Documents Direct: Findings of the Project's Trial

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"Documents Direct", a project funded and run by the University of Leeds, is evaluating an unmediated alternative to the traditional information service in an academic library. Whilst the pattern and level of use of the hybrid service, a combination of library holdings and access to full-text databases, seems to depend on subject area and the quality of the library's holdings, four key user requirements for unmediated systems have emerged: coverage and delivery time; ease of use; increased control, and cost.

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Introduction

'Documents Direct' at the University of Leeds is an internally funded project, involving four schools within the University: Biology, Chemistry, Electrical and Electronic Engineering and Civil Engineering. The University of Leeds is highly research active and the Library's role in providing access to journal literature is an important one. Traditionally this has been achieved through printed journal subscriptions and using inter-library loans to obtain items not held locally. The Library currently subscribes to approximately six thousand journal titles and annually struggles with space issues.

A shift in culture within the Library has led to a more user-centred approach and the Library now sees one of its roles as supporting the University's research community by providing access to information, regardless of whether that information is held locally or remotely. It was recognised that delivery of information could be streamlined to create a more seamless and integrated approach, by offering unmediated document delivery directly from the user's desktop. However, in order to cut periodical subscriptions a high quality service alternative must be offered to the University's researchers.

Along with this shift in culture, a number of external factors have demanded that alternatives to the traditional collection development model be examined:

- periodical prices continue to rise annually above the rate of inflation;
- an increasing number of journal titles is published each year;
- the current economic climate in higher education and subsequent constraints on the Library's budgets;
- advances in information technology now make a just-in-time model technically possible;

- an increasing number of companies offering individual article supply products makes this a growing and competitive market.

In light of both these factors, the aim of the project is to examine alternatives to the established holdings model at the University of Leeds by testing the following assumptions:

- unmediated document ordering may result in unnecessary spending;
- research students may use the services excessively;
- users may order documents through expensive urgent action services;
- in order to avoid visiting campus libraries, users may order articles held by the Library from external suppliers.

Timeframe

Funding for a 12 month period included a budgetary allocation for document supply. The project's trial started in June with evaluation from September 1999.

The Library's role

The project is managed by the Library and has a full-time project officer. A project Steering Group meets quarterly and consists of both Library staff and representation from academic departments.

In addition to all users being issued with a handbook, training and awareness-raising sessions were run intermittently, and extensive information about the project and each supplier is available on the project's web pages. Any problems are dealt with as quickly as possible, so that the user is able to continue with their work at their desktop.

The Library is also responsible for the project's budget. As the project offers a completely new and untested service, the evaluation has proved crucial and began halfway through the project's trial (September 1999) with web-based questionnaires and evaluation sessions. Service usage data were also analysed and evaluated.

Establishing the service

Six external suppliers were selected offering a range of subject-specialist and multidisciplinary resources and different methods of document delivery were made available, including post, fax, courier, email with PDF attachment and web download. An internal photocopying service was developed, enabling participants to order articles and papers held by the campus libraries. The project participants used the web to place their orders with all of the suppliers, using either a database or web forms. The selected suppliers were (table 1):

Table 1 Suppliers

Supplier	URL
inside Web	*http://www.bl.uk/online/inside/overview.html*
CARL UnCover	*http://uncweb.carl.org*
Technology University of Delft	*http://www.library.tudelft.nl/BTUD/eng/rqhome-e.htm*
Royal Society of Chemistry (RSC)	*http://www.rsc.org/lic/doc.htm*
AskIEEE	*http://ieee.uncoverco.com/ieeehome.htm*
BioMedNet	*http://www.biomednet.com/home*

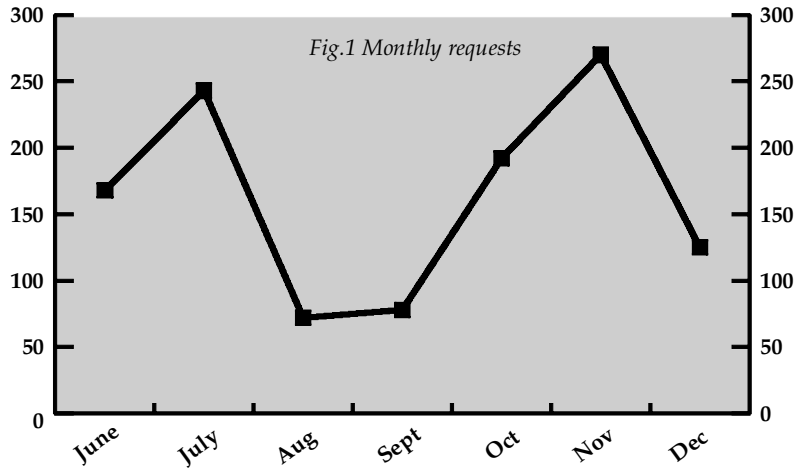
Findings

User group

98 academics, research staff and research students initially registered to take part in the project's trial. In October 1999, the user group was extended to include more research students. The final group was 153 and 95 (62%) have used the project's services. A breakdown of the active user group is shown in Table 2.

Table 2 Breakdown of active user group

	Academics	Research staff	Research students	TOTALS
Biology	*18*	*8*	*14*	*40*
Electrical & electronic engineering	*5*	*1*	*18*	*24*
Chemistry	*11*	*2*	*7*	*20*
Civil engineering	*5*	*2*	*4*	*11*
TOTALS	*39*	*13*	*43*	*95*



Usage

It was originally anticipated that launching the project in June would be timely, because academics would return to their research over the summer vacation. As Fig.1 shows, in the first month 173 requests were placed. Usage continued to rise in July when 234 requests were placed. In the following two months, the opposite of the predicted pattern occurred and the number of requests fell dramatically, with usage rising again in October. This increase continued through November and again fell due to the Christmas vacation in December. By the end of December 1999, 1161 requests had been placed. The School of Biology placed 53%. A pattern has not been identified across the four schools (except a slump during vacations) reinforcing the fact that everyone works in different ways with different needs for services throughout the academic year.

Use by school

The four schools involved in the project's trial are traditional academic disciplines in science and engineering with substantial periodical holdings in the University Library. In terms of staff numbers, Biology is the largest and Civil Engineering is the smallest.

As Table 3 shows, Biology is the most active school and they have placed 53% of the total number of requests. It is the largest of the four participating schools with a high level of activity and diverse research interests. The Library has strong periodical holdings in this field. However, due to financial constraints, some growing areas of research are not covered by the Library's holdings.

In the School of Electrical and Electronic Engineering, the principal users of the services have been research students who have placed 73% of requests.

The School of Chemistry is highly research active, but use has been very low which reflects the Library's excellent periodical holdings (hardcopy and electronic) in this subject area. Civil Engineering is a small school with a small research centre, which accounts for their low use.

Table 4 shows the number of requests made by users. 65% of users placed between 1 and 10 requests, with the mean number of requests being 4. 87% of requests were delivered by post. Five participants chose to use urgent action services, making up only 1% of the total number of requests placed.

The user group was extended in October because the Steering Group acknowledged that low spending might be a result of targeting the wrong user group. They agreed that the role of the

Table 4 Number of requests made

Number of requests made	Number of users
1-10	65%
11-20	20%
21-30	3%
31-40	4%
41-50	6%
51+	2%

Table 3 Number of requests made (June – December 1999)

	Academics	Research staff	Research students	TOTALS
Biology	*364*	*137*	*144*	*645 (53%)*
Electrical & electronic engineering	*59*	*1*	*166*	*226 (19%)*
Civil engineering	*21*	*50*	*122*	*193 (16%)*
Chemistry	*90*	*14*	*38*	*142 (12%)*
TOTALS	*534*	*202*	*470*	*1206*
	(44%)	*(17%)*	*(39%)*	

academic has shifted from one of researcher to research co-ordinator, managing post-doctoral staff and supervising research students. Therefore it was decided to extend the project to include a greater proportion of research students. By the end of the month, the number of research students taking part in the trial had doubled.

Costs

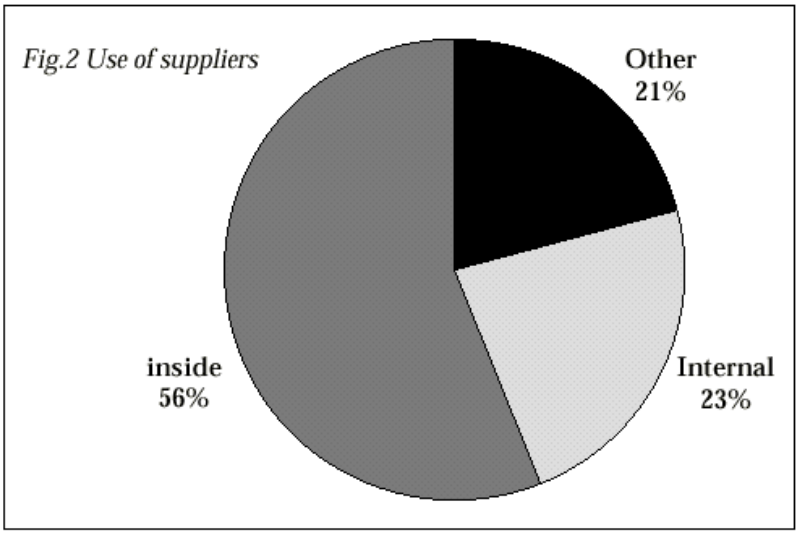
During the trial, spending was not as high as anticipated and after 7 months, only 10% of the project's budget had been spent. Biology had spent almost half of its allocation, but the remaining schools had spent only 15%.

As participants were ordering items themselves without Library mediation, copyright fee was paid to three of the external suppliers. The total spend on copyright during this period was £4262.76 (about £600 per month) and 78% of external requests had a copyright fee attached.

The fee ranged from no charge to £24.98; for 63% of requests, it was less than £5. The average total request cost had been estimated at £15, but in reality it is just under £12. The estimated cost of an inter-library loan at Leeds is currently £13.30, which includes staff time and other overheads involved in running a mediated request service. Unmediated document delivery is therefore a cost-effective alternative to the traditional inter-library loan service.

Suppliers

As Fig. 2 shows, the most popular of the seven services is the British Library's inside Web, which has 56% of the project's market share.



Discussions with users found inside's popularity was for a number of reasons:

- when users register with the project, they are given their individual username and password. With other services they have to either register themselves or there is a generic username and password where they enter their own personal information to each request. Both involve a greater learning curve and may take longer than logging into the inside Web service;
- the database is multi-disciplinary and therefore a certain amount of serendipity is possible as some users have found obscure, but highly relevant material they would not have found elsewhere;
- access to the British Library's extensive collection including 45,000 journal titles;
- the service is predictable and reliable, usually with next day delivery;
- through the Web interface, users are able to track the progress of their requests;
- a range of delivery formats is available including postal delivery of a photocopy, fax transmission within 2 or 12 hours, courier or Ariel delivery.

The internal photocopy service has proved popular, gaining 23% of the project's market-share. This proved to be for a variety of reasons but principally because visiting the Library is time-consuming and frustrating. All users thought it preferable to manage their workload from their desktop. Reasons given for this frustration include queues for photocopiers, wanted items being at the binders, the required item cannot be found, and their students often waylay them. The low use of the other services can be summarised:

- participants use one service, find they are satisfied with the service and do not try another supplier;
- they choose a supplier, are dissatisfied with the service and do not use it again;

- dissatisfaction with the range of resources available and the quality of copy when the requested article arrives;
- unreliable turnaround times and the inability to monitor a request's progress.

Subject specialist suppliers have proved unpopular because they do not offer the same level of service as that offered by inside in terms of turnaround times, subject coverage and delivery format.

User requirements

Four recurrent themes became evident through evaluation sessions:

- coverage and delivery time;
- ease of use;
- increased control;
- cost.

Coverage and delivery time

Users commented that their ideal scenario would be searchable databases with web download of all articles and all said they would print a copy of the article. However, a predictable and reliable service was felt to be an adequate service alternative. Excellent subject coverage was very important and 59% of questionnaire respondents thought that inside's coverage was very good with an additional 15% thinking it excellent.

It was questioned whether low service use by the School of Civil Engineering was because a subject-specific service provider was not offered. However, this was proved unfounded because the School of Chemistry is also a low user and has access to a subject-specific supplier.

Ease of use

Reactions to the range of interfaces varied across the user group, and this was dependent on their use of other databases and familiarity with the World Wide Web. 90% of users were satisfied with the Inside service and the general feeling was that once they were familiar with it, it was straightforward to use.

Value-added services, for example current awareness, were not well used. Many users are satisfied with the BIDS Autojournals service, while others felt their mailboxes were already full without adding to them with regular delivery of search results. Users generally already had a list of references they wanted to order and completing web-based forms was the most popular method of document ordering. However, some users liked the range of material available through the inside service and 80% of inside requests are placed via the database.

Some users felt that some of the services were opaque and difficult to navigate, and most preferred a searchable rather than browseable interface.

Control

The ability to monitor a request's progress through the Inside service has proved popular with all users and this level of control has become very important, improving the ability to plan. The lack of this functionality through some of the other services proved frustrating and many felt that their requests disappeared into "a black hole", as they were not notified of the request's progress or of the supplier's inability to provide the article. One user commented, "If they don't have an article it simply doesn't appear. This is very unsatisfactory. They should inform you as soon as possible that they don't have it." However, other users felt that if an article was not needed urgently, they did not object to the waiting period.

Cost

Users commented that due to the project they are more aware of the costs involved in the Library's services, including journal subscriptions, add-on costs for electronic subscriptions, and inter-library loans.

Users are more aware of the costs involved than was originally anticipated and being able to see the actual total cost of article made them think about whether they really needed it. 55% thought that Inside offered value for money. Users generally felt that cost would be a problem in a real service scenario, but that generally the service is excellent, if expensive, and one user said, "The often high copyright fee would have to limit my use of the system, if I was paying".

Turning the project into a trial service

In March 2000, the project will be developed into a trial service allowing the model to be tested

further. Using the remaining project funds, four new schools will participate. Responsibility for implementation and development will be devolved to the appropriate faculty team librarian. New schools will allow the examination of those with high research activity, but low library holdings, such as Environment Studies, and representation from the social sciences will identify whether or not user behaviour is dependent on academic discipline. The Inside service will be the default service unless there is a subject-based alternative which matches the needs of a particular department.

Conclusions

The assumptions made at the project's outset regarding excessive spending, use of urgent action services and requesting of articles held by the Library have proved unfounded. The user group has acted responsibly throughout the project and has not spent to excess or abused the services available. In addition, research students have proved to be a valid target group for unmediated document ordering.

Evaluation has shown that unmediated document delivery supports those researchers operating outside of the core activity within their department. The low use by some schools reflects the high quality of the Library's holdings in those disciplines and what may appear as erratic use is attributable to individual need and the type of work being undertaken. The level of activity and diversity of research within a school can be used to assess potential usage. For example, a large school with a varied research base will make greater use of the service than a small research centre which is well-supported by the Library's holdings.

The project currently operates in a vacuum, because substantial journal subscription cuts have not been made and all document delivery is currently funded through the project's budget. However, the overwhelming response from participants is that the service has improved access to information.

All users are aware of the economic climate and, as one user commented, "The only way forward is to keep a primary core of journals owned by the Library and focus funding on single article delivery instead of full journal subscriptions. We must compete with other universities, so we either do this or we fall behind. It's that straightforward".

In order to provide the baseline for virement to fund the service, a periodical voting exercise will take place and at the same time, the Library's resource allocation model will be redeveloped making unmediated document delivery a key element in the Library's funding model.

As the project has progressed, it became clear that an excellent alternative service to both traditional journal holdings and inter-library loans is being developed. It is, therefore, paving the way for transition, as document delivery becomes a core library service to academics and researchers across the University and the Library shifts to a mixed model of provision. It is recognised by the Library that periodical cuts are inevitable, but that a real service alternative must be available as a substitute. Documents Direct is this service alternative.