

Increasing transparency for e-journal subscriptions and Big Deals. A comprehensive assessment of e-journals in Science, Technology and Medicine (STM)

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Abstract

The University library of Bern carried out a one-year survey of the frequency of use, cost and cost-per-article-use (CPU) of its e-journals. The collected data allows a comparison of journal bundles and individual subscriptions. The results show that the CPUs for Big Deals are in an acceptable range; however because of their high cost they limit the library's flexibility to provide user-oriented resources.

Key words: evaluation of e-journals; Big Deals; e-journal usage; science and medical research.

Introduction

Bundled sale of electronic journals

As libraries have moved away from print toward electronic formats several commercial and non-profit publishers offered new licensing models that allow access to multiple journal titles for a fixed price. The term “Big Deals” is used for bundled access to journals sold as a unit for one price (1). These 2-3 year contracts have a built-in annual price increase of about 6% (2). The cost is composed of expenditures for journals to which the library previously subscribed (“core titles”), an access fee, and low charges for online access to previously unsubscribed journals (“collection titles”) (3, 4). Kenneth Frazier predicted that even the conditions of Big Deals are attractive for individual university libraries; on the other hand libraries would not be able to sustain the annual increases of such arrangements (3). In general “Big Deal” journal subscription packages are cost-effective, but they consume a large portion of a library's budget and limit its flexibility to purchase other resources (5). In addition, “collection titles” are excluded from archive arrangements in the event of a cancellation of the deal.

Motivation and study goals

For the last approximately 15 years the University library of Bern has been tied to journal packages that limit the flexibility in the selection of titles. The

contracts often force the library to retain subscription even if the composition of the packages does not meet the actual needs. The decision to enter into a bundled arrangement is usually taken after a thorough cost/benefit analysis to see whether the arrangement justifies the expenses. The decision to renew an existing license should be taken with equal care. The 3-month project aimed to verify the relevance of the e-journals in relation to the costs for the Science, Technology and Medical (STM) areas. The evaluation increased the transparency and enabled us to regain control over the composition of our e-journals collection. It allowed us to make economies in order to safeguard future access to e-journals in line with the research and education needs of the University. Further, the annual increase of such arrangements exceeds the normal growth of the media budget and forces the library to find ways to stabilize its expenditure. The STM disciplines are most affected by the increasing costs which limit their ability to purchase additional resources. Funds freed up through the evaluation of current subscriptions could then be used to purchase e.g. missing required textbooks for students. For the first time subject librarians in the STM area got an overview of the content of the bundled arrangements. The survey forms the basis for further decisions and supports the exchange of the topics with the faculties. A second goal we pursued was renegotiations of subscription costs and conditions with the publishers.

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Data gathering and proceeding

First a detailed recording of data for 2014 was carried out to analyse in a second step the data on the level of CPU. The metric CPU is common in US libraries for the evaluation of Big Deals, however in Europe this method is rarely used. The evaluation was conducted on the level of the mode of licensing (deal-level metrics) and the level of the single journals (journal-level metrics) (6).

Collected data are cost, uses, data preservation, CPU, mode of licensing, publisher, long-term preservation, assignment to individual disciplines, ISSN, URL and journal name.

A professional tool or method for the efficient quantitative and qualitative data gathering and analysis is still missing. The Electronic Resources Management (ERM) contains metadata and some additional information. However, several other sources were consulted to collect data on different excel sheets that were finally matched with each other. COUNTER reports are the standard for measurement of use (7). The Successful Full-Text Article Request (SFTAR) was taken from the COUNTER Journal report (J1). Data for uses are often missing, because the small provider does not offer surveys of the uses values.

In order to make the evaluation comparable, the relative uses were calculated, taking into account the number of journals per discipline or licensing model.

Cost were either taken from ERM or individual institute libraries were asked for their payments for subscribed journals.

Results

Comparison of different licence models in the STM area

We divided the different licensing models in small packages (mostly non-profit publishers), the 3 Big Deals (Elsevier, Springer and Wiley-Blackwell) and individual subscribed journals. With 89.5% the bundled arrangements have the highest portion in journal titles; therefore the 3 Big Deals by far outweigh single-title subscriptions. However, the Big Deals recorded only 29% of all uses. The journals of the small bundled sales of the non-profit publishers are frequently used and reflect the high quality of the journals that are often assigned to one specific discipline (Figure 1).

Distribution of the e-journals to individual subjects

The journals of the STM area were classified into 15

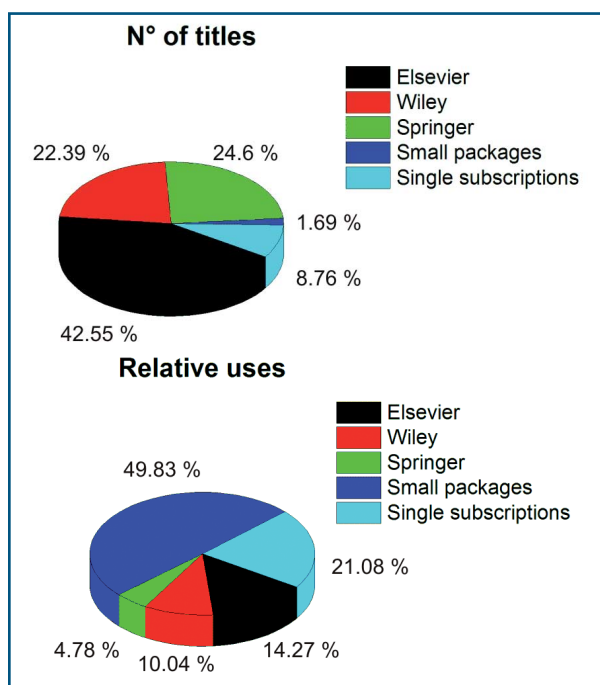


Figure 1. Comparison of number of titles and relative uses for Big Deals, for bundles of non-profit publisher and single subscriptions.

disciplines which we defined ourselves. The analysis considers the individual e-journal subscriptions and the “core titles” of the 3 Big Deals. We observed that the number of journal titles subscribed to roughly corresponds to the number of academics and students in a discipline, with the highest number of journals in the medical area (28.7%) and less journals in the area of plant science and veterinary medicine (1.5%, each) (Figure 2). About 50% relative use are generated by the general Science journals due to a few highly popular titles such as Nature, Science and PNAS. The Veterinary Science shows the highest relative use (15%)

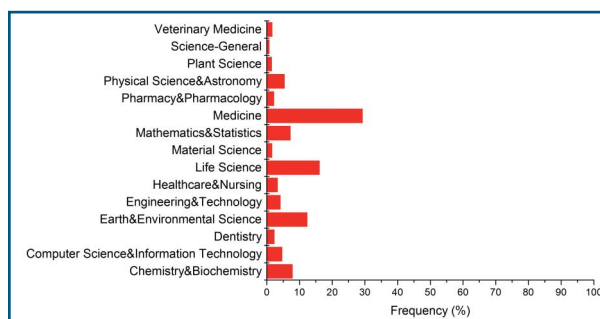


Figure 2. Distribution of the number of titles on individual subjects.

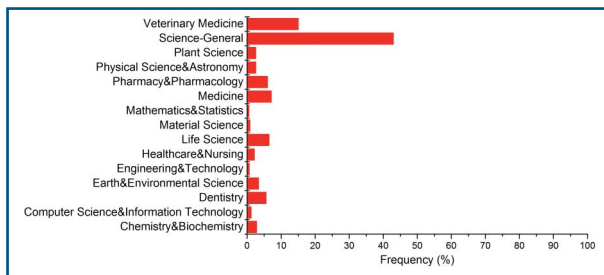


Figure 3. Distribution of the relative frequency of use on individual subjects.

within the individual disciplines (Figure 3). The Exact Sciences have a low relative usage frequency and we observed a high CPU between 20-40 Swiss Francs (~20 – 40\$). Carolina Consortium recommends a detailed analysis of these titles with CPUs over 20\$ (8).

Evaluation of the three Big Deals for all disciplines

In a second step, the study of the Big Deals was expanded to all disciplines. Around 83% of the journals are the “collection titles”. Those “collection titles” selected by the publisher are often swapped for others. Hence, the library has permanent access only to the 17% self-selected titles. The study showed that there are large differences between the individual disciplines. 40% of the e-journals are assigned to Medicine (26%) and the Life Sciences (14%). A high frequency of use was observed for journals within the disciplines of Medicine, Economics, Psychology and Education, whereas journals in the Exact Sciences had high costs and low usage. The low usage numbers are caused mainly by the “collection titles” with an average frequency of use of 30% (Figure 4). There is no match between costs and usage even for the “core titles”. Despite higher usage compared to the “collection titles”, usage does not justify the costs (Figure 5).

Conclusion and next steps

The evaluation increases the transparency in costs, frequency of use and options for long-term preservation. In addition, the evaluation demonstrates the necessity to optimize the product management and the regular evaluation of usage data for the subscribed e-journals.

Only 16% of the titles in the STM area have more than 1000 successful full-text article requests per year and in particular journals in the Exact Sciences

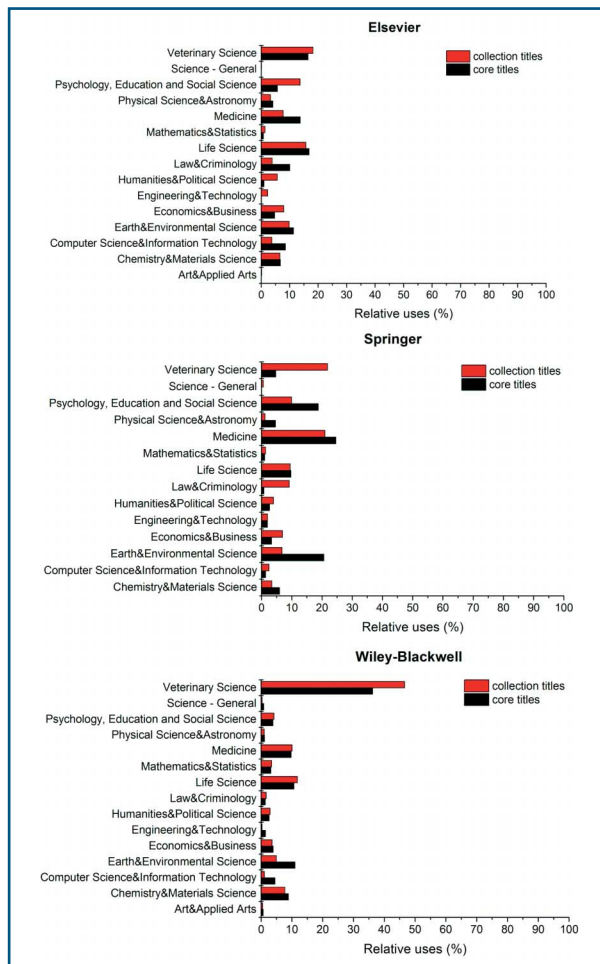


Figure 4. Relative use for the individual disciplines divided in “core titles” and “collection titles”.

have high CPU. This indicates that there are many expensive journals for specific research topics within a small user community. Small packages of non-profit publisher’s show a five times higher frequency of use than the Big Deals and are 2 times more often used than individual subscriptions (Figure 1). Therefore these results are important indicators of the relevance of the journals for the research groups and students at the University of Bern. It facilitates any decision concerning agreements with publishers. The Big Deals have the highest portion of e-journals in the STM area. However, these bundles contain mainly poorly used “collection titles”. Only the “core titles” chosen by the University of Bern are frequently used. Southern Illinois University Carbondale (SIUC) and the University of Oregon library cancelled the agreements with the three Big Deals and negotiated new licenses in 2009 and 2010.

Increasing transparency for e-journal subscriptions and Big Deals

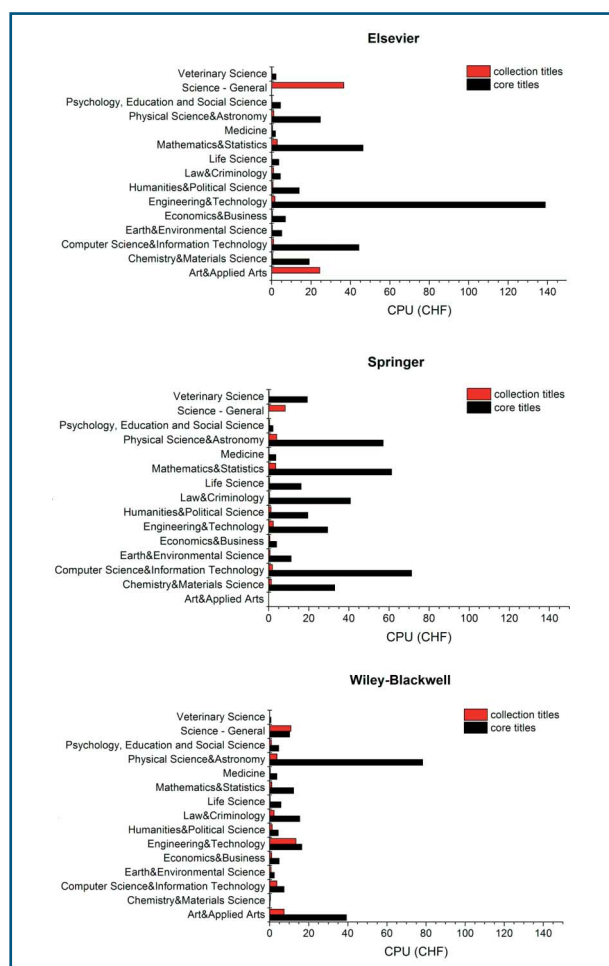


Figure 5. CPUs of the Big Deals for different disciplines divided in “core titles” and “collection titles”.

Recently they drew the consequences and took the decision to leave the Big Deals. The number of interlibrary loan requests increased, however demand for content from non-subscribed journals previously available via the Big Deal is significantly less than expected. Only a small percentage of purported demand translates into interlibrary loan requests. In conclusion they had several stable years of collections budgets and regained the crucial impact of the library on the collection, without affecting the research efforts (9).

Concrete actions at the University library of Bern are difficult to determine partly due to the limited flexibility in renegotiation of the strict and complex contracts with publishers. However, there are two ways for further steps. First, the decision for the continuation of individual subscriptions is not tied to multi-year contracts and can be done individually by

the subject area after consulting the research groups concerned. However, cancellation of the contracts with Big Deals requires alternative ways to get access for required articles and requires a detailed quantitative and qualitative evaluation of all the titles within the Big Deals. Therefore, in a next step the evaluation will consider several years (e.g. 2011-2014) and values for quality and usefulness will be determined and evaluated. In conclusion, the evaluation in the STM area for the year 2014 enables more accurate statements about the frequency in use, archive access of e-journals and related costs. The evaluation of uses for individual disciplines forms the basis for further decisions together with the persons and research groups involved to find cost-efficient ways for access to e-journals.

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