

Electronic-only in the corporate environment

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The trend within the pharmaceutical industry is to move to increased electronic access to library material. This move improves access for customers and as an e-only library is approached there are significant increases in the efficiency and effectiveness of libraries. However, as well as the advantages, there are also issues which need to be addressed by the libraries and the publishers if we are to make a successful transition to the e-only library.



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Introduction

AstraZeneca is one of the world's leading ethical pharmaceutical companies. It is a global company having nine research and development (R&D) sites located in five countries – Canada, India, Sweden, UK and the USA – and a marketing organization located in every major country of the world with a total of over 50,000 employees, about 8,000 of these being scientists. Research is carried out into many disease areas: gastrointestinal, heart disease, cancer, respiratory, pain control and anaesthesia, central nervous system and infection areas. Research is usually organized so that work on each of the disease areas is carried out in no more than two of the R&D locations. This means that the subject area profile for each of these sites' libraries is different, and, historically, few journal subscriptions were purchased at more than two sites.

By far the largest need for library services is in research and development, but there are other needs within the company, the next biggest being in the support of AstraZeneca products on the market with medical information and marketing.

The company's library service is part of Global Information Sciences and Libraries (IS&L) and is based in Discovery within the R&D organization. We are part of Enabling Science, Technology and Information, a reporting structure which is very

advantageous, and means that IS&L is viewed as an essential enabling resource for R&D, rather than an overhead. It also means we are charged with being innovative and industry-leading in the library area, as well as being allocated the IT resources for fulfilling this objective.

Although the department is within Discovery we have the remit to supply an information and library service to the whole company, including the marketing departments.

Our long-term objective within IS&L is to move to a virtual library wherever practicable and acceptable to our customers. Over the next three years, we plan to move to an e-only library service.

Benefits of being e-only for AstraZeneca

In the world of paper journals, each library managed their own lists of titles required for the site using a site-based, historically derived budget. Some sites had always been well funded and bought lots of journals; others were less well funded and did more document requests. This did not reflect the importance of the research area with which the site dealt, but only the historical size of their library budget. The introduction of the electronic journal changed this site focus and

has allowed us to dedicate library resources depending on the importance of the subject to AstraZeneca (AZ).

The global management of journals started even before the reorganization of IS&L into a global function. The advantages of working together as a virtual electronic journal team were seen as soon as electronic journals started to become more common. Global negotiation of licences was instigated so that we ensured that AZ paid a fair price for journals, but did not have more than one licence with the same publisher. A set of principles was developed which explained the organization of the company, the IT infrastructure for Internet access, and the general terms we were willing to negotiate for global access to journals. The move from paper to electronic has meant an increase in value for the pharmaceutical industry. The value is in the possibility for global management of journals and in the improved efficiency of our researchers by making the material available on their desk rather than within their library. Although improving research productivity, meaning products can get to market more quickly, electronic access cannot be directly related to the discovery of an increased number of candidate drugs, and, until it can, we are only willing to pay a small surcharge for this format. For this reason, pricing models based on usage will be very difficult to agree, and, indeed, increased usage may be argued to give us less value. I will discuss this below.

Benefits for the library

Having focused the purchasing, a team was organized which was comprised of the journal librarians from each of the R&D sites as well as those from the larger marketing sites. This team discussed the needs for new electronic deals and shared out the management of them. Each publisher was allocated a main contact through whom all notifications of issues and problems were fed back to the publisher's support team. In this way, the management of journals – from negotiations to support – is done once for electronic journals, whereas it needs to be done at all subscribing sites in the paper world. The once vital and time-consuming task of checking in journals and of claiming missing issues for paper subscriptions could now be viewed as having far

less importance. The manual tasks of shelving issues and moving masses of paper in January, when new paper journals are bought which do not fit into the alphabetical sequence, or where our holdings policy indicates disposal of some of the holdings for a journal, are no longer needed. There is no shelving or reshelving of journals, nor is there the need for physical journal shelving at all. But what do we do with the staff time and space freed?

I believe the change to electronic journals is also a benefit to librarians and library staff. The manual shelving and clerical claiming tasks are no longer needed, but this does not mean that electronic journals do not need managing. The new tasks are to manage access to titles, to understand technical issues, and to understand why a customer cannot see the journal article when they should be able to! There is far more work to be done in training, awareness and utilization. Library staff have always needed to introduce people to the library and where to find journals but, once shown, navigation round a physical library should be easy. This is not the same in the virtual library, and it is vital that customers know where to find what is available, as well as continuing training in use as systems change.

In an e-only world, libraries now have the statistics on usage that they have striven quite unsuccessfully for years to collect about their paper subscriptions. Gone are the days of stapling forms to the journal front cover for readers to initial if they use the journal – if they remember and have a pen handy! Now our systems can tell us exactly how many accesses there were to a specific journal on a real time, daily basis, as well as by whom, and to some extent why, by seeing from which database source the access originated (see GLIDeS below). Staff time and effort must now be focused on the analysis and understanding of this usage data, which will result in far more effective collection management and use of budgets.

Benefits for customers

As well as more efficient management of journals, we believe electronic access also means their more efficient use. It allows us to put the content into our customers' business process: researchers no longer need to leave the laboratory to access the

journal literature. It could be argued that access to electronic journals means that scientists are less creative, as they only tend to see specific articles they request, whereas a visit to the library exposed them to material they might not have thought of requesting, but which generated a novel chain of thought. It also acted as a meeting area for discussing issues and similarly generating new ideas. More extreme views might be that because scientists appear, from publisher statistics, to be reading more journal articles in the electronic format, with estimates of up to eight times as many being suggested, yet are not discovering eight times the number of new drugs for our company, then this must be making the research process less efficient, as too much time is being spent on unproductive reading.

Within IS&L we do take the view that e-journal access increases research efficiency, and have developed a linking system – GLIDeS (Global Library Integrated Delivery System) – which integrates the SFX linking software and in-house document delivery system. This means that customers will be able to get virtually any document at their desktop immediately if a subscription is held, or within 24 hours if not. The usage metrics from the document delivery part of this system collated with the e-journal usage from SFX will allow for very focused collection management, with continued improvement of the service for our customers.

Issues for the library

As you might be able to tell, I am very enthusiastic about the benefits of electronic-only journals, but everything is not perfect in this garden and there are some problems – or perhaps that should be 'issues'.

The 'big deal' issue – being made to take journals "we don't want" – has been discussed many times and I will not say more here. What is a very worrying recent trend is the sudden increase in price of some journals with no increase in value. At present, some publishers of major journals in the scientific and medical area are asking for large increases in subscription costs, sometimes over 300%, based on usage. As discussed above, we must consider the value that electronic access rather than paper access gives to a company, and I

can assure these publishers that the value of the content to AstraZeneca has not increased 300%. More importantly, journal budgets have definitely not increased to this extent. On the positive side, recent developments in the 'author pays to publish' model for journals, which can only be accelerated by these unjustifiable price increases, make a much more sensible business model possible.

As mentioned earlier, although used mostly in R&D, journals also have a use in medical information and marketing. The medical information use results from an enquiry by a health professional who has a need for information concerning one of AstraZeneca's products. It is a one-off ad hoc enquiry, the answer to which is usually produced from internal information: either standard replies to frequently asked questions, or from our internal bibliographic database of papers about our products. The health professional will then sometimes come back to us for the supporting documentation: copies of papers, usually written by AstraZeneca authors, or as the result of AZ-funded trials.

The present model for production and use of this type of paper is interesting to consider. The paper is produced by pharmaceutical industry-funded research. The company having funded the research usually has to sign away all copyright to a publisher to have it published in a major journal. The pharmaceutical industry usually employs or funds the experts in the field who will probably be on the editorial board of the journal, and therefore add the value to the article. Then the company's library has to pay to subscribe to the journal and if they also want to use the article in marketing their product they have to buy reprints as well. This is not a normal business model. A model where the author pays the publisher to add value to their article and this can then be used by the author or their company in pursuit of their business aims seems far more in line with business practices in the rest of commerce.

Archiving of content is not as much of an issue for the pharmaceutical industry as for the academic area. We are not in the business of holding archives of journals, so just need to know that someone is doing it. More of an issue are the problems caused by changes of publisher and by all paper content not being available online. If publishers do not solve these problems, they will

not be able to persuade everyone to move to electronic-only format.

An interesting issue, which I do not think has been discussed widely, is that of advertisements. The pharmaceutical industry spends far more money on advertising in medical journals than it does in subscribing to them. How will this revenue for the journals be replaced in the electronic world? Will we pay for links on the journal site or on 'click-throughs' to an AstraZeneca site?

When is an article published? This is particularly important in patent cases which could be affected by the pre-publication files of publishers. We also need to know which is the authoritative version of the article and whether any changes will be made on publication. As we become more electronic, will the concept of a specific publication date for an article become more indistinct?

The Future

What will be the major issues in an e-only future? As mentioned above, the pricing model is still to be finalized. Costs are still at present very much based on print subscriptions so a new usage-based model is required, but this new model must give value and not just take advantage of a monopoly situation. Perhaps a pay-per-view model is needed? Pharmaceutical companies definitely need to be able to use content to which they have access for all their needs, from R&D to marketing. Publishers must recognize this and work together with us – the consumers, but also the suppliers of the raw material – for mutual benefit.

How will we make full use of the space allocated at present to libraries when they are not full of paper journals? Do we just give this space up to more offices, or can we use it to add even more value to the electronic journal collection? Could the library be as it is now but with high resolution monitors linked to the journal collection to make reading more comfortable on the screen? Print quality from e-journals is also seen as an issue by users, but this depends on the quality of the printer used, so high quality colour printers could be made available.

These are the easy issues to solve to improve customer acceptance of e-only. More difficult is

replacing the innovation and knowledge-sharing opportunities offered by the physical library. I believe we have the opportunity to replace the perceived need for paper journals for maintaining professional knowledge and for generating innovation by using the advantages given us by the electronic world. Because we now know which articles are looked at, we can introduce more focused current awareness services based on the most accessed article each week. We can also foster innovation by use of simple techniques such as 'people who accessed this article also accessed these articles'. Through the use of text mining and natural language processing could we make access to innovative ideas available from not just the handful of journals people notice when in the library, but from hundreds of relevant journals available electronically – guided serendipity? So I see libraries being the innovation centres of companies, where library science is combined with communication science to yield new ways of disseminating knowledge.

Are the days of librarians and libraries numbered in the e-only future? I believe that the role of librarians will be even more important in the future, not only with licensing, training and advertising, but with the innovative use of content and information to add value and improve knowledge sharing and management. Libraries also have a huge role to play in the companies which wish to manage their knowledge, not full of paper gathering dust, but as the centre for innovative access to electronic information.

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