Towards transition strategies and business models for Society Publishers who wish to accelerate Open Access and Plan S

An initial discussion document from the Society Publishers Accelerating Open access and Plan S (SPA-OPS) project

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1. Introduction

The SPA-OPS project was commissioned by Wellcome, UKRI, and the Association of Learned and Professional Society Publishers (ALPSP) to support learned society publishers successfully transition to open access (OA) and align with Plan S. <u>Information Power Ltd</u> was selected to undertake this work at the end of January 2019.

This project will, we hope, be useful to a broad array of learned society publishers around the world. The focus of this work, however, is on learned society publishers serving UK researchers and in disciplines relevant to UKRI and Wellcome funding areas. We are aware of related initiatives in other parts of the world and aim to share information with and to learn from these.

Wellcome and UKRI – and indeed other funders - recognise the value learned societies play in supporting researchers and contributing to a vibrant research ecosystem. They wish to explore a range of potential strategies and business models through which learned societies could adapt and thrive under Plan S.

The SPA-OPS project is structured in the following way:

- 1. A short background study to identify the key issues learned societies face in the light of Plan S
- 2. A discussion document which assesses options for how learned society publishers could transition to OA and develop Plan S-compliant business models
- 3. Engagement with learned societies to discuss these options, identify any gaps and omissions, and determine which models are more/less credible for different types of learned society
- 4. Two pilots ideally one in life sciences and one in humanities or social sciences with society publishers to look at their publication costs and revenue model, to explore whether any of the alternative publishing options might be viable, and to understand what would be needed in practice to implement
- 5. A summary report will be produced with recommendations on how learned society publishers can embrace the opportunities which arise from transitioning to OA and aligning with Plan S, whilst remaining financially sustainable

This paper contains the first two outputs from the SPA OPS project. The short background study to identify key issues learned societies face in the light of Plan S can be found in section 3 of this paper. Options through which learned society publishers could transition to OA and develop Plan-S compliant business models can be found in section 4 of this paper.

The contents of this paper are informed by interviews, a literature review, our experience and knowledge, and discussion at events organised by ALPSP and OpenAIRE. It is intended to be used as

a straw man proposal¹ or what is sometimes known as an aunt sally² in the UK: a document in a loose form but with enough detail to generate discussion in order to get to a firmer, more agreed, footing on which to move forward. Its contents will be further developed and improved with feedback from an accompanying survey and further engagement with learned society publishers and other stakeholders. This process will help us decide which pilots to take forward, and what content and recommendations will go into the final project report. We will develop and deploy some fictitious publishing personas to bring each approach to life in that final report.

We would like for the outputs of this project to be actionable not only by a wide array of different learned society publishers, but also by other stakeholders in the scholarly communication landscape who wish to support society publishers to be successful in the transition to financially sustainable, Plan S compliant, business models. For this reason, the paper is published openly, and there is a survey of library consortia underway.

Comments and suggestions are welcome to info@informationpower.co.uk.

2. Current State of Open Access: a snapshot

From its start in the world of possibility and advocacy, OA has steadily moved into the realm of real-world practice. This shift began in many various parts of the world, in different subject areas, and at different times. Funder policies have become a powerful driver of change, and can be explored in depth via the SHERPA Juliet service (http://v2.sherpa.ac.uk/view/funder_visualisations/1.html). OA policies began to coalesce formally at national level with the UK Finch Report, and the US OSTP Memorandum. Since 2016 momentum has built steadily in Europe, culminating in the publication of Plan S in the autumn of 2018. In fact this is a global movement, and for this reason UNESCO tracks OA policies in 156 countries around the world (http://www.unesco.org/new/en/communication-and-information/portals-and-platforms/goap/). There is a growing pattern of commitment by a growing number of influential stakeholders in the research information landscape to a worldwide transition to OA.

The push is not only for a change in business models so that more research publications are openly available at the time of publication. That would be hard enough. There is simultaneously real pressure from funders, libraries, research institutions, universities, and some researchers for publishers to reduce the costs to academia of the publication system. There are also exciting possibilities for innovation in research services by harnessing technology such as artificial intelligence, big data, and social media.

The result is a rather heady mix of challenge and opportunity, for all stakeholders in scholarly communications and not only publishers.

2.1 Open Access in the UK

With publication of the Finch Report³ in 2012, the UK embraced a policy framework aimed at a managed transition to OA. All routes to OA were in scope, additional funding was set aside by UK

¹ https://en.wikipedia.org/wiki/Straw man proposal

² https://www.dailyinfo.co.uk/oxford/guide/aunt-sally

³ Accessibility, sustainability, excellence: how to expand access to research publications. Report of the Working Group on Expanding Access to Published Research Findings. Available at https://www.acu.ac.uk/research-information-network/finch-report-final.

funding organisations and given to leading research organisations to support Article Publishing Charges (APCs) and/or OA infrastructure costs, and all stakeholders were actively engaged.

The report itself, written by Michael Jubb, provides an excellent overview of the landscape, pressures, and drivers for change at that time. Costs of publishing articles were understood to vary by journal depending on the volume of submissions and, crucially, rejections with other cost factors including both direct and indirect costs, and levels of surplus^{4,5}. The average price of APCs was between £1.5k and £2k but with wide variation⁶.

The Finch Report (accurately) predicted that costs of this system would rise, particularly during the transition period to OA, and gave three estimates which depended upon four key factors: the average level of APCs; the extent to which the UK were aligned with, or ahead of, the rest of the world in adopting OA; the number and proportion of articles with overseas as well as UK authors for which UK institutions would be required to pay an APC; and the extent to which during the transition to OA, universities and other organisations were able to reduce their expenditure on subscriptions as their expenditure on APCs rose.

The Finch Report recommended that all publishers:

- consider providing an OA option for those journals where it is not currently available, or to shift at least some of their journals wholly to OA
- acknowledged they would have to reach difficult judgments as to the pace of change in the UK and the rest of the world in the different disciplines in which they publish
- Develop more efficient systems for payment of APCs
- And, for hybrid titles in particular "Publishers should also provide clear information about the balance between the revenues provided in APCs and in subscriptions to hybrid journals"

Implementation of the UK's national policy was co-ordinated and monitored by an Open Access Coordination Group formed by Universities UK (UUK) and chaired by Adam Tickell. This group commissioned short reviews in 2015⁷ and 2017⁸ which described progress and new challenges that arose. They found:

 Real progress toward the goal of increasing the percentage of UK outputs. The global proportion of articles accessible immediately on publication rose from 18% in 2014 to 25% in 2016, and the UK articles accessible immediately on publication rose from 20% to 37% during this same period.

⁴ Activities, costs and funding flows in the scholarly communications process in the UK, RIN, 2008. http://www.rin.ac.uk/system/files/attachments/Activites-costs-flows-report.pdf

⁵ Houghton, J et al., Economic Implications of Alternative Scholarly Publishing Models: exploring the costs and benefits, JISC, 2009

http://repository.jisc.ac.uk/6476/2/UK Economic implications of alternative scholarly publishing models 2 009.pdf

⁶ Solomon, D, and Björk, Bo Christer. A study of Open Access Journals using article processing charges. Journal of the American Society for Information Science and Technology

⁷ Universities UK. Monitoring the transition to open access: August 2015.

https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/monitoring-transition-open-access-2015.aspx

⁸ Universities UK. Monitoring the transition to open access: December 2017. https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/monitoring-transition-open-access-2017-annexe-3-regions.pdf

- Hybrid journals were crucially important to the growth in immediate OA uptake. UK
 researchers chose to publish more than half their articles in 2016 in these titles, and the
 proportion of such articles published on immediate OA terms rose from 6% in 2012 to 28%
 in 2016.
- There was also real and escalating concern at rising costs. Subscription costs continued to grow alongside the new APC costs and OA infrastructure costs. The magnitude of rising costs, particularly when concentrated with a small number of publishers, were of concern to funders who were a major source of support for APC expenditure. "More than half the expenditure on APCs in 2016 went to the three major publishing groups, Elsevier, Springer Nature, and Wiley, with a particularly sharp rise for Elsevier since 2014."

In his independent review⁹, Adam Tickell recognised that the publishing industry did a great deal of work to implement most elements of the UK's national policy. Acknowledging prior publisher efforts in this way – for example investing in the systems to convert their titles to become hybrid OA and providing free access in UK public libraries¹⁰, both recommendations of the Finch Group – should help unlock goodwill for the further transition to come.

For there remains more to do, and in a different way than what has come before. It would be helpful for publishers to acknowledge that other stakeholders do not feel publishers delivered enough transparency or any price restraint. Rather than deploying hybrid journals to help drive a quick and orderly transition to full OA in a way perceived as fair and sustainable for all stakeholders, publishers added a new Article Publishing Charge (APC) revenue stream on top of existing subscription revenues, crafted options in such a way as to maximise both of these revenue streams, focussed effort on increasing article market share and/or the total volume of articles published, and reserved the benefit of any efficiency gains for themselves.

As outlined in a Jisc review¹¹, concern about price increases drives broader concerns about anything that reinforces the journal brand as a proxy for quality, journal articles as a primary unit of quality assessment, the existing market power and financial returns to publishers, and the subscription model through OA uptake in hybrid titles. This review recommended new strings be attached to the use of public funds for APCs, particularly in hybrid journals. The aim of these strings was to prioritise APC funding with publishers in ways that encouraged a full transition to OA and was accompanied by service level agreements to actively support OA in practice and in ways practicable for research libraries, and to encourage more active engagement by funders in negotiations with publishers.

2.2 Open Access in the Americas and Asia Pacific

In the US, federal funding agencies have adopted public access policies to ensure public access to the outputs of taxpayer-funded research. While these do not prohibit the use of grant funding to pay for OA publishing, neither do they provide additional funding for OA publishing. Under the public access policies publishing costs continue to be largely met through subscription payments and OA is

⁹ Tickell, Adam Open access to research: independent advice – 2018. Published 4 February 2019 by the UK Department for Business & Industrial Strategy and available online at https://www.gov.uk/government/publications/open-access-to-research-independent-advice-2018

¹¹ JISC Collections Content Strategy Group, *Discussion Paper: Considering the Implications of the Finch Report Five Years On* 1 March 2018 https://www.sconul.ac.uk/sites/default/files/Evolving%20the%20UK%20Approach%20to%20OA%20five%20years%20on%20From%20Finch.pdf

delivered by author self-archiving¹² and/or publisher deposits and platforms no later than 12 months after the date of publication.

Universities have adopted a broad range of OA policies¹³ and invest in OA by funding APC costs and infrastructure, including institutional repositories and services such as arXiv. Many have also launched new library presses that support fully OA publishing of books and journals, largely in the HSS. Relatively few library consortia are active in leveraging big deals to drive the transition to OA, the California Digital Library being one notable exception. There has been sustained lobbying effort to enshrine self-archiving rights in federal and state law.

While there is no national monitoring and tracking system in place, individual universities and research organisations do closely track compliance with funder mandates¹⁴ as there can be hefty penalties for failure to comply.

The Directory of Open Access Journals regularly reports on the state of OA, and in its most recent reports calls out an increase in OA publishing in places such as Brazil, Indonesia, Romania, and Spain¹⁵.

South America provides centrally-funded infrastructure for open hosting and indexing of local (and international) peer-reviewed journal titles and articles. SciELO, launched in Brazil in 1998¹⁶ and Redalyc are particularly well-known examples. Through shared infrastructure the international visibility and accessibility of local-language journals has increased, and very helpful local-language user interfaces developed. By having cost-free access to this infrastructure, and salaries subsidised by universities and funders, South American journals have been able to successfully publish OA largely without charging APCs to authors.

Recently there has been a welcome and increased focus on the specific challenges and opportunities that a transition to OA offer in the global south and the models that have emerged¹⁷.

Australia has a vibrant OA landscape, with active encouragement for authors to self-archive their accepted manuscripts in institutional repositories.

China and Japan have maintained an active interest in OA, and researchers are able to follow all routes to OA. Journals published locally, often by learned society publishers, are often subsidised by the government¹⁸ and therefore these publishers can make the articles they publish available OA

¹² Björk, B., Laakso, M., Welling, P. and Paetau, P. (2014), *Anatomy of Green Open Access* in Journal of the American Society for Information Science and Technology. J Assn Inf Sci Tec, 65: 237-250. doi:10.1002/asi.22963

¹³ http://roarmap.eprints.org/view/country/840.html

¹⁴ Russell, Judith C.; Wise, Alicia; Dinsmore, Chelsea S.; Spears, Laura I.; Phillips, Robert V.; and Taylor, Laurie (2016) "Academic Library and Publisher Collaboration: Utilizing an Institutional Repository to Maximize the Visibility and Impact of Articles by University Authors," Collaborative Librarianship 8(2): Article 4. Available at: https://digitalcommons.du.edu/collaborativelibrarianship/vol8/iss2/4

 $[\]frac{\text{15 https://blog.doaj.org/2019/01/09/large-scale-publisher-survey-reveals-global-trends-in-open-access-publishing/}$

¹⁶ A L Packer and R Meneghini SciELO at 15 Years: raison d'être, advances, challenges and the future pages 15-27 in *SciELO – 15 Years of Open Access: an analytic study of Open Access and scholarly communication*. UNESCO, Paris: 2014. Available from: http://dx.doi.org/10.7476/9789230012373

¹⁷ https://poynder.blogspot.com/2019/02/plan-s-what-strategy-now-for-global.html

¹⁸ Montgomery, L. and Ren, X., 2018. Understanding Open Knowledge in China: A Chinese Approach to Openness? *Cultural Science Journal*, 10(1), pp.17–26. Available online from: https://culturalscience.org/articles/10.5334/csci.106/

without charging APCs. Japan was the second country to embrace the CHORUS service¹⁹ and there is also a vibrant network of institutional repositories supporting OA^{20,21}.

2.3 Plan S

Europe has moved steadily from a country-by-country approach to a more harmonised framework. Very broadly speaking, the European Commission and northern European countries (with some exceptions) have tended to prioritise OA publishing approaches over self-archiving. Eastern and southern European countries (again with some exceptions) have tended to prioritise self-archiving over OA publishing. There have been mandates, pilots²², and services rolled out by European agencies under the auspices of FP7 and Horizon 2020, and reporting and some monitoring by the OpenAIRE network²³. In 2016 a joint statement by Member State Science Ministers firmly supported an OA transition by 2020²⁴. In some countries, for example in the Netherlands²⁵, these policies have resulted in considerable practical effort. Immediate OA has been increased to 70% of peer reviewed articles published by leveraging big deal consortial agreements to include OA publishing at no additional cost, and by providing new tools and services to help researchers make informed decisions about where and how to publish²⁶.

Plan S, announced in September 2018, is the initiative of "cOAlition S", a consortium of funders and research agencies coordinated by Science Europe and supported by the European Commission and the European Research Council. It is anticipated that other research funders will formally adopt the Plan S principles over time. It seeks to move to a world where all research findings are made OA. The plan is structured around ten principles which call for the establishment of an intellectual commons, requiring research funded by public grants to be immediately published in compliant OA journals or platforms. After a transition period, the funder signatories to Plan S will not fund APCs for hybrid OA journals unless the journal is part of a transformative agreement. The only way a researcher could publish in such a journal and comply with Plan S would be if the journal allowed them to deposit their accepted manuscript in a suitable repository at the time of publication, without embargo, under a CCBY licence.

At the time of writing a consultation exercise on the implementation guidelines for Plan S has recently closed and will trigger a further round of review by cOAlition S. Following this, funders in each European Member State will then need to go through a separate rule-setting exercise that could potentially include further consultation.

As the number of researchers covered by Plan S-compliant funding increases, it is likely, over time, to put pressure on the business models of many of those learned societies that derive most of their

Challenges". Insights 27 (1): 45–50. DOI: http://doi.org/10.1629/2048-7754.111

https://www.ukb.nl/sites/ukb/files/docs/UKB%20Statement%20Transformative%20deals_final%2031%20jan%20incl%20logo_0.pdf

¹⁹http://www.jst.go.jp/report/2017/171011 e.html

²⁰Zhang, Dr Xiaolin. 2014. "Development of Open Access in China: Strategies, Practices,

²¹ http://v2.sherpa.ac.uk/view/repository_visualisations/1.html

²² http://ec.europa.eu/research/science-society/document library/pdf 06/open-access-pilot en.pdf

²³ https://monitor.openaire.eu/

²⁴ https://cordis.europa.eu/news/rcn/21526/pl

²⁵ UKB submission to Plan S

²⁶https://www.ukb.nl/sites/ukb/files/docs/UKB%20Statement%20Transformative%20deals final%2031%20jan %20incl%20logo 0.pdf

income from publishing activity. This is because Plan S funded outputs make up around 7% of global papers and are well cited and published in high impact journals²⁷.

3. Key issues learned societies face in the light of Plan S

Learned Societies are organisations that promote a scholarly discipline or group of disciplines and are found in large numbers around the world²⁸. Most are not-for-profit organisations. Their activities typically include accreditation, advocacy, conferences, education, influencing and training. Many have academic journals some of which are published independently, and many of which are published under contract by larger more commercial publishers.

As one society publisher so eloquently put it "often society publishers have a small number of very prestigious journals — so a small output of high-quality articles that have gone through exacting and high-quality editorial and production services. There is no scale to the system, the costs are high (for the right reasons) and the publishing output is low. It is a source of great pride to societies that we run the "best" and most reputable journals in our field and it is not a coincidence that we do — we are closer to our communities than other publishers (or we should be). So there is both a business and an emotional connection to society publications for our communities."

Generally learned societies have begun their OA journey by publishing hybrid open-access journals, usually funded by payment of APCs. There are examples of these journals that have flipped from hybrid OA to full OA²⁹ and there are also more than 1,000 fully OA journals published by society publishers.

3.1 Challenges

Successful OA and Plan S-compliant business models will be important, and challenging, for learned society publishers for many reasons. Some of these they face in common with other publishers, and some are more related to their mission, size, and subject areas.

OA funding is a key concern. For journals to flip to OA, budgets must also flip. A challenge in some subject areas – notably the humanities, social sciences and in subject areas with authors who are clinicians or practitioners – is that authors are often not funded for their research. In these areas the availability of money to pay for APCs is severely limited.

A minority of the papers in learned society published journals flow from authors funded by the current Plan S funding bodies, and so the ban on providing funding for OA publishing in hybrid journals will be particularly challenging. Active Plan S funders are currently concentrated in northern Europe and scholarly publishing is global. Those funders in other parts of the world who have signalled their support for the Plan S principles have not yet articulated how they will implement these in practice.

However, Plan S cannot simply be ignored. Even if tempted, publishers that decline to publish authors funded by the participating funding bodies may lose a proportion of their articles and from research intensive countries where many authors tend to have above average quality outputs or who account for a large proportion of some countries' publication output. The exact proportion of articles impacted will vary title by title, of course. Even in subject areas where academics do not

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²⁷ Nandita Quaderi, James Hardcastle, Christos Petrou and Martin Szomszor, February 2019. <u>The Plan S footprint: implications for the scholarly publishing landscape</u> published by Web of Science Group.

²⁸ STM Report 2018 https://www.stm-assoc.org/2018 10 04 STM Report 2018.pdf

²⁹ https://cyber.harvard.edu/hoap/Societies and Open Access Research

receive much funding, for example in the humanities and some social sciences, Societies may wish to be responsive to policies that are designed to engage our wider society with scholarship or engage to ensure their titles and support for scholarship remain global in scope. The point is that doing nothing is unlikely to be a comfortable or sensible option.

If a transition to Plan S compliant OA publishing results in a decrease in publishing revenues, this will impact some learned society publishers disproportionately. Many rely on their publishing not only to cover their publishing costs, but to generate revenue for other activities they undertake, such as hosting meetings, conferences, and awarding fellowships and other grants. While some society publishers have reserves or diversified funding streams, this is certainly not true for all.

The short time scale is challenging to all publishers, but it is a greater challenge for smaller publishers, with fewer resources and smaller reserves. The 2017 UUK monitoring report³⁰ looked closely at learned societies, concluding that while the financial health of UK learned societies "remained sound in aggregate, margins from publishing declined in the period 2011–2015" and that "revenues rose by almost 20% between 2011 and 2015; but rising costs put their margins under pressure." At that time societies were already seeking to diversify their income streams in response to the "broader economic climate (which has seen cost pressures grow while revenues stagnate); political developments, including Brexit; and potential decisions on university and research funding".

There is an increased risk that more learned society publishers will feel they must move into publishing arrangements with larger publishers in order to benefit from the economies of scale, infrastructure, and access to consortial purchasers that only larger publishers can currently provide. There is already evidence of increased market consolidation (Larivière et al. 2015³¹). This would of course probably be viewed as a very unintended consequence by funding bodies supporting Plan S.

Transformative agreements are attractive to society publishers as they could provide a reassuring, steady revenue flow in a Plan S compliant OA world. While it is not yet clear what form these agreements will take or who will decide if an agreement is sufficient to qualify for funder APC monies, work done by JISC³² and ESAC³³ are promising starting points. Direct access to library purchasing consortia is extremely limited at present for independent small and medium sized publishers of all kinds. It is encouraging that the Wellcome Trust is funding Jisc to add capacity³⁴ to extend its ability to engage with small and medium sized publishers, including learned society publishers.

Increasingly there are questions being asked about the extent to which funders and libraries can or should subsidise Society activities via payments to journals particularly where there are profit margins of more, sometimes much more, than 25%³⁵. While there is wide support for the mission of these Societies, there are other ways in which these activities could be funded including direct donations. These questions could trigger challenging conversations about independence and sustainability within a Society, and between Societies and other stakeholders in the scholarly communication landscape.

https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/monitoring-transition-openaccess-2017-annexe-3-regions.pdf

³⁰ Universities UK. Monitoring the transition to open access: December 2017.

³¹ https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127502

³² https://www.jisc-collections.ac.uk/Transformative-OA-Regs/

³³ http://esac-initiative.org/about/transformative-agreements/

³⁴ https://isw.changeworknow.co.uk/jisc/vms/e/careers/positions/bY0q4D4DDc jNOe6qj57i3

³⁵ https://tinyurl.com/societies-publishing

The challenges are not all financial, of course. The requirement to publish all OA articles under a CC-BY license will concern some authors, particularly in the humanities and social sciences. This is because under the CC-BY licence anyone can use extracts and snippets without discussion or permission to make derivative works. Some authors also receive royalties for reuse of their journal articles, for example through the <u>Authors Licensing and Collecting Society</u>.

There are ways that researchers could potentially be antagonised in this transition. To save costs, many learned society publishers may feel forced to move fully online and yet receipt of print copies is often a key member benefit offered to Society members. In certain subjects, most notably in medicine, learned society publishers have significant advertising revenue tied to the print copies distributed to their clinician members.

3.2 Opportunities

Learned society publishers will, just like other publishers, wish to sustain the quality of their publication activities, and to continue to invest in improved service standards. The extent to which they can do so may in part rest on their willingness to change and their ability to innovate in ways that maximise benefit. For those that are not very far along in the transition to OA, it should be possible to avoid some costly cul-de-sacs or to leapfrog ahead.

Opportunities of a transition to OA include:

- Increased visibility for both society and subject area, which can be used to more widely share your perspective
- New alliances with funders, libraries, societies, universities, and other stakeholders in the scholarly communication landscape
- Collaborations and partnerships with a range of organisations closely aligned to a Society's mission and able to support its objectives
- Pool risk and share costs through shared infrastructure, for example to handle transactional APCs or to provide new researcher services
- Better support for early career researchers and new forms of scholarship
- Strategic alignment with the future open scholarly communication landscape

It seems very likely that pricing and business models will continue to evolve as new research ecosystems ramp up - for example those by Clarivate Analytics, Digital Science, Elsevier, F1000, and through Open Source initiatives — and these developments will remain important to watch.

Essential to all change in scholarly communications is that it is closely informed by researchers and their changing needs. Society publishers are well-placed to drive scholar-centric change, confident in their extremely close and trusted position within their communities.

4. Potential strategies and business models through which learned societies could adapt and thrive under Plan S

This paper seeks to describe the widest possible spectrum of transition strategies *and* business models. This is important because it is unlikely that there is a single, optimal path that will suit the diversity of Learned Societies. Some are wholly reliant on their publishing programmes for income, and for others these revenues are modest but very nice to have. Different academic communities operate in different ways, and models that are appropriate and workable in some will not work in others.

There are many different OA approaches and models that are Plan S compliant, and these can be used alone or creatively in combination. They are introduced below, and we have clearly marked the exceptional few that would not be compliant without evolution. We have bucketed the approaches and models so far identified into 7 categories, each of which is explained more fully below. They are:

- Transformative Models
- Cooperative Infrastructure & Funding Models
- Evolving Traditional Models
- Article Transaction Models
- Open platforms
- Other Revenue Models
- Strategies for Change and Cost Reduction

We have tried, not entirely successfully, to avoid the terms 'APC' and 'subscription' when describing the models that follow. This is because there is too often conflation between the *granularity of payment transactions* (e.g. article level payments vs payments at an institution or consortia level) and the *access model for the content* (open in perpetuity with a reuse license vs behind a paywall). These are quite different issues and important to tease apart.

We hope that these options are helpful in stimulating creative thought and discussion.

4.1 Transformative Models

These approaches repurpose existing spend to open content. Investment is sometimes needed to help with transition costs, for example to rebalance the way costs are apportioned to align less with reading behaviours and more with publishing behaviours. Sometimes investment is also required to fund new or expanded central coordination activities by an intermediary. This money is sometimes provided by funders or others to support a transition and is sometimes found by cancelling or changing existing agreements that are not transformative.

Library consortia seem well-placed to play a particularly important role in driving strategic change. As library consortia provide the lion's share of funding for the largest players in the current publishing landscape, this could be a very powerful lever for enabling a transition to OA.

At present it appears very challenging for small and medium sized publishers to attract the attention of libraries/consortia for these sorts of arrangements, and innovative ways for handling this many-to-many challenge may be needed.

A disadvantage of this model, for some OA advocates, is that the price of publishing services remains invisible to researchers, just as subscription prices have traditionally been invisible to them. A lack of price transparency and awareness contributes to a less competitive market because of the potential mismatch between those selecting services and those paying for them. There may well be other ways to engage researchers actively without burdening them – and other stakeholders - with the administration of article level transactional payments.

When striking these agreements, it is important to think about rebalancing in various ways. The way systemic costs are born in a reader-pays system are different than the ways systemic costs are likely to be born in a publication-payment system. The pace and scale of any rebalancing will need to be thought through and planned.

An example might help to make this point clearer.

- A. Say a publisher has an average APC of £2500. A library pays that publisher a £40,000 subscription and has 10 authors that publish with that publisher.
 - o If prices are based on reading, the library pays the publisher £40,000
 - o If prices are based on publishing, the library pays the publisher £25,000 Which is a shock for the publisher
- B. Say a publisher has an average APC of £2500. A library pays that publisher a £10,000 subscription and has 10 authors that publish with that publisher.
 - o If prices are based on reading, the library pays the publisher £10,000
 - o If prices are based on publishing, the library pays the publisher £25,000 Which is a shock for the library

Rebalancing is also likely to be required internationally between countries, and there are not yet clear mechanisms for this. National differences in subscription pricing have arisen in an historic content – they are based not only on print spend but also on a country's historic ability to pay. Thus, for example, China gets a good deal on subscriptions which does not reflect its fast-growing proportion of global research outputs. For this reason, a change to some form of pay-to-publish system might cost China considerably more than it currently pays to read.

The most effective transitions are likely to be those that involve *rebalancing within and between countries*. At a global scale there is enough money in the system to transition to OA, but the size of contributions made by different actors will probably need to change and there will be winners and losers.

A final important issue to consider is how to decrease administrative complexity for all, and particularly for small and medium sized libraries, consortia, and publishers. Transformative agreements can currently involve quite complex institution-by-institution calculations of proxy metrics for reading and very detailed modelling of article publishing behaviour by institutional authors. This may settle over time but can be a daunting barrier at present. If this level of complexity does continue, then there are potential roles for new sorts of intermediaries who can handle both data modelling and financial transactions.

4.1.1 Choreographed shift models

These are initiatives that redirect funds currently used to pay subscriptions to make journals open access to users all over the world. Two examples are <u>Knowledge Unlatched</u> and <u>SCOAP</u>³. These initiatives are a proven way to transition journals to OA. They require considerable effort from all parties, and administrative effort and financial management or underwriting from an organisation able to take on the role of choreographer.

The dancers to be choreographed are often quite varied and include libraries, consortia, publishers, societies, and researchers. SCOAP³ has also effectively worked out a way to choreograph across countries. The complexity of these approaches means that while the transitions are successful, they have involved a modest number of books and journals. In order to ensure clarity of costs for all funding participants, article numbers are sometimes capped which can cause problems for publishers whose titles are growing organically as they increase their appeal to researchers.

4.1.2 Read & Publish models

The amount of money currently paid to the publisher (for subscriptions and sometimes also for APCs where there has been additional funding for OA publishing) is guaranteed, and in exchange authors can publish OA without paying an additional APC. In some instances – for example where a country publishes many articles with a publisher or there is strong article submission growth to the publisher from authors in the country – additional money is made available. Consortia sometimes cap the total number of articles for which they will pay in order to control costs.

Examples include consortial arrangements such as in the Netherlands, Sweden, the UK and at MIT with publishers such as IOPP, OUP, the Royal Society of Chemistry, and Springer Nature via Springer Compact.

4.1.3 Publish and Read models

With PAR a consortium pays a pre-agreed amount for papers published by affiliated authors, and everyone in the library/consortium gets access to the subscription content for no extra cost. The recently announced agreement between <u>Wiley and Projekt DEAL</u> in Germany gives us an example.

The PAR model can move swiftly to shift the basis of publishing to align with the volume of article outputs but may be rather challenging to implement in consortia with an established history of agreements and an existing way of apportioning costs amongst consortium members. There will be winners and losers to manage, and a more gradual approach to rebalancing could sometimes be helpful.

4.1.4 California Digital Library pilot transformative agreement

This model engages authors as well as libraries. The library/consortium contributes money in the form of a direct payment to the publisher in order to lower/subsidise transactional publishing payments by authors who can afford to contribute something toward the cost. This approach is designed to reflect the fact that researchers in the US can use their grants to pay for publication costs if they choose to do so but are usually under no obligation or mandate to do so.

It is the intention to pilot this model during 2019 with one big publisher, one independent small society publisher, one intermediate publisher of some kind, and an OA-only publisher. It will involve different workflows and procedures for libraries and publishers. A potential challenge for small and medium sized publishers could be the need to manage both central and transactional payments.

4.1.5 Subscribe to Open

This approach has been developed by the publishing team at non-profit publisher Annual Reviews. It is designed to motivate collective action by libraries who are asked to continue to subscribe even though the content will be published OA. A 5% discount off the regular subscription price is offered to existing customers. If all current customers continue to subscribe, then that year's content is made available OA and all the backfiles are also made available OA. None of this content is opened if the number of subscribers decline, which discourages free riding. The subscriber base will be expanded to offset attrition which is currently 1-2% per year. There is no library lock-in, as this offer is repeated each year and customers again decide whether they wish to continue subscribing. If participation levels are insufficient to open the content in any given year, the 5% discount is still extended to customers, but for that year the journal would not be Plan S compliant. Any institutions that do not renew and who later return

do so at the list subscription price and do not receive the 5% discount. This model uses the conventional subscription process and existing library budgets, avoids the need to invest in transactional payment infrastructure, minimizes customer disruption by using routine library accounts payable processes, and avoids the prohibition some libraries face in paying for things that would otherwise be free.

Annual Reviews piloted this model with one title and received a 25% increase in citations and a 300% increase in downloads. These downloads were not only from the users of the 2,000 subscribing institutions but also from a further c. 7,000 institutions who can now be approached with data about why they might wish to subscribe and support the journal. In 2020 Annual Reviews will extend this model to 5 journals or 10% of its portfolio.

4.2 Cooperative Infrastructure + Funding Models

There are several examples of very close cooperation between libraries and publishers to agree both on shared infrastructure and shared approaches to funding publication costs. It appears that this model has special utility at present in countries with a strong strategic focus on culture and language, and in HSS subject areas.

4.2.1 HRČAK

An initiative (the name means 'hamster', which is very charming, and is pronounced a little like 'hochuck') based in the Computing Department at the University of Zagreb in Croatia. It is 12 years old. It provides shared infrastructure to many Croatian publishers, including long-established Croatian society publishers, and serves as a sort of national repository. One successful service that it provides is data so that editors, ministerial funders, and authors can easily see how the journals are being used. Hrčak is indexed by DOAJ, Scopus, etc. and has established a reputation for quality.

4.2.2 Kotilava

This is_a project underway between the Finnish Learned Society umbrella body and the National Library of Finland to support the transition of Finnish scholarly journals to APC-free OA. This has involved the creation of a shared journal portal and agreement re cost sharing for Finnish journals between different types of scholarly communication stakeholders.

4.2.3 Open Library for the Humanities

OLH is funded through a model of library partnership subsidies that collectively fund both an infrastructure platform and a large array of journals. Martin Eve, its founder, has also shared his thoughts on how the OLH model might be leveraged by learned society publishers wanting to organise transitions to OA via consortial sales and without APCs³⁶.

4.2.4 Project MUSE

This is a not-for-profit collaboration with the goal of disseminating quality humanities and social science scholarship via a sustainable model that meets the needs of both libraries and publishers around the world. Though not much of the content in Project Muse is currently OA, it is potentially extensible to help transition a wide array of HSS publications. It provides access to over 674 journals from 125 publishers and offers over 50,000 books from more than 100 presses. All books are fully integrated into a single platform with Project MUSE's scholarly journal content, with an array of purchasing and funding options.

³⁶ https://eve.gd/2018/01/21/how-learned-societies-could-flip-to-oa-using-a-consortial-model/

4.3 Evolving Traditional Models

So long as a peer reviewed version of the full text is made openly available under a CC-BY license at the time of publication, publishers can continue to have journals that fully rely on the traditional library subscription model. Some changes would, however, be necessary to align with Plan S.

4.3.1 Author self-archiving or access via a publisher platform

This approach to OA is entirely funded by the subscription model, and so an important consideration is what will happen to the subscription payments if all, or even a majority, of the journal's content is available in this way. This is viewed as rather challenging by some publishers³⁷ because a small minority of titles have a usage half-life of less than 12 months (Davis 2013³⁸) and usage data is important to librarians when making purchasing decisions.

A growing list of publishers – including society publishers - have, however, deployed 0-month embargos without complaining of lost revenue or other negative impacts³⁹. A possible approach in the first instance could be to use a 0-month embargo period and CC-BY licenses only for authors funded by the funding bodies participating in cOAlition S. If subscription revenue remains stable, 0-month embargos could be rolled out to all authors.

4.3.2 Reverse paywalls

In this approach all articles are immediately published OA and no APCs are charged. It The articles remain free for a period (say a year) after which they are placed back behind a paywall and are only available via subscription. Those publishers that we know of who have used this model, for example the London Mathematical Society, have moved away from it. It does not appear to be popular in the market nor viewed as fully aligned with the spirit of OA. *It is unclear whether this approach would be Plan S compliant.*

4.4 Article Transaction Models

If you are a society publisher with a steady flow of articles, and the infrastructure to administer many small transactions, then these models might work for you.

4.4.1 APC-funded OA

Content is published OA because publishing costs are covered by upfront Article Publishing Charges typically made by a researcher, their funder, or their institution. This is a proven model and works best in well-funded discipline areas with strong researcher support for OA publishing. It is a way of making the price of publication more transparent to researchers, but due to its transactional nature can be expensive for both libraries and publishers to administer.

4.4.2 Institutional prepay models

Individuals, libraries, or consortia pay an upfront fee to the publisher in exchange for a feewaived or discounted APC for themselves or for affiliated authors. This model can also operate at consortial level. The open access articles are often deposited to an institution's repository.

³⁷ https://www.publishers.org.uk/EasySiteWeb/GatewayLink.aspx?alId=24490

Davis, Phil 2013 What is the Lifespan of a Research Article? published in the Scholarly Kitchen. Available online at: https://scholarlykitchen.sspnet.org/2013/12/18/what-is-the-lifespan-of-a-research-article/
 https://docs.google.com/spreadsheets/d/1n9NO5KZr3s7SXySq6y50 I-7X8Dax7mExSHQhMfvZEc/edit#gid=1649899853

Examples include <u>Hindawi Open Access Membership</u>, <u>BioMed Central</u> and SpringerOpen Membership, and the <u>Royal Society Open Access Membership Programme</u>.

4.4.3 Submission Payments

These payments can be used in combination with reduced APCs, for example, to spread the cost burden between authors who submit articles that are rejected and those that are accepted. It appears to work for high quality and highly sought-after titles with high rejection levels and in some subject areas (e.g. economics) for historical reasons.

This model appears to be under renewed consideration for a broader range of subjects, including STEM fields. A concern is that unless all publishers were to pivot to this model at the same time it would likely drive submissions to competitor titles. There is also a risk of accusations of vanity publishing, or lower standards.

This model would perhaps be easiest and most lucrative for the largest publishers to operate with large ecosystems of journals. These publishers would be able to offer authors a high likelihood of being published somewhere in exchange for one submission payment or else would be able to collect multiple submission payments from each author.

4.5 Open platforms

<u>F1000</u> platforms and gateways are hosted services that allow organisations to create a branded area/website to which authors submit papers for publication. <u>Emerald Open Research</u> is one example.

Post-publication invited open peer review and data services are provided by F1000 for a per-article fee. Then you, or others, can create services like overlay journals and to charge for these services. If you would like to innovate in ways that move quite beyond merely opening your content to make it accessible, then F1000 could be an interesting partner.

There are publication fees (which might be paid by the author or a sponsor), and separate fees for any added value services.

4.6 Other Revenue Models

4.6.1 Advertising

Some journals, particularly in medicine, have substantial income streams from advertisers. This model often is tied to print copies provided free as a membership benefit to Society members. There is no reason that this model cannot continue to operate alongside some others, but innovation is required as print circulation will continue to decline over time.

4.6.2 Crowd-funding or Crowd-pledging

Raising small amounts of money from a large number of people is a model used successfully in numerous aspects of modern life. Publishing is no exception⁴⁰ and examples from scholarly publishing include the Electrochemical Society's <u>Free the Science</u> (which has also attracted funding from the Technische Informationsbibliothek consortium) and experiments by <u>Punctum Books</u>. The funding can be variable, and so a twist on this approach is to instead ask the crowd to pledge a recurring amount. There is the possibility of crowd-funding fatigue, but this is model of potential interest for Societies whose members and broader community highly value the journal and are able and willing to support it financially.

⁴⁰ https://bookmachine.org/2018/02/27/crowdfunded-publishing-used-find-place-uk-industry/

4.6.3 Bequests/Donations/Endowments/Subsidies

These are gifts of money or property to a non-profit organisation to provide an income for the ongoing support of the organisation or some of its activities. These contributions might be secured to cover the cost of publication or to cover the cost of other Society activities currently subsidised through publishing activities. Contributors could be individual people, families, foundations, or other organisations.

With this sort of income, journals are typically published OA and are both free to read and free to publish in. This is because the publishing costs are entirely met by payments from sponsors. One example is *Chemical Science*, published by the Royal Society of Chemistry⁴¹ which is self-funded by the RSC. Another is the <u>Norwegian Open Journals in the Social Sciences and Humanities</u> initiative which is subsidised by the Norwegian government. Journals have flipped because subsidies for print journals have flipped into subsidies for online open journals.

Incorporating these sources of funding is something that many not-for-profit organisations — including some societies and society publishers - already do, of course. There may, or may not, be opportunities to scale up the activities necessary to secure this sort of revenue.

Increasing the proportion of gifts or payments in a society publisher's revenue mix may be perceived as a less secure source of income than charges for publishing or publications. There can be concerns about potential loss of control, independence, and/or prestige. There may be ethical issues to manage as well, depending on the source of contributions.

4.6.4 Freemium models

These models make all the peer-review content available free to read in a plain form, but charge subscriptions for added services such as nice formatting and mark-up. Examples include <u>OECD's iLibrary</u> and <u>OpenEdition Freemium</u>.

4.6.5 Syndication

Unique or valuable published content, for example editorial front matter, could potentially be licensed to an array of publications and platforms rather than exclusively published in a journal. The license might be granted in exchange for a fee or in exchange for services and could be exclusive or non-exclusive. One example of this from the scholarly communication landscape at present is the license publishers grant to indexing services in exchange for being indexed. The possible future extension of this model given the emergence of research ecosystems is a theme developed in Scholarly Kitchen blogposts by Roger Schonfeld⁴².

4.7 Strategies for Change and Cost Reduction

4.7.1 Flipping Journals

Hybrid journals can be flipped to become fully OA journals. Examples include titles published by <u>De Gruyter</u>, <u>Elsevier</u>, and <u>Bioscience Reports from Portland Press</u>. Key to this is a steady and sufficient flow of revenue, from whatever income stream. If the flipped journal is entirely funded

⁴¹ http://www.rsc.org/journals-books-databases/about-journals/chemical-science/

⁴² Roger Schonfeld, 27 February 2019. *Will publishers have platforms?* https://scholarlykitchen.sspnet.org/2019/02/27/will-publishers-have-platforms/

by APCs, a key concern around flipping would be losing authors to other journals that retain a free-to-publish option (e.g. a subscription title or a subsidised title).

Though certainly **not** an OA model **nor** Plan S compliant approach, publishers that experiment with making a title fully OA can sometimes find that they get it wrong or have moved too early. Backflipping can act as a sort of safety net, enabling publishers to reinstitute the subscription model temporarily while they reassess and change approach. Backflipping is not always easy to do, but it is possible, and can save the journal so that the publisher can try an alternative transition approach or until the context and community in which it operates changes so that it can successfully transition in another way.

4.7.2 Close or combine journals

This approach is a potential way to reduce costs or to concentrate the proportion of authors able and willing to pay APCs into a single title. It can work at different levels of granularity including across a single publisher's portfolio or across a consortium of publisher portfolios.

4.7.3 Cooperative Infrastructure

There are many examples of cooperative infrastructure development, often resulting in open source software. A few examples include:

- The Collaborative Knowledge Foundation (CoKo) is a not-for-profit cooperative development and deploying open source infrastructure to support innovation in scholarly communications. It provides tools not only for journal publishing but also for books and micropublications. Active participants include OA-only publishers <u>eLife</u> and <u>Hindawi</u>.
- These same organisations, and others including Digirati, are working together on <u>Libero</u>
 which is a very innovative opensource publishing environment to develop entirely new
 features, for example tools to test for and demonstrate whether research is reproducible.
- The <u>Public Knowledge Project (PKP)</u> has developed <u>Open Journal Systems (OJS)</u> with funding from a <u>wide array of organisations</u>. This open source publishing software is made freely available to journals worldwide for the purpose of making open access publishing a viable option for more journals and for more libraries and scholars who wish to self-publish.

4.7.4 Increase article numbers

A rational approach to a fully OA world where money is available for authors to pay to publish is to increase your article market share. This can be a deeply unpopular transition strategy with funders and librarians when it is perceived to be done for financial gain rather than the benefit of researchers. Funders and libraries wish to transition to open access in a way that manages and reduces systemic costs (while expanding the content that is available and maintaining or improving quality), and they wish to encourage more competition in publishing. They do not wish to drive an arms race between publishers to see which can increase their market share of quality articles and price or (worse still) which can increase their market share by lowering quality standards.

4.7.5 Launch a journal

Fully open access journals are regularly launched. <u>UCL Open</u>, launched in January 2019, might provide some inspiration. As with all new journals, launches are often heavily subsidised for a considerable period before they break even or better.

4.7.6 Online only publishing

To save costs, learned society publishers may need or wish to move fully online.

This can cause some challenges which need to be carefully thought through, and any lost revenue offset. For example, print copies can be a benefit offered to Society members, and so membership fee revenue may be put at risk. In certain subjects, most notably in medicine, learned society publishers have significant advertising revenue tied to the print copies distributed to their members. In other cases, the benefits of moving online only are likely to outweigh the disbenefits.

There can be opportunities too. One society publisher reported to us that moving online led to a modest increase in digital subscription sales because some fraudulent print subscriptions were cut off.

4.7.7 Outsourcing

Where societies have a publishing partner, they can benefit from existing expertise, infrastructure, and intelligence and might also be, to some extent, buffered by multi-year contracts. The important thing is to reflect on how you can best structure and drive these partnerships to enhance your Society's mission and strategy. You are in the driving seat when procuring these services and can structure them to help you drive change and innovation. There are a broad spectrum of publishing partners including:

- Other independent society publishers the ALPSP learned journal collection was an early example in this space⁴³ and it is interesting to see the formation of new groups since publication of Plan S. Examples include the Society Publishers Coalition and Transitioning Societies to Open Access⁴⁴.
- **Library presses** if your aim is to maintain your editorial independence, to really push the creative boundaries in online publishing, and to remain tied to the academy in your publishing activities, then these new partners may be for you. Some of the largest offer publishing services.
- University presses- these organisations come in all shapes and sizes, and many provide
 publishing services to learned society publishers. The largest have long experience, great
 scale, and experience transitioning journals to OA these partners can offer you a safety net
 and stability over multiple years. In return for a flat fee, profit share, or revenue share you
 can outsource some or all your publishing to them and remain aligned with the Academy.
- Open access only publishers these organisations have a wealth of OA experience, services, and tools so partnering with them can be a great way to accelerate. Larger publishers do this too, for example Sage and Wiley with Hindawi⁴⁵.
- Mixed model commercial publishers with long experience, huge scale, and experience
 transitioning journals to OA these partners can offer you a safety net and stability over
 multiple years. In return for a flat fee, profit share, or revenue share you can outsource
 some or all your publishing to them

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⁴³ https://www.researchinformation.info/product/alpsp-learned-journals-collection;

⁴⁴ http://intheopen.net/2019/02/transitioning-society-publications-to-open-access/

⁴⁵ https://www.wiley.com/network/researchers/licensing-and-open-access/working-with-hindawi-toward-an-open-access-future

4.7.8 Simplify

The systemic complexity of scholarly communications is mind-bending. All stakeholders have contributed to this situation and, as we are all guilty, we can also all make amends. Why not make a move to embrace simplicity, whether on your own or in partnership with others? Complexity tends to be expensive and is a barrier for new entrants and small and medium sized players. Some examples of ways to simplify include:

- <u>CHORUS</u> and the <u>Jisc Publications Router</u> alternatives to populating individual institutional repositories with accepted manuscripts
- <u>CLOCKSS</u> and <u>Portico</u> librarians and publishers collaborate to ensure the long-term digital preservation of journals and other resources crucial to researchers
- <u>COUNTER</u>, <u>DOIs</u>, <u>ORCID</u> and more standardised approaches to reporting usage and identifying content or people help everyone in our ecosystem
- OpenCitations open bibliographic and citation data

4.7.9 Splitting journals

Splitting an existing hybrid journal into two entirely separate parts with different business models is a potential transition strategy.

In the context of Plan S this model has come into question rather quickly, however, in one specific form. This is the Mirror Journal approach of splitting hybrid journals into two (one funded through APCs and the other funded through subscriptions) with identical editorial boards and near-identical titles. This approach is perceived as an attempt to continue the hybrid model and maintain the high costs of operating both the OA and subscription systems in parallel. While mirror journals appear to be relatively quick and easy for publishers to implement, they add complexity for libraries and supply chain partners. It is also unclear how impact factors (or other metrics) attributed to the original title would be inherited by the mirror title.

5. Conclusion

This document is a discussion document, accompanied by a survey, to stimulate thinking and further engagement with learned society publishers and other stakeholders. The final SPA-OPS project report, informed by these discussions and two pilots, will contain more detailed recommendations for different types of societies.

At this stage of the process, when considering the various approaches and models set out in this paper, it might be helpful for society publishers to reflect on opportunities as well as challenges and to consider potential impacts on:

- Brand and reputation
- Mission
- Services
- Submissions

In order to reflect on costs and benefits, it is helpful to pull together a clear picture of your finances, both from an overall Society perspective and from a publishing perspective. In case this is new for you there are an array of profit and loss templates online and there are also courses available that could be helpful (e.g. <a href="https://www.alpsp.org/Training/Journal-Financial-Strategy-for-Non-Financial-Strategy-

<u>Managers/62348</u>). The idea is to try and think through which existing income streams (e.g. reprint sales) will decrease in a more OA world, and what sort of adjustments in other income streams or costs could compensate for these. It's also an opportunity to take a realistic look at your costs, and whether there are opportunities to decrease or optimise these.

It will be important to discuss issues and options more broadly within your organisation and in your broader scholarly community. There are some free resources available online designed to help editors start open access transition conversations with their publishers, and you may find these resources of interest⁴⁶. We would also encourage you to engage with and listen to other stakeholders in the scholarly communication landscape including libraries.

	Pros	Cons	Plan S Compliant	Relative Benefit to Society Publisher	Relative Risk to Society Publisher
Transformative agreements	Can be sustainable; creates market	May need to attract attention of consortia or choreographer, or do this work yourself; risk of free riders	Yes		
Cooperative infrastructure & funding	Can be sustainable	Dependent on government or library subsidies	Yes		
Evolving traditional models	Can buy time, or work in conjunction with another model (e.g. subscriptions, subsidies)	Systematic deposit of manuscripts or articles	Sometime s		
Per article fee models	Can be sustainable for some journals; creates market	Depends on authors having money and being willing to pay transactions	Yes		
Other revenue models	Can contribute to a sustainable business plan	Revenue likely to be modest and irregular	Yes		
Change and cost reduction	Can work in conjunction with revenue models	There are new costs as well as cost savings	Sometime s		

 $^{^{46}\} https://osc.university of california.edu/wp-content/uploads/2019/02/UC-OSC-Check list-for-Journal-Flipping-Conversations.pdf$

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