32(4):347–8. DOI: http://dx.doi.org/10.1016/j.acalib.2006.04.005.
13. Sowards SW. Library–publisher experimentation and partnership in alternative models for journal content. Ser Lib. 2013 Oct;65(3–4):309–34. DOI: http://dx.doi.org/10.1080/0361526X.2013.837858.
14. Hosburgh N. Getting the most out of pay-per-view: a feasibility study and discussion of mediated and unmediated options. J Electron Resour Lib. 2012 Sep;24(3):204–11. DOI: http://dx.doi.org/10.1080/1941126X.2012.706112.
15. Wiley Online Library. Article select tokens [Internet] John Wiley & Sons; c2011 [cited 28 May 2013]. <http://olabout.wiley.com/WileyCDA/Section/id-406741.html>.
16. Elsevier. ScienceDirect: ArticleChoice [Internet]. [New York: NY]: Elsevier; 2013 [cited 27 Jun 2013]. <http://www.info.sciverse.com/sciencedirect/buying/individual_article_purchase_options/articlechoice>.
17. Karger Publishers. Karger pay-per-view terms and conditions [Internet]. Basel, Switzerland: Karger Publishers; 2013 [cited 27 June 2013]. <http://www.karger.com/Info/PPVTerms>.
18. Chamberlain C, MacAlpine B. Pay-per-view article access: a viable replacement for subscriptions? Serials. 2008 Mar;21(1):30–4.
19. Brown HL. Pay-per-view in interlibrary loan: a case study. J Med Lib Assoc. 2012 Apr;100(2):98–103. DOI: http://dx.doi.org/10.3163/1536-5050.100.2.007.
20. Hanson M, Heidenwolf T. Making the right choices: pay-per-view use data and selection decisions. Coll Res Lib News. 2010 Dec;71(11):586–8.

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