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**Professional/
Scholarly
Publishing
Bulletin**

Reprinted from
Volume 14, No. 2/3, Fall 2015

From the Executive Director's Desk

by John Tagler, *PSP Executive Director*

2013 AAP Journals Publishing Survey

The 2013 *AAP Industry Statistics* Survey for Professional and Scholarly (PSP) journals has just been released and dispatched to AAP/PSP members and non-member survey participants.

This survey provides insights into activities, trends and shifts among 29 participating publishers. The results reflect the ways traditional scholarly publishers are responding to the needs of their constituents – authors, librarians and readers. While the survey is not comprehensive – some large and many small subscription-based publishers did not participate and no open-access-only publishers accepted an invitation – the survey provides a perspective on the industry and has implications beyond participating publishers relative to the universe of approximately 28,000 active English-language scholarly journals (as estimated in the *2015 STM Report: An Overview of Scientific and Scholarly Journal Publishing*).

PSP extends its appreciation to every organization that submitted data used in this valuable industry summary. Completing data-laden forms is a time-consuming but critical task that provides a perspective on the scholarly and scientific journal publishing landscape.

Scope of the Report

For the 2013 survey, 29 publishers reported on 7,307 journals, a modest 1% increase over the 2012 survey which reported on 28 publishers with 7,230 titles. The roster of publishers submitting was basically the same except that in 2013 one major society publisher's journals were merged into a commercial publisher's list and two new society publishers were added. (For the list of participating publishers in 2013 and 2012 see the section on "Participating Publishers in 2013" at the end of this report.)

It is critical to note when comparing the 2013 analysis with the 2012 analysis, as presented in the *PSP Bulletin*, vol 13, no. 2, *Spring/Summer 2014*, that slightly different lists are submitted each year. All publishers that submitted to the 2012 report did so again for 2013, with two new society publishers added. Year-to-year industry trends may be inferred by comparing different yearly surveys, but the statistical analysis that follows below is based only on data reported for the three-year period 2011 – 2013, unless otherwise specified.

Among responding publishers, there has been steady growth in article output over the three-year span from 801,725 articles in 2011 to 875,428 in 2012, 9.2% growth, to 936,391 in 2013, 7.0% growth. This growth is consistent with a longstanding pattern, according to the 2015 STM Report, which states, "The number of articles published each year and the number of journals have grown steadily for over two centuries, by about 3% and 3.5% per year respectively, although there are some indications that growth has accelerated in recent years (p. 6)." Several thoughts on the topic are shared later in this analysis.

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The 2015 STM Report estimates that there are around 11,550 main English-language journals (p. 6). More than half of that universe is included in this survey. Considering the fact that many of the surveyed journals are among the most widely-read and highly-cited journals published, their influence in terms of citations as well as usage in academic and research institutions would likely be well above the 60% mark in each case. These patterns are consistent with bibliometric research published by Thomson Reuters and Elsevier (Scopus).

The survey collected data in three areas:

- Production in units
- Sales in thousands of dollars
- Subscriptions in units

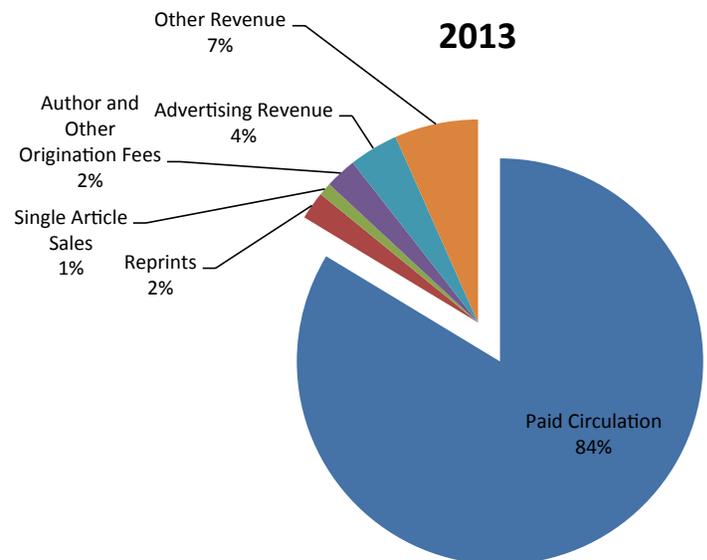
Sales and Revenue

The roster of respondents (please consult the end of this report) is significantly weighted toward scientific, technical and medical journal publishers. Total 2013 revenues from 29 publishers were \$4.474 billion, which includes income from paid subscriptions (print and digital), advertising, reprints, single article sales, author/other origination fees and other sources. This represents an increase of 1.6% compared with 2012 revenues of \$4.402 billion which was 2.9% over the 2011 total of \$4.276 billion.

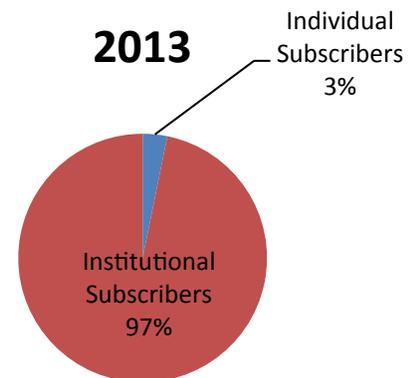
As has long been the case, the vast majority of revenue is derived from institutional subscriptions. Scholarly journals, particularly from STM publishers, are principally sold to academic, research, hospital and corporate libraries. Income from paid institutional subscriptions has grown over the three-year period (\$3.306 billion in 2011, increasing by 6.4% in 2012 to \$3.517 billion and by 3.0% to \$3.624 billion in 2013). Institutional subscription revenues have increased slightly as a percentage of total subscription revenues from 96.2% in 2011 to 96.6% in 2012 and 96.8% in 2013. There has been a concomitant decline in individual subscription income from \$130.2 million in 2011 to \$125.3 million in 2012 to \$119.3 million in 2013 which suggests readers are increasingly relying on institutional holdings that have become more readily available via digital delivery through a campus or institution.

Paid circulation (including institutional plus individual subscriptions) has increased as a percentage of total revenues from 80.4% in 2011 to 82.8% in 2012 to 83.7% in 2013. This would suggest that other sources of journals revenue are declining as a percentage of total revenues.

Total revenue stream for journals in 2013



Breakdown of largest revenue stream – paid circulation



Advertising

A key revenue stream for one STM journal sector – mostly medical specialty titles with circulation to practitioners – is derived from advertising. While advertising is not financially significant for most scholarly journals, advertising from pharmaceutical companies, followed at a considerable distance by medical device and equipment manufacturers, plays a major role mostly for medical journals. Twenty-four of the 29 submitting publishers reported on advertising. A quick glance at the five that did not submit would indicate that all five are likely to carry little or no advertising if patterns of submissions on advertising data are compared with other publishers with similar publishing profiles.

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Advertising started to see a downward spiral starting with the economic downturn in 2009, both in terms of actual revenue as well as percentage of total journal income. Advertising revenue in 2013 totaled \$175.6 million which represents a 12.9% decrease from 2012's total of \$201.6 million. The 2012 total declined an appreciable 14.1% from 2011's advertising income of \$234.8 million. The impact of advertising income relative to total journal income has declined during the three-year period, from 5.5% in 2011 to 4.6% in 2012 to 3.9% in 2013.

This is attributable to changing dynamics in the pharmaceutical industry (e.g., direct-to-consumer advertising, industry consolidation and fewer major new drug launches) along with reduced advertising budgets in all sectors. The trend has been compounded by questions surrounding the transition from print to digital use of advertisements and how the ads are used.

While the overall pattern of declining advertising revenues is disturbing, there are unsurprising dynamics at play in the balance between revenues from electronic vs. print advertising. While the vast percentage of advertising revenue still comes from print, the revenue and usage patterns point to a tangible shift in the impact digital ads are having. Print-only ad revenues declined 19% from \$208.3 million in 2011 to \$168.6 million in 2012 and another 25.1% to \$126.3 million in 2013. But there has been dramatic growth in electronic-only advertising from \$17.3 million in 2011 to \$24.2 million in 2012 to \$40.6 million in 2013, representing increases of 40% and 67.8% in 2012 and 2013 respectively. During this period advertising revenue derived from a combined print + electronic advertising option remained relatively consistent – \$9.2 million in 2011 dipping to \$8.8 million in 2012 and remaining stable at \$8.8 million in 2013. Clearly, while electronic advertising is increasingly important, it is not compensating for the loss in print advertising revenues. As one medical publisher put it, “We’re trading analog dollars for digital dimes.”

A look at what's happening with electronic ads reveals an interesting pattern but only a fraction of those publishers that submitting data on advertising revenues also provided data for all three years on advertising pages displayed and the number of click-throughs. For eight publishers that reported on the number of advertising pages displayed during the three-year period, there were 131.4 million

electronic ads displayed in 2011 followed by a slight decline (5.7%) to 123.9 million in 2012 and then an increase (7.9%) to 133.6 million in 2013

The number of click-throughs followed a similar pattern with six publishers submitting on this data point for the three years. Two publishers, however, were not among those not providing data on electronic ads revealed while four publishers that submitted on ads revealed did not submit data on click-throughs. The number of click-throughs for the three years exhibited a strange pattern. In 2011 there were 956.2 thousand click-through followed by 453.6 thousand in 2012 and a rebound to 652.5 thousand in 2013. This dramatic swing, which was also reflected in the previous (2012) survey covering 2010-2012 journals, suggests that some other factor was likely in play. It is impossible to confirm exactly where discrepancies lie from one year to the next, but this pattern suggests that the criteria for counting click-throughs between 2011 and 2012 may have been inconsistent or altered by some publishers. One publisher that submitted data for 2012 and 2013 but not for 2011 was eliminated from the calculation. The data is noted in this analysis as a point of interest but certainly no conclusions should be drawn from the statistics. It is hoped that the survey of 2014 patterns will display a more illuminating pattern as this data point is an important metric to advertisers.

E-advertising revenue depends on traffic to publishers' websites. Advertisers demand publishers provide detailed analytics of usage patterns. However, with increasing external pressure to host different versions of articles on third-party websites (e.g., PubMed Central, author websites or institutional repositories) – not to mention traffic diverted by rogue sites – publishers' ability to derive revenue from e-advertising may be significantly compromised if access to freely available content on other sites supplants traffic to versions of record on publisher sites.

Additional Observations on Sales and Revenues

Sales of reprints have declined over the three-year period, from \$120.9 million in 2011 to \$104.6 million in 2012 (-13.5%) and further to \$99.7million (-4.7%) in 2013. There are several likely reasons for this trend, which that has been ongoing for a decade. The heaviest purchaser of reprints is the pharmaceutical industry and the dynamics described above in the first paragraph of this section on

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pharmaceutical advertising also apply to reprint sales. But one cannot discount the fact that many articles are now available free of charge on author websites and in repositories and may be easily linked to in promotional campaigns. In addition, many subscription-based publishers allow free public access to their articles after six or twelve months. A number of publishers also make noteworthy articles or those deemed to be for the public good available for free on their websites upon publication or shortly thereafter. In addition, the number of gold open access articles – with article processing charges (APCs) paid the by author, institution or funder – has continued to increase and these often use Creative Commons licenses that allow for re-use including commercial purposes. (See separate section below on trends in gold open access articles.)

Single article sales (\$46.0 million in 2013 and \$46.1 million in 2012, both of which are somewhat higher than the \$37.1 million in 2011). This line item has consistently represented approximately 1.0% of all journal revenue for a number of years and there is no indication that it is likely to see any significant increase.

Print vs. Electronic Subscriptions

The long-standing shift from print to e-subscriptions continues. In 2013, virtually all titles offer print and electronic subscriptions (7,052 out of 7,307 titles reporting with 35 offering print-only and 220 offering e-only; 99.5% of the journals are available in e-format). The number of journals offering e-only has increased in absolute terms from 119 in 2011 to 161 in 2012 to 220 in 2013, an 84.8% growth for the two-year span, admittedly calculated on a very small base. It should be remembered, however, that publishers responding to the survey have a longstanding investment in and commitment to digital publishing technology and are more likely to offer electronic journal content than some small scholarly publishers. Another consideration is that there has been a reluctance to cease print versions of journals that were launched in a print-only environment or that have previously offered a print component.

The institutional market continues to migrate to digital access, as has been the case for more than a decade, demonstrating libraries' preference for e-subscriptions. In 2011, slightly more half (54.6%) of institutions subscribed to an electronic-only option and 17.3% subscribed to a combined print + electronic. That made for a total 71.9% (or nearly three-quarters) of subscriptions available to institutional users electronically. Two years later, in 2013, e-only subscriptions accounted for 65.8% (two-thirds) of subscriptions and 12.8% subscribed to a combined print and electronic option. So, more than three-quarters of subscriptions are available in digital format with a drop in the number of institutions subscribing to print along with the electronic version). The percentage of print-only subscriptions continued to decline during the three-year span, from 28.1% in 2011 to 24.3% in 2012 and 21.4% in 2013. The diminishing importance of print copies to the institutional market, as shown in the reversal of the subscription patterns, is unmistakable.

	# Inst Subs	Print + electronic	Print-only	Electronic-only
2011	3,332,618	17.3%	28.1%	54.6%
2012	3,619,562	14.5%	24.3%	61.2%
2013	3,827,329	12.8%	21.4%	65.8%

The table also shows that the number of institutional subscriptions has increased gradually during the three-year period, by 8.6 % from 2011 to 2012 and by 5.7% from 2012 to 2013. This number is influenced by institutions purchasing access to, rather than ownership of, journals. Each publisher has its own policies with regard to ownership vs. access with subscription models offering journal bundles or clusters of titles as well as individual journals. While it is clear that access to content is growing (see details below on article downloads), data do not capture whether institutional users are accessing traditional subscribed articles or bundles of content that do not break down in the traditional subscription context.

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Institutional subscription revenues increased from \$3.306 billion in 2011 to \$3.517 billion in 2012 (+6.4%) and to \$3.624 billion in 2013 (+3.0%). During the same period, the number of journals reporting increased by 7.7% in 2012 but by less than 1% in 2013.

While revenue from individual subscriptions hovers around 4% relative to total subscription revenue for the three-year period, it is interesting to observe changes in the mix of print vs. electronic among individual subscribers.

	# Individual Subs	Print + electronic	Print-only	Electronic-only
2011	3,464,570	84.0%	7.8%	8.2%
2012	3,398,906	82.3%	7.4%	10.3%
2013	3,588,269	82.1%	6.6%	11.3%

Essentially the growth pattern for individual subscriptions is similar to the one for institutional subscriptions with digital access supplanting print subscriptions, although the percentages of e-only individual subscriptions are much lower than for institutions. A closer look, however, reveals that while the percentage of print-only subscriptions declined over the three years, the total number of individual subscribers has remained fairly stable (i.e., 3.5 million in 2011 to 3.4 million in 2012 and 3.6 million in 2013).

The data tables do not provide sufficiently detailed statistics to determine why revenues from individual subscriptions have declined slightly during the three-year period while the number of individual subscribers has remained fairly constant. One possible explanation may involve society journals hosted on platforms of publishers (both commercial and not-for-profit) that provide contract publishing arrangements. Are publisher platforms hosting more content that previously was hosted on separate society platforms? It is also possible that the emerging shift from print+electronic and print-only to e-only has had an impact). Nonetheless, the general pattern is consistent with the overall trend toward e-delivery.

Twenty of the 29 submitting publishers provided data on total electronic article downloads. The total number of downloads grew from 950.5 million in 2011 to 1.042 billion in 2012 and reached 1.115 billion in 2013 (an increase of 17.3% over the two-year span). The price-per-download is calculated on e-only and e + print subscription revenue as the latter category does not break down the electronic and print components separately. Based on these two sources of revenue for those 20 publishers submitting download data, 2011 subscription revenues were \$2.210 billion (with a per-download cost \$2.32) compared with \$2.325 billion in 2012 (with a per-download cost of \$2.23) followed by \$2.436 billion in 2013 (with a per-download cost of \$2.19).

Published Output and Open Access Journals

Open access – whether gold, hybrid or green – continues to be an evolving component of scholarly journal publishing. There is growing interest among grant-funding bodies in the US and abroad in expanding mandates for free public access to articles documenting grant-funded research. As in past years, no open-access-only publishers participated in the survey, despite repeated invitations. Among those publishers submitting information about gold open access, 20 provided statistics in response to the query about author and other origination fees. Among those publishers not providing data on this topic, it was not clear whether they do not offer a hybrid and/or gold open access model or if they simply did not provide data.

Analysis of open access publishing patterns reflects the submissions from 20 publishers, all of which still derive the vast majority of revenue from paid circulation, rather than an APC. That said, about two-thirds of the submitting publishers offer gold open access journals as well as a hybrid option where subscription-based journals also provide authors with the opportunity to pay a fee to make the article open access immediately upon publication. It should be noted that some funding bodies prohibit payment to hybrid-model open access journals, so in many instances it is not a level playing field for open access and hybrid model journals in attracting gold open access submissions.

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In looking at this community, there are some noteworthy trends.

- Among journals reporting in 2011, 3768 (55.8% of the titles in the survey) offered an open access option, rising to 4556 (62.6%) in 2012. In 2013, 6,021 offered some form of open access, representing 82.4% of the titles in the survey.
- The number of open-access-only journals grew from 37 in 2011 to 88 in 2012 to 200 in 2013, suggesting that traditional publishers are somewhat more comfortable with a gold open access model, (growth of 440.5% over two years), most likely with new journals launches.
- The survey does not capture the number of new titles that fall into any of the three categories (gold, green or hybrid), but it is safe to assume that the growth is in e-only or hybrid models as the print-only model has winnowed down to a handful of titles – 42 (2011), 40 (2012) and 35 (2013).
- The vast majority of open access publishing among reporting publishers is in hybrid journals where the author has the option of paying an APC, to what is essentially a subscription-based journal, to make an article publicly available upon publication. In 2013, 5,531 journals used the hybrid model, an increase of 31.9% from 4,193 in 2012, an increase of 19.7% over 3,502 in 2011.
- In some cases, journal editors or the publisher may decide to routinely make research articles available at no charge after a self-determined mandate period. But this is a small number that has grown slightly over the three-year span, with 229 titles in 2011, 275 in 2012 and 290 in 2013, representing 26.6% overall growth.
- In addition, some publishers will provide open access immediately upon publication or shortly thereafter when an article is deemed to hold wide public significance. The extent of this practice is not documented.
- The financial impact of gold open access on total revenues has grown very slightly over the three years – in 2011 author fees totalled \$80.2 million (1.9% of total journal revenue), followed in 2012 by \$87.5 million (2.0% of total journal revenue) and then \$111.6 million (2.5% of total journal revenue) in 2013.

Moving from the number of open access journals to the number of open access articles published:

- The open access statistics do not reflect articles available and downloaded elsewhere (e.g., PubMed Central, institutional repositories or authors' websites). There obviously is some overlap, but data on articles appearing in multiple locations outside publisher platforms are not collected – and it probably would not be feasible to do so. Also, different sites may carry different versions of an article, but the version of record is what appears on the publisher's site.
- The statistics for the number of paid open access articles show growth over the three years. In 2011 there were 14,066, followed by 18,661 in 2012 (32.6% increase) and in 28,842 in 2013 (54.5% increase). The breakdown does not indicate the split between articles in hybrid vs. gold open access journals.
- While there has been tangible growth in the number of open access articles, this option still remains a relatively small percentage of the overall article output for the year: 1.7% in 2011, 2.1% in 2012 and 3.1% in 2013. There is nothing conclusive to be drawn from this pattern or the overall pattern of what the gold open access statistics reveal other than to indicate slow uptake in the option. This could suggest that authors publishing in these journals are not significantly embracing the author-pays model either in fully open-access or hybrid journals. Are authors who are inclined toward open access publishing avoiding these journals in favor of publishers recognized for their open access policies? Are research and university budget cuts factors in authors choosing to publish in a subscription-based journal instead of opting to pay for open access upon publication – or at the very least balance their publishing choices with a mix of open access and subscription-based journals? These are interesting points for consideration but no clear conclusions may be derived. Most likely several factors are at play in influencing authors' decisions on where to publish.

Striving to Obtain New Data

In past years we have sought to obtain additional data or to slice and dice input in a variety of ways. The current data breakdown requires considerable time for individual

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publishers to compile, especially those with large journal programs. Many systems do not analyze details in as granular a pattern as might be desired and there is tremendous variation from one publisher's reporting system to the next – and in some houses there are several systems reporting in different ways on different parts of a program (e.g., financial, usage, manuscript flow, etc.). While the statistics may not provide all we want to know about our industry, they do provide useful insights into prevailing patterns in scholarly and research publishing. In preparing the survey for 2014, we will strive to include more publishers and continue to reach out to the open access publishing community to encourage their involvement in this initiative.

And our special thanks...PSP wishes to express a great debt of appreciation to each organization that supports our data collection effort. Data collection at this level requires a great deal of time and represents a very difficult task when staff resources in publishing houses are already thinly spread. AAP is committed to gathering and sharing useful statistics about the publishing industry. Within the PSP community, there has been a growing demand for journals publishing data and the changes and trends that affect the industry. Publishers who submitted data make an important contribution to a better understanding of our industry and the directions in which we're headed. Many organizations request information from AAP analytics but we applaud those that take the time to submit data.

Each year, there is a serious effort to move the reporting schedule closer to the conclusion of the subscription year, but it remains a prolonged process that requires a great deal of persuasion and waiting for submissions – usually dictated by availability in publishers' schedules – to ensure as comprehensive coverage as possible by major journals publishers. But we continue to strive for improved turnaround each year.

Participating Publishers: 2013 Survey

American Association for Cancer Research
 American Chemical Society
 American College of Physicians
 American Dental Association
 American Institute of Aeronautics and Astronautics
 American Institute of Physics
 American Physiological Society

American Psychological Association
 American Society for Clinical Oncology
 American Society of Civil Engineers
 Association of Crop, Soil and Environmental Science Societies*
 Cambridge University Press
 Cold Spring Harbor Labs Press
 Elsevier
 IEEE
 Institute of Physics
 John Wiley & Sons
 Johns Hopkins University Press
 Lynne Rienner Publishers
 MIT Press
 Oxford University Press
 New England Journal of Medicine
 Penn Press
 Penn State University Press
 Taylor & Francis
 Thieme Medical Publishers
 University of Chicago Press
 University of North Carolina Press
 Wolters Kluwer Health

New publishers that submitted for 2013 survey but not for 2012:

American Institute of Aeronautics and Astronautics
 *ACSESS (Association of Crop, Soil and Environmental Science Societies)
 • Includes American Society of Agronomy, Crop Science Society of America and Soil Science Society of America

Publishers that submitted in 2012 survey but did not submit for 2013:

All publishers that submitted in 2012 submitted again in 2013.

The American Geophysical Union moved its publishing operation to John Wiley & Sons, effective with the 2013 subscription year. Tables for 2011 and 2012 have been adjusted to reflect inclusion of the AGU statistics for the entire 2011-2013 period.