Section 5 – Vendor Perspectives

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5.1 Introduction

In the UK, there are just over 180 institutions delivering some form of Higher Education[58]. All have a Library Management System (LMS or ILS 'Integrated Library System' in US parlance).

The study established, for the first time, a complete picture of the LMS providers to each HEI, dated autumn 2007. In addition, we used a common set of questions and enquiries to interview the four main LMS vendors, who share almost 90% of the UK HE market. The aim was to understand their businesses, in particular in UK HE, and to establish their views on key trends, product directions and their engagement with the UK HE community.

Extensive detail from this series of dialogues is presented with kind permission from each vendor in Appendix 2.

5.2 The UK HE market for Library Management Systems

5.2.1 A mature and consolidating market

In terms of core functionality, basic components and workflows, today's systems are the recognisable descendants from the systems of the 1980s and most have a legacy that goes back to that time. It is not surprising therefore to find a UK HE LMS market that is well developed and mature. The study established that libraries spend approximately £13,100,000 annually with the four main vendors who have nearly 90% of the market. This makes the total market worth just over £14,000,000. Of course this excludes library spending on systems from other vendors, such as RFID based self-service.

Vendors typically derive most of their revenue from annual maintenance (especially in the current market with few new sales). This is a stable and attractive business model: customers pay in advance helping vendor cash-flow and giving highly predictable revenue. The (primarily US) global market in all sectors (not just HE) was estimated to be worth around £285 million in 2006[59]. By comparison Google (defined in its own mission statement as a 'library' company[60]) had revenues of over USD $16 *billion* for 2007.

In HEIs the churn in LMS replacement is very slow, as most institutions have already replaced their end-of-life systems. Many customers retain long-term loyalty to their LMS vendors, despite changes in ownership and confusion over product direction after mergers.

Opportunities for dramatic growth are therefore quite limited. Vendors with a global reach and a large international customer base still see opportunity for organic growth. Neil Block, for example, described Innovative's strategy in the following terms:

> *[It] is all about organic growth— [we] don't want a bunch of customers, acquired through a merger for example, who didn't select us. We still see strong new name account*

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[58] HERO Website. Listing http://www.hero.ac.uk/uk/universities___colleges/hei_listing.cfm

[59] 'The industry grew at a healthy pace in 2006, with overall revenues expanding from an estimated $535 million in 2005 to about $570 million in 2006. In 'An Industry Redefined'. By Marshall Breeding. Library Journal. April 1, 2007. http://www.libraryjournal.com/article/CA6429251.html.

[60] 'Google's mission is to organize the world's information and make it universally accessible and useful'. http://www.google.com/corporate/

growth. Of course the market is mature but we dispute the characterisation that all LMSs are the same.

Vendors naturally seek to grow by 'up-selling' add-on products to their own LMS customers. Innovative is particularly successful here with a large portfolio of 'add-ons' and this no doubt accounts for its high revenues relative to its market share (see the table in 5.2.3 below). Vendors also seek to 'cross-sell' their add-on products to libraries with competing systems. ExLibris started this trend with products such as SFX (Open URL resolver/knowledge base) and MetaLib (federated search).

Private equity investment now plays an important part of the ownership picture with two (ExLibris and SirsiDynix) of the four main vendors now owned by private equity companies. This represents nearly half the UK market. The priority of 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, which may be attended by further product rationalisation if the ownership change embraces a merger of LMS vendors.

2007 also saw Open Source LMS win some significant HE institutions in North America but this trend is still far from mainstream[61].

5.2.2 Development trends - Electronic Resources

The main driver in terms of library system developments over the last few years has been the need to manage and provide access to an increasing range of electronic resources (primarily electronic journals). This has focused attention on enhanced search and delivery mechanisms and new Electronic Resource Management (ERM) systems and features. The ERM market is clearly not as mature as the LMS market and remains fragmented.

The LMS survey confirmed this picture of fragmentation. Only a small number of institutions has invested in integrated off-the-shelf ERM systems. Most have a patchwork of solutions to solve specific aspects of the overall problem.

In terms of e-content the rise of Open Access (OA) means that HE libraries are playing a growing role in managing (via some kind of institutional repository) the scholarly output of their institution. Institutional repositories however are not part of the scope of this study.

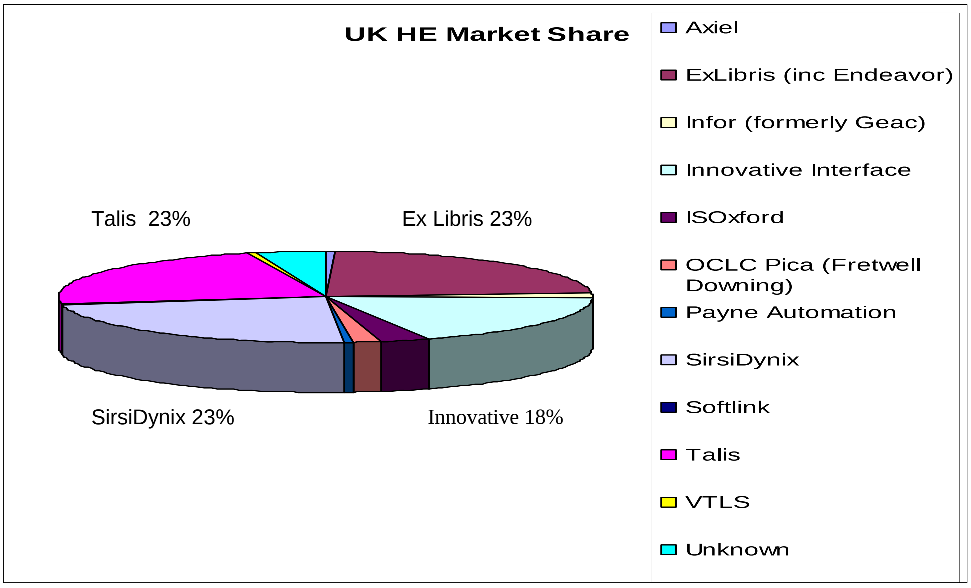
5.2.3 The vendors

The main players in UK HE libraries are Ex Libris, Talis, SirsiDynix and Innovative Interfaces. Together they have almost 90% of the market and are therefore the only vendors considered in detail in this study.

[61] 'The LMS: an open or shut case'. By Ken Chad. CILIP Library+ Information Gazette, 24th August 2007. http://www.kenchadconsulting.co.uk/images/stories/lms_an_0pen_or_shut_case_24_aug_07.pdf

Vendor	***LMS System(s)***	***Estimated revenues for UK HE***	***Main UK library market sectors***
Ex Libris	Aleph and Voyager	£3.5m	HE, National
Innovative Interfaces	Millennium	£4.5m	HE
SirsiDynix	Unicorn and Horizon both merging to Symphony. A few customers still using Dynix Classic	£1.8 m	HE, FE, Public, Government and Special
Talis	Alto (staff functions): Prism (OPAC)	£3.3 m	HE, Public

The overall market share of all UK HE LMS vendors is illustrated as follows:



5.2.4 Changes in ownership and consolidation

Generally within the HE (and public library) market the last two and a half years witnessed a considerable change in ownership amongst the global/UK vendors and significant consolidation, which is summarised for the UK below: [62]

- June 2005: Sirsi and Dynix merge and become SirsiDynix
- November 05: Geac (now Inform) announces its acquisition by Golden Gate Capital, a private equity company.
- November 2005 OCLC Pica acquires Fretwell Downing (OLIB LMS)
- December 05: Ramesys becomes RedSky through a management buyout
- February 06: Talis is 'reconstructed': the owners (BLCMP Ltd and an Employee Benefit Trust) vote to transfer ownership to a new company called Talis Group
- July 06: ExLibris acquired by Francisco Partners, a private equity company
- December 06: Endeavor acquired from Elsevier by ExLibris and Francisco Partners
- January 07: SirsiDynix acquired by Vista Equity partners, a private equity company

[62] From 'Unsettled Forecast. ' By Ken Chad. CILIP Library+Information Gazette. 9th March 2007. http://www.kenchadconsulting.co.uk/images/stories/unsettled_forecast_9_march_2007.pdf

- February 07: ISACSOFT (owners of Bibliomondo) announces it is 'evaluating strategic alternatives' including but not limited to, a sale of the company
- June 2007 Bowker (a Cambridge Information Group company that also owns ProQuest Serial Solutions) acquires MediaLabs (AquaBrowser)
- October 2007 OCLC acquires remaining shares in OCLC PICA

This picture of ownership changes and consolidation should not surprise us in a mature market. Businesses mature and it is normal to find that the original founders and owners of companies cash in their investment. In order to get a market return on their investment the new (sometimes private equity), owners make it their priority to improve financial performance. Indeed LMS companies would not be attractive unless there was clear room for improvement [63]. Private equity operates by purchasing an entire company, improving its business performance and maintaining ownership typically for three to seven years. It then sells it or takes dividends by refinancing it.[64]

Low levels of profitability mean companies can only support low levels of investment in new products and services. Therefore improved levels of profitability could benefit libraries. However, private equity owners may simply see their mature LMS businesses as 'cash-cows' where the reward is primarily directed to the investor.

Private equity is not the whole story. Innovative is wholly owned by its founder, Jerry Kline. The UK has a distinctive local vendor in Talis which began as a cooperative. A significant number of UK HE institutions (around 30) are shareholders of Talis Group so have both a customer and shareholder perspective.

Therefore, with the rapid changes over the last two years, libraries will need to pay close attention to the ownership and financial health of their LMS vendors. Some suggestions about how HE might work collectively to open up the market are described further on in this section.

5.3 Key trends influencing the vendors

Vendors were asked to comment on what they saw as the main factors or trends influencing their strategy for the UK HE library market

5.3.1 Thinking global

The development of the web and global web based services like Google and Amazon have become driving forces influencing strategy. These wider trends are now more important than narrow library domain factors. Together with social networking sites like Facebook, they set the standards by which users judge the usefulness and ease of use of systems. They have changed user behaviours and expectations. LMS vendors are looking for ways in which their offering can continue to add value.

Oren Beit-Arie, Chief Strategy Officer for Ex Libris, put it this way*:*

> *As users' needs and expectations are determined and derived from their overall Internet experience, the solutions that we design should be on par with other, non-library, on-line*

[63] 'As a rule of thumb, unless a business can offer the prospect of significant turnover growth within five years, it is unlikely to be of interest to a private equity firm'. An introduction to private equity. The British Private Equity and Venture Capital Association

[64] Stephen Schwarzman of the Blackstone Group. Quoted in Sunday Times on 18th February 2007

services. Perhaps the most important aspect of that is the fact that most users are not very likely to use and utilise systems/ solutions that require them to learn query languages (e.g. CCL….), thesauri (e.g. LCSH…) or classification schemes. They are also not too interested in internal library structures and collection types – e.g. whether a particular resource is held locally or accessed remotely or whether it is available to them through paid subscription or through open-access arrangement, etc. We need to "shield" the users from internal library decisions.

Stephen Abram, Vice President of Innovation at SirsiDynix, said this:

> *The need in HE to read for insight still needs to be addressed in better way. It's not good to expect current students to have the same approach to text and reading as students 30 years ago. Faceted and visual displays are well accepted by many user segments.*

It's not just global technology trends that are influential. Stephen Abram also pointed out that the wider economic outlook is critical and he was pessimistic.

> *Global economic trends mean library budgets will become even more constrained. The US dollar is falling and US economy has major problems—national debt, war funding, sub-prime mortgage crisis, etc. Oil prices are way up so we might start preparing for an economic slow down. This will trickle down to publicly financed institutions, which will have problem. ILS companies will need to help their clients adjust.*

5.3.2 Web 2.0

Some of the influences described above have been characterised as part of 'Web 2.0', which has a domain counterpart in 'Library 2.0'. Whilst eschewing any precise definition of these concepts, their importance is recognised.

ExLibris commented:

Perhaps the two most important ones that we've identified are:

- *User contribution: users are no longer only passive consumers of content. They are also active contributors. Moreover, enticing them to do so adds significant value to the whole community of users*
- *Mash-up opportunities: building systems in a web 2.0 'spirit' enables mash-up of services that increases the value and the ability of library services to better integrate with user spaces*

Vendors recognise that their products and services are now, more than ever, part of a much bigger environment. Oren Beit-Arie put it this way:

> *End users (researchers, educators and learners) have their own user spaces where they spend most of their time. They may use a variety of social network tools, learning and teaching applications, research tools etc. So in terms of library services we need to get out of silos and embed services. The user's experience doesn't begin or end in a library space –the library is just part of the process. We won't have total ownership of the information space. So we have to work with other players including Google scholar, MSN live Academic, and social spaces like Facebook etc.*

Neil Block at Innovative sees the library as having continuing value:

Research often initially does take place in Google but the library has a role in giving authority.

5.3.3 Standards and interoperability

Web-based standards such as those developed through global bodies such as the World Wide Web Consortium (W3C) and the Organization for the Advancement of Structured Information Standards (OASIS) are becoming more important than specifically library standards (like Z39.50). Two of the four vendors (Talis and Ex Libris) are members of W3C.

The increasing take-up of Service Oriented Architectures employing web services is enabling better interoperability between disparate systems from multiple vendors (e.g. between the LMS and internal and external 'admin' systems).

Dave Errington, CEO at Talis, sees the picture like this:

> *The break up of monolithic systems to interoperate involving loose coupling of applications with each other requires non-domain specific standards such as web services. It doesn't matter where the data is.*

In the library domain these developments are at an early stage. Ex Libris said:

> *We are probably at the geek phase at the moment so there so there is a need for some 'hands-on' technical skill amongst people working in libraries and more widely in HE*

Stephen Abram from SirsiDynix commented:

> *Using standards to enable the LMS to be developed and integrated with the wider environment is putting stress on users (libraries). They will need cross-functional teams to develop stuff. This emerging sector reorganization will challenge HE institutions.*

HEIs may need to ensure many more librarians have a degree of 'technical' aptitude embedded in their skill set. Indeed these skills may simply be viewed as normal rather than 'technical'.

Despite the growing trend towards interoperability and the linking of 'processes', we have not seen much progress in the so-called 'disaggregation' or 'disintegration' of the LMS[65]. Most new 'add-on' products claim interoperability with competing LMS but at the 'core' of the LMS we still see a monolithic structure and no obvious trend to break it up.

Talis saw a potential role for JISC in expanding the take up of a web services approach in the library domain

> *Maybe JISC could bring together the community and remove friction. Or how about establishing common web services schema guidelines and best practice to enable something like OCLC's World Cat local to interact deeply (e.g. reservations/holds and*

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[65] 'Taking apart the library system.' By Ken Chad. CILIP Library+Information Gazette. 1st June 2007. http://www.kenchadconsulting.co.uk/images/stories/taking_apart_the%20_library_system_1_june_2007.pdf

other user account activities/transactions). Because the JISC is a non-vendor body it could have a valuable role in this way, which would have the result opening up the market, increasing competition and so reducing costs

5.3.4 Aggregation, shared services & consortia

One of the key technology factors in the success of services like Google and Amazon is data aggregation. Goggle 'crawls' web sites and 'harvests' content for indexing. It does not make a z39.50 or other 'federated' search of web sites. Aggregation enables much faster responses, more results and potentially improved relevance and less duplication, especially over massively large information sources such the web.

Many services also aggregate user behaviours as manifested in their 'clickstreams'. For example Amazon uses this approach to recommend titles of interest on the basis of user behaviour. The ability to aggregate user behaviour on a global scale improves the relevance of the services because there is a much larger data set to work on and this helps weed out 'false' connections. This approach will have only limited success if based upon a *single* HE library site, so libraries will need to aggregate to benefit.

Vendors see value in libraries working together more to share resources. Innovative described their experience in the US and elsewhere:

> *[It] ties together individual libraries and uses a patron initiated (rather than a library mediated) model in circulation. Primarily this is being done by a physical (not distributed, for example, as per Z39.50) shared resource.*

ExLibris also commented on the lack of consortia in the UK and identified the potential for JISC and SCONUL to assist:

> *Around 60% of Ex Libris' US customers are part of a consortium of some kind. In product terms there are very sophisticated consortia products that don't compromise local needs*. *Why isn't UK HE good at this? Why isn't it following good practice elsewhere? Is this something for JISC/SCONUL to help with?*

From a circulation point of view systems can be decentralised, allowing each institution to retain flexibility in terms of its loan rules and other specific arrangements. Sharing has now moved beyond the physical print resources to e-journals, dramatically reducing costs. Savings might increase over time as new hosting technologies (e.g. Software as a Service - SaaS) are adopted, so that HEIs do not have buy server hardware or run their own LMSs. Stephen Abram noted that SirsiDynix has made major investments in the creation of server farms to support this, and that libraries working in this way could reduce the total cost of ownership by up to 40%. He also saw another important possibility for a consortia approach:

> *Consortia could take a real leadership role. It would have some critical mass. Most consortia work on a servant collaborator model at present and not leadership one. They fail to focus on some of the real infrastructure opportunities beyond content licensing. HE needs a leadership model that means decisions can be made in a timely fashion.*

Resource sharing has clearly become an important strategic initiative in some geographies outside the UK. In the UK the lack of any significant move towards a shared LMS for resource sharing is, at least in part, due to the particular nature of the UK library infrastructure where a centralised ILL and document delivery service run by the National Library (British Library) is embedded firmly in UK HE practice and workflows. Another barrier may be that, the cost savings achieved through shared services/LMS consortia may not be viewed as significant enough at the moment in the context of the HE Institution as a whole. It is easier to make savings elsewhere. Hardware costs are dropping and the annual costs of an LMS and the systems staff is relatively small in terms of the overall HE budget.

Nevertheless from a library perspective there may be worthwhile efficiencies that should not be ignored. Users could benefit from having better access to a bigger library resource. Sirsi Dynix's Stephen Abram was adamant and advised that the UK [JISC and SCONUL] should be tackling the development of real consortia. In summary vendors see potential for JISC and SCONUL to help libraries achieve costs savings and improved user services through sharing and aggregation.

5.3.5 Value in 'context'

The aggregation of user behaviour/click streams exemplifies the potential value of the data. Companies now offer 'tracking' services to enable almost any web site to collect click streams. This enables better personalised services but concerns have been raised about loss of privacy. HE has barely begun to realise its value as a 'trusted' domain and the potential for this data.

Dave Errington, CEO at Talis, made the following observation:

> *Google isn't presently solving the entire problem. It doesn't yet provide enough 'context', for example to students and researchers. What's the best stuff? What stuff should the institution licence? If we knew this it would result in an improved use of resources. It's about the user's context (e.g. university student). Your profile gives better results. The better the context is defined the better results will be. The context problem is not solved in HE, which has an opportunity here because its users are (relatively anyway) well defined—with a particular goal anyhow.*

5.3.6 Open Source

Yochai Benkler of the Law School at Yale University views open source software (OSS) as '…the quintessential instance of peer production'[66]. He sees this as one of the key attributes of what he describes as the new Networked Information Economy into which all the above trends are subsumed.

All vendors view open source systems as an important trend but most see its value in reducing costs by providing low cost components for their applications. The number of open source components has grown and their extent widened, from Apache web servers (which underlie most library OPACs in HE) to databases and search engines. At present most vendors do not see open source as a serious challenge to full-bodied library system applications.

This view is summarised by Neil block at Innovative:

> *We remain sceptical about its capability, at present, to deliver large-scale library applications. As part of an overall integrated solution it works and so III supports it. So our approach to OSS might be characterised as tools based rather than code based.*

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[66] 'The Wealth of Networks. How Social Production Transforms Markets and Freedom'. By Yochai Benkler. Yale University Press. 2006

Talis, alone amongst the vendors, takes the opposite and perhaps more radical view. Dave Errington explained it as follows:

> *Open source is about distributed innovation. Will distributed innovation increase? Yes, it will become dominant. …. it enables recombination of innovation …. Talis is already distributing open source'.*

The Talis LMS is however not yet available as an open source system. It is worth bearing in mind here that open source is famously 'free like kittens not free like beer' and is not necessarily a way to immediately reduce costs for libraries.

Open source library system components (e.g. VuFind, an OSS Portal/OPAC) and LMSs (e.g. Koha[67] and Evergreen[68]) have made progress in HE in geographies outside the UK, notably in North America. In France, System Integrator, who play a significant role in that market are increasingly seeking open source LMS solutions. Their business model is based around services not software, so the OSS model has potentially a good fit.

It is clear from the US experience that open source does not mean a cheaper LMS. The costs shift from the code itself to other aspects of the overall package (support, development etc). In the last year or two, commercial companies such as CARE Affiliates[69] have sprung up in the library domain to profitably provide such services. Indeed open source strictly describes the 'open' peer-to-peer nature of software development process where the source code is exposed to all. It does not necessarily imply zero cost, although OSS is typically free at present. In additional it is not a given that an open source LMS will be any more *interoperable* that a conventional one; for example, a Koha circulation module does not interoperate with an Evergreen cataloguing module.

Open source LMSs appear to be replicating the core modules and may be just as much a 'silo' as their conventional counterparts. If an interoperable and 'decoupled' LMS is the goal (see the 'Decoupling systems' section below) then open source has not yet demonstrated it is the way to proceed. Nevertheless it is still early days and this is certainly a trend to watch.

5.3.7 Open Data

Related to OSS is the issue of Open Data. A campaign to 'Free our data'[70] was launched in 2006 inspired in part by an article in the Guardian. It was not expressly about library metadata but some of the same principles apply. Talis has been campaigning on this for some time. In practice catalogue data is re-used widely but there remain some licensing restraints.[71] It is argued that, if libraries (such as the BL) or services (such as COPAC, Talis or OCLC) were to give their library catalogue metadata away more freely, this would enable public and commercial organisations to use new technology to re-use it (mashup) in order to deliver new and perhaps innovative low cost or free services.

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[67] http://www.koha.org/
[68] http://www.open-ils.org/
[69] http://www.care-affiliates.com/
[70] http://www.freeourdata.org.uk/ 'The argument is simple: government-funded and approved agencies such as the Ordnance Survey and UK Hydrographic Office and Highways Agency are government-owned agencies; they collect data on our behalf. So why can't we get at that data as easily as we can Google Maps or the Xtides program?'
[71] For example OCLC see http://www.oclc.org/support/documentation/worldcat/records/guidelines/default.htm

For example, LibraryThing is a social networking site that leverages MARC records from the Library of Congress (amongst others). In February 2008 Talis and Library Thing partnered[72]. In return for giving LibraryThing users access to two core databases (The British Library catalogue and a union catalogue of over 6 million records, catalogued by public and academic libraries in the UK), Talis customers will gain access to LibraryThing book jackets and ratings data.

5.4 Product Directions

The overall trends in the market are clearly influencing the product investments that the vendors make. The following are seen as the most important product directions.

5.4.1 Vertical Search

To address issues of an improved environment for users of library resources, vendors have begun to develop what have been characterised as 'Vertical Search' products. In his review of the 2006 LMS market in the USA[73], Marshal Breeding commented that, 'ExLibris channeled much of its energies into the development of Primo' and Innovative 'focused much of its effort on Encore, characterized as a new discovery services platform for library patrons'.

Vertical search is a relatively new tier in the Internet search industry consisting of search engines that focus on specific businesses. Niche search engines are not new. Web sites that help users find people, shop and get business information have existed for years. But the number of these search engines has greatly increased in recent years. The rationale for vertical search is that, although users are sometimes looking for all the information they can get, (and for that the likes of Google and the Yahoo search engines are used), often they are looking for something very specific related to their businesses.

In the library domain, new products such as Encore (Innovative Interfaces), Primo (Ex Libris) and AquaBrowser (MediaLabs) are characterised as 'vertical search' applications. Whilst they are not targeted at a specific *topic*, they are targeted at a specific *business channel* of (in HE) undergraduate and postgraduate research. Google Scholar and Microsoft's Live Academic Search can also be considered as vertical search applications.

Google et al have not solved the problem of discovery and delivery of the *best* material for students and researchers, taking into account the particular context of the user in the academic environment. This is because not all relevant content is harvested and the user interface remains too generic. This rationale leads to the proposition that users will value services that are specifically designed for their 'vertical' market or 'business channel'.

The argument goes that students and researchers will benefit from a specifically 'academic' or 'scholarly' library oriented approach. This is not to say such a service might not be 'embedded' elsewhere, in a VLE or Portal for example, in much the same way users embed a Google toolbar. Primo for example offer just this opportunity. Equally it does not mean that libraries should not expose or embed (as some do already) their data and/or services into a VLE, Portal and other environments such as Google or Live Academic Search.

[72] 'Talis and LibraryThing partnership brings more open bibliographic data to the library community' Talis Press Release 7 February 2008. http://www.talis.com/applications/news_and_events/index.shtml#no091

[73] 'An Industry Redefined'. By Marshall Breeding. Library Journal 1st April 2007. http://www.libraryjournal.com/article/CA6429251.html

By launching vertical search products, the LMS vendors are banking that their approach provides sufficient added value over Google or Microsoft approaches to find favour with students and other users who, in the end, will be the final arbiters.

Products such as Primo (Ex Libris) and Encore (Innovative Interfaces) are designed for a hybrid (i.e. print and electronic) environment and use technologies such as aggregation combined with federated search (because not all resources can be harvested and so aggregated). They build on the traditional strengths of library systems (e.g. structured metadata) to deliver features like faceted search and combine it with new 'Web 2.0 features such as 'tagging' (adding keywords) by users. Importantly these products are designed to appeal to all libraries irrespective of their underlying LMS.

5.4.2 Universal Resource Management

To address the growing trend towards electronic resources, vendors introduced Electronic Resource Management (ERM) systems. Like vertical search these products are also available to libraries that don't use the vendor's own LMS. They are less tightly integrated with their own LMS than the traditional 'core' modules (e.g. cataloguing, serials, circulation and acquisitions). We therefore have a situation where the print and electronic resources are managed by two separate 'library management systems' that have some areas of duplicated functionality.

Already some vendors are talking about the move to a more integrated 'Universal (or Uniform) Resource Management' (URM) approach. This is most likely to be an evolution from the newer ERM systems to include the management print resources rather than the other way round, as ERM systems are based on newer technologies.

Take up of ERM systems in the UK so far is minimal. Partly this is a function of the relative newness to the market but the lag also suggests that libraries are not convinced about the return on their investment. Vendors may therefore see URM as an opportunity to motivate libraries to invest in new core systems. Certainly any library looking to replace its LMS should bear this in mind and hesitate about buying a system that only manages one aspect of its resources.

5.4.3 Decoupling systems

There is a noticeable trend towards the 'disintegration of the integrated LMS[74]. In one sense this is a return to the situation in the early days of library automation when libraries had different systems to manage different functions (typically cataloguing and circulation).

No LMS vendor can develop everything needed to deliver a complete solution and all have established partnerships with a range of companies providing what they view as complimentary solutions, ranging from self service terminals to federated search and the management of e-journals. Vendors also have looser relationships with other providers in the wider 'scholarly' landscape. Speaking from a SirsiDynix point of view Stephen Abram identified them as follows:

> *The big players in my mind are mostly from a North American perspective. Some examples are EBSCO, ProQuest, (Serial Solutions), Gale, Reed (web of science), Google, The MS/Yahoo/ Open content Alliance, MuseGlobal,. Canadian libraries are*

[74] See: 'Taking apart the Library System'. By Ken Chad. CILIP Library+ Information Gazette. 1st June 2007. http://www.kenchadconsulting.co.uk/images/stories/taking_apart_the%20_library_system_1_june_2007.pdf

> *doing digitisation in competition with Google (Allouette Canada[75]). MS has an initiative for open source scholarly publishing.*

The current phase of 'dis-integration' really began when companies that did not have an LMS (e.g. Serials Solutions) began to address a critical library problem (the management of e-journals) ahead of LMS vendors. Along the way they have had to find ways to integrate with the various LMSs on the market. LMS vendors have also realised that new standards for interoperability could enable them to sell their 'add-on' products to more than their own LMS customer base.

In a relatively slow moving market for the core LMS, this offers a significant way to grow their businesses. Nowadays most new product offerings are designed to work with a variety of LMSs. However the level of integration is still below that of the traditional 'core' modules (such as Circulation or Acquisitions) and progress in interoperability remains slow. Libraries have begun to use web services to integrate their LMS processes with university portals or admin systems but this remains the exception rather than the norm.

The walls surrounding the *core* LMS remain tightly guarded. It is only with the OPAC that progress has been made and even here integration goes little beyond search/discovery functionality with users needing to access the 'native' OPAC to use functionality like placing requests or viewing their account details. The vendors were asked about their attitude to partnerships with other LMS vendors. Innovative were typical.

> *No. Our aim is to provide best of breed across the whole range of library needs. Of course we don't stand in the way of libraries that wish for example to add AquaBrowser or Endeca. However we want to provide solutions that are better. To date, we haven't seen a big groundswell for these types of products…for all of the press and interest it has received; products like Endeca haven't made a major dent in the marketplace.*

In ExLibris's view, 'there are practical and pragmatic barriers to a genuine and totally open 'best of breed' approach.' Talis is currently alone amongst the vendors in advocating a different approach. With a relatively small and geographically bounded customer base, it has perhaps less to lose and more to gain from the more open market that such a decoupling might achieve and sees opportunity for standards to open up the market. Nevertheless it has not yet opened up its core LMS. The possibility of the cataloguing or acquisitions module from one LMS vendor interoperating with the circulation module of another (common in the early days of library automation in the 70s and 80s) still seems some way off. Not even the Open Source LMS systems seem yet to be taking that approach.

From a library perspective there are certainly real gains to be made. If the LMS vendors themselves are not able to deliver on core interoperability, then perhaps there is potential for others to help open up the market (and hence reduce costs) through providing standardised web services schemas. Certainly doing more to decouple the OPAC would be a starting point to bring economies (potentially at least) to the library and improved services to users.

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[75] Alouette Canada http://www.alouettecanada.ca. 'AlouetteCanada will aggregate current digitized content in ways useful for Canadians'

There is some track record in this. In 2007 COPAC contributed to the development of a 'community profile' for the NISO Open URL standard to facilitate inter library requests[76]. Perhaps the time is ripe to reactivate the stalled activity first of VIEWS and then NISO[77]. However, the NISO Web Services and Practices working group was disbanded with the statement that:

> *They have determined that while there are future opportunities for standards efforts in web services for library applications, the current landscape is still too early in its development to narrow the focus*[78]

5.5 Engagement with the UK HE community

Talis does not operate outside the UK and Ireland, so UK HE is central to its business. The three global LMS vendors also consider the UK HE market strategic with practices and aspirations similar those in other major markets such as North America.

There are some local UK differences but clearly these have not proved insuperable barriers; for example, in Inter Library Loans where the British Library still has a major central role and the management of 'short loans'.

One characteristic that may have more significance, especially in comparison to the US, is the dominance of state funded provision in UK and the absence of a significant sector of rich privately funded institutions. Dave Errington from Talis commented that this might affect levels of innovation and that this 'means different adoption curves' ass the UK does not have 'the rich institutions that can risk spending on innovation'.

5.5.1 The rules and means of engagement:

Engaging with customers

The vendors have well-established tools and processes engage with their UK customers. The nature of their customer base is changing. Not all are *LMS* customers. For example ExLIbris has MetaLib and SFX customers that use a competitor's LMS. Similarly Innovative has customers that use its ERM only. This makes the customer base less homogeneous.

The classic User Group remains but has been supplemented by other channels. Changes in technology in how products can be developed facilitate customer involvement in the development process itself. Neil Block from Innovative for example said:

> *A key part of Innovative's engagement is with development partners. There is nothing necessarily UK-centric about this, however, Glasgow University is especially notable for its involvement as a dev' partner for ERM and, more recently, Encore.*

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[76] For more detail see 'Request Transfer Message: a Community Profile of OpenURL' http://www.oclcpica.org/content/1409/xsd/RequestTransferMessage_v5.doc

[77] 'Best Practices for Designing Web Services in the Library Context'. By the NISO Web Services and Practices Working Group. NISO. 2006

[78] NISO Web Services and Practices Working Group. http://www.niso.org/committees/Services/Services_story.html

As well as responding to specific ‘enhancement requests’, vendors are aiming to engage at a strategic level. Ex Libris described their customer strategy group in the following terms.

> *They deal with wider environment. They are deliberately not constrained to specific areas where it is felt ExLibris must play in a product sense. That keeps us involved and aware of the wider HE environment.*

Other channels include focus groups, forums and conferences. Talis has opened some of these channels (e.g. its forums and conferences) to non-Talis customers (indeed anyone) and has been actively blogging and agitating in the wider market, acknowledging the ‘Cluetrain Manifesto’ [79] thesis that ‘markets are conversations’. They employ dedicated ‘technology evangelists’ who blog and present at conferences worldwide. Stephen Abram, VP of Innovation at Sirsi Dynix, is also a well known blogger and prolific library conference speaker. The SirsiDynix Institute reaches out beyond customers to the wider domain as ‘an ongoing forum for professional development in the library community. By providing free access to industry-leading speakers and events, our mission is to support librarianship and advance the work of librarians around the world.’ [80]

Strategic Engagement

Vendors therefore recognise that the Internet has not simply changed products and services but also the possibilities for engagement with their customers and the wider market. According to the Cluetrain Manifesto:

> *A powerful global conversation has begun. Through the Internet, people are discovering and inventing new ways to share relevant knowledge with blinding speed. As a direct result, markets are getting smarter—and getting smarter faster than most companies*

The information economy, in which libraries can play an important part, is unthinkable without the web and technologies such as web services. The JISC Information Environment itself is based upon this premise but it is not presented and communicated in a manner geared to influence or engage the vendors. Dave Errington at Talis summed this up as follows:

> *SOA web services are a wider software industry trend that Talis is responding to in order to enable loose coupling of applications. JISC’s attitude is fine but isn’t a motivation. [JISC and SCONUL] are not reaching out to vendors … presumably because they don’t see this as contributing to their strategy? We are all stakeholders. We should be working together.*

The vendors generally observed that the community has not engaged with them as stakeholders. As is broadly the case in the public sector, there is a gulf between simply buying products and services and the possibility of collaborating with the commercial sector as partners, complicated by the range of actors from customers to agencies and funding bodies. ExLibris provided a typical perspective:

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[79] ‘The cluetrain manifesto: the end of business as usual.’ By Rick Levine; et al. Peruses Books, 2000
[80] http://www.sirsidynixinstitute.com/

Does JISC think about how commercial sector could engage with projects? This might lead to improved sustainability. For a commercial vendor JISC projects present a high business risk. Typically commercial returns are very low relative to the investments required, and requirements tend toward the ideal of perfection and dealing with all possible requirements instead of focussing on key deliverables that are 'good enough' and can be refined in use.

However, ExLibris went on to say

There could be a great opportunity to deliver meaningful solutions if there was better working together. This needs a different management style based on real collaboration.

This is evidenced by examples of collaboration at the coalface, where the drivers are not strategic models but rather local requirements. Vendors are actively working with libraries to integrate their LMS products with other institutional systems. At Nottingham the (uPortal based) institutional portal is being integrated with library services delivered through ExLibris's Aleph and MetaLib products. Talis has developed a product called 'Keystone' specifically based on a SOA to enable integration between the LMS and other institutional systems. As Neil Block from Innovative observed:

We work with libraries – these are the customers. We work one level removed from JISC. However, when a customer decides they want JISC IE products/services, then that's when we get involved and we build what they want.

5.5.2 Procurement

An enduring point of engagement is the procurement process. The typical LMS procurement involves a costly, time consuming and complex European tendering process for which libraries may take several months to prepare a dauntingly detailed ITT. Innovative remarked that:

The process can be cumbersome. Many libraries still try to define processes and functionality at a very detailed level in hundreds or pages without appreciating that this does not affect the way a particular LMS works.

Ex Libris commented:

The complex tender process has invaded the decision making process for relatively inexpensive add-on product such as MetaLib and SFX. This makes the whole process unnecessarily long-winded and expensive for all parties. Is this really justified when we are often talking about sub £20K products?

Vendors observed that, for the LMS, the average time from the publishing of an ITT to contract was around 3 months with a further 6 months being taken up in moving from contract to initial implementation. Technology is however challenging traditional approaches to procurement, as acknowledged at a 2006 JISC OSS Watch conference [81].

[81] 'Crossing the Chasm: open source software comes of age'. A report from the OSS Watch conference, Open Source and Sustainability, held at the Said Business School, Oxford, 10-12th April 2006, by Paul Anderson, Intelligent Content. http://www.oss-watch.ac.uk/resources/sustainability06.xml

> *As Jim Farmer said: '<u>Procurement processes have to change</u>…'. This was seen as an issue that requires policy development within the education and public sectors.*

ExLibris observed that:

> *[The purchasing community is] very wary of commercial companies. The needs tend to get expressed in a very detailed specification that seems to be seen as a key instrument of 'controlling' the 'supplier'. This spec' is then controlled by what seem to be endless committees which deliver constant changes of mind. There appears to be a belief that the appropriate methodology should be to create an all-encompassing spec – every possible need without a firm understanding of the business case for the library/institution. Not all 'wants' are business justifiable 'needs'.*

SirsiDynix added:

> *[Requests for Proposals (RFPs)] are an abomination that cost the entire sector too much for very little ROI from the process. They are based on distrust and not on partnerships.*

Innovative commented that there is a noticeable trend to avoid the RFP process in the US. Vendors would clearly welcome opportunity to work with the community towards a better process that is effective, efficient, fair and less costly, although it has to be acknowledged that there are significant legislative and accountability barriers. As Talis commented:

> *We welcome anything that would remove cost and friction (for all parties) from the process. The Core Spec is a start but we are sure more could be done.*

5.5.3 A new paradigm for engagement across the domain

The challenges of a small and mature LMS market characterised by entrenched processes and procedures facing the large-scale global disruptive forces of the web suggest that a new paradigm is required for engagement across the domain. Talis CEO Dave Errington said:

> *[JISC] does have a role to play in our view. Get out and talk to vendors, establish a dialogue based on mutual respect… We need to find a better a way of working …There needs to be a focus on common shared needs … We think there could be value in an HE organisation bringing together the common interests of the community.*

This will not be easy as there are entrenched positions and potential conflicts of interest. The need to address service challenges that are no longer local in terms of domain or geography could however provide the catalyst for engaging vendors as part of the wider information services community. In this respect, JISC and SCONUL can act as brokers in a number of ways, not least as the community considers the realities of what might become 'Library 2.0' and the specification of a new service models through the international e-Framework.

5.6 Summary of Key Points

Key point	Section(s)
Library market characteristics	
For the first time we have a detailed view of the HE LMS market	5.1
The HE LMS market is relatively small and mature Growth opportunities are limited and further consolidation/rationalisation can be expected	5.2.1
The main product direction is towards providing access to, and managing electronic resources	5.2.2
The market is dominated by four main vendors	5.2.3
The last two years have seen big changes in the market characterised by significant changes in ownership, consolidation and involvement from Private Equity investment	5.2.4
Key trends influencing vendors	
Global web-based trends characterised by Google, social networking and Web 2.0 are the market drivers now rather than any narrowly conceived conception of the needs of libraries. LMS vendors are establishing where they can add value in this new information economy	5.3.1, 5.3.2
Web services/SOA is seen as a key enabler of better interoperability but take-up is slow.	5.3.3
The value of libraries aggregating their resources and sharing services in consortia is an opportunity to be explored	5.3.4
User behaviour as manifested in search and other online activity (‘clickstreams’) is potentially highly valuable but remains to be fully exploited	5.3.5
Most vendors see the value of Open source to be in low cost *components* for their own applications rather than in an OSS LMS. One vendor however sees Open Source as next major global development paradigm for all major developments in and outside the library domain	5.3.6
There is more to be done in liberating library metadata to drive innovation in the domain	5.3.7
Product directions	
Vertical search is the next major LMS related development. It is where LMS vendors hope to demonstrate their major value add over Google	5.4.1
LMS and ERM development may converge into a URM (Universal Management System)	5.4.2
Vendors are reluctant to invest in ‘de-coupling’ their core LMS. JISC/SCONUL could look at ways of opening up the market through standards	5.4.3
Vendor engagement with the UK HE community	
New technology is offering new opportunities for open engagement between vendors, their customers and the wider HE market	5.5.1
The JISC and the Information Environment per se are not motivating factors for vendors	5.5.1
Vendors welcome a fuller engagement with JISC and SCONUL as stakeholders rather than simply suppliers	5.5.1
The current LMS procurement process is problematic and the interested parties should work together to reduce costs and alleviate tensions	5.5.2
JISC and SCONUL should work with vendors to establish a new, more open, paradigm for engagement in the domain	5.5.3

Section 6 - Reference Group Feedback

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