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Straight Talk--Signs of Scientific Publishing Disruption: A Look at Elsevier, the World's Largest STM Publisher

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A Look at Elsevier, the World's Largest STM Publisher

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Professional library literature, conferences, and blogosphere are filled with comments that claim the open access movement has broken the back of scientific publishing. Everyone is rejoicing that open access has gained the strength it needs to crush the traditional publishing model with its high subscriptions prices lurking behind the paywall. Per many of my library friends, the OA movement has finally reached the tipping point and we are on our way to a new world where access is going to be free and the author pay model will put the subscription model to rest. While I am not here to debate the merits of Open Access, I thought it might be beneficial to test this theory that finally scientific publishing has been disrupted and that OA has taken over and replaced the subscription based model. Perhaps the best place to test this theory is to look at the world's largest and most successful scientific publisher, the well-known and much criticized **Elsevier** who have recently changed their corporate name to **RELX Group**.

The **RELX Group** is a very successful company that is comprised of **Elsevier** — Scientific, Medical and Technical Publishing, the **LexisNexis** company now split into Risk & Business Analytics and Legal, and the Exhibitions business. Long gone, sold off or closed are the former **Reed** Business Journals and Educational Publishing. The **RELX Group** is led by **Erik Engstrom** who joined the company in 2004 and the company employs over 30,000 with about 50% of the employees based in the U.S.

At first glance I would like to look at the general financial performance of the **RELX Group** and then spend some time looking at the **Elsevier** unit in more depth as this is where the signs of disruption should stand out. My analysis is based on a review of the annual reports from 2000, 2005, 2010, and 2015. Basically, a review of the key financial data for the past 15 years which is perhaps the time where the group has faced the strongest period of protest, lobbying effort, and outright boycott from librarians and some researchers.

For **RELX** the past 15 years have been a period of growth and increased profitability, much of which has come from careful management. Having to dispose of the **Reed** business journals was painful as they waited too late to sell off a large group of advertising based journals and got caught with significant properties that lost advertisers, revenue and the downturn occurred rapidly. Along with the **Reed** situation came the world financial meltdown in 2008 that caught many companies by surprise. However, even with all the external factors and library community pressure to change business models **RELX** remained profitable. In the past few years they have spent more than a billion pounds on share buyback, and continue to have an active acquisition program. Bottom line, **RELX** has strong cash flow from their business units and they are well positioned to fund development, upgrade their products and services, participate in share buy backs, and continue to acquire companies that they consider strategic.

RELX Key Financial Indicators

	Revenue	Adjusted Operating Profit	
2000	£3,768 m	£793 m	
2005	£5,166 m	£839 m	
2010	£6,055 m	£1,555	Operating margin 25.7%
2015	£5,971 m	£1,822	Operating margin 30.5%

The **RELX Group** has been delivering a modest but stable 3% revenue growth since 2011 and perhaps more importantly they have delivered an average adjusted operating profit of 5% a year since 2011. The company is somehow getting more efficient each year. The past 15 years have been relatively stable and there is little evidence that the group has suffered any major disruption in revenue or profitability. However, it is possible that as one company in the group comes under

attack, the other companies in the group make up the difference. It is therefore important to have a much closer look at the **Elsevier** unit to determine if the company that is the main target of the OA movement is showing signs of business disruption. **Elsevier** perhaps more than any other company has been the target of librarian revolt, researcher boycott and about as much negative press as any company in the library marketplace.

The question is has revenue suffered? Have they lost journals? Is their subscription based business model under stress with widespread cancellations? Has the researchers' boycott damaged their journal manuscript submissions? Has there been widespread editor revolt? Are there signs of disruption of any type?

The answer to these questions is found in the financial and key operating facts for the **Elsevier** unit of **RELX Group**. Once again the case for disruption has been strong from the library community. For ten years or more the **Elsevier** name has been a rallying cry for the OA community. What do we know about **Elsevier**?

In 2015, they published over 2500 journals and employed 7,200 employees and served customers in 170 countries. Science Direct is used by 12 million monthly users. Subscription revenue represents 69% of their sales with 49% of the sales coming from North America. They published 400,000 articles out of 1.3 million manuscripts submitted which yields an average rejection rate of 70%.

Some more detailed information on **Elsevier** including key financial information.

Elsevier STM Business

	Revenue	Adjusted Operating Profit
2000	£ 693 m	£ 252 m
2005	£ 1,436 m	£ 449 m
2010	£ 2,026 m	£ 724 m
2015	£ 2,070 m	£ 760 m

The **Elsevier** STM business unit is still a vital component of the **RELX Group** and is still delivering a major contribution to the bottom line. In 2015 the STM business unit contributed 35% of **RELX Group's** revenue and 42% of the adjusted operating profit which is only a slight change from 2010 when it contributed 46% of **RELX Group's** adjusted operating profit.

The most interesting fact is that during the last five years the **LexisNexis** units have been growing at 7% per year which is faster than the STM business and by 2015 the revenue from these two groups is now grown to £3,044 with an adjusted operating profit of £ 849 which exceeds the contribution of the STM unit. Per revenue dollar the STM business is still more profitable but since the **LexisNexis** units' revenue now exceeds the STM unit by £ 1 million pounds, **LexisNexis** is now the profit leader and represents a sound investment by **Elsevier** which paid a \$1 billion for **LexisNexis** a few years ago.

So, let's look for signs of disruption. What do the major business indicators show? Has **Elsevier** been shaken to its core? Are they changing their business model? Moving away from the prepaid subscription model? Are there any signs of business collapse?

First up is annual revenue. Here again we don't see any major short-fall or decline in revenue. I think the 3% growth rate has more to do with the health of the library marketplace than any change in business practice. From 2000-2015 we see revenue growth from £693m to £2,070m which is a strong indicator that there have been few cancellations. Science Direct now accounts for nearly 60% of their revenue and their

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investments in new products and services such as Scopus and SciVerse have proven successful revenue drivers. The past 15 years the revenue remains solid and there are no major signs of disruption in this area.

Now let's look at the Operating margin. The entire **RELX Group** in 2015 has an operating margin of 30.5% which is outstanding. Behind these numbers is the STM business which in 2000 had an operating margin of 36.4%. There is no evidence that this level of operating margin has changed. For years, the **Elsevier** STM business has been a large contributor to the adjusted operating profit for the group. In 2010 **Elsevier's** contribution was 46%, and by 2015 the contribution was 42% which is still a significant number. Based on the numbers it appears that **Elsevier** has not suffered a margin collapse and that their publishing model is still strong, stable, and a major contributor to the profitability of the **RELX Group**.

What about the impact of the researcher boycott in 2012? Has there been a major decline in manuscripts submitted? Once again, even though there were over 10,000 researchers who signed up to boycott **Elsevier**, there is little evidence that that effort hurt **Elsevier's** publication program. In 2010 before the boycott, **Elsevier** published 200,000 articles in some 1,500 journals and after the boycott by 2015 they received a record breaking 1.3 million manuscripts of which they published 400,000 articles in 2,500 journals. From the publication output it does not appear that the boycott had any material impact on **Elsevier**. When you consider that 70% of the manuscripts are rejected, it is easy to understand why 10,000 researchers have had little impact. The number of titles continues to grow each year. By 2015 **Elsevier**

published 170 OA journals which are totally author pay titles which produces a minuscule amount of revenue but does show that they are willing to experiment.

Elsevier continues to process a record-breaking number of manuscripts each year working with over 18,000 editors. So there appears to be no disruption to **Elsevier's** publication program from the researcher community. Their revenue from the site license program, sales of Science Direct, Scopus, and SciVerse remain strong with almost 100% renewal rates despite the frequent name calling and calls for a change in business practice from the library community. The past 15 years **Elsevier** has weathered the storm of negative public opinion and overcome the researcher boycott. **Elsevier** continues to be the dominant STM publisher in the library marketplace. At this point in time, the prepaid subscription model is alive and well at **Elsevier** and the other top 10 STM publishers.

While OA publishing has gained, a strong following in the library community and produced a growing number of titles, there is still a strong and viable market for the traditional publishing model with its strong peer review process. Most libraries still support **Elsevier** and other STM publishers partly perhaps because the faculty demand access to this material. **Elsevier** and other top STM publishers are not taking the future for granted and have an active acquisitions program to acquire companies operating in this new marketplace. The past 15 years of weathering the OA storm is no indication of how the next 15 years will play out. For now, **Elsevier** is still making money the old-fashioned way, managing a stable of 2,500 journals publishing 400,000 papers a year, and enjoying an operating margin in excess of 30.5%. 🐾

Random Ramblings — The Primary Advantage of Literary Scholarship

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I remember well the morning discussion group when one of the participants started making fun of medieval peasants who believed in angels. He said: "How could anyone be so stupid to accept the existence of any such entities with so little proof?" Maybe I was in a querulous mood that morning, but this statement rubbed me the wrong way. I turned to him to ask: "Do you believe in quarks?" He replied: "Certainly, because they are backed by scientific findings." My next question was: "But do you have any personal evidence that they exist?" He said: "No, I'm not a scientist and don't have access to the laboratories that would provide proof." I countered: "Then you're just like the medieval peasants because you believe your authority figures in the same way that they believed theirs."

I recount this story to introduce my main point that literary studies have the advantage of having the primary scholarly resource available so that, in many cases, anyone can have direct access to the "evidence" to test the research and possibly argue a different point of view. This general statement, of course, has many limitations including issues about the authenticity and accuracy of the text. In addition, the correctness of any textual interpretation may draw upon additional knowledge from outside resources.

The Text as the Key Primary Evidence

The first issue is the establishment of a definitive text. The problem is most pressing for texts created before the invention of printing. For mythic authors like Homer, the accepted versions were most likely created by consensus long after the author was dead. In a more contentious area, the same is true for the *Bible* since Biblical scholars agree that the first definitive texts were created long after the presumed authors were dead. The copying of texts also introduced variants either through mistakes or through conscious attempts to amend the text in the next copy. For example, scholars believe that many references to Athens in *Homer* were added by pro-Athenian scribes centuries after writing down the first text. One of the fundamental tasks of literary scholars before the age of printing is thus to establish the definitive "critical edition" that almost always includes variant readings and critical notes. This text then usually becomes the one used for future editions of the text and as the base document for translations and modernizations. Even when only one manuscript survives, researchers may still argue about obvious errors of language and about whether the text represents correctly the original thoughts of the author.

Post printing press texts also present difficulties. Typographical errors may corrupt the author's original manuscript. Authors may revise their works for later editions. Posthumous texts depend upon the skill of the editor in working with draft versions. To gain additional insights, scholars may study revisions to the author's manuscript before initial publication though the digital age may destroy this scholarly specialty. The issues above usually rise to a level of research importance only for the most studied authors such as **Shakespeare, Balzac, Goethe, and Tolstoy**. For writers of the last few centuries whose works justified only one edition, the key text is the one published version where researchers seldom attempt any deep textual analysis.

Value Added Expertise About the Text

The first level where literary scholars can add value is to explicate the definitive text as defined above. Serious research normally attempts to discuss the text within the framework of the time in which it was written. Especially if it is an older "classic" work, the meanings of the words may have changed since the author's time, may be unfamiliar local variations of the standard language, or may be intentionally de-

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