Resource sharing in a cloud computing age

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Abstract
Purpose – The purpose of this paper is to provide an overview of the historical development of interlibrary loan, identify key milestones such as the codification of ILL practices and development of new technologies to facilitate those practices, and assess the impact that changes in technology and publishing are having upon resource sharing in the digital age.

Design/methodology/approach – The authors conduct an extensive historical review of global developments in resource sharing and then conduct a PEST analysis of societal factors affecting present day resource sharing.

Findings – Resource sharing continues to grow but there is a need to work together to find solutions to problems of distributed knowledge bases, incompatible systems, and electronic formats which often prohibit sharing of materials between libraries. Librarians must work with publishers, politicians, and systems developers to ensure that there is the same or equivalent rights to electronic materials as there is to print publications and that resource sharing systems can support new models of sharing and acquiring materials in multiple formats.

Originality/value – This paper provides a global perspective on the challenges of library resource sharing in the digital age.

Keywords Interlibrary loan, Interlending, Resource sharing, Cloud computing, Electronic document delivery, Change management

Paper type Viewpoint

As we look at the history of interlibrary loans (ILL) around the world, it is apparent we are in a time of great challenges and opportunities. What started originally as a service envisioned for use by a few privileged scholars and reference librarians has become ubiquitous, with tens of millions of transactions annually[1]. To assess challenges and possible solutions, it is worth taking a look at the history and growth of interlibrary loan services and the current shift in the information landscape, particularly the impact of library collections moving from physical to electronic. While we can learn from the past, we also must recognise that libraries, and resource sharing librarians, need to embrace these challenges in order to make ourselves a vital part of today's information economy.

A really brief history of interlibrary loan

In 2007 Teresa Miguel wrote a useful history of interlibrary loan, specifically from an international perspective. She makes reference to possibly the first known instance of interlibrary loan, in eighth-century Germany between St Kilian's Monastery and Fulda Monastery. There is also documentation of book exchanges between Cordoba, Spain, and Baghdad when Spain was part of the Moorish kingdom, ending in the thirteenth century with the Christian reconquest of Spain. One of the most interesting citings is the effort of Nicolas Claude Fabri de Peiresc to establish a loan program in the seventeenth century between the Royal Library of Paris and the Vatican and Barberini libraries in Rome. It is interesting because it failed – not for a lack of effort by librarians, but rather because of a political ban of the French government on the transport of manuscripts (Miguel, 2007). It would be more than 200 years after Peiresc before the first real proposals for organised lending between libraries were to be set forth.

One of the first such proposals was Jewett’s (1851) “A plan for stereotyping catalogues by separate titles, and for forming a general stereotyped catalogue of the public libraries in the United States”. As librarian of the Smithsonian Institution, he advocated for a printed union catalogue for the USA with one of the benefits being that “[...] every student in this country would be able to learn the full extent of his resources for investigation [...] [and] [...] A system of exchange and of loans might, with certain stringent conditions, be established [...]” (Jewett, 1851). This was followed in 1876 by a letter from Samuel Green, the library director of the Worcester (Massachusetts) Public Library to Library Journal in which he advocated for lending between public libraries in the USA (Green, 1876).

However, it was the twentieth century that saw interlibrary loan become a regular service of libraries with agreements for regulation and responsibility, as well as the growth of
document supply centres and loan networks. Table I shows some of the major events worldwide in this movement.

Many countries already had a history of ILL so these events are meant to show the codification, creation of delivery supply centres, formal networking, and propagation of ILL workflow tools.

Perusing Table I it is interesting to see how the movement has progressed from the need to simply reach agreement on what ILL is and how to do it, to the construction of ILL lending networks, and then on to a focus on workflow efficiencies. Of course, it can be argued the networks were about workflow efficiencies, but the real workflow change for networks came when computer-driven processes replaced paper and mail. This was the precursor to the internet age that would impact so much of what libraries do.

### Table I Twentieth century events and regulations impacting worldwide interlibrary loan

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1916</td>
<td>Britain</td>
<td>National Lending Library for Science and Technology begins as part of the British Library (British Library Board, n.d.)</td>
<td>Supply centre</td>
</tr>
<tr>
<td>1919</td>
<td>USA</td>
<td>American Library Association (ALA) adopts its first resource sharing code (OCLC, 2008, Appendix F)</td>
<td>Codification</td>
</tr>
<tr>
<td>1929</td>
<td>IFLA</td>
<td>First IFLA World Congress in Italy; among 15 resolutions, no. 10 was “That international loan between libraries should be effected without intermediary and on a basis of reciprocity, whereby the conditions attached should be standardised as much as possible.” (de Vries, 1976, p. 24)</td>
<td>Codification</td>
</tr>
<tr>
<td>1937</td>
<td>IFLA</td>
<td>Sub-committee on International Loans established</td>
<td>Codification</td>
</tr>
<tr>
<td>1939</td>
<td>France</td>
<td>CNRS founded to perform document delivery of scientific findings (INIST, n.d.)</td>
<td>Supply centre</td>
</tr>
<tr>
<td>1952</td>
<td>USA</td>
<td>ALA revises interlibrary loan code, adopting standardised interlibrary loan form (OCLC, 2008)</td>
<td>Codification</td>
</tr>
<tr>
<td>1975</td>
<td>IFLA</td>
<td>IFLA International Lending Office created (Line, 1976)</td>
<td>Codification</td>
</tr>
<tr>
<td>1979</td>
<td>USA</td>
<td>OCLC ILL System introduced (Smith, 1998)</td>
<td>Network</td>
</tr>
<tr>
<td>1983</td>
<td>The Netherlands</td>
<td>Pica-systems becomes operational with an online Dutch union catalogue with interlibrary loan subsystem (Bossers and van Muyen, 1984)</td>
<td>Network</td>
</tr>
<tr>
<td>1985</td>
<td>Britain</td>
<td>BL Document Supply Centre, formerly the National Lending Library for Science and Technology (British Library Board, n.d.)</td>
<td>Supply centre</td>
</tr>
<tr>
<td>1986</td>
<td>Canada</td>
<td>AVISO ILL client developed at University of Waterloo, Canada (Wright, 1995)</td>
<td>Workflow</td>
</tr>
<tr>
<td>1988</td>
<td>France</td>
<td>CNRS merges to become INIST (INIST, n.d.)</td>
<td>Supply centre</td>
</tr>
<tr>
<td>1990</td>
<td>Australia</td>
<td>National Library of Australia launches networked ILL service for Australian libraries (NLA, n.d.)</td>
<td>Network</td>
</tr>
<tr>
<td>1991</td>
<td>USA</td>
<td>Innovative Interfaces develops INN-Reach system (Library Technology Guides, n.d.)</td>
<td>Workflow</td>
</tr>
<tr>
<td>1993</td>
<td>South Africa</td>
<td>SABINET launches networked ILL service for South Africa</td>
<td>Network</td>
</tr>
<tr>
<td>1994</td>
<td>Germany</td>
<td>SUBITO, a German document delivery service, is launched (Mueller, 2006)</td>
<td>Network</td>
</tr>
<tr>
<td>1995</td>
<td>Global</td>
<td>The IPIG forms to identify ways in which the Protocol can be more widely implemented (ARL, 1996)</td>
<td>Codification</td>
</tr>
<tr>
<td>1996</td>
<td>Global</td>
<td>OCLC accepts requests using ISO ILL protocol and establishes ISO ILL test bed</td>
<td>Network</td>
</tr>
<tr>
<td>1996</td>
<td>Canada</td>
<td>Relais developed in Ottawa, Canada to support interlibrary loan and document delivery services (Relais International, 2005)</td>
<td>Workflow</td>
</tr>
<tr>
<td>1997</td>
<td>USA</td>
<td>RapidILL service created by Colorado State University Libraries (CSU, n.d.)</td>
<td>Network</td>
</tr>
<tr>
<td>1997</td>
<td>USA</td>
<td>Pegasys develops Wings ILL client (Dorman, 1998)</td>
<td>Workflow</td>
</tr>
<tr>
<td>1997</td>
<td>USA</td>
<td>ILLiad released by Virginia Tech</td>
<td>Workflow</td>
</tr>
<tr>
<td>2001</td>
<td>The Netherlands</td>
<td>DENMARK: Interlibrary loan in Denmark begins with the introduction of Bibliotek.dk (Erlandsen, 2011)</td>
<td>Network</td>
</tr>
<tr>
<td>2005</td>
<td>The Netherlands</td>
<td>Netherlands Public Library Association adopts VDX resource sharing solution for networked ILL (FDI, 2005)</td>
<td>Network</td>
</tr>
<tr>
<td>2009</td>
<td>Global</td>
<td>The first implementation of the Request Transfer Message (RTM) introduced in OCLC’s WorldCat Navigator service (Norman and Young, 2011)</td>
<td>Codification</td>
</tr>
<tr>
<td>2010</td>
<td>USA</td>
<td>OCLC enables unmediated borrowing of electronic articles (OCLC, 2010)</td>
<td>Workflow</td>
</tr>
</tbody>
</table>

Notes: 
- Information obtained through e-mail exchange with IFLA staff, July 2011; 
- Information obtained through e-mail message from Rosalind Hattingh, Executive Director of SABINET, 17 July 2011; 
- Information obtained through conversation with OCLC product management staff on 12 July 2011; 
- Per e-mail message from Jason Glover, President, Atlas Systems, 19 July 2011.
However, it also spawned a shift in the publishing and information worlds from physical materials to electronic materials. Enter iTunes, iPods, YouTube, Flickr, and e-journals. Exit CD’s, tapes, film, photo albums and searching for electronic physical journals by title.

The results of this shift can be seen by looking at materials expenditures over the past few years. From 2002 to 2009, academic libraries in Germany saw expenditures for e-resources increase from 11 per cent of their total materials budgets to 30 per cent[3]. In the same period e-resources budgets for the Association of Research Libraries in the United States and Canada increased from 25 per cent to 56 per cent (Kyrillidou and Morris, 2011). Research Libraries UK, reporting slightly differently, saw the percentage of the serials budget spent on e-journals rise from 9.7 per cent to 51.9 per cent (Research Information Network, 2010, pp. 17). The Council of Australian University Librarians reports show that from 2004 to 2010 e-resource expenditures as a percentage of the entire library budget (not just materials) went from 15.9 per cent to 28.3 per cent[4].

While this shift to electronic journals could have been a boon for interlibrary loan services, theoretically removing the need to scan physical journal articles for lending, it actually caused problems. Publishers had not (and to a degree still have not completely) developed a business model for electronic journals to replace that for physical ones[5]. This was demonstrated by embargo periods imposed by publishers, delaying access to the electronic version of an issue for three to six months following the publication of the physical issue. This very cautious and conservative publisher reaction spilled over to interlibrary loan, with many publishers saying that libraries were not allowed to supply articles from electronic journals to their ILL partners.

New challenges . . . and some old ones revisited

As we assess the information landscape in which resource sharing exists today, the impact of the transition from physical to electronic collections must be at the forefront. In the physical collection world, many of the issues surrounding discovery and requesting have been addressed over the last 30-40 years. Union catalogues of library holdings exist in many countries around the world and a global view is offered by OCLC’s WorldCat catalogue. Capabilities such as checking availability in real time have been enabled in some systems so libraries can know they are sending requests to the best possible supplier. Scanning of articles is common and well supported by both technology and consortial agreements, resulting in quick response time.

The switch to electronic collections, though, has introduced a new set of challenges for resource sharing. The ability to discover what other libraries have access to electronically is currently labour-intensive. In the same way that libraries maintained and exposed their physical collections through the OPAC, they now maintain and expose their electronic collections through knowledge bases and A to Z lists. But these efforts are distributed across libraries and there is no true union catalogue of electronic holdings (although organisations like Rapid and OCLC have begun this effort). One might argue that some union catalogues have libraries’ e-journals, but this is just at the title level and does not indicate chronological coverage, embargo periods, or who the actual supplier is. As a result, requesting electronically published articles is prohibitive from a discovery viewpoint.

However, knowing what libraries subscribe to electronically is only half of the resource sharing problem. As stated previously, publishers have reluctantly allowed sharing of articles from e-journals; but even as they have begun allowing it, they apply varying restrictions. Some require the supplying library to print the article and either fax or mail it. Others require the library to print the article and then re-scan it for electronic transmission. There are restrictions that allow lending only to non-profit organisations or within the same country. The problem is that all of these terms are buried inside the licenses, so knowing what a particular publisher allows is another labour-intensive process that has heretofore prevented widespread sharing of e-journal articles between ILL partners.

Then there is the issue of e-books. Although libraries are increasingly purchasing or licensing e-books, so far publishers have not allowed lending of these materials. This means an increasingly large portion of monograph collections will become inaccessible for resource sharing. And where do the mass digitisation projects fit into this environment? While specific libraries have begun working out access within their institutions to the published works they have digitised, this large body of readily accessible materials remains isolated away from resource sharing workflows.

While this shift to e-resources has been taking place, the borrowing of physical materials has not declined, and indeed, in some spaces is still increasing due to improved discovery of other libraries’ collections. But in spite of the rapid change in technology over the last 15 years, a hybrid of paper or e-mail-and technology-based systems is still in use in libraries today. Libraries use many different tools to facilitate their workflows and partnerships. At this point in time we have yet to reach the panacea of a single system that can handle all manner of requests coming from all types of systems and libraries. The request transfer message (RTM) has theoretically made the moving of requests from one request management system to another simpler, but there has not been widespread uptake of this OpenURL profile. The result is that multiple request management workflows and silos continue to exist.

Finally, payment remains an issue for many resource sharing librarians, hence the ad hoc reciprocity agreements that spring up when borrowing from outside primary systems and partnerships. IFLA vouchers remain in use but an electronic alternative would be welcomed. Payment systems exist within systems such as the Libraries Australia Document Delivery service, WorldCat Resource Sharing and UnityUK, but they are principally closed systems.

The resource sharing community needs our thought leaders to consider the new problems introduced by the growth of e-resource collections, and continue to work on solutions for the older problems around resource sharing of physical materials and resource sharing workflows in general.

Transformation through collaboration

Interlibrary loan librarians have always been an active community seeking ways to work better together. At a conference a few years ago, Cyril Oberlander made the comment (and I paraphrase from memory), “As the need for libraries to cooperate more closely continues to grow, who
better to learn about collaboration from than people who rely on sharing resources across the globe.”

In this section, we will use the strategic management framework PEST analysis, which stands for political, economic, social, and technological analysis as it gives an overview of the macro environmental factors that should be taken into consideration when reviewing a specific business area.

Political analysis

It is striking that in countries where a national body, such as a national library, supports resource sharing, it flourishes. Where a national library is engaged with the resource sharing community, and either runs a union catalogue and resource sharing system or outsources to an agency, the culture of resource sharing is inherent, part of the national picture of libraries, funded and therefore supported. This is the case in many countries across the world, including Scandinavian countries and many other European countries, as well as Australia, New Zealand, Canada and South Africa.

International resource sharing

International borrowing and lending has been the source of many resource sharing issues over the years. Some international groups exist either between two countries or many countries with a common goal.

Examples include the Trans-Tasman Interlending agreement[6] between Australia and New Zealand, the Global ILL Framework project[7] and the SHARES project[8] facilitated by the Research Libraries Partnership. Much of the success of these projects is due to the agreement on policies between partner libraries. However, this can be challenging to negotiate and much international activity takes place outside of any formal agreements, with individual library staff negotiating on an ad hoc basis with possible lenders.

Copyright and licensing

Resource sharing librarians need to make sure that they are using available resources within their libraries to understand the implications of their national copyright law on their resource sharing operations. With the shift from print to electronic, resource sharing staff needs to understand both their license agreements and copyright legislation, and make sure their operation is working within those boundaries. But librarians must also be proactive in seeking less restrictive licensing terms and should work with and through IFLA and their national library organisations to influence legislation in their specific countries.

Economic analysis

Free versus fee?

As far back as the 1800s, lending libraries have recovered some of their costs by charging the borrowing library for shipping costs; however, there has always been a strong sense of reciprocity within the ILL community and there are still groups where this model exists. One example is LVIS[9], with almost 3,000 members predominantly in the USA but with some membership overseas.

When libraries do charge, the request prices vary greatly. A snapshot from the OCLC Policies Directory indicates lender fees starting from as low as USD$0.15. Anecdotal evidence suggests that with ad hoc requesting between libraries, reciprocity seems to reign with libraries agreeing to lend based on the premise that the borrowing library will return the favour as and when required.

Borrowing libraries select lenders based on a number of factors, including reciprocal arrangements, lending library turnaround time and locality. So while price is a factor, it may not be the principal factor when selecting a potential supplier.

In the UK, the large CONARLS group of libraries has a fixed request price among the membership. CONARLS[10] began in 2000 and has more than 400 UK member libraries, with a fixed fee of £3.10 for a loan.

Both models co-exist and are usually related to regional, national or international membership of both formal and informal groups of libraries with agreed-on policies on price and other factors in the ILL workflow.

One consequence of the technology shift is that resource sharing has been opened up to a free market economy that consists not only of library suppliers, but also alternative suppliers that have joined the marketplace.

Buy or borrow?

The decision to buy or borrow is now part of the resource sharing workflow in many libraries across the world, yet the question of payment remains an issue. Access to a credit card within the library is usually the enabler to make use of other sources, and while this is increasingly becoming the norm, many resource sharing staff members do not have access to a credit card, and therefore often do not have access to this mixed economy.

For resource sharing staff members who do have access to a credit card, it opens up an entirely new workflow, usually outside of their ILL practices. If a library can buy an item from the Amazon marketplace for example, or from a second-hand bookseller via the web or through its resource sharing tool, then this is taken into consideration. A popular misconception perhaps is that “everything” is available from Amazon. OCLC has found that the top monograph titles requested through its WorldCat Resource Sharing system in FY11 was a mix of best-sellers (Kathryn Stockett’s The Help and George Washington’s Sacred Fire by Peter A. Lillback being the two most-requested titles) and obscure, or “Long tail,” titles that, while available through Amazon, were being offered at exorbitant prices in the UK and/or USA[11] (see Table II).

The (r)evolution of cloud computing now makes it feasible to embed this mixed economy into resource sharing workflow, as web services and APIs provided by Amazon and other booksellers enable the applications themselves to be embedded within the workflow.

International boundaries

As technology has opened up boundaries in terms of data and the resource sharing world has become smaller, librarians have become increasingly adept at locating materials held around the world. National union catalogues have become available via the web and resource sharing professionals have built informal networks — but this workflow is often managed through e-mail rather than within resource sharing tools. While it is an interesting part of a resource sharing librarian’s daily activity, it can be time-consuming. Once a holding library has been identified, the ILL contact person in the
lending library must be located, and then an element of negotiation needs to be undertaken, which may take days if time zones are a factor.

Social analysis

Technology is speedily growing with no sign of stopping (Yan, 2006).

As we have already stated, the discovery landscape has changed dramatically over the last 15 years, and is reflected in both user behaviour and the shift from print to electronic resources in libraries.

Meeting the needs of a different generation

Generation Yers are “heavily immersed in the digital world” (Yan, 2006), yet they lack discrimination in choosing information sources and selecting information from those sources (Adams, 2009). Libraries must come to terms with this generation’s behaviour and address the need for instant gratification, which is now inherent in many of us. From a resource sharing perspective, the need to speed up the turnaround and offer alternative delivery mechanisms is key. Collecting a hard copy from the circulation desk in the library is not an effective solution in today’s environment. Library users expect their requested materials in a timely way and at their convenience; libraries should therefore address this need within their own workflows and seek lending partners that can provide this optimal service to their users.

An aging professional population?

Baby Boomers are leaving the library profession and taking their knowledge with them. Succession planning within libraries is key to libraries’ future success where a good deal of workflow-related information is not accessible and best practices are seldom documented. Knowledge management strategies should be put in place to ensure successful knowledge transfer within libraries, and focus should be given to niche areas such as resource sharing. An excellent example of this is the Information Delivery Services (IDS) project in New York State in the USA, which is working “to provide a unified community of trust and support built around a critical and clearly understood purpose: effective resource sharing”[12]. This project actively promotes best practices and offers a mentor program that assigns new members with applications and systems specialists in order to embed their philosophy.

Technological analysis

Earlier in this paper, we considered the shift from print to electronic resources and its impact on resource sharing workflows. Here, we will briefly consider the issue of connecting resource sharing systems.

In the late 1990s, many viewed the implementation of the ISO ILL protocol as the panacea for ILL interoperability. Where software was developed from the ground up based on the protocol and with support of national bodies, the implementations have been successful, notably in Australia and New Zealand. Where the protocol was layered on top of an already existing system with its own internal protocol, such as the British Library’s ART ISO gateway, it was less successful. In 2010, the British Library announced the demise of its ART ISO gateway (British Library Board, 2010).

The “Rethinking Resource Sharing Initiative”[13] recently announced a review of the ISO ILL (ISO 10160/10161) protocol and its future in the community. This is a welcome development that may enable the development of an alternative, cloud-based lightweight messaging protocol between resource sharing systems. Cloud-based systems are not new in resource sharing as many countries have a national cloud-based resource sharing tool, accessed via a web browser. However, these closed systems are not accessible to other national systems or international systems. The work by the Rethinking Resource Sharing Initiative should inform these discussions, and possibly lead to an alternative web service that many of the world’s closed systems could perhaps accommodate.

Conclusion

Resource sharing continues to grow as a critical information service in libraries around the world. We need to work together to solve the new challenges that have arisen for our community, as well as continue to find solutions for older problems.
First and foremost, we should work to find a solution for the problem of distributed knowledge bases. Diverse and incompatible systems and formats often make it difficult to ascertain which libraries have needed resources on hand, or if they even possess the appropriate license. Until we have a reliable method for determining “who has what,” solving many of the other issues at hand will do little to get the right materials to our users in a timely fashion.

Secondly, we need to work together, as a profession and with all players in the industry, to garner for libraries the same (or similarly useful) rights to e-journals and e-books that we have had for physical materials for decades. While restrictive licensing terms for the sharing of electronic articles may preserve, among publishers, some sense that they are “protecting” revenue it is only a placebo effect. We need to work with journal and e-book publishers to find ways to creatively leverage the massive brand value, audiences, and resources that libraries represent in order to invent win-win situations for users, publishers and libraries.

Librarians also need to use their voices within the political systems of their countries in order to promote copyright legislation that serves the interest of information seekers and civic populations as well as publishers. In most countries, copyright and patent systems were set up to serve the dual goals of providing creators and owners with a measure of protection for their intellectual property, while also giving value back to the society that nurtures their work, provides a stable marketplace, and supports the population that will consume their ideas. In many countries, changes in the business models of publishers and distributors have led to copyright changes that are more restrictive and even excessively punitive. As advocates of lifelong learning and the value of social knowledge creation, librarians need to actively represent a balanced viewpoint on these issues and, in some cases, be informed advocates on behalf of their constituencies. One particularly important – and potentially transformative – issue in this regard is the question of how to include mass digitisation items in resource sharing workflows. Finding a legal and equitable solution to this problem could provide millions of people with access to an astounding array of materials in our libraries.

Finally we should continue to work with resource sharing system suppliers to insure workflows continue to improve and accommodate both the shift from physical to electronic materials and the growth in buying resources in place of borrowing when appropriate. When possible, open systems that support data sharing and reuse should be encouraged, as they represent a form of “meta resource sharing” in themselves.

There is no doubt that resource sharing has been an incredible source of value to our users, and an increasingly important one in recent decades. We are at a crossroads, now, in the library community. We have, for the first time in history, real competition for the roles of information steward, custodian and guide. The internet provides us, now, with most of this competition … but also with our greatest tool for increasing the value we provide. We must work together to find ways to leverage all our shared resources – whether they be materials, data, workflows, software or our own expertise – in order to keep pace with the rest of the information industry and to keep faith with the communities that rely on us for what is still a truly unique service.

Notes
1 It is an interesting challenge to get a true global count of transactions. According to the OCLC Annual Report 2009/2010, member libraries transacted 10.2 million ILL requests on the OCLC system alone. An additional 1.7 million ILL requests were processed through DOCLINE, the National Library of Medicine’s automated ILL request routing and referral system. But when we consider the broad landscape of resource sharing today, which has moved beyond traditional interlibrary loan to include consortial borrowing systems and document delivery services, it is easy to demonstrate that the numbers are in the tens of millions.
2 When Matt Goldner was director of Tifton-Tift County Public Library in the early 1990s, the library served a countywide population of 36,000, but was able to offer ILL, filling an average of 500 requests per year, due to access to the OCLC lending network.
3 Data gathered from the web site for the Hochschulbibliothekszentrum des Landes Nordrhein-Westfalen (hbz), available at: www.hbz-nrw.de/angebote/dbs/auswertung/gesamtauswertungen
5 For a good view of the current situation see: Bosch et al. (2011).
6 See Trans Tasman Interlending web site at: www.natlib.govt.nz/about-this-site/glossary/trans-tasman-interlending
8 See SHARES Program web site at: www.oclc.org/research/activities/shares/
9 Libraries Very Interested in Sharing (LVIS) is a group within OCLC’s WorldCat Resource Sharing Community whose members are committed to not charging for interlibrary loan.
10 See CONARLS web site at: combinedregions.com/Conarls
11 See OCLC web site for a list of top ten and top 1000 titles requested through ILL at: www.oclc.org/resources/statistics/toprequests.htm
12 See IDS Project web site at: idsproject.org/
13 See Rethinking Resource Sharing web site at: rethinkingresourcessharing.org/

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Further reading


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