

## **Selecting an ILMS for a future you can't imagine**

### Author

Richardson, Joanna, Hopkins, Peta

### Published

2004

### Conference Title

Breaking Boundaries: Integration & Interoperability : Conference proceedings. 12th Biennial Conference and Exhibition. VALA 2004

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## Selecting an ILMS for a future you can't imagine

Joanna Richardson  
Associate Director, Information Access Services  
Bond University Library  
[joanna\\_richardson@bond.edu.au](mailto:joanna_richardson@bond.edu.au)

Peta Hopkins  
Systems and Cataloguing Librarian  
Bond University Library  
[peta\\_hopkins@bond.edu.au](mailto:peta_hopkins@bond.edu.au)

***Abstract:***

*The changing nature of the ILMS selection process is examined in light of factors such as user expectations and behaviour, emerging technologies and standards, and the evolution of new business models. The paper focuses on core ILMS functionalities rather than federated searching and other related products. The authors include a brief discussion of the experiences of Bond University Library in reviewing current options in the ILMS marketplace.*

# Introduction

The library and information sector is in the midst of an era of rapid change. Developments in technology and the associated social changes are presenting new challenges and opening new possibilities. The procurement of a new ILMS is a rare opportunity to take on some of these challenges and realise some of these possibilities. The focus of this paper is how the selection process and criteria have changed in this climate of rapid change. We will concentrate on what are now considered to be core ILMS functionalities rather than federated searching, link resolvers and the like, although the relationship of these kinds of applications to the ILMS selection process will be considered.

## Historical Context

Integrated Library Management Systems—or ILS as they are generally referred to in North America—have been part of the library scene since the early 1980's. Until recently “automated library systems” meant computerising traditional library functions such as circulation, cataloguing, the online public catalogue, acquisitions, and serials check-in, with the library's database as the core element. Cohn, Kelsey and Fiels (2001, p.xv) observe “Systems were fundamentally local, with the emphasis on controlling and accessing resources within a discrete library or defined network of libraries, not on accessing remote databases or library catalogs. Systems were text-based, with no graphics, sound, or multimedia capability. They ran on powerful super-microcomputers, minicomputers, or even mainframe computers”.

Historically libraries automated their functions either by developing an in-house system or purchasing a commercial product. Vendors were kept busy responding to long tenders outlining—in great detail—the desired functionality of every aspect of every task, especially in areas such as technical services. The application software was hardware dependent and so purchase decisions were frequently driven by what hardware platform was preferred by the organisation, eg HP, IBM, DEC. Vendors' hair turned grey trying to demonstrate compliance with specified “response times”. Vendors invested heavily in developing proprietary systems that would outperform their competitors', the operative word being “proprietary”. This was a clearly defined arena in which both sides—client and vendor—knew the rules and how to play the game.

With the early 1990's came two major factors: the advent of networked devices and shrinking organisational / library budgets. As universities—and the corporate world—moved into Unix and Ethernet, vendors either followed suit or lost potential sales by clinging to antiquated technology. The “unbundling” of the application software from hardware meant that organisations could now buy the hardware independently –and sometimes substantially discounted—from other sources. Therefore ILMS vendors lost their profit margin, which had previously helped to subsidise R&D software costs. Dumb terminal connections to integrated library systems were gradually replaced with PCs, which meant that the end-user could begin to connect to the ILMS with their own networked device. The rules of the game were changing and at a progressively accelerated rate.

## Current Environment

The recent and rapid evolution in the past few years of libraries, ILMS vendors and integrated library systems themselves now presents some interesting challenges. With the growing capabilities of today's technological advances into the use of web, digital components and electronic resources expectations have grown (Salter, 2003 p.38). Libraries have to be more responsive to user needs in order to provide services that are better aligned to meet—and possibly exceed—their expectations.

Thorin (2001) writes:

Libraries are important as places—as environments that support learning. It's true that the ways students and faculty obtain their information are changing. Technology has a powerful influence ... But it's also true that academic research libraries are changing to meet user expectations. Libraries are no longer simply warehouses of information that provide access to great printed troves of human knowledge. In today's fast-paced technological environment, libraries are places for students and faculty to collaborate, to find face-to-face guidance from expert librarians, and to conduct interdisciplinary research using both print and electronic resources.

In other sectors too, responsiveness to changing user needs is critical, although the needs themselves might be quite different to those in the academic environment. This diversity will determine what ILMS functions and vendor characteristics will be considered essential for the individual library.

## User Expectations

Libraries need to know their customers and to make use of market research and surveys such as the Pew Internet & American Life project to underpin planning. Balas (Balas, 2002) recommends these kinds of surveys in the quest to attract potential library patrons: "We need to design and develop library services that use the Internet effectively to serve the needs of the new technically competent generation of potential library patrons." The Pew Internet Data Memo "College Students and the Web", for example, contains information about the kinds of web sites college students use and their e-commerce habits (Rainie, Kalehof & Hess 2002).

Significant numbers of library users, especially in the academic environment, have grown up with the Internet. Jones (2002, p.2) reports that "For most college students the Internet is a functional tool, one that has greatly changed the way they interact with others and with information as they go about their studies." They use it for communication via email, instant messaging and online chat for both social and educational purposes, entertainment, file sharing, shopping. The report states that the "Internet has changed the way students use the library" (Jones, 2002, p.13). Computer use within libraries has been predominantly for commercial search engines rather than university and library web sites. This trend has been coupled with reported decreases in traditional scholarly citations in student research papers. Amongst school students who go online every day "the ease and speed of online research [are] their main reasons for relying on the Web instead of the library." (Lenhart, Simon & Graziano 2001, p.4)

Therefore in the selection process for an ILMS, it is important to address how to maximise customer access to the full range of resources in which libraries already have a significant financial investment. The ILMS is a potential key ingredient in ensuring customer awareness of the quality, relevance and appropriateness of information resources provided.

## **Library Expectations**

The environment in which university libraries operate both nationally and internationally has been undergoing rapid change as a result of a number of factors, which include: impact of technology, changes in approaches to teaching and learning, changing demographics of the student population, and competition amongst universities. Trends in publishing worldwide, in particular the increasing electronic availability of scholarly publications and the increased cost of acquiring library resources and copyright, have also had a major impact.

Budget constraints are a determining factor. Institutions are looking closely at their IT investments, and holding them up to the same scrutiny as other deliverables, i.e. looking for return on investment (Devaraj & Kohli, 2002, p.3). When libraries have to retrench staff, they look for tools that reduce costs while still enabling the library to maintain previous service levels. Roland Dietz (Kenney 2003, p.39), in a recent interview, makes an important point: "... every time I speak with a library director one point is stressed: they are looking for efficiency in the back office functions so that people can be routed to be more with their users".

Therefore as libraries provide new levels of service for customers, the focus has shifted to those tools which can document and support these. The development of statistical measures for relevant electronic services, for example, becomes critical—given the increasing access to resources by remote customers. In addition the fact that libraries are part of a larger network of local and remote library-related systems and services leads quite logically to a discussion of integration and interoperability.

## **Interoperability**

One of the focal areas of current development in information technology is increased interoperability. ILMS development is no exception. Carl Grant of VTLS Inc., for example, has said, "The functional integration of systems is absolutely where we are headed. People are going to want to hook up different pieces of software and expect them to work" (Kenney 2003, p.38). The possibilities of interoperability with a wide range of external enterprise systems open the way for increased efficiencies and enhanced user experiences.

Libraries are typically part of larger organisations with suites of products for managing all kinds of data such as finance, human resources, students, learning objects, documents and more. Logan (2002, p.126) discusses the problem of closed systems and the difficulties of upgrading legacy applications to share and act on data received across entire corporate ecosystems. The answer is to replace these systems with "new ones that can talk to each other in a common computer language – intelligently move information and data from one application to another." The goal is to evolve a "flexible ecosystem information network".

The University of British Columbia (2003, p.31) outlines briefly in their RFP the current campus-wide strategy to move to an online environment where the university's

administrative, teaching and research activities are supported by systems that interact with each other in a “dynamic, real-time mode”. Initiatives in this strategy include a portal, campus-wide login, consolidated billing and ID card. These initiatives demonstrate the drives for both increased efficiencies for “back-room” processes and for their users’ convenience. The single campus-wide login is a dream many of us are keen to realise. Keeping track of passwords and authenticating repeatedly is a major irritant in the way we do our jobs and undertake study and research today, distracting us from our tasks and trains of thought.

Undoubtedly the key feature that librarians want in a system is a single point for data entry. The idea of a single point of data entry is a very attractive one, and an environment that allows a user to carry out a key change in one place and have it manifested in related systems in real time is clearly going to save time and reduce the incidence of input errors or data variation due to lag times with batch processes.

Logan’s (2002, p.126) “flexible ecosystem information network” also paves the way for users to be able to customise their own online environment. The users would ideally be able to create their own online “workspace” where the systems and services that they require are presented in their own personal view.

In the academic arena, such customised environments would reflect the requirements of different sets of users. For library staff, access to local systems for finance, library records and learning platforms such as Blackboard might be served up with remote systems for online ordering, bibliographic utilities and online work tools. The student’s view might comprise learning platforms, access to personal library records and exam results, electronic transactions with the cashier’s office, a federated search tool that sits atop a variety of their favourite metadata repositories and full text sources, and a suite of office applications.

For the ILMS, interoperability means interfaces for different kinds of systems at the institution level and interfaces for similar systems at the inter-organisational level. Resource sharing and collaboration could be taken to a whole new level. For example there is interest in establishing interoperability with circulation-oriented functions through the NISO Circulation Interchange Protocol.

This Standard is intended to address the growing need for interoperability among disparate circulation, interlibrary loan, and related applications. Interoperability between self-service applications and circulation applications, between and among various circulation applications, between circulation and interlibrary loan applications, and between other related applications, has been the principal focus of this Standard. (N.I.S.O, 2001, p.6)

## **Integrated Library Management Systems**

Just as libraries are evolving, the traditional concepts as to what constitutes an integrated library system are also evolving rapidly. Today’s ILMS has been described as a “multi-function Web-based multimedia content information management system, generally built on a standard relational database structure” (Deddens 2003). Regardless of definition, an ILMS must be able to handle many formats and provide a variety of functions including manipulating electronic data, searching on the Internet, and facilitating resource sharing. It must include a web-based OPAC, with basic patron enablement features such as reviewing

checkouts and online item renewal (Breeding 2003, p.55-6). Functionality and flexibility are key elements in a successful ILMS (Salter, 2003, p.11).

ILMS products are expected to offer solutions for the management of electronic resources, which include e-journals, e-books, online indexes and other databases. Management functionality is required to address licensing, metadata, interoperability with link-server software, integration with the OPAC and the user interface.

The ILMS can function as a vital measurement tool to monitor overall library activity. The current generation ILMS offers a set of built-in statistical reports most commonly required for measuring routine operations. Most systems also include ad-hoc reporting capabilities that permit staff to access a wide range of statistical information on activity levels and collection usage, which assists in more thorough planning.

Because the ILMS will be a major component of a much larger network of local and remote library-related systems and services, it is imperative that the system has adopted key standards for library data and interoperability with other systems. The continued growth of networked-based services and initiatives emphasises the importance of compliance with established standards, incorporation of new standards, and support for emerging ones. A vendor's active participation and support for the development of standards has both short and long-term benefits for its customers.

## **Legacy Systems**

While vendors may assure their customers that they will support outdated systems indefinitely, the reality is that outdated hardware platforms and operating systems will actually force libraries to update their "legacy" ILMS.

In his annual report on library automation in North America, Breeding (2003b, p.52) reports:

Migrations from legacy systems will accelerate. In 2002, the move away from outdated systems fueled sales in the library automation market. Companies with legacy systems pulled out all the stops to retain customers and entice them to migrate to their replacement systems. ... Even with this shift [to new products], maintenance costs on integrated library systems (ILS) supply the most constant fuel for the automation economy. Companies reap an average of 39% of their overall revenue from system maintenance, and the size of the installed customer base has an enormous impact on the financial health of a company. Thirty-two percent of revenue came from the sale of systems, 13% from non-ILS products, and 6% from hardware. Miscellaneous revenue accounted for the remaining 10%.

Libraries which are currently burdened with legacy systems do have some options: they can now purchase a library portal and interface it with the legacy system, thereby enabling integration with electronic resources. The authors will address options for such libraries in the section on business models.

## Open Source

One of the newer trends is the adoption of open source integrated library systems. For example, Koha, which originated in 1999, is generally considered to be the first open source library automation system. Seattle's Learning Access Institute is developing an open source automation system called the LearningAccess ILS (previously known as OpenBook). The LearningAccess ILS offers three major modules: OPAC, circulation, and cataloguing. A full-fledged acquisitions module is currently in development. Avanti's MicroLCS is not in use at any library, as its source code has not yet been released publicly. According to Breeding (2002b), the open source automation systems "offer only promise and potential and are not yet a viable option for a run-of-the-mill library."

## Business Models

Historically it was the combination of core software functionality combined with the hardware platform—and price of course—which underpinned the selection of an ILMS. Nowadays the medium and long-term strategic objectives of the library and its parent body play a major role in this process. Considerable effort is expended in determining those factors which will define the most effective business model for the organization.

## Decision Paths for Standalone Systems

For those libraries which currently have an ILMS on site, there are several options to consider if they wish to continue with the "standalone" model:

- Upgrade existing system to vendor's next-generation product
- Upgrade and complement with 3<sup>rd</sup> party products
- Replace with new fully functional system (in terms of site's objectives)
- Replace and complement with 3<sup>rd</sup> party products

Some libraries are staying with their current vendors but upgrading to their ILMS company's next-generation product because frequently this is the least expensive approach to a new system. It eases the effort of data migration and ILMS companies will often offer deep discounts to existing customers (Cibbarelli, 2003a, p.6). In other cases, libraries choose to fully replace the existing ILMS because they are unhappy with the vendor and/or system, the company's development path does not fit the library's strategic directions, or it actually costs more to retain the current solution than to replace it (RMG, 2002, p.2).

Bond University has explored options in addition to the standard local "install on site", which can expose a library to high capital and ongoing direct costs. Other product solutions include partnership, application service provision (ASP) and consortium.



## **Partnership/Associate Library**

In this model, the library joins an existing host site as an “Associate Library”. Both libraries share the same system. The success of this arrangement—apart from obvious political implications—is dependent upon the ability of the ILMS software to cater for the needs of both parties. In the case of one vendor’s system, two completely separate databases reside on the same server. There is no automatic sharing of data between the two databases. However, users may simultaneously search the two systems. The “partner” library benefits from a very powerful ILMS, without having to take care of the day-to-day server management, handle the upgrades, backups, etc. At the same time the library has complete control of OPAC customisation and other system settings for its data.

In the case of another vendor’s system, some data files, e.g. patrons, have to be shared. The ILMS is not suitable for a discrete, identifiable OPAC. If both libraries jointly hold titles, the system cannot mask the host’s holdings. It can however sort results so that the associate library’s holding(s) appear first. In short, the associate/partner library potentially appears more like a branch library of the host institution, which may not suit the strategic objectives of the former.

Partnerships are not limited to library-to-library models. Vendors are entering into partnerships with libraries to develop joint projects. For example, Innovative Enterprises are developing a Linux option in partnership with the Library of the University of Technology Sydney (Innovative Interfaces, 2003).

## **Application Service Provider (ASP)**

The term ASP, or Application Service Provider, is used for companies that lease software, accessible via the Internet, to remote sites; customers may pay on an annual or per-use basis. Applications delivered via this means range from enterprise resource planning to messaging to medical practice management. While the popularity of ASPs has been growing, library managers often do not consider investigating the possibility of an ASP model for delivery of an ILMS (Dzurinko 2000). And yet, in North America and Singapore for example, several ILMS vendors offer this option.

In reviewing a recent publication by Joseph Matthews, Plum (2002, p.337) summarises the advantages of ASP technology:

... it permits the organization to focus resources on core issues rather than on information technology (IT) maintenance concerns. It offers continuous access to the latest technology. It permits libraries without many IT resources to get into the technology game. It reduces the time to implementation. It gives access to a wider range of functions and services than might otherwise be possible. It scales easily. It reduces (in theory) the total cost of IT ownership, and gives greater predictability to IT costs, which are often regarded as a budgetary sinkhole. It reduces IT staff needs, and simplifies IT budgeting. It may even deliver better service.

These need to be weighed up against the fact that the outsourcing of library services can be a very sensitive issue. Perceived lack of control of resources, potential inability to customise, loss of control over IT support, reliance on an Internet Service Provider, and privacy issues may be major deterrents.

## **Consortium**

This refers to any local, state-wide, regional, or interstate cooperative association of libraries and/or allied organizations, eg museums and archives.

According to Breeding (2003b, p.54-5), while new consortia are not being formed in the US, consortia sales are growing. Acquiring an ILMS through a consortium potentially saves libraries money, compared with the alternative of each library supporting an individual installation. There are also savings through shared systems support, cooperative cataloguing opportunities, and other areas. These need to be balanced against the reliance on an external consortium for hardware and support, reliance on external infrastructure for data traffic, requirement to fit with consortium priorities, limited customisation and potentially limited flexibility.

Cohn, Kelsey and Fiels (2001, p.73) recommend that “in many instances, the library may be best served by first developing its priorities and requirements, then evaluating network membership against these, in effect treating the consortium as if it were a vendor.” This approach could assist the library to better assess the relative advantages and disadvantages of a consortial arrangement.

## **Selection Methodologies**

Measuring the payoff of the investment in a new ILMS may include cost-benefit analysis, return on investment, efficiency and quality measures, and the value to the customer. “...if the customer is satisfied ... it will lead to greater loyalty and long-term retention” (Devaraj & Kohli, 2002, p.8). For academic institutions, customer service and other teaching and learning and research related objectives are important. Indeed, for most libraries, continued funding and future success is dependent on good customer relations. So it makes sense to build into the selection process criteria that reflect the advantages and benefits to the customer, not only the circulation and OPAC services with which customers interact directly, but the flow-on benefits from improved service levels achievable in other “back-room” processes.

That being said, the selection process is not a simple matter of deciding what’s best for the customer. “An Integrated Library System (ILS) is a complex, multi-module beast, making it exceedingly difficult to distinguish between one ILS and another. From 50,000 feet, they all look alike” (Salter, 2003 p.11). So how are they distinguished?

An early and vital consideration in the process is the alignment with the organisation’s strategic objectives. The process is likely to be long and will require substantial staff resources, so it is important to ensure that time and money are not wasted evaluating low priority features. Strategic objectives at the library and wider organizational level must be considered to achieve maximum payoff in the investment. Logan (2002, p.31) cautions that successful strategies must be organic, they need to be “changed as market conditions change or as the organization better recognizes its actual abilities to execute its current strategy”. The idea of an evolving strategic plan works well with a long selection process. Over the course of the project it is probable that new technologies, features and standards will emerge that may have a defining impact on the selection process.

Familiarisation with the current ILMS market is a relatively easy task given the wealth of literature available on library automation. Surveys such as Cibbarelli's (2003a, b, c) series on the ILMS market place and the recent Council of Australian University Librarians ILMS survey (Maquignaz, L. & Miller, J. 2003) offer valuable information to identify commercial products best suited to the library. Before heading off down the request for proposal (RFP) path, narrowing the field by targeting a selection of systems could be a worthwhile activity.

The RFP process is a time-consuming and rigorous exercise (Kirby & Wagner 1999; Kenney 2003). In the past, when proprietary, legacy systems arose, the RFP offered a tool for libraries to ensure that critical functionality and performance would be met by a new system. As technology has changed and the rate of change has accelerated, the RFP process is being questioned, adapted or replaced with something simpler. Mark Ludwig, University of Buffalo, described the RFP process as horrendous. "It's horrendous to write them, ... read them, ...respond to them" (Kenney 2003, p.39). From the time an RFP is written until the time a system is selected up to two years may have passed. With the rapid pace of technology development, specifications in the RFP may be outdated even before implementation commences. Recent trends point to shorter RFPs that focus more on the areas of digitization and portals and considerably less on traditional core functionality. In these cases, some other methods must be used to evaluate systems functionality.

Vendor demonstrations of their software are often the first opportunity to see new systems in action. With the wide-ranging functionality of today's systems, getting an overall picture of how it works can take a considerable amount of time. Some places have allowed up to three full days for each vendor (MnLINK Vendor Evaluation Team-2, 2000). Kirby and Wagner (1999) suggest that a flexible format for the demonstration has some important advantages. The useability of the system can be emphasized along with special features that might be of particular interest. Salter (2003, p.11) states that "anticipating additional ways [the system] can be used saves purchasers from long-term mistakes and expensive add ons...". Opportunities for additional, future uses of the system can be identified during vendor demonstrations by getting the vendor to "show us", rather than prescribing how the task must be done. The use of previously developed "scenarios" could be employed in these cases. For example, the vendor could be asked to demonstrate how to place an order for an item required as course reading and where an academic staff member wishes to have a hold placed on the item so as to view it before it goes into the course reading collection. In this case several interrelated functions might be called into use, mirroring how tasks might be carried out, rather than focussing separately on the ordering, course materials and reservation aspects.

Evaluation criteria (and their relative importance) for functionality still need to be established prior to the visits, and some method of recording observations and ratings is essential for future comparisons. A list of questions to clarify issues or to probe further about essential functionality arising from an RFP response is a useful tool in the evaluation process.

On-site visits to customers of prospective vendors are good opportunities to see the system functioning in a production environment, one step close to the customer and the reality of day-to-day operations. This allows a better understanding of the operation of the proposed systems (MnLINK Vendor Evaluation Team-2, 2000) and the opportunity to reconcile the vendor and user views of proposed systems. Waller (2003, p.59-62) provides a sample agenda and topics for consultation with customer libraries to assist in making the most effective use of these visits.

## Bond Experience

In mid-2002 a team was commissioned to review our current system and investigate alternatives as part of the University's strategic planning process. Using the Balanced Scorecard framework (Cribb, C. & Hogan, C. 2003), the Library derived the following key criteria for a replacement system:

- Academic library focus
- Good customer support
- Excellent MIS functions, eg reports, system administration and statistics
- Interoperability with other on-campus systems
- Demonstrated ability to respond to changing technology, eg new interfaces
- Demonstrated financial stability along with commitment to Australasia as a customer base

After undertaking market research, the team identified those major vendors in the tertiary education sector that it wished to consider. Being a private institution, the University was not constrained by any tendering obligations.

With the assistance of the University's Information Technology Services, the team developed an RFI (Request for Information), rather than an RFP, since the Library was not yet in a position to go to tender. The RFI focussed on systems and operations, i.e. those technical aspects that could not be easily viewed/measured either in a site visit or in discussions with a vendor. Given the apparent full functionality of the systems being considered, the Library was not interested in the micro-functional RFI/RFP models from the 80's and early 90's. Therefore team members developed worksheets—based on similar work done at Harvard, MIT and UNSW—for each of the functional areas of the application software. These were then used during vendor demonstrations and site visits, but were not included in the formal RFI document.

The technical requirements for on-site vendor demonstrations presented various hurdles - a bouquet to the vendor who brought the whole server, database and clients on a laptop. Any seminar room with a projector, or large screen monitor was very easy to provide. Rewriting rules for network access was more problematic. Difficulties in establishing connections to remote servers meant lost time, or rescheduling the visit and extra work for our IT Services. Despite requests for full technical requirements well before the visit, configuration data for access through the University firewall was consistently inadequate. There appeared to be incomplete communication between the sales and technical staff and little understanding of the security requirements of an academic institution.

Bond staff appreciated the supply of additional documentation (not just the glossy brochures) by vendors, especially where this documentation contained screen-shots of the product in action. On a visit to one site, Bond staff was shown a CD-ROM designed for existing customers that showed new features of the ILMS. The vendor promptly provided copies of these cd-roms when requested. These served as useful reminders when comparing system functionality long after the demonstrations.

The availability of Web OPACs makes it easy to check out basic functionality of many existing customers without having to visit them all in person. However, the challenge with

this kind of access is determining what parts have been customized, or turned off, or determined by the constraints of the underlying system. There are some very innovative customers who are enhancing their OPACs with features that are not part of the out-of-the-box product. Additionally the features that require authentication cannot be assessed by the surf-in user. Follow up by phone and/or email is essential to clarify these kinds of issues.

Based on the evaluations carried out during visits and demonstrations, independent assessment of web OPACs and the responses to the RFI, a shortlist of options was created and outstanding questions or issues listed. This list grew and transformed over time, creating the focus of follow up work via meetings, telephone calls and email communication with other libraries, organisations and the vendors. As more information was collected our path became clearer. We were very pleased to find that the library community continues to be most helpful by responding quickly and frankly to enquiries and by their hospitality in accommodating visitors.

We had initially targeted the major vendors in the academic sector because they could deliver the functionality required by university libraries. Therefore instead of concentrating on day-to-day processing, we could focus on how these systems—in the context of the business models discussed in this paper—supported our strategic priorities. A SWOT analysis along with a comparison of long-term costs to determine return on investment was the principal tool used to produce a shortlist. At the time of writing the Library is in the process of negotiating the preferred solution for its future requirements.

## The Future

In questioning the future role of the library, Sommers suggests that libraries are and will continue to be in competition with the Internet. “It's a battle not for the people our age but for those people who are five and six years old. They're going to grow up with a whole different perspective. The future of libraries 20 years from now is being set today” (Kenney 2003, p.40). Roha (2000) provides a vision of the Internet future, which is characterised by pervasive computing—with the PC taking a backseat to gadgets, wireless connection round-the-clock and highly personalized web services. She says that this may take some time to be realised, but the technology already exists.

Major ILMS CEOs have recently indicated that some of the clues to innovation or direction that they follow include companies such as Amazon, Oracle, Sun, IBM, Microsoft and W3C; the service industry and the entertainment industry, especially technologies in gaming (Kenney, 2003). Neither libraries nor system vendors can independently see the future. Joint development efforts might ameliorate the pressure to imagine, let alone plan for, the future.

Given that the ILMS selection process and implementation require a large investment in time and resources, it is not feasible for libraries to support this kind of activity too often. In addition it may take some years before the potential of the system is fully realised. It makes sense then for the library to retain the ILMS for a considerable number of years to maximise the return on investment.

The CAUL ILMS survey lists university libraries which have been with the same vendor for up to twenty years (Maquignaz, L & Miller, J. 2003). While twenty years may be too long a span to consider in future-proofing ILMS planning, the selection of a responsive vendor with

vision and the capability to sustain research and development will position the library optimally for an unpredictable future.

## **Conclusion**

Major changes in the procurement of an ILMS include the shift of focus from detailed micro-functionality of ordering, cataloguing and circulation towards the customer service aspects and customer empowerment features of the system. Along with this shift in focus is a redefinition of what the “core” features include. The proliferation of third-party interoperable products has assisted in this redefinition by giving libraries options for managing various business processes. In some respects this makes the decision-making process more difficult, but the library has choices and the benefit of being able to choose a solution that meets its unique requirements.

Libraries are no longer selecting an ILMS for a future in 10 to 20 years’ time that they cannot possibly imagine today. Instead they are choosing a system to support their current business practices, with an architecture capable of evolving to meet new functional requirements, and importantly a vendor with demonstrated ability to achieve that evolution.

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