

The impact of consortia purchasing of periodical publications on the document supply service



Blanca San José

Health Science Library, Móstoles Hospital, Madrid, Spain, and

Ana R. Pacios

Library Science and Documentation Department, Carlos III University, Madrid, Spain

Abstract

Purpose – This paper aims to show the impact of consortia purchased periodical publications on document supply services. These services have undergone considerable changes over the last five years, first decreasing but now recovering.

Design/methodology/approach – First, this paper reviews the most recent specialised literature, focusing mainly on the impact of electronic journals in libraries, their effects, and proposed actions. Second, as an example of this new behaviour, presents the document supply service data, as collected in one hospital's health-science library in the last four years.

Findings – As evidenced by the literature, the users' acceptance of electronic journals has undoubtedly been excellent. Consortia purchasing projects have become a basic tool that expand collections, support cooperative technological development, and require negotiating skills from librarians. But these mass purchases do not seem to be the ideal solution for libraries, they entail losing freedom when choosing the collection and often make library collections homogeneous by publisher.

Originality/value – Reflects on what possible causes have led to the current situation and the current way to manage the collection.

Keywords Electronic journals, Collections management, Document delivery, Purchasing groups, Statistics, Spain

Paper type Literature review

Introduction

Electronic scientific journals are journals whose full-text is available on the web, including both those that began in paper-print form but later incorporated the electronic version and those which were in electronic format from the beginning. Recently they have been offered as “bundles” by publishers and their use has increased considerably. They owe their success to their essential characteristics: publishing speed, ongoing updates, easy access to and recovering of information, dissemination services, and additional services offered by suppliers.

The scientific community, supported by the fast development of technologies and easy access to information, has accepted electronic journals at a striking rate. This expansion has had an unprecedented impact on users and libraries, as well as on authors and publishers. This impact is most visible in many small and mid-size libraries' collections, which have quickly become two or three times larger thanks to electronic-resource acquisition strategies such as bundling and consortia purchasing. These resources, acquired and

shared through cooperative agreements and consortia between libraries and institutions, have been very beneficial to libraries in developing their collections, by increasing the number of titles and reducing duplication.

In this paper, we analyse how the use of e-journals and consortia purchasing have had an impact on libraries, especially on their document supply or interlibrary loan service. We have reviewed the most recent literature, 1999-2004, and have especially focussed on studies whose results show different aspects of that impact, its effects, and suggested actions. As an example of the impact on the document supply service, we present the case of the health-science library of the hospital in the Madrid municipality of Móstoles. Data from the last four years show a change in service behaviour, leading us to reflect on its causes and on the way collections of periodical publications are currently managed.

The impact of electronic journals

In general terms, users have accepted electronic journals with gusto, given their great advantages. By studying specialised literature on the various aspects of electronic journals, we can identify their impact on different areas, such as user habits and preferences, collection concept and budget, cost of services, and performance of the document supply service. All these aspects have been covered by the literature in the last five years. We analyse below some of the most significant studies.

Changes in user habits and preferences induced by the new ways to access scientific information

Although the main drawback still argued today against electronic journals is having to print them to read them, in general, users have accepted them with gusto, given their great advantages. Various works show users' preference for the electronic format, especially if they can link directly from a database, to the extent that electronic titles are used ten times more than print titles (Morse and Clintworth, 2000). This is further confirmed by another article on the use of journals in a health-science library, which concludes that the use of print journals declines if the journals are also available online; users' priority is electronic access, and they are ready to compromise on quality in favour of convenience (De Groote and Dorsch, 2000).

This acceptance is shown plainly in many studies on the use and users of electronic resources (e.g. Tenopir, 2003). A survey among 3,234 university students shows that they prefer to use the electronic format even if it is difficult to find the information and ascertain its quality (Greenstein and Healy, 2002). Another survey, about reading habits, among 15,000 scientists from all disciplines shows that they now read more articles from a wider range of journals than in the past, and they tend to let themselves be influenced by those in electronic format (Tenopir and King, 2002). The same conclusion is reached by another survey in French universities, on their document supply service and access to electronic resources, showing that the electronic format is bringing about a change in users' behaviour (Boukacem, 2003). They now access a multidisciplinary collection that widens the scope of their bibliographic research, a fact that is reflected by interdisciplinary, retrospective document requests. Furthermore, the operating data of the OhioLink consortium (made up of 79 libraries), which is developing a program called the Electronic Journal Center (EJC) with a collection of full-text journals from seven publishers (Elsevier, Academic Press, Project Muse, Kluwer, Academic, Springer-Verlag, John Wiley, and The American Physical Society), show that some of the most used journals are not among those which the libraries initially had in paper format (Nicholas *et al.*, 2003). All expectations were exceeded in the first 17 months of operation, with 450,000 articles downloaded, of which 50 per cent were not from journals in the original collections of the institutions. The same survey, evaluating the data presented by Emerald, shows great platform activity, "... 208 people using the system per hour. They made an average of 3,077 requests of which 475 were article request". The most frequent visitors are the subscribers, who use the platform differently from non-subscribers. Subscribers view more articles, more journals and more subjects. As a monthly average, subscribers see 46 journals and request 93 articles; non-subscribers, five journals, 12 articles.

Users now access a wide range of journals that were not included in the library's core paper-based collection. This is causing concern to librarians, who wonder whether their former acquisitions policy was correct. But, as Ball (2004) suggests, one must be cautious with such pieces of evidence, because they cannot be matched against previous data and because users prefer easy and free access to full-text rather than material offering just bibliographic information and abstracts.

As a consequence of the above habits, there could be other repercussions such as the journals' impact factor and citation

index. A survey on what motivates researchers to publish in a given journal, Neely (1999) shows that the criteria used by authors are, in order of importance:

- (1) journal reputation;
- (2) impact factor;
- (3) international spread; and
- (4) journal coverage indexed in databases.

It also shows that science and technology authors are more interested than their humanities counterparts in having an electronic version of the journal, and in the publishing speed it allows. Guédon (2001) warns about the risk of consortia purchasing journals, as it may influence the citation index and impact factors of the magazines that make up the bundles. This creates a vicious circle, where the journals included in these agreements have a higher impact factor because they are easily accessible.

Finally, with respect to future trends, a report on the use and management of electronic resources by Spanish information centres, carried out by Swets Information Services in 2004 (SWETS, SEDIC, El Profesional de la información, 2004), notes the wide acceptance of electronic resources, which are today considered as an "essential", "indispensable", "useful", or "necessary" tool by over 90 per cent of those polled. Similarly, 74 per cent of them think that electronic resources will eventually cover information needs better than paper subscriptions.

Changes in the concept of collection and in its management-related functions

The concept of the collection has been modified in response to recent changes, for example the internet has rendered the physical location of a document irrelevant. The electronic world attributes confidence of access to documents rather than knowledge of its actual location (Baldwin, 2000). Information no longer needs to be physically in the libraries, but libraries must have the appropriate technology and infrastructure to ensure access. Collection development includes all library materials, whatever their format. All these materials used to be physical objects, but libraries now acquire not just products, but also information services (which include the product). For these services to operate, a number of basic requirements are needed; electronic journals are both a product and a service with an economic value in society.

The expression "collection development", which has more of a local connotation, has been displaced by "collection management". The latter, whose meaning is much wider, focuses on remote access and therefore includes among its essential activities: developing systems and new technologies, compiling different formats, coordinating and cooperating with institutions, developing cooperative policies, evaluating and planning (Taladriz, 2004). Some basic functions linked to collection development, such as material selection and acquisition, have been significantly modified. Libraries are losing their role as information selectors and organisers, in favour of the information suppliers. For example, selecting journal titles, which used to be done by librarians, is now often done by publishers or subscription agents. For librarians, this means that, before making decisions about potential subscriptions, they have to analyse products in order to assess the relevance of their contents in relation to their price (Guijarro, 2000). Since librarians began to acquire

electronic information services, material selection decisions have become complex. Licence agreements, which establish a contractual obligation, are much more restrictive than copyright law. Licences become a very important factor to consider before purchasing, as the purchaser needs to know what control there is over the product they are purchasing. As a consequence, negotiating access licences with STM publishers and distributors is becoming one of the most important collection-management activities. One proof of this is the demand for and participation of collection-management librarians in training courses on “negotiating techniques” given as part of the training activities organised by consortia for their library staff. Another proof is the publishing, by the International Coalition of Library Consortia (ICOLC, 2004), of the document “Statement of current perspectives and preferred practices for the selection and purchase of electronic information”, aimed at guiding libraries and library consortia in their relations with information suppliers.

The change from acquiring products to acquiring services also affects the functions that focus on conservation. With paper format, the library always kept the product physically and, thus, property rights over them were inalienable. With the electronic format, however, it is no longer the product that is bought, but a licence for a given period of time to access some content, and most licences do not necessarily offer archival rights. Moreover, the contents of those products for which the rights are bought can change, as publishers may purchase, sell, or transfer products. Even more, the licenses may restrict access to a specific segment of users. Licences are governed by contract law and not by copyright law. If a licence prohibits a library to print articles from an electronic database, the library cannot claim that right even if permitted by the laws of its own country.

There have been many theories and projects in the history of cooperative collection development, especially since the 1970s, but few achievements. Now there are also new concepts, such as “consortia purchasing” and “electronic collections”. These expressions have become attached to the new concept of collection, as many libraries now purchase, on their own, only part of the information they need, and consortia purchase the rest. For those publishers that have created attractive mechanisms to make it feasible, joint purchasing has meant a market stabilisation and an instrument of expansion. For small libraries that belong to a consortium, joint purchasing means having access to titles they could have never had available for their users, as well as obtaining more services or at a better price.

Budget changes for collections of periodic publications

Traditionally, libraries subscribed to periodicals through intermediaries. However, purchasing through library consortia has become general practice in the last ten years. It consists of a “mass purchase of information”, which Frazier (2001) called a “big deal”. The author warned of the dangers of subscribing to all of a publisher’s titles, and therefore to journals that nobody would select and that probably nobody would use or would hardly use, as well as making libraries more dependent on publishers. In addition committed expense would then increase considerably, thus reducing a library’s flexibility and the possibility of allocating part of its budget to purchase titles from small publishers which would cover the information needs of some user groups (Gallart, 2003).

The “big deal” appeared as a solution to the “serials crisis”, which is characterised by large price increases and a reduced market with little real competition. It was initiated by the Ohio Link and Academic Press consortia, and later joined by others such as Elsevier Science, Blackwell, and Emerald (Nicholas *et al.*, 2003). The “big deal”, as an agreement between libraries and publishers, seemed to benefit everyone: publishers, authors, libraries, and users. However, some surveys carried out to evaluate this type of deals show that they have been very controversial because of the different interests involved. For example, in the University of Cleveland, access to electronic-journal bundles has proved to be a great success; however, it has forced budget changes (Thornton, 2000). Its budget used to be split among the university departments, which themselves selected what they wanted to buy and were free to cancel or add subscriptions. Now many can no longer cancel titles and consequently cannot buy new materials. Thus, the “big deal” has long-term effects on the purchasing budget, significantly increasing the purchase of certain, but not all, journals and decreasing the purchase of books (Anglada and Comellas, 2002). To this, one must add the big threat that losing the freedom to choose the collection represents, as the power of some electronic-format publishers grows; thus, the need to minimise this danger by using alternative methods and new economic models.

The goal of consortia purchasing is to be more effective, saving money on some resources to use it on others, but many ARL-member libraries have begun to re-examine the effectiveness of the “big deal”. A survey among ARL members shows that 40 per cent of those polled were planning to cancel or reconsider these purchasing bundles (Jackson, 2004a). In Spain, however, statistics published on a paper on consortia purchases of electronic journals by the Consortium of University Libraries of Catalonia suggest benefits that are explained by the intensive use of titles that did not previously exist on paper subscriptions (Urbano *et al.*, 2004).

Changes in the cost structure of library services

Electronic collections have changed the cost structure of library services. Although electronic publications reduce some variable costs of their paper-format counterparts, such as ordering, cataloguing, binding, storing, and shelving costs, they incur new ones, such as computer-terminal, electronic-storing, and user-training costs (Ramos, 2003). This situation was disclosed by a University of Drexel survey that evaluated the impact on its employees, spaces, equipments, etc., of shifting its journals to electronic format (Montgomery and Sparks, 2000). The library increased from 953 paper subscriptions to 4,951 in electronic format and a reduction in the need for space, but an increase in equipment cost (acquisition and maintenance of hardware and software) and staff cost. In the circulation, reservation, and technical-processing services, staff was reduced in shelving, maintenance, cataloguing, recalling, and binding, but other services, such as information, administration, and management, needed more staff to negotiate, manage, and make decisions (with electronic journals, the selection process becomes more complicated because of having to negotiate licences).

Changes in the behaviour of interlibrary loan and document supply services

Interlibrary loan has proved to be one of the outstanding examples of library cooperation and of the main impacts of consortia on collections. Interlibrary loan agreements based on joint catalogues turn a group of libraries into “one” library (Anglada, 2003).

The remote document supply service (RDS), understood as an up-to-date version of the former interlibrary loan service (Line, 2003) aims to obtain and supply copies of documents; it is organised by the library itself to satisfy the needs of both its internal users and those of other libraries that request copies from its stock.

According to Genoni and Jones (2004), RDS owes its success to being a simple concept based on three key elements: library ownership, catalogue accessibility, and a mechanism by which the system works. For these authors, libraries have tried to improve each of these elements, especially by incorporating both IT and consortia agreements. However, they say that the effort to build a cooperative collection among libraries has been reduced. This is possibly due to the excessive interest and time they have devoted to creating consortia that would allow them to improve their position with the large distributors and thus obtain some advantages. And it may also be due to the efforts made to provide the library with the technology needed to allow users access to the information “anytime, anywhere”.

The increase in the volume of electronic journals in libraries produced by bundle subscriptions with large publishers or aggregators has given rise to different viewpoints about their impact on the RDS service. One opinion is that publishers support the high costs of their bundles of journals because of the potential RDS savings. It should be easy to calculate the RDS's cost savings due to all the full-text articles that were not available before and are now downloaded by the users, but undoubtedly many of them would not be used if they were not automatically available.

The University of Glasgow has increased from 367 journal subscriptions in 1997 to 5,526 in 2002, without duplicating formats and with 65 per cent in electronic format. Kidd (2003) carried out a survey to calculate actual RDS cost savings caused by subscribing to bundles of electronic journals and increasing the volume of titles from a given publisher. For this purpose, he evaluated users' requests for titles of the publishing house Elsevier that were placed through the RDS. It compared the requests for Elsevier journals placed one year before access to them in electronic format was possible with the requests placed after such access became available. The data show a drop of 77.8 per cent in the number of articles requested from that publisher, representing cost savings of some £14,000 per year. Besides showing a reduction in the RDS requests, the number varied from one faculty to another; while it increased in the arts faculties, it decreased in clinical medicine faculties by 30 per cent in the last four years; 37 per cent of the use of electronic journals was for clinical medicine journals.

The University of Nevada also carried out a survey in 2004 to learn the impact of the use of electronic journals (Yue and Syring, 2004). It proved that the use of journals from an Elsevier bundle representing 40 per cent of the collection increased by 46 per cent when compared with the requests for articles from the same journal placed through the RDS service in 1999.

There is further evidence that RDS has decreased as a result of the introduction of electronic journal bundles. For example, French university libraries have experienced a 6.3 per cent drop in RDS between 1999 and 2001. Spanish university libraries also experienced a 17 per cent drop between 2000 and 2003, and the British Library's (2000, 2001, 2002) statistics show that the number of articles supplied to remote users dropped by 18 per cent in three years (2000-2002). But recent data show that, despite massive purchasing of electronic journals, after that initial drop, RDS does not disappear as was initially thought, but actually increases. A survey to evaluate the interlibrary loan and document supply services carried out in 2004 among 72 libraries, members of the Association of Research Libraries (ARL), reveals that interlibrary loans (supplies and requests) continue to increase despite the growth of electronic journals and electronic resources (Jackson, 2004b). This situation surprises researchers, as many published papers anticipated a drop in RDS due to the impact of the electronic format. In Jackson's opinion, the reason why users are asking for more RDS despite having more electronic journals is that they find many published bibliographic references through Google or other search engines, or in online databases. Another reason, she believes, is the speed with which copies are obtained in the electronic world, which satisfies the user, who then uses the service much more. Her final conclusion is that the RDS's increase in the number of requests may be the result of those requests being redirected to other libraries or suppliers.

Our literature review shows that consortia purchasing of e-journals has had a notable impact on both user habits and library management, especially collections. It has brought about changes in library tasks and in the behaviour of some services, such as RDS. An example of the significant changes in the activity on this service can be seen through the data collected from the Móstoles hospital, that are discussed below.

The health-science library at the Móstoles hospital

The mission of the health-science library at the Móstoles hospital is to provide the centre's staff with the information they require to carry out their medical care, teaching, and research tasks. Currently, the hospital has 362 beds and 1,518 workers, 105 of which are intern doctors. The core of its bibliographic fund is the health-science periodic publications, which went from 231 paper-subscription titles in 2001 to 1,169 subscriptions in 2004 (145 on paper, and 1,024 in electronic format, unduplicated). This increase in the number of titles is due to the change in format and to consortia purchasing with the Madrid Commission of Health-Science Libraries, which has produced the electronic fund of the Laín Entralgo virtual library. During 2003 and 2004, bundles of journals were purchased via consortia with aggregators such as OVID and Proquest Medical Library, and with publishers, such as Elsevier (Science Direct) and Wiley. Users have adapted very well to using the electronic format, due to its easy access and the added-value services it provides. To optimise the use of the electronic journals and promote their products, access platforms have created new services, such as search engines, bibliographic links, related articles, alerts, etc. For example, Science Direct's platform allows access to the bibliographic reference, with an option to the full-text subject

to prepayment, of old journals, called “backfiles”, among which we can find *The Lancet*, the famous clinical medicine journal published since October 1823. For these reasons, users give priority to the information they find in full-text electronic format and demand more electronic journal titles; they also show an interest in cancelling their current subscriptions in paper format in favour of the electronic format.

The Móstoles hospital library applies 95 per cent of its annual acquisition budget to renew the subscriptions to its journals. Currently, the budget to buy their core collection of journals is in two parts: one, for consortia purchasing; the other, to buy individually and in paper format, the core titles of the collection that are not included in the former. In 2004, individual paper subscriptions continued for 145 titles, as there were not enough economic or technical resources to buy them in electronic format and maintain the purchased electronic collection. Table I shows data about this evolution. The budget to purchase titles in electronic format via consortia increases every year, leaving little possibility for the library to then buy on its own new books and journals required by its users. Consortia purchasing generates a large number of titles, but many of them are not in the library’s core collection and, therefore, the library must acquire titles separately in paper format. In addition, consortia purchases keep increasing, and therefore there is less money left for a library to buy separately. So far, consortia purchasing agreements work with publishers or aggregators that offer a given collection but often do not allow acquiring at a reasonable price certain titles whose subscriptions are basic and necessary for both libraries and individual users; for example, subscription to the *New England Journal of Medicine*.

Since 2001, the library has carried out a collection development project, aimed at optimising the centre’s core collection of journals and facilitating the development of collections in the consortium. For that purpose, it implemented a programme to evaluate the collection, and it established acquisition procedures and guidelines for the integration and adaptation of the new technical resources and format. In the last three years, it has evaluated its basic journal collection by issues, both qualitatively and quantitatively. Some users have been pleasantly surprised by the increase in the number of titles included in the consortia electronic subscription and that are not part of the core collection. Others, from different specialities, have been upset by the low number of electronic-format subscriptions and the continuity of others in paper format, as well as not being able to change the titles that were consortia purchased. The increase in the number of titles is due to bundle purchases, and it is the publisher or the aggregator that includes them in the “bundles”. Currently, collection development is subject to the decisions of publishers and the consortium, rather than those of users and librarians. Publishers have the power in

Table I Evolution of journal subscriptions at the Móstoles (Madrid) hospital library

Journal subscriptions	2001	2002	2003	2004
Paper format	231	150	131	145
Electronic format	0	245	892	1.024
Total	231	395	1.023	1.169

negotiations, as they provide the products and set the prices, and also create a potential market for their products, by providing easy access to their content.

With the existing growth in both production and consumption of information, RDS is one of the most important services provided by libraries. A pilot test was initiated in 2004 to implement free-of-charge RDS in all but two of the libraries belonging to the Madrid Commission of Health-Science Libraries. Since its implementation, the number of requests has grown significantly. Table II shows the increase in RDS supplies and requests during the last four years.

The increase in the journal titles has run parallel to the increase in the number of requests. As shown in Figure 1, the increase in the number of journals does not entail a decrease of the RDS, either in our library or in other libraries that request copies from us.

Conclusion

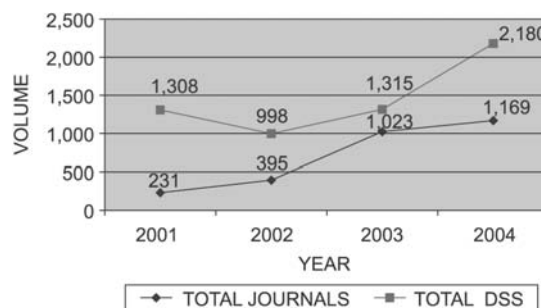
As evidenced by the literature and also by the example of this small library, users’ acceptance of electronic journals has undoubtedly been excellent. Consortia purchasing projects have become a basic tool that expand collections, support cooperative technological development, and require negotiating skills from librarians. But these mass purchases do not seem to be the ideal solution for libraries; they entail losing freedom when choosing the collection, and often make library collections homogeneous by publisher.

When electronic journals started to be acquired through consortia purchases, the first data showed a drop in the volume of RDS. Thus, it was believed that users, given the large number of journals to which they had access, would greatly reduce their requirements for RDS. After the impact caused by the use of electronic formats and linked services settled down, the RDS volumes levelled out. Shortly afterwards, the first data yielded by some surveys carried out in an English-speaking environment show that RDS has

Table II Number of managed requests handled by the document supply service of the Móstoles (Madrid) hospital library

Managed requests	2001	2002	2003	2004
Supply	670	486	674	1.143
Requests	638	512	641	737
Total	1.308	998	1.315	2.180

Figure 1 Number of journals and RDS requests in the last four years



grown again in the last few years. The literature review and our own experience in a medical library, described above, suggest that there could be a number of reasons for the recent RDS increase:

- (1) The platforms' intense promotion of their services encourages users to access and consume more information related to their subject of interest. This situation causes a growth of the impact factor for the journals they use. For example, currently, the users of health-science libraries request and use more retrospective multidisciplinary information, largely because it is easy to find them in the platforms.
- (2) Another possible cause, pointed out by Mary Jackson, is that requests are redirected. This is due to electronic journal collections becoming homogeneous. Libraries buy the bundles offered by publishers or companies, which are always the same, thus reducing the libraries' ability to buy other materials or titles. The basic collection existing before consortia purchasing has not been valued. Users have given priority to accessibility to the journal services and less importance to content and speciality. Is it, perhaps, because we are now in a "post-modern society", where "knowledge is characterised by its utility, distribution, storage and whether it can be downloaded onto a computer?" (Klages, 2003), so therefore, "anything that cannot be digitalised is no longer knowledge" (Genoni and Jones, 2004). We live in a society where knowledge is becoming functional and our journal collections and the consortia purchasing them seem to be a clear reflection of this process.

In any case, these explanations must be complemented by the actions and perceptions expressed by further user studies.

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About the authors

- Blanca San José** is Medical Librarian, Health Science Library at the Móstoles Hospital, Madrid, Spain.
- Ana R. Pacios** is Professor in the Library Science and Documentation Department, Carlos III University, Madrid, Spain.