

# Strategies to Increase Open Access Journals -The Cases of Elsevier and Springer Nature-

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**Strategies to Increase Open Access Journals:  
The Cases of Elsevier and Springer Nature**

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## **Strategies to Increase Open Access Journals: The Cases of Elsevier and Springer Nature**

### **Abstract**

In recent years major commercial publishers have strengthened their presence in both the subscription journal market and the open access journal market. Inspecting 447 journals from Elsevier and 550 from Springer Nature, this study investigated three strategies for enlarging portfolios of gold open access journals: the launch of new journals, mergers with other publishers, and partnering with research institutes. The results revealed that these publishers adopted different strategies for expanding their journal portfolios. While Springer Nature relied significantly on merging with established publishers, Elsevier recently launched many new journals independently. Approximately 60 per cent of Springer Nature journals and 45 per cent of Elsevier journals are published on behalf of research institutes. Therefore, collaboration with research institutes contributed to an increasing number of journal titles. As major publishers expand their open access businesses, it is necessary to monitor their activities from a policy perspective of pro-competition.

**Keywords:** journal portfolio, merger, collaboration, Elsevier, Springer Nature

## Introduction

Today, several research funders, such as cOAlition (a consortium of research funders that established Plan S), mandate that authors publish grant-funded research in open access journals. Accordingly, major publishers have launched fully open access journals, called *gold open access* journals in this study, and have converted some of their subscription journals into open access. This study concerns gold open access journals published by Elsevier and Springer Nature, the top two publishers of open access journals according to the Directory of Open Access Journals (DOAJ).

Crawford reported that the number of newly launched open access journals increased significantly during the 2000s and declined in the late 2010s.<sup>1</sup> According to the DOAJ, the major for-profit publishers, known as the Big Five (Elsevier, Sage, Springer Nature, Taylor & Francis, and Wiley), were among the top ten publishers of open access journals in June 2021. Rodrigues et al. noted that Springer Nature has established a dominant position in open access journals.<sup>2</sup> The Big Five already hold large shares in the open access journal market in addition to their subscription journals.<sup>3</sup>

Before the proposed merger between Elsevier and Wolters Kluwer in 1998, government authorities did not resist mergers between publishers.<sup>4</sup> However, considering increased subscription journal prices, several researchers developed an interest in the impact of mergers on journal prices since the 2000s.<sup>5</sup> Larivière et al. argued that launching new journals and merging publishers raised the market shares of major publishers in the subscription journal market, which led to their high profit margins.<sup>6</sup> The major publishers with high market shares in open access publishing could raise their article processing charges (APCs) above a fair market price; APCs are what authors, universities, or funders pay to publishers to have gold open access articles published.<sup>7</sup> This study empirically examined three strategies for the expansion of Elsevier's and Springer Nature's portfolios of gold open access journals: 1) the launch of new journals, 2) mergers with other publishers, and 3) collaboration with research institutes. The results

from the comparison provide a reason why policymakers should monitor the dominance of the Big Five in the open access journal market.

### **Related Literature**

Since the 2000s, several studies have raised concerns about increased concentration in the academic journal business. Edlin and Rubinfeld argued that ‘big deal contracts,’ which bundle print and electronic services, created barriers to entering the journal market.<sup>8</sup> Kim and Park reported that the market share of the top three publishers (Elsevier, Springer Nature, and Wiley) rose after mergers.<sup>9</sup>

McCabe found that mergers between publishers were generally associated with an increase in subscription prices.<sup>10</sup> Several empirical studies investigated the relationship between pricing and market power and indicated that for-profit publishers overcharged libraries.<sup>11</sup> In contrast, Dubois et al. concluded that publishers’ profit margins were relatively low based on results using a discrete choice model.<sup>12</sup> Regarding the determinants of APCs for open access journals, several studies found that journals with higher citation scores set higher APCs.<sup>13</sup> Budzinski et al. reported that market power plays an important role in determining APC pricing.<sup>14</sup>

Ashman found that 67 per cent of academic societies collaborated with well-known publishers in 2008.<sup>15</sup> Ware stated that publishing journals for research institutes was attractive to publishers because established journals increased their revenues faster than launching new journals did.<sup>16</sup> Johnson and Fosci found that while 24 per cent of academic societies in the United Kingdom published their own journals in 2015, the remainder published in collaboration with for-profit publishers or university presses. Therefore, they suspected that outsourcing journal publication strengthened publishers’ presence.<sup>17</sup> Björk reported that most open access journals published by for-profit publishers in five Nordic countries in 2018 were affiliated with research institutes.<sup>18</sup> Clarke warned that publishers might bind academic societies contractually, although

societies earned more by collaborating with major publishers.<sup>19</sup> Asai found that open access journals for research institutes generally enhanced their internationality and citation scores in Scopus (established by Elsevier) after collaborating with publishers.<sup>20</sup> Several studies have investigated the effect of collaboration between publishers and research institutes, yet few have examined such collaboration as a strategy for publishers to expand their business.

## **Method**

Elsevier's open access journals include the Cell Press and Lancet imprints that the publisher acquired. Gold open access journals published by Springer Nature comprise the imprints of the Australasian Drug Information Service (Adis), BMC (BioMed Central), Nature Research, and Springer. Adis was established in New Zealand in the 1960s and merged with Springer in 2011. BMC, an independent open access publisher, joined Springer in 2008. Springer merged with the Nature Publishing Group in 2015, after which it was renamed Springer Nature. Although these imprints, excluding BMC, own hybrid journals in addition to gold open access journals, this study investigated gold open access journals only. Journals that met these requirements were compiled from the journals listed on the publishers' websites. The journal lists included some new journals that had not yet published articles as of 2020; these journals were excluded from the sample. The sample included 447 Elsevier journals and 550 Springer Nature journals.

The listed journals were categorized by imprint. Journals were also categorized into those launched independently and those published on behalf of research institutes. For journals launched independently, the publishers engage in the whole process from editing to article distribution. In collaborations with research institutes, the research institutes edit the journals, and the publishers provide online systems for article submission and coordination of peer review and distribute accepted articles on their websites. When information on a research institute was lacking on the journal's website,

the journal was categorized as an independently launched one. For the full sample of Elsevier and Springer Nature journals, the number of journal titles was counted and the number of articles published in 2020 was added up according to the categories (journals from imprints, journals launched independently, and journals published for research institutes).

## **Results**

### *Elsevier*

Table 1 shows the number of journal titles and articles by imprint (Elsevier, Cell Press, and Lancet). ‘Independent’ and ‘Collaborative’ refer, respectively, to journals launched independently and those published on behalf of research institutes. The Elsevier imprint comprised 225 journals launched independently and 202 journals published for research institutes. In contrast, there were no journals published for research institutes among Cell Press’s and Lancet’s gold open access journals in 2020. The number of journals in the Elsevier imprint accounted for 95.5 per cent of the total (427 of 447 titles). However, Cell Press and Lancet published more articles in a journal, on average, than did the Elsevier imprint. Thus, the proportions of the number of articles in the Cell Press and Lancet imprints were 11.1 and 3.0 per cent, respectively, although the proportions of the number of journal titles were 3.1 and 1.3 per cent, respectively. The mean number of articles in the independently launched Elsevier imprint journals (103) was smaller than that of research institute journals (140). The null hypothesis that the two means are equal was rejected at the 10 per cent significance level. The total number of articles in Elsevier imprint journals launched independently (23,270) accounted for 38.8 per cent. Therefore, the total number of articles published by Elsevier overall increased 2.6 times (from 23,270 to 59,988) due to mergers with other publishers and collaboration with research institutes.

Table 1. Elsevier's gold open access journals

Imprint		Titles	Articles	Mean Articles
Elsevier	Independent	225 (50.3%)	23,270 (38.8%)	103
	Collaborative	202 (45.2%)	28,220 (47.0%)	140
Cell Press	Independent	14 (3.1%)	6672 (11.1%)	477
Lancet	Independent	6 (1.3%)	1826 (3.0%)	304
Total	Independent	245 (54.8%)	31,768 (53.0%)	130
	Collaborative	202 (45.2%)	28,220 (47.0%)	140
Overall Total		447 (100%)	59,988 (100%)	134

Notes: Titles = the total number of journal titles; Articles = the total number of articles; Mean Articles = the mean number of articles in a journal.

The percentage of the total number of journal titles or number of articles is in parentheses.

### ***Springer Nature***

Table 2 shows the number of journal titles and articles by imprint (Springer, Adis, BMC, and Nature Research). All Adis gold open access journals in this study were launched independently, although the imprint has hybrid journals with research institutes. Springer Nature owned a greater number of gold open access journals (550 titles) than Elsevier (447 titles). However, more than half of the journals (292 titles) were published by BMC, which Springer Nature incorporated. The journals in the Springer imprint (198 titles) comprised almost one-third (36.0 per cent) of the total. Furthermore, 161 of the 198 Springer imprint journals (81.3 per cent) were published on behalf of research institutes, implying that Springer imprint journals expanded their portfolios by collaborating with research institutes. However, the mean number of articles in a Springer imprint journal launched independently (73) was almost the same as that in a journal for a research institute (76); the null hypothesis that the two means are equal was not rejected at the 10 per cent significance level. The mean number of articles in a journal launched



independently by Nature Research (2428) was the largest. One reason is that a mega-journal titled *Scientific Reports* from Nature Research published many articles. BMC and Nature Research published a greater number of articles in a journal launched independently (204, 2428) than that in a journal for a research institute (83, 113) at the 1 per cent and 5 per cent significance level, respectively. Regarding Springer Nature overall, 40.7 per cent of journals were launched independently, accounting for 71.6 per cent of the number of articles. As the revenues of open access journals depend on the number of articles and the APC, the number of articles is a more important index than the number of journals. Overall, Springer Nature significantly increased the number of articles from 2706 to 95,086 (35 times) by merging with established publishers and collaborating with research institutes.

Table 2. Springer Nature's gold open access journals

Imprint		Titles	Articles	Mean Articles
Springer	Independent	37 (6.7%)	2706 (2.9%)	73
	Collaborative	161 (29.3%)	12,300 (12.9%)	76
Adis	Independent	13 (2.4%)	954 (1.0%)	73
BMC	Independent	161 (29.3%)	32,824 (34.5%)	204
	Collaborative	131 (23.8%)	10,919 (11.5%)	83
Nature Research	Independent	13 (2.4%)	31,558 (33.2%)	2428
	Collaborative	34 (6.2%)	3825 (4.0%)	113
Total	Independent	224 (40.7%)	68,042 (71.6%)	304
	Collaborative	326 (59.3%)	27,044 (28.4%)	83
Overall Total		550 (100%)	95,086 (100%)	173

Notes: Titles = the total number of journal titles; Articles = the total number of articles; Mean Article = the mean number of articles in a journal.

The percentage of the total number of journal titles or number of articles is in parentheses.

## **Discussion**

Although both publishers increased their portfolios of gold open access journals by collaborating with research institutes, they adopted different strategies for doing so. Springer Nature adopted a merger strategy to expand its journal portfolio. However, business expansion through mergers was not unique to Springer Nature; for example, Taylor & Francis merged with Dove Medical Press, an independent open access publisher, in 2017. Similarly, Wiley published several journals in collaboration with Hindawi, a large open access journal publisher, and finally merged with it in 2020. Thus, major publishers have already merged with other publishers that hold many open access journals; therefore, there are few independent publishers left holding many gold open access journals. Consequently, the Big Five should probably not expect significant business expansion for gold open access journals to come from merging in the future.

In contrast to Springer Nature, Elsevier was committed to launching new journals. The number of Elsevier imprint journals launched independently (225 titles) was greater than that of Springer imprint journals (37 titles). However, 60 and 70 of the 225 Elsevier imprint journals began to publish articles in 2019 and 2020, respectively. The fact that 130 of the 225 journals (61.3 per cent) were launched in the last two years indicates that Elsevier has recently been actively involved in launching new journals. Recent open access initiatives, such as Plan S, may have influenced Elsevier's strategy. However, these 225 journals had the smallest mean number of articles (103 in Table 1). The reason may be that the history of these journals is short, so most do not have a sufficiently high profile to attract many article submissions. Incorporating established journals launched by other publishers is more convenient than launching new journals when it comes to acquiring more APC revenue. Elsevier's way of enhancing the academic renown of new journals in a short time was by launching so-called mirror journals. Mirror journals have the same title as their parent subscription journal, yet they are distinguished

by having the letter *X* follow the title: for example, *World Neurosurgery: X*. They share the same editorial board and peer review policies as the parent journal. Mirror journals aim to enhance the academic influence of new journals by retaining a strong connection with their established namesakes.<sup>21</sup> The 225 journals included 25 mirror journals. However, the mean number of articles in mirror journals was small, at 20.3 in 2020. Mirror journals generally did not publish many articles at this time.

When publishing journals for research institutes, publishers provide their facilities, such as online systems, and research institutes set the topics of their journals and review submissions according to their editorial policies. A publisher's additional cost for incorporating a journal for a research institute is relatively small. Moreover, if a journal for a research institute already has celebrity status, publishing the journal on behalf of the research institute enhances the status of the publisher. Therefore, collaborating with a research institute is a convenient way for publishers to expand their open access offerings in a short period of time. However, publishers must scrutinize whether publishing a particular journal for a research institute will enhance their brand. Previous studies revealed that the effect of collaboration with publishers on a journal's quality differs across journals.<sup>22</sup> Therefore, research institutes must also carefully determine whether partnering with a publisher is wise.

## **Conclusion**

This study empirically investigated the strategies of Elsevier and Springer Nature for expanding their open access journal businesses. It focused on three strategies: the launch of new journals, mergers with other publishers, and collaboration with research institutes. About half of the journals published by Elsevier and Springer Nature were collaborations with research institutes. Moreover, Springer Nature significantly expanded its business by mergers with established publishers.

Policymakers should monitor market power in the open access journal market to

avoid anti-competitive activities by major publishers. Mergers reduce competition among publishers, even when the merged publishers are small- or medium-sized. Hence, the authorities need to scrutinize proposed mergers of publishers, considering the possibility that merger could enlarge their existing market power. This study examined only Elsevier and Springer Nature. Given this limitation, an investigation of the other members of the Big Five is needed to confirm the conclusions of this study.

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### **Notes**

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