Prospects for document supply in the digital library[1]

Mike McGrath. Editor, *Interlending & Document Supply*

Background

Document supply has been declining in most areas of the world and in most sectors since about 2001. (I can assure you that this has nothing to do with my retirement from the British Library in 2001!) There are notable exceptions – for example figures from the US suggest that document supply volumes did not peak until 2008 and indeed returnables there are still increasing. End user access to monographs, particularly in public libraries, has boosted demand significantly. However the 60% decline at the BLDSC since 2000 is indicative of a wider trend. This paper will address the principal factors that have given rise to this dramatic decline and look at prospects for the future; or to put it in marketing terms, it will address the threats and opportunities to document supply and how those threats can be transformed into opportunities.

My argument will be three fold:

- That document supply, whilst at present in decline, will continue to be an essential part of any library's portfolio of services (not just for academic libraries).
- That the current decline will bottom out and even increase somewhat for a number of reasons, the main ones being the ever increasing cost of large electronic databases and the continued existence of the hybrid library.
- The skills of document supply librarians will be transferable to the role of gatekeeper and navigator for end users in an increasingly complex hybrid environment that will include digital and non digital resources as well as paid for and free (open access/repositories etc) channels of delivery.

Document Supply and the hybrid library

Document Supply (DS) is always with us. Chinese scholars exchanged books back in the mid seventeenth century; Estonian scholars engaged in international document supply as early as 1830 – via the relevant country's embassy, However modern DS really started to develop after 1945. The vastly expanded demand for research material far outstripped the resources of the supporting libraries and resource sharing became an essential service provision, as distinct from a useful add on. In the UK a centralised resource was developed culminating in the internationally known British Library Document Supply Centre in the 1960s; many other countries adopted a more collective and decentralised approach.

In the past seven years DS has declined by about 50% globally although less so in the US, where it was still increasing in 2007, (Beaubien, 2008). This decline is directly linked to the development of Big Deals and to the large scale digitisation of serial back runs. The digitisation of books and grey literature and the increase in Open Access play a contributory, but as yet minor role. It bears repeating in these slightly hysterical days of 'its all on the web' that most material is still not digitised. In

addition most electronic material is behind locked doors – with the publishers holding the very expensive keys.
The hybrid library is so important to any consideration of the role of DS that it needs to be explored now by looking at its constituent parts.
Books – It is not easy to establish how many books have ever been published – after all what is a book? My own investigation suggests about 100 million titles of which about ten million (10%) have so far been digitised. Digitising is an expensive business and very little research has been done on the market for these books.
Serials - Serials are just as hard to pin down – Ulrichs has information on over 300,000 titles, 60,000 of which are current and about 25,000 of these comprise the 'core' of scholarly currently published research titles, most of the current issues of which are available electronically. However only about 4,000 have been digitised back to Vol 1 No 1, with the commercially less attractive and vast majority of back runs, remaining in print only.
Grey literature – Quite simply vast in extent and difficult to access other than a small proportion of well indexed material. PhDs alone number at least 10 million. Programmes for e-only PhDs are progressing well but it would take centuries to digitise retrospectively more than a tiny proportion of even this sub set of grey literature. The vast proportion of pre-2005 grey literature will remain in print only. However most <u>current</u> grey literature is available electronically although its accessibility is another matter.

Libraries can only hold or rent access to a small proportion of the material described above because of spatial and financial constraints. Access remains expensive partly because of the bizarre way in which the publishing market operates. Near monopolies in many subject areas provide the key driver for increases in real prices – especially for serials. The consumer is not the purchaser so there is little direct downward pressure on pricing. Increases in resource and energy costs will push prices even higher. In these circumstances document supply will continue to be a cost effective part of a library's portfolio of services into the indefinite future albeit at a reduced level. Spatial constraints also limit access. The pressures on space are well illustrated by the large investment being made by the UK research community in a systematic programme that transfers serial back runs to a newly built conservation grade storage facility with fast access by document supply.

Terminology and definition of document supply:
Who cares about the terminology used to describe document supply? Well, the editor of *Interlending and Document Supply* for one is conscious of the confusion it can cause. Not all readers understand that in some countries 'inter library loan' can refer to returnables as well as non returnables. The same process is called 'document delivery' or 'supply' in other countries. It is a bit of a mess. In this paper I will use the term 'document supply' or DS as it covers both loans and copies, returnables and non returnables and unlike 'document delivery' conveys the idea of a service as distinct from simply delivery.
The traditional definition of document supply is, "The supply of material not readily available locally". Today, "locally" does not just mean held physically in the local library. A user can be at home in Leeds, accessing material held on a server in the Netherlands via a link at their university which itself can be anywhere in the world; that's still local. And so the definition still holds but needs to be stretched a little.

The current environment for document supply
Current digital developments have had, and are having, a major impact on document supply. The key developments are evaluated below:

Big Deals or Consortial licences
Big Deals are certainly the most important factor contributing to the decline in DS. Some commentators assumed that by now, nearly ten years on, librarians would have struck a new balance between journals they want, journals the publisher wants them to take and document supply. By and large this has not happened, for a number of reasons. For librarians the very large increase in journal titles at little extra cost has been very attractive; they can demonstrate increased usage, lower cost per use and lower cost per title. As for users, they gain immediate access to this enlarged collection. The publisher continues to charge well above the rate of inflation for their offering and so everyone gains in service terms but at a heavy cost/price to the library; the serials pricing crisis remains and librarians increasingly lose control of collection development.
Big Deals <u>do</u> stimulate high usage which makes librarians reluctant to return to the old practice of selecting journal by journal and losing access to many hundreds of lower use journals. However we need to note that there is also plenty of <u>low</u> use: To pick three examples from many in the literature:

- A Spanish study found that "during these two years (of the study, MM) there are still 50% of the titles (those from which less than 49 articles have been downloaded) which we could say have little or no interest for CISC researchers." (Ponsati and Baquero, 2005)
- An analysis by CIBER of OhioLink's 6000 Big Deal titles showed that "half of all journals account for about 93% of usage" (Nicholas, 2005) – in other words 3,000 titles account for only 7% of usage and therefore are good candidates for document supply.
- A survey published in *Serials* showed that of three publishers' output, between 45% and a massive 73% of titles were unused at the University of Newcastle. (Taylor-Rowe and Spencer, 2005). Commenting on this result Jill Taylor-Roe, Serials Librarian at Newcastle, said 'we are just as interested in the extent of the tail of 'low to no' use as we are the top performing titles'" A laudable attitude found only too rarely.

These studies are for the use of <u>titles</u>. Use of individual <u>articles</u> is of course much lower. For example a journal maybe accessed 100 times a year but article usage may well be concentrated on a few articles leaving most of them unread.

The underlying rationale for document supply has always been that libraries cannot hold all that their users want; but also that most material is not read and so is better borrowed than bought. So is that old saying still true – that most articles are read only by the author and their mother? Well less succinctly – the large majority of articles are read by the author, their mother, the editor and a few others, a small number by very many, and very many articles not read at all.
However we do not yet see a move to cancel large numbers of low/no use serials and a reversion to document supply. What we <u>are</u> seeing is some flexibility by publishers in allowing limited cancellations of low/no use material – as long as it does not affect the overall price of the big deal. A recent study showed that around 50% of site

licences allow document supply while the remaining 50% are either silent or it was not allowed, (Rogers, 2009).

There is a profound paradox here. Usage measurement tools such as COUNTER make usage of e-journals easier to calculate than the old shelf surveys of print journals. This advance potentially helps rational decision making for title cancellation versus document supply. However it becomes increasingly difficult to calculate the price of a subscription to an individual title – the other essential factor - in the current Big Deal environment. The price is part of an overall package and I suspect that most librarians will find it difficult to calculate a price-per-title and hence the price-per-use. Thus decisions on the use of document supply in an e-environment often lack a costed basis. And what of the future? The banker bail out has had painful consequences for us all and librarians will be looking carefully at the value for money in big deals. A recent survey conducted by Jill Taylor-Roe at Newcastle University in the UK has some interesting interim conclusions – "There seems to be a clear agenda for change amongst librarians, focusing around more flexible purchasing options, with the ability to exclude content and reduce costs, and a pricing model for e-only which does not rely on historical spending patterns", (Taylor-Roe, 2009).

The digitisation of journal back files

Elsevier produced an impressive brochure on its digitised backfile in 2005 endorsed by five senior and named librarians and one saw "document delivery and inter-library loans drop by nearly 40% in two years ….." (although presumably this was not due only to the Elsevier backfile!). This recent digital conversion of journal back files must be seen in a wider context. Even Elsevier has only about 1500 titles in its backfile package and it is very expensive – rumoured to be in excess of £1 million; (it is interesting to note that the University of California spends half its serial acquisition budget with Elsevier). JSTOR has over 750 titles after many years of work [2] .Other publishers are following suit – Sage, Oxford, Springer, and most recently Emerald; a total of about 4000 titles out of a possible 300,000 plus of which 60,000 are current. So there is a long way to go; in fact I would suggest that as much as 90% of printed journal titles will never be digitised.

Two implications

Both of these factors, Big Deals and Back files, mean that material that was once requested via DS is now immediately available to some users – albeit at a high price to the library. But there are two further consequences for document supply:

1. How do these factors influence the information seeking behaviour of researchers? Some researchers will always go the extra mile in searching for elusive documents and thus use document supply extensively. However, many will use only publishers' digitised collections and think that is good enough, which leads to less document supply.

2. Budgets are limited and large publishers with their large and expensive e-packages will tend to drive out the small. One would therefore expect an increase in document supply for the journals of smaller publishers as budgets are increasingly concentrated on the large publisher offerings – at least until they are driven out of business, or more likely swallowed up by the larger publishers. This tendency has been noted at the large document supply centres – BLDSC and INIST. More of their demand is coming from a wider range of serial titles although it is not solely because of this factor; "It is not only the volume of our supply that has changed dramatically during this period but also the makeup of what we supply. In 2002, over 50% of material

demanded was for papers published in the last two years. In 2007 this half-life had moved to 5 years and the spread across publishers has increased.", (Pfleger, 2008). Together these two developments probably account for about 75% of the current decline in DS. Still, one might argue, even if surrogates are declining as a result of technical innovations surely the lending of books will always be with us? After all remember the Chinese and the Estonians; and demand for books is still rising in, for example, the US. Two developments call this assumption into question; e-books and the mass digitisation of books. These two developments are intimately related but need to be treated separately as their developments paths are so different.

E Books

After years of hype – the market for e-books had settled down into a niche supplying reference works and some textbooks and some general works with little impact on the document supply outside of this niche. The 'killer ap' for expansion out of this niche always seemed to be arriving with the latest incarnation of e-book reader but it never quite seemed to happen. However electronic paper might just be that 'killer ap' as it edges towards commercial viability many years after it was first outlined technically. Even a lover of conventional books will be attracted to a book shaped object with blank pages onto which can be downloaded hundreds of books that can be read and commented on; or indeed the current readers that use a variant of e-paper and are much easier to read. As is usually the case, the technology may work but the success of these e-readers will be determined by effective DRM techniques married to profitability and usability. The other key constraint on the successful large scale development of e-books is the amount of content that can be accessed which remains limited. However there are now a substantial number of e-books - I estimate about one million of which many will be duplicated in the different offerings – so perhaps 300-400,000 unique offerings. Finally, there has been progress on standards and the consequent breaking down of some barriers between devices and contents Nonetheless it is unlikely that e- books will have much of an impact on document supply for at least another five years.

The mass digitisation of books

Compared to e-books this is an altogether different scale of operation with more than a million books being digitised every year by Google and others. For most people who read books, the current avalanche of published material is more than enough to satisfy them - a million books published every year, 120,000 plus in the UK alone and still increasing – enough to satisfy the most avid reader. There are reasonably well stocked university and public libraries and good bookshops in most towns at least in the developed world; in addition Amazon and similar web based services provide speedy and easy access to most in-print material. Access to older, out of print, material is also provided by Amazon or the far superior Abebooks (now absorbed by Amazon but still branded separately). Combine these channels with much improved document supply services and these resources satisfy the vast majority of readers – serious and recreational. So who will read the products of the current frenzy of book digitisation? In the absence of any market research we can only guess; certainly nobody will read a book in its entirety on screen. In-copyright books will have to be paid for and free access in many countries is only to books published before 1938 (the books of an author dying in 1938 only come out of copyright in 2008 – and there is pressure especially in the US but also in Europe to extend this even further.) If searchable by every word they may be useful to a range of researchers, for example, chemists for organic molecule research, historians for older approaches to their specific interest etc. In addition, the so called 'long tail' a concept which has become popular in the last couple of years,[3] will grow longer and stimulate more demand if older material is easily accessible. There are two reasons for libraries to be involved in this process even if they are not convinced of its value to users: firstly, widening access to their collections looks good with their political masters as well as being good in itself; secondly, it transfers the costs of preservation digitisation to the private sector. Both of these are to be welcomed but the sums don't appear to add up either to this writer or, it would appear, to Microsoft who has withdrawn from this activity. Google appears to have the strategy of winning monopoly control of access to out of copyright books, and to be the channel of first resort for out of print books and thus to achieve significant revenue generation, although profitability must be many years away. This is especially so as a chunk of revenue must go to pay off the publishers for out of print but in-copyright books. This scenario is spelt out in an excellent article by the library director at Harvard University, (Darnton, 2009).The developments described above need to be considered in relation to the 100 million existing books being added to at over one million a year. Google is aiming to digitise ten million over ten years but appears to have already achieved this goal; I say 'appears' because there is no way of verifying this independently. However even this higher rate means that the net backlog will take many decades to be eroded. There may of course be room for a service that provides easy access to and delivery of, either an e copy or a print on demand copy, via a document supply gateway - a role here for the large document suppliers?

The development of print-on-demand or P.O.D is interesting. The author paid a visit to the new P.O.D Espresso machine in Blackwells Charing Cross Road. Looking like a 1960s photocopying machine, as I watched, it churned out perfect bound books with the original covers for between £5 and £13 depending on length. If in-copyright and if they had an agreement with the publisher they charged the cover price. The price of £100,000 for the machine will undoubtedly come down as volume sales increase. Potentially this development will have a massive impact at all points of the supply chain.

Exposure of a book digitally may or may not lead to a DS request. So at present it is impossible to assess the quantitative impact of the mass digitisation of books on document supply.

Open Access

This is not the place for a detailed assessment of Open Access (OA) in its broadest sense. However it affects every aspect of librarianship and is, *par excellence,* a child of the digital age. Its impact on document supply is already apparent and it will grow in significance. From this perspective it is useful to break OA down into four themes:

1. <u>The OA journal</u>, of which currently well over 4000 are indexed by the Directory of Open Access Journals and 1400 of which are accessible at article level at the time of writing. This is a significant number when compared to the 25,000 core academic journals. In principle the titles and articles are available to the reader free and unmediated. In practice accessing articles easily will be dependent on their being indexed by search engines such as Google and Google Scholar. Two models currently exist although the distinction between them will start to blur rapidly with the purchase of BioMedCentral by Springer. The Gold model in which the author may have to pay for their article to be published in an open

access journal and the Green model which involves publishing in conventional, subscription based journals and then archiving the final paper in a repository. If OA journals can establish a long term viable business model then paid for DS will decline significantly. So long as publication is a prerequisite for career advancement then the author/funder pays for publication in a conventional journal with deposit in an institutional repository will probably be successful. The substantial publication fees levied might constrain the subject of articles to well funded areas of research such as biomedicine. However a recent study found that 45% of authors had their fees paid for them and only 17% from their own pocket, and further that 70% of authors publishing in OA journals paid no fee at all, (RCUK, 2008). The recent purchase by Springer of BioMedCentral (BMC) suggests that commercial publishers are finally waking up to the dangers for their business model, which relies on high priced subscriptions to their quasi monopolistic journals. Springer has introduced high author fees ($3000 compared to the average article fee of $500 paid by the NIH) for open access publication in their own journals although the BMC prices remain as they were and much lower - at least for the present.

2. <u>Repositories</u> – both subject and institutionally based. Potentially these can destroy the current commercial subscription model. They pose a bigger threat to publishers (and paid for document supply!) than do OA journals to which publishers can adapt; for example, author pays, funder pays, time limited embargoes etc. There are currently over 1400 repositories and their content is growing rapidly as mandates start to bite. These mandates come from very large government institutions and charities as well as an increasing number of universities, for example the National Institutes for Health in the US and Wellcome in the UK. The NIH spends $25 billion annually on research spread between 50,000 grants which generate about 80,000 articles annually. We will see a growing impact on DS as the volume of material deposited increases dramatically and becomes freely available after embargo periods expire <u>and</u> is marketed effectively. A harbinger of what is to come is indicated by the 87% compliance with the Wellcome mandate. This last figure will be one of the reasons why Elsevier has been lobbying the leaders of UK universities to point to Elsevier's web site rather than institutional repositories, arguing that it will be cheaper – a clear and crude attempt to subvert IRs.
3. <u>Freely available material from priced journals</u>. I am not aware of any quantitative study on this development. However I scan about 140 LIS journals when writing a quarterly literature review for *Interlending & Document Supply* and I would guess that about 5% of articles are freely available even though published in priced journals.

These three factors will contribute significantly to the decline in DS. Clearly the pace is quickening; the next two to three years will see a dramatic change in the electronic delivery of information as the OA model expands.. However greater efforts are needed in order to facilitate access to the more complex information channels that will develop. An opportunity exists here for DS librarians, with their particular skills, to develop the role of facilitating access for users.

The publishers

It is easy, to criticise commercial publishers for precipitating the serials pricing crisis. Criticism of them is rather like telling birds not to fly just because they have wings. Commercial publishers exist to make profit not to produce affordable journals; for

example Elsevier was reluctant to sell its lucrative arms fair division even though it attracted bad publicity from librarians, authors and editors. Part of the substantial profits of commercial publishers has been invested in mass digitisation both of current material and backfiles. Perhaps not so well known is that publishers have been ambivalent in how to use these databases in the document supply arena. So far they have relied on making some extra revenue by selling tightly controlled licences to national document suppliers such as BLDSC, INIST, CISTI etc. Their pay-per-view (PPV) option has been highly priced, absurdly so given the virtually zero marginal costs of providing the service. However revenues are apparently growing from this source and publishers may well enter the market in a serious way. This is already happening as initiatives are explored with specific customers; see in particular the project at the University of Texas in which Elsevier journals were cancelled and replaced with pay-per-view via Science Direct, (Chamberlain, 2008). They can dramatically undercut the big document suppliers on price. Their weakness would be the complexity for the user of accessing many publisher web sites, but access could be coordinated through CrossRef or some similar body; and Google and Google Scholar already provide easy channels for access. The result would be cheaper document supply, faster and more convenient for the user. Of course a substantial constraint on offering cheap PPV is the threat caused to the subscription revenue and it is likely that publishers will place even more severe constraints on cancellations if the University of Texas idea catches on.
The author/funder pays model has already been noted above but an even more fundamental threat to conventional publishing and for DS is likely to be the growth of grass roots networking as researchers – at least in the harder sciences - talk directly to each other; commenting on and revising each others work. This scenario has been explored in a thoughtful article, (Brown, 2008). So far a minimal threat to conventional DS but rising. Again an opportunity exists here for DS librarians to keep abreast of PPV options from publishers and to use them where appropriate.

Document Suppliers
As indicated above the threats to the large centralised document suppliers are many and serious. The success of consortial licences and Big Deals have made large amounts of little used material available to users at no or little extra cost; precisely that material which would previously have been acquired via document supply. Backfile digitisation gouges another large chunk of DS business especially from those libraries that have a large number of users requiring access to older serial parts and that have the resources to pay the very high price for these large back files. Publishing in Open Access journals which are free to librarians and readers (although often to authors or their funders – someone has to pay) will further erode paid for document supply. However far more important will be the massive rise in the content stored in institutional and subject based repositories as the current flood of mandates takes effect. Before document supply librarians engage in a mass drown-in, the above scenario is too simplified. Life as always is more complicated. The humanities and social sciences will be less affected by the OA movement because unlike the biosciences, this work is rarely funded, at least not directly. So the author-pays model of OA is difficult to adopt in large areas of scholarship and without the funding there are no comparable sanctions that can be used to compel deposit in an IR. Thus there will remain large areas of scholarly publishing that will be little affected by the current trends to free access. Let us also not forget the miles of little used and older material that languish on the dusty shelves of libraries unlikely to be ever digitised –

grey literature, 'popular' magazines, material published by defunct publishers; and of course books which as noted above, even the large scale digitisation currently underway has digitised less than 10% of the world's books
So the hybrid library will be with us for a long time and the need for DS will continue as an essential support within it. In addition the endless discovery of less easy to access material continues and is considered to be one of the main reasons for the resilience of DS in the US.
So the short term prospects for DS are mixed. How are the big document suppliers managing and how are they responding to the digital maelstrom?

The following gives just a brief overview of some of the more significant players:

BLDSC – Still the world's largest document supplier. In the last five years the British Library has improved processes through integration and at the same time driven down costs – mainly through staff reductions brought about by a combination of declining demand, internal efficiencies and IT enhancements, for example full text transmission electronically rather than by post or fax. However the high fixed overheads at Boston Spa mean that prices will need to rise significantly in order to cover costs. The BL is implementing a banded price system, after consultation with customers, which will reward large customers who commit to a certain level of requesting in advance and those who send bibliographically accurate requests; occasional users will be charged more as will those whose requests fail at the first search. Their overall strategy is spelt out in a recent article (Pfleger, 2008) .

INIST – is the French counterpart of BLDSC and has suffered a similar steep decline in document supply. However there are some significant differences with BLDSC – they only supply a small number of books and are not so comprehensive, specialising primarily in STM; they are integrated into the information supply environment in France via the national research network – CNRS and thus well supported by their government. Currently they are negotiating licences for Big Deals, offering a service for back file digitisation for publishers and a service for e-book loans. Developments at INIST have been covered in a number of articles in ILDS including (Schöpfel, 2007)

SUBITO – the German decentralised document supplier provided a fast and very cheap document supply service internationally until a few years ago. However it became embroiled in the courts with publishers. After years of dispute it has now entered into a licence agreement with 21 publishers including Elsevier that allows for desk top delivery. This is a classic example of contract law subverting copyright law when it suits publishers and is well covered in two articles, (SCR, 2007) and (Mueller, 2008). However a heated discussion is taking place, as while Subito favours a licence solution, the German Library Association (and many academic libraries) see the new law as sufficient for any kind of document supply. [4] Hopefully further light will be shone on this subject at the conference in Hannover!

CISTI – Canadian based and provides a good service with vigorous marketing but has also suffered a decline in business. However they have a close relationship with the Canadian research community similar to INIST. They can also draw on their proximity to the US which has no such centralised facility. They have introduced an e-book loan service, PPV by credit card and immediate electronic downloads. They also are struggling at present and reducing the scope of their services. To what extent is not quite clear at present.

Overall these document suppliers and others will continue to play an important, indeed indispensable role, in managing access to and provision from the ‘long tail’ of published and semi-published literature.

Copyright and Digital Rights Management (DRM)

Generally speaking the pendulum of rights to access and hence to the document supply of articles has swung towards the publishers. For example the EU law on the ‘harmonisation’ of copyright has strengthened the hand of the publishers by no longer allowing the library privilege option for commercial users. In addition the Law, far from harmonising copyright, has created a more complex situation as the legislature in each EU country has interpreted the directive in its own way. The outcome in France was particularly sympathetic to the publishers and has been vividly described, (Schöpfel, 2006). DRM techniques have strengthened the hands of publishers even further. The goal of the publishers has not changed greatly from that expressed at the ILDS conference in Ljubljana in 2000; “STM considers that statutory copyright exceptions in national copyright laws, permitting copying without remuneration, should not extend to digital copying, access or transmission, or to international supply of digital material. In each case they should not apply where licensing alternatives exist.”[5] However a recent study from New Zealand concluded that 50% of licences allow for document supply while the other 50% are either silent or prohibit it, (Rogers, S, 2009) so DS librarians need to be diligent in reading the small print of their library’s licences. The EU is throwing another spanner in the works by proposing an extension of copyright from 50 to 90 years for music but similar pressure is likely to be applied from the publishing industry. We should all note the warning given by the Chief Executive of the British Library – “There is a supreme irony that just as technology is allowing greater access to books and other creative works than ever before for education and research, new restrictions threaten to lock away digital content in a way we would never countenance for printed material. Let’s not wake up in five years time and realise we have unwittingly lost a fundamental building block for innovation, education and research in the UK”, (Brindley, 2009). The impact of copyright and DRM on document supply is difficult to assess. Informal cooperation used to be widespread and free; indeed a study carried out for the British Library in the mid 1990s suggested that at least 90% of all ‘document supply’ was informal and between end users/peers and in many cases illegal. This is no longer the case as DRM techniques become ever more sophisticated and copyright laws become more stringent and are enforced more rigorously. In the nature of the process it is hard to estimate but this informal resource sharing must have declined massively in the last 10 years.

Constraints whether in law or by contract using DRM should, on balance, increase the use of paid for document supply as subscribers find it harder to share resources with colleagues in other libraries. This is not an easy area to measure and would repay some research. What <u>is</u> likely is that restrictive DRM technologies will provide a boost to the OA movement.

Conclusion

From the above overview it is clear that paid for document supply is likely to decline for some time. But there are positive factors at work:

1. The Danish and The Netherlands public library service have introduced a service for the citizen that enables requesting from home and delivery to the address of choice; in the former it is free, subsidised centrally by the government and demand has rocketed. The latter is still at an early stage but some pricing will exist. The UK is about to launch a project for a similar service via the Museums and Libraries Archives Council. See respectively, (Petersen, 2006), (Braun, 2006), (Potts, 2008).
2. The number of people requiring access to published and semi published material is growing all the time; student numbers are growing as are researchers; China and India's rapidly increasing demand for material is outstripping the national infrastructure that supports the demand.
3. Google Scholar and other search engines provide easy and rapid access to material creating demand for a wider range of material, much of which will need to be obtained via document supply.
4. It is difficult to see how the 'Big Deal' strategy can last much longer. It absorbs an ever greater proportion of library budgets and seriously skews library selection policies.
5. Document supply itself is becoming more efficient with desk top delivery to end users now fully operational. In addition electronic signatures speed up this process.
6. Document supply librarians will see their role shifting to searchers and finders rather than simply fetchers and carriers.
7. And finally the deep cuts being made in public services in order to pay for the current economic and financial crisis should encourage a more austere and discriminatory approach to highly priced electronic packages and a greater reliance on document supply.

In summary, a complicated world which isn't going to get simpler any time soon in which document supply continues to play an essential role.

References

Beaubien, A K. "ARL white paper on interlibrary loan", June 2007. Freely available at: http://knowyourcopyright.com/bm~doc/ARL_white_paper_ILL_june07.pdf

Braun, P. and Visser, F. (2006), "A new approach towards a national inter-library loan system in the Netherlands: introducing VDX", *Interlending & Document Supply,* Vol 34 No 4, pp 152-159

Brindley, L. (2009), "Copyright – what is the future for education and research?", British Library Press release May 5 2009

Brown, D, "Will social collaboration undermine scholarly publishing?", *Serials e-New,* March 2008. freely available at: http://www.ringgold.com:80/UKSG/si_pd.cfm?AC=9405&Pid=10&Zid=3627&issueno=165

Chamberlain, C. MacAlpine, B. (2008), "Pay-per-view article access: a viable replacement for subscriptions?" *Serials,* Vol 21 No 1, pp 30-34

Darnton, R. (2009), "Google and the future of books", *New York Review of Books,* Vol LVI No 2, pp 9-11.

Mueller, H. (2008), “The legal problems of document supply by libraries: an international perspective”, *Interlending & Document Supply,* Vol 36 No 2, pp 68-73
Nicolas, D. Huntington, P. Russell, B. Jamali, H R. Watkinson, A. Tenopir, C. (2005), “The Big Deal – ten years on”, *Learned Publishing,* Vol 18 No 4, pp 251-257.
Petersen, A-H, Lose, R), 2006, “ The Danish Union catalogue DanBib and library.dk: ‘physical’ and ‘virtual’ union catalogues”, *Interlending & Document Supply,* Vol 34 No 3 pp119-124
Pfleger. M. (2008), “The British Library: the changing face of document supply”, *Interlending & Document Supply,* Vol 36 No 3, pp132-134
Ponsati, A. and Baquero, M. (2005), “An analysis of the use of digital collections in a scientific research library network: part two of a case study from CSIC, Madrid, Spain”, *Serials*, Vol.18 No.1, pp. 51-58.
RCUK, 2008), “Open Access to research outputs, Research Councils,UK, Sept 2008. Freely available at http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/news/oareport.pdf
Rogers, S. (2009), “Survey and analysis of electronic journal licenses for long-term access provision on tertiary New Zealand academic libraries”, *Serials Review,* Vol 35 No 1 pp 3-15
Schöpfel, J. (2006), “The new French law on author’s rights: implementing the EU Copyright Directive”, *Interlending & Document Supply,* Vol 34 No 4, pp 167-170
Schöpfel, J. Gillet, J. (2007), “On document supply in the digital world”, *Interlending & Document Supply,* Vol 35 No 4, pp 195-204.
SCR. (2007), “Agreement between Subito and STM publishers on electronic document delivery”, *Scholarly Communication Report,* Vol 11 No12, pp 1-2.
Taylor-Rowe, J. Spencer, C. (2005), “A librarian’s view of usage metrics: through a glass darkly?”, *Serials,* Vol 18 No 2, pp. 124-131
Taylor-Roe, J. (2009), “’To everything there is a season’: reflections on the sustainability of the ‘big deal’ in the current economic climate”, *Serials,* Vol 22 No 2, pp 113-121

Notes

[1] Many of the issues discussed here have been explored more extensively in the pages of *Interlending and Document Supply* in particular the quarterly literature review written by the author .

[2] For a description of their development and plans see Spinella, M. (2008), **“**JSTOR and the changing digital landscape”, *Interlending & Document Supply,* 36 (2), pp 79 - 85.

[3] The Long Tail will have a significant impact on document supply and is the name given to the phenomenon that “a variation of one mechanism (internet access) or relationship (the cost of storage) can significantly shift the frequency of occurrence of certain events in the distribution.” There is an excellent article in Wikipedia at http://en.wikipedia.org/wiki/The_Long_Tail from which this quote is taken. The progenitor of the phenomenon has now written a book – ‘The Long Tail: How Endless Choice Is Creating Unlimited Demand’ by Chris Anderson which was published in 2007.

[4] For a review of German document supply services and Subito in particular see Rosemann, U. (2003), “ Trends in German document delivery services (with particular reference to *Subito*)”, *Interlending & Document Supply,* 31 (3) pp 180-183

[5] STM is the International Association of Scientific, Technical & Medical Publishers. The full text referred to is freely available at: http://www.ifla.org/VI/2/conf/lefebvre.pdf