

Section 7 - Making Decisions (A Guide for Librarians)

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7.1 Introduction

The Terms of Reference for the joint JISC and SCONUL commissioned LMS Study called for a 'short document for dissemination that will aid institutions in decision making in relation to LMS/ERM (and other major systems) provision'.

This section offers a short guide to support librarians in making decisions about library systems, outlining responses that libraries can consider in the light of the report and the evidence collected during the study.

It focuses on providing guidance on what libraries and organisations supporting libraries can do right now. It aims to be useful as a stand alone document and consequently there is some duplication with other parts of the LMS study. Nevertheless readers will get most value from it if they use it in conjunction with the more detailed information and evidence provided in the rest of the study.

7.2 The current LMS market: Where are we now?

The UK HE LMS market is well developed and mature and four main vendors have almost 90% of the market. Many customers retain long-term loyalty to their LMS vendors despite changes in ownership and confusion over product direction after mergers.

Private equity investment now plays an important part of the ownership picture with two (ExLibris and SirsiDynix) of the four main LMS vendors now owned by private equity companies. The priority for the new owners is to get a good return on their investment before selling or refinancing. Their business horizon is between three and seven years. Inevitably, therefore, we will see further changes in ownership and this may be attended by further product rationalisation if that change involves a merger of LMS vendors. This section suggests ways in which libraries, individually and together, may respond.

7.2.1 Avoid a costly LMS procurement process

In the Library Survey a significant proportion (around 20%) of respondents reported plans to replace their LMS at some time between 2008 and 2012. However the study also showed that only a small handful of institutions had LMSs that are 'end-of-life' and therefore *must* be replaced on business continuity grounds. In many cases the perceived need to change will be because the contract comes up for renewal or termination after a set term.

In mature markets products typically lack significant differentiation and so changing systems can be a poor return on investment. In 2004 a US librarian wrote, 'Choosing a new ILS is a lot like choosing a rental car. Like the ubiquitous four-door sedan, any ILS is going to get you where you need to go'⁸². Whilst this characterisation was disputed by one vendor in the study (Innovative Interfaces), it does have support within the vendor community. Commenting on the procurement process, in a 2005 Library Journal article, two vendors commented. 'The waste involved in these processes is enormous. It is generally agreed, even among vendors, that ILS products all basically do the same things and do them rather well'⁸³.

Market consolidation and ownership changes have accelerated in the last two years and more change is likely. Libraries that selected a particular vendor have subsequently found themselves a customer of a different vendor after a buyout or takeover. Indeed, in the last two years over 60% of UK HE libraries have witnessed a change in the ownership of their LMS vendor. Bearing

⁸² 'Interoperability the only solution.' By Andrew K. Pace. Library Journal, 1st February 2004.
<http://libraryjournal.com/article/CA374953.html>

⁸³ 'The Dis-Integrating World of Library Automation.' By Roland Dietz & Carl Grant. Library Journal. 15th June 2005.
<http://www.libraryjournal.com/article/CA606392.html>

in mind these factors, libraries are well advised to focus instead at investments in time and resources that will achieve a more significant return.

7.2.2 Review the contract with your LMS vendor

Suggesting that libraries should not replace their LMS is not to say systems cannot deliver better value. At a simple level the library may be able to get the same for less. In the same way that individuals renegotiate their mortgage or mobile phone contracts, librarians can renegotiate the contract for their existing system. Clearly there are differences. The barriers to switching a mobile phone or mortgage are relatively low so consumers can change vendors quite easily.

Switching LMS is much more disruptive and more expensive. Nevertheless for libraries with expensive maintenance contracts it may be worth seeing what the incumbent vendor can offer. This will be especially true if the contract has ended its fixed term. This can be a 'win-win' situation and, in return for a secure further term, vendors may be willing to cut a deal.

7.2.3 Get more value from your LMS investment: 'Sweat the assets'

Many libraries have had their LMS for several years and workflows and processes tend to get ossified over time. In these circumstances it is highly likely that are options for simplifying and streamlining procedures to make savings; for example:

- Is the library still creating original catalogue records?
- Can EDI (Electronic Data Interchange) be used more widely and more effectively to reduce book acquisition costs?
- Can the system itself be administered in a more efficient way?

In this latter context Software-as-a-Service (SaaS) has emerged as the latest incarnation of externally hosted services and there is potential to use this approach to reduce costs. In the SirsiDynix vendor interview Stephen Abram said savings of up to 40% could be made.

7.2.4 Increase Interoperability

One way of increasing the value of the core LMS is to make it more *interoperable* with other institutional systems. Embedding library services in an institutional Portal increases the value of the Portal to students and demonstrates how library services can add value to the wider institution to meet its wider goals. Interoperability with finance and student record systems means that the value of student and financial data is increased as it is used to support more institutional processes. At the same time students have a better experience of their college/university systems.

The nature of interoperability is changing. For decades student records have been loaded into library systems from registry systems. Most of this integration remains based on batch transfers of data in proprietary formats. Routine systems upgrades can sometimes cause the scripts managing the transfers to 'break'. In addition there are inevitable time lags as files are loaded and processed. So a student updating their mobile phone number with registry may find a library overdue alert still goes to the 'old' number, generating overdue fines.

Service Oriented Architectures, using technologies such as Web Services, provide dynamic and flexible approaches to system integration and form a core component of the JISC Information Environment for UK HE. Libraries are beginning to use Web Services based interoperability but progress has not been dramatic.

A 2006 report on Web Services in libraries said: 'Web Services and the Service-Oriented Architecture have become well established in the broader information-technology industries, yet adoption of Web Services within the library arena has been less than aggressive. Although there have been many examples of library-related functions being implemented as Web Services, they are not pervasive in the library field—at least not yet.'⁸⁴ Despite work amongst

⁸⁴ 'Web Services and the Service-Oriented Architecture'. By Marshall Breeding, Library Technology Reports. May/June 2006. vol. 42 / no. 3. American Library Association. ISSN 0024-25862006

the vendors themselves (subsequently transferred to NISO⁸⁵) becoming stalled, there is indication of recent progress involving UK HE libraries, of whom over 40% reported some Web Services development in the LMS survey, often in conjunction with corporate IT services. This is a vital development.

This study has shown that the influence of the JISC IE architecture on libraries and LMS vendors has been minimal and has not catalysed rapid progress, despite uptake of IE services on the ground (such as those operated by MIMAS and Edina). A change of tactics looks appropriate. The study suggests that JISC and SCONUL might both have a role in working with all the stakeholders (including vendors) to helping to lower the barriers to this kind of interoperability, especially addressing mutual 'pain points', and in doing so open up the market, reduce costs and improve services to students.

7.2.5 Add value to the existing core LMS investment

Not investing in replacing the 'core' LMS leaves more opportunity to look at ways to save costs and improve services by adding features around that core. For example, some HE libraries have made substantial investments in RFID (Radio Frequency ID) based self-service systems to enable longer opening hours without increasing staff costs.

The market for complimentary products is widening as the LMS vendors have realised it is to their advantage that their 'add-ons' work with LMS from other vendors; for example:

- Non Ex Libris LMS customers have adopted Ex Libris SFX (link resolver) and MetaLib (federated search) products.
- Talis List (reading/resource list) software is similarly in use in libraries that don't use the Talis LMS.
- Electronic Resource Management and Vertical Search products have been designed from the start to interoperate with a range of LMS products.

The degree of integration varies. Products from the same vendor are likely to integrate more fully, but at least libraries are not completely locked-in to a single LMS vendor. However market consolidation can also cause problems. For example libraries that bought the (Endeavor) Meridian ERM now have to migrate to (Ex Libris) Verde following the takeover of Endeavor by Ex Libris.

Some libraries, of course, argue that these products represent 'core' LMS functionality and should be included at little or no extra cost in the core product. The commercial realities of the market have dictated otherwise. The key determining factor for libraries in choosing such products is, once again, Return on Investment (RoI). Although ERM was one of the major functional 'gaps' reported in the library survey, the survey revealed a fairly slow uptake of ERM systems. In part this may be because the library (or the institution providing the funding) simply does not as yet view them as providing sufficient RoI.

7.2.6 Work with others: consortia and shared services

In a mature LMS market with relatively undifferentiated products, HE institutions will *not* derive competitive advantage from their *core* LMS. Therefore some form of cooperative shared provision (as is already done around networking via JANET for example) could be a productive way forward in reducing costs.

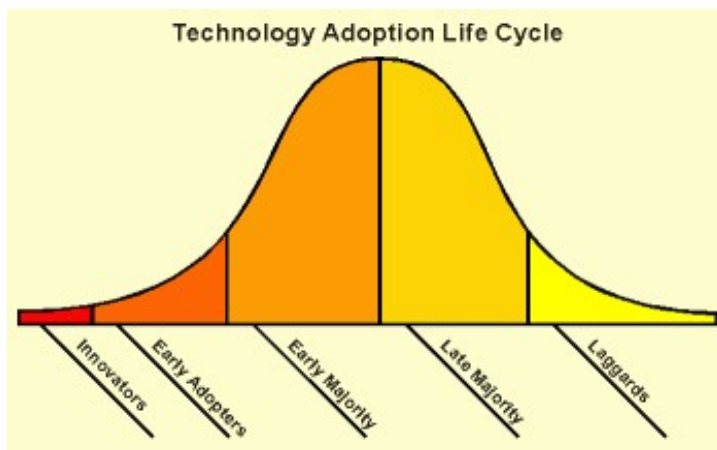
This can be achieved through sharing services within a consortium. There is some successful history to this approach. As long ago as 1994 the University of Wales in Bangor and North East Wales Institute purchased, and continue to share, a single LMS. In UK public libraries this approach is slowly gaining momentum and library consortia sharing LMS are not uncommon elsewhere in the world, including in the HE sector.

⁸⁵ 'Best Practices for Designing Web Services in the Library Context'. By the NISO Web Services and Practices Working Group. NISO. 2006. <http://www.niso.org/standards/resources/rp-2006-01.pdf>

UK HE has, for some time, supported union catalogues (e.g. M25, COPAC) but these are layered above existing LMSs and represent an additional cost. A number of HE library consortia already exist (e.g. CURL, based on type of institution and NoWAL, based on region) that might form a basis for deeper systems cooperation around the LMS. Additionally HE libraries already using an LMS from the same vendor have an opportunity to share a system without necessarily incurring the cost of significant staff retraining. Some libraries in the Scottish Endeavor Consortium manage their own Voyager systems, whilst others share. Heriot-Watt is one of the latter and the librarian, Michael Breaks, has noted that: ‘...for a relatively small library like ourselves, the management overheads of installing and running our own library system can be disproportionately high. By joining the Consortium, we were only required to purchase some additional space on an established server environment for our data, and to purchase additional software licences at the reduced Consortium rate⁸⁶.’

It seems that the current state of the market gives added strength to the business case for consortia and shared service arrangements and there is scope for SCONUL and JISC to help develop the potential. Apart from the benefits of sharing a core LMS there could be even greater value in sharing subscriptions for electronic resources and collection management of printed resources, although here there is more of an issue around an institution’s competitive advantage and ability to attract students and research.

7.3 The future LMS Market: Where are library systems going?



In looking to how libraries might approach the adoption of new technologies as the LMS market changes, the ‘technology adoption life cycle’ is a helpful tool⁸⁷. In this model, few libraries (as opposed to individual librarians) are pioneering, risk taking ‘innovators’ or ‘early adopters.’ Indeed the funding of UK HE and its libraries may reinforce this characteristic.

In explaining what is different about the UK LMS market, Talis CEO Dave Errington commented that ‘it is a

smaller market, public not private, which means different adoption curves – with less rich institutions that can risk spending on innovation.’⁸⁸

UK HE libraries are certainly more homogenous than those in the US and we should expect most to fit with the ‘early’ and late majority’. For the individual library, however, the key to the cycle is the timely and efficient exploitation of innovation and early practice, which is where SCONUL can play an especially important role.

This section identifies trends to watch and recommends responses in the context of the LMS study.

⁸⁶ ‘Shared endeavour. Clare Whittaker explains the collaborative working within the Scottish Endeavor Consortium’. By Clare Whittaker. Information Scotland. August 2004 Volume 2 (4).

[http://www.slainte.org.uk/publications/serials/infoscot/vol2\(4\)/vol2\(4\)article3.html](http://www.slainte.org.uk/publications/serials/infoscot/vol2(4)/vol2(4)article3.html)

⁸⁷ See especially ‘Crossing the Chasm. Marketing and selling technology products to mainstream customers’. By Geoffrey A Moore. HarperCollins. Revised edition 2002. (31 Dec 2002)

⁸⁸ From the Talis Vendor Interview undertaken as part of the study

7.3.1 Open Source Software

Such analysis of the technology adoption life cycle in libraries may account for a clear difference between North America and the UK in the adoption of Open Source Library Management Systems.

According to the survey, no UK libraries had plans to adopt an Open Source LMS, in itself a sensible approach. Companies set up to support Open Source LMS only really emerged in the US 2007. In addition current Open Source products are tending to simply replicate the conventional modules and there is little evidence that they are any more interoperable than current vendor products. At present then there is little to be lost in much to be gained by simply watching this trend. Certainly no clear cost or functional advantage has yet emerged from an Open Source LMS.

The JISC funded OSS watch⁸⁹ is a helpful advisory service on OSS in general and is aware of OSS LMS developments. It would be a good time for it to monitor OSS LMS activity more closely.

7.3.2 Open Data and Platforms

Much of the value in some of the new global 'Web 2.0' services is their capability to bring data into a 'platform' so it can be more easily and cheaply shared and re-used. For example, map data is now readily available from Google for 'mashing-up' with other web based applications. Meanwhile, LibraryThing uses library metadata to drive a Social Networking site based around books.

Libraries can do much more to open up their catalogue metadata for re-use. Business enterprises (for example, OCLC and Talis) already offer 'platforms' that enable library data to be re-used. OCLC's WorldCat, for example provides the default platform that enables the 'Find this book in a library' link from Google Scholar. This kind of approach begs the question of the necessity for 180 or so separate OPACs for UK HE alongside union catalogues such as M25 and COPAC. The costs of this duplication must be considerable. The appearance to the user searching globally must be infuriating.

JISC and SCONUL could help unlock considerable value and promote significant innovation by working to help promote the liberation of library metadata from their LMS and union catalogue silos.

7.3.3 Clickstreams and context data

The book recommendation service from Amazon is based on aggregating and mining user activity on a massive scale using 'clickstreams'. In general, the more you use the service and the more books you buy the better (more relevant) the recommendations.

UK HE has yet to exploit this kind of approach in any major way. In addition to clickstreams, it is possible to collect explicit 'context' data. Amazon does this by asking users to 'rate' their purchases. 'Context' in HE could be a lot more straightforward and powerful as students are all enrolled of specific courses/modules. This data is not currently being used to improve the search performance of library systems and yet there is significant potential if it can be aggregated on at least a UK basis, whilst recognising there are clearly privacy and identity issues about how this data might be used.

It is certainly beginning to attract the attention of LMS vendors as evidenced by this recent comment. 'One aspect of Library 2.0 has been using activity information to provide services such as who-borrowed-this-borrowed-that and most popular books etc.Imagine the activities of other users being used to help return results relevant to a searching user; or that the subject of study of a University student could have a similar effect ... For instance if students are

⁸⁹ <http://www.oss-watch.ac.uk/>

identified as being on a certain course, with set reading lists, this could influence the relevance ranking of their search results.⁹⁰

The time looks ripe for a constructive dialogue between all the stakeholders to look at how this potential could be released.

7.3.4 Vertical Search

Exposing library data and services to Google Scholar, Windows Live Academic, or any similar search service may satisfy some expectations of 'Google generation' students.

Library vendors are banking on recognisable user benefits in a more library centric approach. They are in good company as 'vertical search' is a fast growing area of Internet search. The rationale is that, although users are sometimes looking for all the information they can get (for which the likes of Google and the Yahoo are used), they are often looking for something very specific (such as the 'right' car insurance, as opposed to 'any' car insurance company).

In the library domain we can characterise new products such as Encore (Innovative Interfaces), Primo (Ex Libris) and AquaBrowser (Media Labs/CSA) as 'vertical search' applications. Whilst they are not targeted at a specific *topic* they are targeted at a specific *business channel* - undergraduate and postgraduate research in the HE context. Google Scholar can also be considered a vertical search application. Library vertical search aims to capitalise on one of the key assets of libraries; their collections, both purchased and licensed.

Library vertical search products are new and therefore few libraries are using them. Although they have some 'Web 2.0' features such as tagging and user reviews they do not yet appear to have taken advantage of the clickstream/context data. In any case this would only deliver real value if aggregated on a large scale (as argued above) and so far Vertical Search appears to be only employed on a single institution basis in the UK (though ExLibris certainly claims Primo be used in a consortium context).

Vertical search is a key component of LMS vendor strategy in attempting to meet the Google challenge and warrants considered watching. The market as a whole would probably benefit if some, less risk adverse, institutions took the plunge and shared their experiences.

7.3.5 Universal Resource Management (URM)

URM is essentially a merging of the ERM and LMS into a coherent system for managing the totality of library resources.

Vendors have begun to discuss it but no products are on the market. If there were there would be little point in investing in a new LMS or ERM system. So for vendors this is a risky play. It disrupts the LMS market and makes current ERM systems redundant at a relatively early stage in their product life cycle. For this reason alone, it is likely that URM systems will emerge slowly (probably out of ERM systems) and once again this is an area to monitor.

7.4 Wise investment at a time of disruptive change

7.4.1 The nature of change

We are at a major point of disruptive change in the wider Information Economy of which library systems are just one part. The web and associated technologies are maturing and have been at the heart of this fundamental change just as printing was centuries earlier

What has been happening with library systems in the last twenty years has largely been about sustaining existing models of library use and operation. However, according to David W. Lewis, Dean of the Indiana University-Purdue University Indianapolis University Library, we are in a new phase that,

⁹⁰ Talis Library Platform News. January 2008. Issue 6. <http://www.talis.com/newsletters/library/0108/index.shtml>

...began in the early 1990s with the development of full-text databases, the Internet, and the Web. Libraries are still in the early part of this transition and it is likely to run another decade or two. Many, but not all, of the technologies that are driving this transition are disruptive.

Lewis goes on to point out that 'they are cheaper and faster even though at the outset they do not seem powerful or sophisticated enough to meet current needs. The technologies involved are often developed outside of libraries and their established vendor community. In many cases, the services or products are marketed directly to library users. Finally - and this is probably the clearest warning sign - in most cases libraries and their most important users haven't asked for the new products and are quick to make a case for the superiority of current practices'⁹¹.

7.4.2 A recommended response

Clearly this is not a time for doing nothing. However at these times it is tempting to adopt a binary mode of thought, such as "Google will displace library systems" or "e-books will replace printed books".

A sense of history can be useful. TV did not displace radio, just as radio did not replace newspapers. The world is full of more complex and interesting interactions. Business models will change as they have done in the past. The next few years should provide additional clarity on the impact of Google and similar services and on the validity of library vertical search. This time period will separate the Web 2.0/Library 2.0 wheat from the chaff and we will have more clarity on business models for electronic content.

Libraries therefore need to invest with caution but not complacency. Whilst it is clear that the library 'function' has continuing and growing value based upon a basic human motivation (Google after all is a company with a self declared 'library. mission'), it is not clear what role 'conventional' libraries will play.

Librarians themselves have to face a major challenge.

Librarians, like many others in established markets, love to plan. In the old world, this was a critical skill. In a world full of disruptive technologies, excessive planning can be a waste of time. It is more important to try different approaches, to anticipate failure and learn from that failure. In this mode of exploratory development; it is better to have a year's worth of experience, regardless of the success of this experience, than to spend that year producing a comprehensive plan of action.⁹²

Therefore, it has been the intention here to position a set of short-term investment recommendations relating to Library Management Systems. These recommendations are geared to build and benefit from that 'exploratory experience' amidst disruptive trends, where there is no certain path to follow.

7.5 Summary of Key Points

Libraries will not be in a position to act on all these recommendations in parallel. This 'Key Points' summary provides a menu to assist the necessary action planning process.

Key Point	Section(s)
Avoid a (costly) LMS procurement process	7.2.1
Review the contract with your LMS vendor	7.2.2
'Sweat the assets' to get more value from your LMS investment	7.2.3
Make the LMS interoperate more effectively with other systems	7.2.4

⁹¹ 'The Innovator's Dilemma: Disruptive Change and Academic Libraries.' By David W Lewis. Library Administration & Management 18(2): 68-74 Spring 2004. <https://idea.iupui.edu/dspace/bitstream/1805/173/2/Lewis%20Innov%20Dilemma.pdf#>

⁹² Op Cit

Look at ways to save costs and improve services by adding features around the core LMS	7.2.5
Lower the barriers to consortia working and shared services*	7.2.6
Keep a watch on Open Source LMS developments*	7.3.1
Liberate library metadata for re-use	7.3.2
Work together to see how clickstream and context data can be used to improve services such as search*	7.3.3
Implement vertical search to explore 'business specific' search requirements	7.3.4

* JISC and SCONUL can play a particular role in these areas

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