

Testing usage-based e-journal pricing

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ABSTRACT

Following the report of a study in 2004 into journals business models, the UK's Joint Information Systems Committee (JISC) decided to arrange to undertake trials of two of the models addressed in the study. The models tested were: 'Pay-per-View Converting to Subscription' and 'Core Plus Peripheral'. One of the reasons for the trials was to try to ascertain how the models compared with the Big Deals offered by publishers, but they also aimed to consider the technical, administrative and commercial issues that might be involved in operating the models in practice.

The trials took place during 2006 and involved 5 publishers and 10 UK academic libraries. The models trialled in practice deviated from those addressed in the report of the original study and were based on accesses charged not on a pay-per-view basis, but on an agreed charge per full-text download. Users at the participating libraries had access during the year to all the journals published by the participating publishers.

The trials produced a number of useful findings including the need to exclude charging for full-text downloads that were freely available, implications of usage data from intermediaries, issues of archival access and budgeting and administrative considerations for both libraries and publishers.

Introduction

The Big Deal has proved to be the dominant business model since the advent of online scholarly journals in the mid 1990s. Take-up by individual academic libraries and consortia around the world has been massive and whilst the Big Deal is not without its detractors, publishers and librarians have both benefited from its emergence in terms of greater exposure and access to journals.

That said, back in 2004, JISC's Journals Working Group (JWG), the body responsible for overseeing and reacting to developments in online journal publishing on behalf of the higher education community, and with specific responsibility for NESLi2 (www.nesli2.ac.uk), felt the need to investigate what alternatives to the Big Deal might be out there already or gestating in a publishing house somewhere. To that end, they commissioned a study of online journal business models. The work was undertaken by Rightscom in collaboration with Information Power (now merged with Ringgold) and the final, public version was published in April 2005 (1).

The study identified six alternative models, some already being tested by publishers and libraries, some drawn from the emerging world of Open Access and some adapted from models already at work in other industries (e.g. telecommunications). The JWG identified two of these models as being worthy of further investigation; both were models that had already been used in a small way by at least one of the publishers in the trials. These were:

- Pay-per-view Converting to Subscription and;
- Core Plus Peripheral

The Rightscom report described these two models as follows:

- ***PPV Converting to Subscription***

In this model, the institution may have subscriptions to a publisher's titles but uses pay-per-view to access other titles on an ad-hoc basis. Usage is based on a per-download cost with a threshold at which sufficient usage has been made to convert to a subscription. The publisher would be able to set this at a premium above the standard subscription if it so wished. When the subscription level is reached for a title no further charges are applied, and there is unlimited usage.

- ***Core Plus Peripheral***

The publisher offers a set of 'Collections' which may be all their titles in a specific discipline, or even their current subscriptions. Access is then provided to non-subscribed material (the rest of their titles) on a pay-per-view or download cost basis.

It was felt that these two models should be the subject of more detailed work, and if at all possible, trialled by a group of publishers and libraries. Content Complete Ltd (CCL), JISC Collections' Negotiation Agent for NESLi2, was identified as a candidate to facilitate and coordinate any trial activity, given its role and relationship with both publishers and libraries, and its understanding of the various models already being used in the market; it was commissioned to commence work on the project in July 2005. (2)

The aims and objectives of the trials, as agreed with the JWG, included the extent to which these models offered a greater degree of flexibility than some Big Deal arrangements, what might be the technical, operational and commercial impact on publishers and libraries in adopting the models; and whether or not in general,

these are models that both libraries and publishers might like to see in use.

The process of seeking participation by a selection of libraries and publishers began in August 2005 and it proved to be a lengthy one: explaining the background, discussing what would be involved including the time commitments required from staff on both sides. It became clear very early on that we were not going to have queues of publishers and libraries wanting to participate: some suspicion about what participation might mean, allied to genuine concerns about the staffing resources required, meant that those early weeks were spent trying to arrive at a balance between sufficient participation to ensure meaningful results and an element of cajoling and persuasion to get any participation at all!

By December 2005, we had agreed that 5 publishers, each working with two university libraries (10 in total) would give us sufficient breadth and data to be able to draw some worthwhile and robust conclusions at the end of the trial. The 5 publishers and 10 university libraries who agreed to participate are listed in Table 1.

Table 1 – participants in the trial

Model*	Publisher	University	JISC band**
Core Plus Peripheral (Core Collection Plus)	Royal Society of Chemistry	Open University	A
Core Plus Peripheral (Core Collection Plus)	Royal Society of Chemistry	University of Warwick	D
Core Plus Peripheral (Core Collection Plus)	BMJ Publishing Group	University of Birmingham	A
Core Plus Peripheral (Core Collection Plus)	BMJ Publishing Group	University of Westminster	C
PPV Converting to Subscription (Download Model)	Elsevier	University of Wales, Bangor	E

PPV Converting to Subscription (Download Model)	Elsevier	University of Leicester	C
PPV Converting to Subscription (U2S)	Institution of Mechanical Engineers	University of Greenwich	C
PPV Converting to Subscription (U2S)	Institution of Mechanical Engineers	University College London	A
PPV Converting to Subscription (Capped Pay Per Download)	Oxford University Press	University of Glasgow	A
PPV Converting to Subscription (Capped Pay Per Download)	Oxford University Press	University of Liverpool	B

- ** Each group agreed its own name for the model being trialled*
- *** All UK higher education institutions are allocated a JISC band based on a range of measures including size and research funding. These bands are regularly used by publishers and content providers to provide a form of tiered pricing*

Once the various groups had been established and some basic formalities, undertaken including signing a brief Letter of Agreement specifying that some confidential data and information exchanged during the trials would not be shared with other third parties other than the JISC itself and its Journals Working Group, the focus of discussions turned to the practical issues of handling the trial.

What became immediately apparent was that trialling genuine, non-library-controlled pay-per-view models would not be possible. Given the timing of the commencement of the trials (for most of the groups these discussions were already taking place in late 2005, after decisions regarding budgets had already been made and acted upon) it was also clear that the activities would have to be 'budget neutral' for all parties: the libraries were not in a position to spend more than they had already committed for the forthcoming year and the publishers were not in a position to accept any reduction in income.

The issues raised in the preliminary discussions necessitated a significant re-think and, having assembled all the various parties and got their buy-in, everyone was keen to go ahead but based on some revised parameters. It was decided, therefore, that we would proceed but with two significant adjustments:

- The two models to be trialled would deviate from those originally described in the Rightscom report and would be based, not on pay-per-view, but on downloads, with publishers opening up access to their partner libraries to all their titles
- No money would change hands between the various parties. Publishers would calculate costs based on the amount of activity at the partner library, but no fees would be charged

The trials would therefore be academic exercises carried out 'behind the scenes' and reviewed regularly by each of the groups by way of quarterly meetings throughout the trial period. At the same time, a range of issues, relating to the models and their potential impact on the way libraries and publishers work, would be raised and discussed by participants.

For the original Core Plus Peripheral model, participating libraries went through the same process that would be necessary in the original model outlined in the Rightscom report: defining a list of core subscriptions for which unlimited access would be available and a list of additional (peripheral) titles which would be available to download. (For the purposes of the trials, the participating publishers opened up access to all their titles to the two institutions participating in their trial).

For the PPV Converting to Subscription Model, the download was once again the key metric used and within the three groups that trialled this model, there were slight differences in approach. One publisher applied its actual PPV rates (which varied from journal to journal) to each download. Once the cost of the downloads reached the subscription price plus a surcharge, the title would be deemed to have converted to a subscription and no charges would apply that year for accessing further articles from that title. The other two publishers agreed a download fee with their respective libraries and applied this throughout without adding a surcharge to the subscription price. For the publisher which applied its actual PPV rates, download charges ranged from £7-£22. Across the other four publishers the agreed charges were: £3.50, £5 (two publishers) and £10. All parties agreed that full-text downloads would be the relevant metric, based on the COUNTER JR1 report.

Findings from the trials:

A variety of findings emerged from the trials, some of which were concerned with technical issues relating to full-text article downloads, whilst others were in the area of administering the pricing models, the resources available and the role of intermediaries.

Downloads to be excluded:

The basis of the models that were trialled was the application of a charge for each full-text download. The level of the charge was agreed between the publisher and its library customers. However, some e-journal content which is downloaded may be from journals which are either freely available for some reason or that have already been paid for separately. These include:

- articles published in either completely open access (OA) journals or in hybrid OA titles;
- articles that are made freely available by the publisher for promotional purposes, either permanently free (for example after 12 months), or free for a limited period of time - this might include 'hot articles';
- articles that form part of an archive of backfiles that a library has already paid for separately.

In order to arrive at an accurate count of chargeable downloads, it would be necessary to filter out all the 'free' articles and exclude these from the calculations. During the trials two publishers indicated that they would be able to achieve this technically by way of systems development, but only one of them had completed this activity by the end of the trials.

For those publishers who were not able to offer a system that filtered out the

'frees', two agreed to reduce either the cost per download or the number of downloads required to convert to a subscription, based on an agreed level of reduction.

It was felt by those in the trials that, unless the free content could be removed from the download totals using a methodology that was agreeable to all, the models would not be acceptable.

Double counting

This addresses the issue of an article being counted twice as a result of a user connecting to a PDF eg for printing after viewing the HTML version of the same article online. Under a metered usage-based pricing model, this activity would be counted and charged twice. A number of the participating publishers in the trials suggested that this is quite legitimate and that the HTML and PDF offer different characteristics and value to users.

However, one of the participating publishers decided to reduce the cost per download by 10% to cater for the 'double counting' effect, based on their internal analysis of patterns of usage, which showed that whilst HTML downloads account for around 29% of overall usage, only 10% of HTML downloads are followed by a PDF download of the same content.

PDF and HTML usage

The ratio of use of HTML to PDF versions of articles downloaded proved to be interesting in the trials. Four of the five publishers participating in the trials offered both HTML and PDF. Use of HTML versions by the users at the participating institutions ranged from a low of 12% to a high of 65% and for PDFs it was 34% to 87%

Usage data from intermediaries

In order for libraries to gain a more complete picture of total number of article full-text downloads by their users, it would be necessary also to take into account the number of accesses via intermediaries' gateway services. Whilst in some cases these are already provided by publishers as part of their overall totals, in other cases this was not possible. Statistics provided to libraries by the intermediaries would therefore need to be aggregated with those from publishers in some cases, to obtain a picture of total use.

'Archival' rights

In 'traditional' pricing models, many publishers grant so-called archival rights to 'subscribed' journals to libraries - i.e. if subscriptions are cancelled, ongoing access continues to be provided online to the subscription periods that were paid for. However, in a pricing model that provides access to all articles in all journals, and applies an agreed charge for each full-text download, it was found in the trials that publishers would generally be unwilling to grant 'archival' rights for every article ever downloaded. The publishers would, however, grant 'archival' rights to those journals where downloads had reached levels such that they 'converted' to a subscription, or where such titles were deemed at the outset to be part of the 'core' subscribed journal collection.

Administration of usage-based pricing models

Consideration was also given in the trials to the amount of administration that might be involved in operating usage based e-journal pricing models.

Over the last few years, many publishers have found it necessary to implement new systems to manage their consortia agreements. Some have tackled this in an integrated fashion as part of their overall subscription management system,

whilst others have found it necessary to maintain separate administration packages to manage these agreements.

In the trials, two of the five publishers took responsibility for producing the usage data and associated reports for the participants, whilst Content Complete, as project coordinator, took responsibility for this activity in the other three.

One publisher analysed the processes involved and length of time it took to generate the data and update the model for one month and calculated the time at 1 hour per institution. Whilst acknowledging that greater familiarity with the processes involved would speed-up the process and that automation would eventually be able to replace some of the manual tasks, publishers in the trials still considered it to be a significant overhead, particularly as institutions really require a monthly update and overview in order to keep on top of the financial implications.

Previous JISC-commissioned research, notably the study of NESLi2 usage statistics undertaken by Evidence Base (3) and the report into the feasibility of establishing a central usage statistics service carried out by Key Perspectives Ltd, has highlighted the difficulties experienced by libraries in making sufficient resources and expertise available to monitor and analyse their usage statistics.

Under usage-based pricing models as tested in the trials, libraries would be faced with more administration, which would be essential as opposed to 'nice to have', given the financial issues at stake. Usage would need to be scrutinized more regularly, annual budgeting would be more time-consuming and less predictable and there would be an increase in the number of publishers' invoices to process.

Libraries would also need to feel confident that they understood how data on usage via intermediaries was collected and reported and, for those operating a decentralized budget, they might well feel the need to consult with various departments/funders regarding the apportionment of the expenditure. They might

also feel the need to apply certain 'caps' to the number of downloads that could be carried out within budget, which would of course run counter to everything the library is trying to achieve on behalf of its users.

Financial and cost issues:

The trials showed that a pricing model which simply applies a fixed charge for every full-text article downloaded by users across an institution could present far too much risk and uncertainty in terms of library budgeting. At the price levels tested, furthermore, it was shown that overall annual expenditure could be significantly higher compared with using more traditional pricing models. Whilst usage can be monitored, it is not practical to restrict or terminate usage when expenditure levels reach unacceptable levels. Under the 'PPV' model, charging for downloads ceases when the agreed subscription level of a title is reached (ie unlimited access after that point), but the overall expenditure incurred by downloads from all titles (including those that have not yet reached the subscription level) can result in very high overall levels of expenditure.

It was felt that on the basis of findings from these trials, a 'traditional' Big Deal pricing model is likely to give much greater budgeting predictability, whilst still offering access to all titles from the participating publisher.

Whilst the downside of the models is the risk and financial uncertainty, access to all the titles of a given publisher, and the measurement of usage that goes with this, can be valuable in helping define which titles are of most interest to an institution's users and which titles should form the core of a collection or should be subscribed to.

The role of subscription agents

The area where the traditional agent would expect to be involved is in the financial and general administration of the model on behalf of libraries (and

possibly also on behalf of the publisher).

During the trials interviews were held with two leading subscription agents operating in the UK academic market; additionally views on the role of agents in these models were sought from the publishers and institutions participating in the trials.

One agent took the view that agents simply had to be prepared to adapt. They would continue to play their traditional role in simplifying the ordering, payment and administrative processes involved in models such as those being trialled. They suggested that increased complexity and granularity actually played into their hands since it was the 'many to many' transactions that had led to the creation of agents in the first place. Over the last 10 years, agents have lost significant portions of their academic library business as a result of the relative simplicity of the Big Deal -one product, one invoice and one customer (a consortium); this has led many publishers and consortia to deal directly with each other rather than via the services of an agent.

This agent is also gearing up for the time when e-book and online journal content begin to converge in terms of purchasing and access.

The second agent expressed reservations about its possible role with such models, firstly regarding the willingness of publishers and libraries to consider asking it to handle some of the administrative aspects of the model, and secondly regarding its ability, via already established systems, to handle the models reliably anyway.

This company also commented on the emergence of e-commerce systems in universities but, based on its experience, it felt that these had not yet had significant impact on the processes of library acquisitions and purchasing. It had also found that the precision required by such systems, in terms of fixed prices, does not marry well with the fluctuation in journal prices based on currency

exchange and multiple prices for different formats (print, print and online, online-only).

In general, the publishers and librarians participating in the trials were not wholly confident about the role of subscription agents in administering models like these. A number of the librarians cited problems in Big Deal agreements, where the involvement of a third party simply lengthened the communication chain rather than providing the traditional efficiencies offered in the print world. Other concerns centred around the need for both publishers and libraries to have ownership of the model, given how critical it was to maintain an overview of the financial implications on a monthly basis.

Conclusions from the trials

The modified versions of the models that were trialled used metered usage as the sole basis for charging; for both publishers and libraries this would have presented major budgetary and budget planning issues. Although on several occasions the various groups discussed scenarios in the event of a library 'running out of money', no satisfactory agreement was reached on how to deal with this problem.

Whilst COUNTER has taken us a long way down the path of providing credibility and reliability in the area of usage statistics, business models for which every single download has a financial implication require total confidence in the accuracy of the data from both parties; and the feeling from these trials is that we are not yet at that level of confidence.

The growth in the volume of freely available content – the various flavours of Open Access, the growing amount of freely available and paid-for backfile content and promotional articles – all need to be excluded under the models trialled; it is clear from experiences of five publishers that this is not an easy or quick process

to resolve.

There was also a feeling from both libraries and publishers that the overheads involved in monitoring usage and predicting outcomes were considerable. As noted by one of the participating librarians, 'publishers would need to see their income rise to cover these costs, and libraries would need to see their expenditure fall to cover these costs'.

Models very similar to these are the subject of experiments between publishers and some of the global pharmaceutical companies and they are being refined each year as the reliability of the usage data, and some 'history', is built up. In the academic community, and certainly for large, multi-disciplinary universities, the evidence from the models used in these trials suggests that the Big Deal, with all its inherent frustrations, is likely to be around for several more years yet.

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