Don't Confuse Price With Value -- In Academic Publishing, Electronic Is Better

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Introduction

Academic publishers are the incubators of the publishing industry. While the media coverage concentrates on the glamorous world of top novelists, best sellers and literary prizes, academic publishing concerns itself with supporting research and scholarship. It publishes the results of academic work in an orderly and structured environment that serves the interests of both authors and readers. It validates research by facilitating the peer review system of quality control. Its books and journals are bought by academic and research libraries, and are rarely seen in most bookshops. In many cases, the readership can be measured in hundreds, spread across the globe. Print runs are low, and prices are high.

In recent years, the media spotlight has turned on this sector of publishing – particularly on journals, which are the universal currency of academic research outside the Humanities. The journal market has been characterised for functioning imperfectly by the Office of Fair Trading. A relatively small number of large commercial companies now dominate academic journal publishing, following the dramatic consolidation within this sector, exemplified by the recent Elsevier/Harcourt merger. Public disquiet within the academic and library communities over the role of publishers within scholarly communication has emerged, evidenced by the Public Library of Science initiative, the establishment of SPARC and its European counterpart, the creation of PubMed Central and the publication of the “Budapest Manifesto.”

The Struggle to Make Ends Meet

In its analysis of the journal market published in September 2002 (“Scientific Publishing: Knowledge is Power,” London, 2002), Morgan Stanley Equity Research estimates that academic libraries in the United States account for about 60 percent of the worldwide market for scholarly literature. Within the overall library budget, 46 percent represents staff costs, other operating costs account for 13 percent, and 41 percent on books, journals and other information, of which over half goes on journals. The Association of Research Libraries’ statistics show that U.S. research libraries spent over 16 percent of their acquisition budgets on electronic resources in 2001, and this proportion is increasing at a rate of over 30 percent. While these figures are based on United States academic libraries, there is no reason for funding and expenditure patterns to be significantly different in Europe or elsewhere.

Journal expenditures have increased dramatically year-by-year from 1985 to 2000. However, recently the trend has reversed; the median serials unit cost declined by nearly seven percent in 2001. Not only have publishers moderated their annual price increases recently, but library consortia have used their bulk purchasing power to provide additional titles for little extra money, with the cost being spread across all member libraries.

We are currently in a cyclical downturn, which is affecting U.S. library budgets in particular. Thirty-seven out of fifty states in the U.S.A. have static or reduced budgets for higher education in 2003. Tax revenues have declined as a result of the economic slowdown, and public spending is being cut in order to keep public sector borrowing at manageable levels. This situation is mirrored in many economies in the developed world. As a result, it is becoming more important than ever to demonstrate that accessing “value” of scholarly publications is a more complex matter than simply looking at price. It becomes even more complicated when the respective values of print and online information are compared.

In order to examine this in more depth, some data from two contrasting publishers, Emerald and the Institute of Physics Publishing (IOPP) was compared. Emerald is a privately owned publisher of 116 primary journals in management, engineering, library and information science, applied science and technology. IOPP is a learned society publishing thirty-seven research journals in physics, as well as a range of reference and trade books, magazines and online resources for schools.

Both have adopted the electronic publishing environment with skill and energy. Emerald has set out to persuade its customers to use its online full-text database of journal articles by providing them at lower prices and by adding a variety of features for authors and readers. IOPP has digitized all of its journals back to 1874, and offers its journals in a variety of packages at a discount.

Measuring Usage

Measuring use and assessing what constitutes “value for money” in academic publishing has always been difficult. In the print environment, usage has been measured by the number of times an article is “used” in the library. But electronic is different. The technology allows us to record every use. Moreover, every scholarly publisher has seen exponential growth in the usage of online journals. The sheer convenience of accessing information at the desktop without having to visit the library, as well as the ability to search for information and link to and from references and abstracting services means that the scholar benefits from an integrated information service on his or her PC, quite like that provided by the library from the print collection. Online accessibility has extended the use of even the most specialised and esoteric journals and created new readers. The problem of measuring that use has moved from one of actually capturing the data to one of definition: what type of access is significant enough to constitute a single “use” of an article or a chapter.

Emerald and IOPP provided data on usage in 2002. They were asked to exclude all free access to table-of-contents information, abstracts or any free access to full-text material. They were asked to define full-text access as comprising a download or printing of the article; browsing was not included. The objective was not to overstate the “use” made of the electronic journal. Nevertheless, the usage in 2002 was staggering:

<table>
<thead>
<tr>
<th>Publisher</th>
<th>Number of Articles Available</th>
<th>Total Downloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerald</td>
<td>32,091</td>
<td>36,012</td>
</tr>
<tr>
<td></td>
<td>39,934</td>
<td>3062,502</td>
</tr>
<tr>
<td>IOPP</td>
<td>117,226</td>
<td>154,882</td>
</tr>
<tr>
<td></td>
<td>136,054</td>
<td>3,093,655</td>
</tr>
</tbody>
</table>

Costing Each Use

Establishing “value for money” is, at best, a subjective process. At its simplest, we can compare prices at the journal and the article level. We can also measure “cost per use.” To a publisher, this looks like simple arithmetic, dividing the price by the number of uses made of the journal or individual article.

An expensive journal that is well used may be a better value for money than a low-priced title that is read infrequently. In its report, Morgan Stanley provided some data to illustrate this point on a selection of scientific and medical titles. Based on usage, the lowest cost per use was...
Brain Research, an Elsevier journal that happened to be the most expensive title in the selection. The cost per use of the cheapest title was eight times higher.

The costs of using Emerald and IOPP journals were assessed by aggregating all 2002 online revenue (from site licences, consortium deals and pay-per-view traffic on their Websites), and 50 percent of the revenue from their "traditional" journal subscriptions (both offer online access as well as the printed copies). The total was divided by the number of downloads:

<table>
<thead>
<tr>
<th>Publisher</th>
<th>Total Downloads</th>
<th>Average Price Per Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerald</td>
<td>3,062,502</td>
<td>3.43 GBP, 5.46 USD</td>
</tr>
<tr>
<td>IOPP</td>
<td>3,093,655</td>
<td>2.88 GBP, 4.58 USD</td>
</tr>
</tbody>
</table>

Given the changing nature of the academic library market as the usage of electronic information increases at the expense of print, the conclusion reached is that one may draw from these figures can only be tentative. Nevertheless, there is an awareness that there is an increased awareness of the need to consider the cost of online journals. Libraries at Drexel University in Philadelphia (Montgomery & King, “Comparing Library and User Related Costs of Print and Electronic Journal Collections - A First Step Towards a Comprehensive Analysis,” D-Lib Magazine 8:10, 2002).

Benefits of Electronic Delivery to the Library and Its Readers

Libraries benefit from the move to electronic delivery of journal literature. They avoid the costs of binding printed journal issues each year. The need for additional space in the library is reduced. Access is not dependent on library opening hours or location. And library staff can be redeployed on professional duties by discontinuing the manual handling inherent in check-in, re-shelving, repairs and processing of interlibrary loan requests.

Within the consortium that uses its collective purchasing power, individual libraries benefit. Duplication within and between collections is eliminated. The consortium in Victoria, Australia, CAVAL, found that an analysis of duplicate serials within the academic libraries in Victoria revealed considerable overlap. Half the journals were being held in three libraries or more. Of the 4,000 titles that were held on paid subscription, 1,953 titles, or roughly half, were available in electronic form. Readers benefit in that they can access journals on campus or remotely, wherever the time or any. There is no need to visit the library or the desktop. Moreover, readers have been found to spend much less time locating and obtaining library-provided articles when they are available electronically.

Measuring True Value

The first systematic analysis of the organisational impact of the migration to electronic journals is the case study at Drexel University by Montgomery & King. The study analysed operational cost savings at Drexel, which has moved to a journal collection that is now predominately electronic. It examined the costs of space, systems, services, supplies and staff and allocated them separately to bound print journals (i.e., current issues), bound journal volumes and electronic journals.

The study reveals the contrast between the unit cost of printed journals and electronic journals, particularly at the level of cost per use. Based on Drexel’s holdings, it found that the library’s operational cost of providing a single “use” of a journal article was as low as $0.45 for electronic journals; this contrasted with $6.00 for current (unbound) issues and a staggering $30.00 for bound journals.

Interpreting these figures is fraught with difficulty. The study was conducted in the absence of agreed standards on the definition and compilation of such usage data. Nevertheless, big differences in operational costs are significant.

The Need for Standards

Measuring the use of online information needs to be done in a more agreed on and consistent way. Both publishers and their customers want to know how information is being used. But to be meaningful, the recording and reporting of online usage data must be done according to international standards. Project COUNTER (“Counting Online Usage of NeTworkead Electronic Resources”) released a Code of Practice on January 14, 2003, that specifies and defines the data elements involved, and the format, delivery, frequency and granularity of output reports with respect to journals and databases. It defines how remote usage of institutionally licensed products can be measured. It also specifies the methods by which direct usage reports and those from intermediaries (gateways, aggregators and electronic delivery vendors) may be combined. The significance of COUNTER is that it is a genuinely international effort, widely supported by librarians, subscription agents and other intermediaries, and publishers, as well as their professional organizations.

What Does this Mean for Publishers?

Comparing just two publishers out of the many scholarly journal publishers may lead to conclusions that are unsupportable. The available evidence, nevertheless, strongly indicates that electronic journals provide significant cost advantages in two major respects:

- Publishers can deliver their journal literature electronically at a lower cost per use than in print, and
- Libraries incur greater operating costs in dealing with readers’ requests for printed journals than they do for the electronic equivalent.

Taken with the evidence of increased convenience to the reader and greater effectiveness of the library service, the electronic journal provides incomparably enhanced value for money when compared with the traditional printed volume or issue. This presents publishers with a challenge. Libraries, beset by budget problems, inevitably focus on price. They use measuring devices such as JST’s Impact Factor and will undoubtedly use their own usage data as factors in assessing the importance of monograph or journal information to their faculty and students; when renewals come around, the price of the journal will be a major factor in acquisition or cancellation decisions. Publishers face the challenge of convincing librarians that price and value are not necessarily the same thing, and that their decisions should be based on the utility of the information as much as price. This is a marketing challenge to be grasped immediately.

Acknowledgement

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Webworthy

Reference

How often do you hear, "Where can I find information on...?" The Infography (in-FOG-ra-fy) hopes to help answer that question. Scholars, 93% of whom are professors, submit bibliographies of the best sources for various subjects. Each bibliography includes six superlative sources for the topic as well as other good sources. Citations most often include books and journal articles, but include online sources as well. The site has simple and advanced search options with a good help page. Note that return search terms seem to glean better results; for example, a search for "cancer" yielded 14 results ranging from "amphibian population decline" to "radon" to "sweetener." a search for "leukemia" yielded only one response “HTLV-I, Transformation of Human T-Cells.” Of course, the variety of topics is limited by the range of bibliographies received, and many topics may not be covered. However, great would it be, though, to be able to say to a patron, "I have a list of the best sources for your topic right here." (Wendy E.Wood, Virginia College at Austin) — http://www.infography.com

Sometimes even the best search algorithm produces a plethora of hits that must be sifted through for useful results. Vivisimo, a company which markets search engine enhancements, offers free demos of a clustering tool which neatly parses results from PubMed and dozens of other corporate, government, news, university, and other information sources into subtopics folders. Although the demo is limited to 200 hits, it may nevertheless save you and your patrons a lot of time, at least while it is still offered. The company also offers demos on its Enterprise Publisher and Content Integrator products. — vivisimo.com/http://vivisimo.com/de/Overview.html

Back Talk

lieve, this will define what a librarian is and we won’t have to feel embarrassed to be one.