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Hybrid open access—A longitudinal study



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ABSTRACT

This study estimates the development of hybrid open access (OA), i.e. articles published openly on the web within subscription-access journals. Included in the study are the five largest publishers of scholarly journals; Elsevier, Springer, Wiley-Blackwell, Taylor & Francis, and Sage. Since no central indexing or standardized metadata exists for identifying hybrid OA an explorative bottom-up methodological approach was developed. The individual search and filtering features of each publisher website and a-priori availability of data were leveraged to the extent possible. The results indicate a strong sustained growth in the volume of articles published as hybrid OA during 2007 (666 articles) to 2013 (13 994 articles). The share of hybrid articles was at 3.8% of total published articles for the period of 2011–2013 for journals with at least one identified hybrid OA article. Journals within the Scopus discipline categorization of Health and Life Sciences, in particular the field of Medicine, were found to be among the most frequent publishers of hybrid OA content. The study surfaces the many methodological challenges involved in obtaining metrics regarding hybrid OA, a growing business for journal publishers as science policy pressures for reduced access barriers to research publications.

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1. Introduction

Open Access (OA) as a phenomenon has existed since the earliest days of the internet, although the term itself was formally established around the time when the Budapest Open Access Initiative was signed in 2002 (BOAI, 2002). Suber's (2012:4) definition of OA conveys the essence of most official definitions: "Open access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions.". Essentially we talk about either the journal publisher making the article available directly (gold OA), or alternatively manuscript versions being uploaded to the web by authors (green OA) which can act as substitutes for readers lacking access rights to a subscription-journal. OA is also relevant for other forms of scientific reporting, such as books and data sets, but the border conditions are different for these and they are outside the focus of this study.

Since the early 1990s full OA journals have been launched in increasing numbers, using a number of alternative business models to secure the finances or resources needed to operate them (Laakso & Björk, 2012). For the year 2014 the number of full OA journals exceeded 9500, collectively publishing more than 482000 articles during the year (Crawford, 2015). Since the majority of scholarly journals and articles are still only available for subscribers an increasing number of institutional

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and subject repositories have also been created, in which authors can upload and preserve manuscript versions of their articles (Björk, Laakso, Welling & Paetau 2014).

A solution in-between full OA journals and subscription journals is being offered by most of the leading publishers. In so-called hybrid journals, authors can free their individual articles for anybody to read by making an optional payment to the publisher, while the rest of the journal's content remains reserved for subscribers only (Weber 2009). Information about such options are marketed to authors, especially at the stage when a manuscript has been accepted for publication. The common benefit enabled by payment is that the authors usually retain full copyright of the final published article and the article is labeled with a Creative Commons license, which explicitly outlines what readers can do with the article. Choosing the hybrid option is for many authors an easy option for complying with OA mandates set by funders and universities, policies which are increasingly common (Swan, Gargouri, Hunt, & Harnad, 2015). Hybrid OA has also been discussed in the context of acting as a transition mechanism for journals eventually converting to full OA publishing, whereby a journal can gradually shift over to full OA as uptake grows (Prosser, 2003).

Initial discussions and experiments around hybrid OA started as early as 1998–1999 (Walker, 1998), but the concept was tested on a wider scale with Springer's "Open Choice" programme launched in 2004 (Springer, 2004). Springer set the pricing at 3000 USD per article (Velterop, 2007), which has since become more or less of a de facto industry standard. Hybrid OA has shown signs of escalating rapidly based on reported publication outlays of universities and research funders (e.g. Björk & Solomon, 2014; Pinfield, Salter, & Bath, 2015). Research funders, in particular in the UK, have signaled a readiness to remunerate the charges to authors and their universities. There has been an ongoing debate about the possible consequences of a potential rapid uptake of the hybrid OA option in the overall publishing and subscription costs of research intensive universities (Finch, 2012). Recent experiences of funders like Wellcome Trust (Björk & Solomon, 2014) and the Austrian Science fund (Reckling & Kenzian, 2015), show that the majority of their earmarked APC funding has gone to paying the charges of hybrid journals rather than the charges of full OA journals, which are comparatively less expensive to publish in.

One of the problems in the on-going debate about hybrid OA has been the lack of exact information on uptake of hybrid OA. It is difficult to distinguish, and in particular make exact counts of hybrid OA articles. Publishers have widely differing ways of tagging hybrid OA articles in their tables of content, and there is so far no uniform universally adopted standard. The few studies conducted so far have had to rely on partial data made available by individual publishers, or partial sampling of a wider population of publications. Their methodologies and results are summarized in the following section.

2. Earlier studies

Hardly any bibliometric studies have been conducted concerning the prevalence of hybrid OA alone, but different aspects of hybrid OA have been partially covered as part of broader and coarser studies.

In the EU-funded SOAP study report one chapter is devoted to hybrid OA (Dallmeier-Tiessen et al., 2010). The project team looked at the overall hybrid OA offering (number of journals) from 12 leading publishers. The actual number of articles published was determined by asking the publishers to supply figures. The number of journals was in 2009 1991 representing around 25% of the journal portfolios of the publishers in question, and the number of articles found was 4582.

In a study based on aggregating information made available by publishers and searches in PubMed Central, Björk (2012) identified 4381 journals and estimated the number of published articles to be 12089 for 2011. In a later study, Björk & Solomon (2014) found 8003 hybrid journals in 2013, almost double the amount reported for 2011 in Björk (2012).

Other studies have indirectly incorporated hybrid articles in the overall numbers of OA articles, but usually without trying to distinguish them from free manuscript versions (green OA) or promotionally free articles (Archambault et al., 2014; Gargouri, Larivière, Gingras, Carr, & Harnad, 2012). Such studies usually start from a sample of scholarly articles from indexing services like Web of Science or Scopus and then try to determine if the full text is available freely. OA articles in full OA journals can be rather easily distinguished due to the indexing of OA journals in the Directory of Open Access Journals (DOAJ), but usually all other hits (whether in delayed OA journals, hybrid journals, promotionally free issues or any variant of green OA) are bundled as one category, unless they are classified by manual inspection.

Mueller-Langer and Watt (2014) conducted a study on the citation effect of hybrid OA among articles published in 15 economics journals offering a hybrid OA option. The authors included 14 journals from Springer and 1 from Oxford University press, with a total of 1329 articles published from December 2006 to December 2011. Based on manual identification 208 articles were found to be available hybrid OA. Hybrid OA shares of articles published in the 15 journals ranged from 3.02% to 18.06%, with a total hybrid OA share of 6.5% for all included articles. The authors note that the uptake figures for hybrid OA among the journals included in the sample were influenced by the pilot hybrid OA agreements that e.g. the Dutch Consortium of University Libraries, University of California, Max Planck Society (MPG), University of Goettingen, and the University of Hong Kong had made with publishers that commonly enable all affiliated authors from the organizations to get their articles published as hybrid OA without paying individual fees. Appendix A of Mueller-Langer and Watt (2014) contains the identified institutions and agreement time periods which are likely useful for interpretation of data on the growth of hybrid OA. The study concludes that, controlling for institution quality and citations to RePEc OA pre-prints, there was not a significant relationship between hybrid OA status of articles and received citations to said articles.

The theoretical potential and realized uptake of various OA publishing models was recently studied by Jubb et al. (2015), with a particular focus on research output by UK-affiliated authors but also providing comparative metrics on uptake levels globally. The part of the broad study most relevant to this article was based on disciplinary stratified random sampling

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