

Management of article processing charges – challenges for libraries

Dedicated funds for open access (OA) publishing have been a strategic instrument at German university libraries for many years. As the number of OA publications grows dynamically, the question arises as to whether the processes of handling article processing charges (APCs) are being sustainably organized among libraries and publishers so as to enable a full transition to OA. The Max Planck Digital Library (MPDL) processes about 600 invoices for OA articles per year centrally on behalf of Max Planck researchers. This paper describes the individual steps required in order to assume charges centrally as well as the barriers emerging during this process. It is shown that the main desiderata for the establishment of smooth and scalable processes are the optimization of article submission systems, better author identification and assignment, and improved reporting.

Introduction

Libraries at German universities and non-university research institutions have been supporting their academics publishing in open access (OA) journals for many years now by making publication funds available from which the author fees and also article processing charges (APCs) per individual article can be paid. The German Research Foundation (DFG) has also been supporting universities with its Open Access Publishing Programme.

The most recent guidance published by the Alliance of Science Organizations in Germany on the subject of OA publication funds points out the need to develop business processes that are geared towards an efficient use of resources.¹ In this context, there needs to be a particular focus on the transaction costs incurred in assigning and checking invoices and in communicating with publishers and authors on individual cases. A UK study of the costs of full-scale implementation of OA publishing to comply with the British mandate concludes that institutions' management of one single OA publication takes two hours and incurs administration costs of £81.²

While libraries have used proven structures and tools to facilitate bundling and handling optimization in traditional business areas, such as the management of journal subscriptions, the management of publication costs is still largely based on manual processes. Intermediary service providers, similar to subscription agencies, for example, have not yet become successfully established³. According to a study by the British Research Information Network (RIN), a very great need for standardization in this business area is evident⁴, though scope for intermediaries is developing. This implies that business processes cannot and should not be optimized by third-party providers alone.

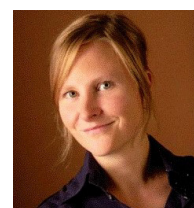
The question of the scalability of processes therefore arises. As long as the number of cases remains in double digits, for example where a library handles, say, 30 or 70 OA article invoices per year, capacity shortages are unlikely to arise at major German university libraries. It will be easy to integrate publication cost processing into the acquisition department's procedures, which in turn would hardly justify the effort required to design elaborate workflows.

On the other hand a demand to establish open access as standard in academic publishing is frequently voiced. Are libraries in a position to say how many publications they would have to fund for authors from their institutions under a 100% OA scenario? Furthermore, would



ADRIANA SIKORA

APC Invoice Processing
Max Planck Digital
Library, Germany



KAI GESCHUHN

Co-ordinator for
Open Access and
Licence Management
Max Planck Digital
Library

'the management of publication costs is still largely based on manual processes.'

88 they be sufficiently well prepared to play in this business area, set up smooth processes and put transparent cost control in place?

The Max Planck Digital Library (MPDL) has been making efforts to develop a strategic approach to these questions for several years. Located in Munich, Germany, the MPDL is a central service unit of the Max Planck Society (MPS), which is a prestigious German research organization comprising over 80 individual research institutes in Germany and abroad. MPDL supports scientists from all Max Planck Institutes with a broad portfolio of services in the fields of information provision, publication support and research data management. Since 2003 centralized invoice processing has been in place for OA articles by authors from the Max Planck Society on the basis of framework agreements with OA publishers. These framework agreements govern central invoicing directly to the MPDL and set forth the conditions for doing so, for example by defining the entitled authors.

'framework agreements govern central invoicing directly to the MPDL'

The objectives of these framework agreements are, on the one hand, to group the OA publication costs incurred by the Max Planck Society centrally and, on the other hand, to integrate them into the central acquisition budget. Central purchasing costs of licences for electronic information resources that are available MPS-wide are provided by this budget, which is established in the MPDL. With the increase in the number of OA publications supported, the MPDL is thus placing the publishing behaviour of Max Planck's scientists under increasing scrutiny. Including these costs in the licence acquisition budget will enable an overall view of the expenses for licences and subscriptions as well as for OA and thus form the basis of a new rationale for the evaluation of publishers' offers.

Further objectives pursued by the strategic grouping of OA publication costs are, as mentioned, to build up processes and business relationships with publishers and, above all, to reduce administrative hurdles for authors from the Max Planck Society.

At present, the MPDL manages framework agreements with ten OA providers. The annual number of articles paid by the MPDL is currently around 600, corresponding to around 60% of the total of around 1,000 OA publications originating from Max Planck Society's researchers. The issue of scalability which we raised above has therefore already become a significant factor. Although no immediate transition to open access is expected, dynamic growth in its share of total publications is becoming evident.⁵ So we have to address how we should confront this radical change against the background of the fact that the Max Planck Society's current level of peer-reviewed academic articles and reviews is around 10,000 per year.

A closer examination will now be made of the individual phases, players and hurdles in the business area of centralized invoice processing for OA articles. By way of an example from the MPDL, we want to demonstrate what infrastructural challenges arise once the publication market actually makes a large-scale transition to an APC-based OA business model. While UK libraries are already facing this task, Germany is just at the beginning of this journey.

Phases, players and hurdles in centralized invoice processing for OA articles at the MPS

The administrative process between publishers and the MPDL differs from one provider to another, since there are as yet no standardized workflows for central cost assumption by the authors' institutions. Instead, an approach has to be worked out with every provider separately to ensure that the process of paying OA publication costs runs as smoothly as possible. This process is constantly optimized to meet new requirements. An intensive dialogue with the providers is therefore essential.

'An intensive dialogue with the providers is ... essential.'

89 The process of centralized payment of publication costs for MPS publications can be divided into three phases: the submission of articles by the authors, confirmation of MPS affiliation by the MPDL and, finally, assumption of the costs by settlement of the invoice.

Submission of articles

An academic article is normally submitted to a publisher by one of the authors (academics) or his or her team (assistant, secretary, etc.). Publishers often provide online platforms for manuscript submission, including submission systems from third-party providers, such as Editorial Manager⁶ or ScholarOne⁷. There are only a small number of providers of such submission systems on the market, but the systems themselves are differently designed and adapted to the need of the publishers. The length and level of detail of the submission forms also vary.

'systems ... are differently designed and adapted to the need of the publishers.'

However, all submission systems have the same important function for the cost acceptance process: they provide the publisher with information about the institution with which the author is affiliated. Normally, during the submission the author is supposed to enter manually the institution to which he or she belongs. However, IP authentication is sometimes also provided to identify an affiliation with the MPS, as offered, for example, by BioMed Central (an established OA publisher). For this purpose, the author has to be in the IP address range of the Max Planck Society in order to be identified by BioMed Central as being affiliated. The publishing house Bloomsbury Qatar Foundation Journals (BQFJ) has adopted a different solution: it identifies MPS authors by the pattern of their e-mail addresses.

Confirmation of MPS affiliation

The verification of authors by the MPDL is handled differently from publisher to publisher. When manuscripts are submitted from the Max Planck Society's IP address range, OA publisher BioMed Central, for example, sends an automatic e-mail submission alert, with information about the submitting author and the article itself, to an e-mail account specified in the framework agreement. The author's position and MPS affiliation can be checked using this information. Publishers Copernicus and Frontiers have built a similar procedure into their processes. If the author proves to be unauthorized, a brief message to the publisher suffices to reject assumption of the publication costs. Naturally, a charge is only made in the event of actual publication, so if an article is not accepted for publication after the peer-review process, it does not appear on the invoice.

'verification of authors ... is handled differently from publisher to publisher.'

The two publishing houses IOP (*New Journal of Physics*) and PLOS use a different approach. These providers send statements at regular (monthly/six-monthly) intervals of articles submitted from the MPS and accepted for publication. An invoice is only triggered after the MPDL sends confirmation.

Authors' affiliation with the MPS is normally checked by searches on the publicly accessible websites of the Max Planck Institutes. If the author is listed on the website as an employee of an Institute, this information suffices to confirm his or her affiliation with the MPS. If anything is not clear, the local Libraries or Institute administration departments can also be contacted.

In addition to this, the Max Planck author's position within the group of authors involved in the publication has to be verified. To avoid possible double payment, an entitled author is stated in the framework agreements. In most cases this is the corresponding author, since they usually submit the publication and conduct all communication with the journal.⁸

Central invoice processing

Publication costs can be settled by payment against invoice or via a prepayment. BioMed Central offers institutions the option to pay in advance with its Prepay Membership

90 Program⁹. Publication charges are deducted automatically from this sum as soon as a Max Planck article is published. Wiley also offers a prepayment facility in the form of an Open Access Account¹⁰. Shortly before the prepaid sum is exhausted, the provider contacts the MPDL and the account can be topped up again by a new payment.

Providers such as PLOS, Frontiers or Copernicus, for example, send statements at regular (monthly, quarterly or six-monthly) intervals showing the published articles from the Max Planck Society. This method was agreed in the framework agreements in order to reduce the administrative effort created by a large number of individual invoices. When the statement is received, its formal correctness is checked against the mandatory information required by the MPS, e.g. name and address, tax numbers and invoice numbers. The invoice has to show key information about the article (title, name of journal, name of author, MPS affiliation, DOI, etc.) for the check on the invoice amount which follows this step. Non-contractual authors' discounts should also be shown.

Hurdles

The biggest hurdle in the total process is the article submission phase: it is here that the foundations are laid for correct assignment for centralized invoice processing further down the line. If the author fails to notice that he has to state his MPS affiliation, the invoice is sent directly to him.

'The biggest hurdle in the total process is the article submission phase'

It cannot be assumed that all MPS authors are aware of the centralized agreements with the various providers and know about the possibility of centralized invoice processing. For this reason, it is particularly important for the publishers to highlight the relevant information clearly in the submission systems. Unfortunately, a closer examination of the various article submission processes reveals that the references to institutional invoice processing can easily be overlooked because of the wealth of information and queries the authors have to consider. This problem could be countered by simplifying and optimizing the submission processes and platforms. IP authentication by the publisher as demonstrated by the BioMed Central example also enables immediate assignment of the submitting authors to an institution and would therefore be a good way to make central invoice processing significantly easier. However, OA publishers naturally do not have the same IP management infrastructures to ensure that only licensed sites have access to content as, for example, subscription publishers do. BioMed Central, as part of the Springer publishing group, is an exception here.

Missing or incorrect metadata and incomplete information in the statements or submission alerts are also obstacles to be overcome. In the event of authors supplying details of various affiliations, the publisher often only passes on one affiliation and the Max Planck Institute is either not mentioned at all or the information is incomplete. In particular, missing information about authors' affiliations prevents confirmation of MSP affiliation and blocks or delays further processing considerably. In view of the fact that scientific institutions are often organized on a decentralized basis (e.g. the Max Planck Society is made up of more than 80 individual Institutes), it will therefore be indispensable in the future to incorporate lists of institutions, possibly coded, in the submission systems.

Moreover, institutions require standardized, machine-readable reports in order to set up systematic reporting processes about the publications they fund. Here, too, no standardized approach has yet been established that enables libraries to summarize their spending quickly and simply at regular intervals. However, this data forms an important foundation for the desired price and market transparency in the area of OA publishing. With its Open APC Initiative, Bielefeld University Library is currently demonstrating how a robust, reusable database for monitoring APC spend can be created with simple tools. With the support of the Open Science Software GitHub, data sets for APC spending by German academic institutions are being aggregated, standardized and made publicly available for analysis.^{11,12}

Outlook: efficiency and standards

Let us imagine that a research policy mandate were to demand the transition of German publishing to open access at the shortest possible notice. Or let us assume that large academic publishers actually change their business models. Examples of such transformation scenarios already exist, such as the recent agreement between Dutch universities and the Springer publishing company.¹³ After Finch, it is now also time for libraries in other countries to consider the radical change seriously and face its practical challenges.

In addition to financial sustainability of publication funds and the restructuring of library resources, a basic prerequisite for the success of the OA transformation is to build efficient infrastructures. A first step in this direction is the initiative from ESAC (Efficiency and Standards for Article Charges). Emerging from an international workshop on the topic of APC management, an informal working group was established under the ESAC umbrella in order to continue to pursue the topic in the future.¹⁴

ESAC strives to gather more evidence on the individual conditions and the challenges libraries face when they build up infrastructures to manage the transition to OA. The preconditions for doing so vary within Germany alone. The Max Planck workflows illustrated in this article are only one example out of the four major German research organizations. Processes at German universities again show a different picture. The development of sustainable funds for OA publishing can be seen as an overriding crucial issue, especially when it comes to shifting library acquisition budgets to OA funds. However, the transition to open access is a global challenge, which means that there is a strong need for an exchange of ideas, standards and good practices across countries. It is hoped this article may contribute to that dialogue.

‘there is a strong need for an exchange of ideas, standards and good practices across countries.’

Competing interests: The authors have declared no competing interests

References

1. Open Access Publication Funds; DOI: <http://doi.org/10.2312/allianzoa.007> (accessed 18 March 2015).
2. Counting the Costs of Open Access: <http://www.researchconsulting.co.uk/wp-content/uploads/2014/11/Research-Consulting-Counting-the-Costs-of-OA-Final.pdf> (accessed 18 March 2015).
3. Providers include, for example, *Open Access Key* and *RightsLink for Open Access*.
4. APC Payments: <http://www.researchinfonet.org/publish/apcs/> (accessed 18 March 2015).
5. Schimmer, R, Geschuhn, K and Palzenberger, M, Open Access in Zahlen: Der Umbruch in der Wissenschaftskommunikation als Herausforderung für Bibliotheken, *Zeitschrift für Bibliothekswesen und Bibliographie*, 2013, 60, 244–250.
6. Editorial Manager is a submission system by Aries Systems Corporation which is used, for example, by PLOS.
7. ScholarOne is a submission system by Thomson Reuters which is used, for example, by Wiley.
8. Nature journals' authorship policy: <http://www.nature.com/authors/policies/authorship.html> (accessed 18 March 2015).
9. See: <http://www.biomedcentral.com/libraries/prepaymembership> (accessed 14 May 2015).
10. See: <http://olabout.wiley.com/WileyCDA/Section/id-420429.html> (accessed 14 May 2015).
11. See: <https://github.com/OpenAPC/openapc-de> (accessed 14 May 2015).
12. Pieper, D, Open APC: http://pubman.mpg.de/pubman/item/escidoc:2062425:2/component/escidoc:2062471/open_apc.pdf (accessed 18 March 2015).
13. Springer and Dutch universities reach wide-ranging agreement on access: <http://www.springer.com/gp/about-springer/media/press-releases/corporate/springer-and-dutch-universities-reach-wide-ranging-agreement-on-access/40938> (accessed 18 March 2015).
14. See: <http://esac-initiative.org> (accessed 11 May 2015).

Article copyright: © 2015 Adriana Sikora and Kai Geschuhn. This is an open access article distributed under the terms of the [Creative Commons Attribution Licence](#), which permits unrestricted use and distribution provided the original author and source are credited.



Corresponding author: Kai Geschuhn
Co-ordinator for Open Access and Licence Management
Max Planck Digital Library, Amalienstraße 33, 80799 Munich, Germany
Tel: +49 (0) 89 38602 253 | E-mail: Geschuhn@mpdl.mpg.de

ORCID ID: <http://orcid.org//0000-0001-5849-8751>

Adriana Sikora
E-mail: Sikora@mpdl.mpg.de

ORCID ID: <http://orcid.org/0000-0002-4180-0288>

To cite this article:

Sikora, A and Geschuhn, K, Management of article processing charges – challenges for libraries, *Insights*, 2015, 28(2), 87–92; DOI: <http://dx.doi.org/10.1629/uksg.229>

Published by UKSG in association with Ubiquity Press on 07 July 2015