CONZULSys project: a model for university library collaboration in New Zealand

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Abstract:
CONZULSys was formed under the aegis of CONZUL (Council of New Zealand University Librarians) in a climate of increasing collaboration and the need to provide an efficient, cost effective library service to New Zealand university students, staff and researchers. The consortium began with four members – Auckland University of Technology, University of Otago, University of Waikato, and Victoria University of Wellington - for the joint purchase and operation of an Information & Resource Access Management System (IRAMS) to be managed in a hosted environment. Progress in implementation and future development of the consortium are outlined.

Background

CONZULSys is a consortium of four university libraries in New Zealand that was formed under the aegis of CONZUL (Council of New Zealand University Librarians) to investigate a shared library system. The current members of CONZULSys are the libraries of Auckland University of Technology, University of Otago, University of Waikato, and Victoria University of Wellington. This represents half of CONZUL, which is composed of the University Librarians of New Zealand's eight universities. CONZULSys is aligned with the objectives of CONZUL, which are to:

- Provide leadership on library and information issues

- Improve access to information resources fundamental to the advancement of teaching, learning and research

- Work together on common issues which no one organisation is able to accomplish by itself

- Strengthen and extend alliance with other national and international organisations

Endorsement of the CONZULSys project was provided by CONZUL at its meeting in November 2001.

The 'Big Picture'

A significant influence in the establishment of CONZULSys was "The Big Picture" report, which was running concurrently. Helen Renwick, a former University Librarian at Massey University, was the consultant who undertook this project. The report was presented to both CONZUL and the New Zealand Vice-Chancellors' Committee and it looked at opportunities for potential areas of closer collaboration among New Zealand university libraries. The goal of the "Big Picture" project was:

"To maximise the benefit to tertiary education and research from the total investment in New Zealand university libraries through closer collaboration." (Renwick, June 2002, p.6)

It included a major section on the potential for a shared library management system. A specific recommendation was "that the university libraries implement common system software as the opportunities arise".

The benefits suggested (Renwick, June 2002, p.27) were that it would:

- Maximise interoperability between library systems

- Facilitate collaboration

- Minimise maintenance of interfaces

- Strengthen systems staff knowledge, encourage best use

- Assist service to users at other universities

- Promote unity

- Improve disaster recovery

Other than the Shared Systems Project the range of collaborative initiatives that CONZUL agreed to evaluate included:

- "Shared technical services such as cataloguing and acquisitions

- Coordinated collection development policy with distributed selection

- A centrally managed store for low use materials

- Centrally managed acquisition and access management of electronic materials

- Hosting of selected electronic databases within New Zealand

- Creation of a distributed electronic collection with seamless access to unique New Zealand resources

- A union catalogue from the libraries' catalogues either separate from or part of the National Library's Te Puna database

- Resource sharing based on the union catalogue allowing patron-initiated interloan requests

- Reciprocal borrowing arrangements

- Joint development of subject portals for specific user groups, such as medical researchers" (CONZUL, March 2002)

It was envisaged that many of these initiatives would be facilitated by the availability of a shared library system.

An opportunity arises

The opportunities that Helen Renwick referred to were already evolving at the beginning of 2001. The CONZULSys Shared Systems Project had its origins in a meeting of CONZUL in March 2001. At that meeting, it was realised that the Auckland University of Technology (AUT), the University of Otago, and Victoria University of Wellington were all considering the replacement of their library systems before too long, and that Lincoln University and the University of Waikato were also considering the same possibility. AUT and Otago had already gone as far as issuing Requests for Information (RFIs).

Members agreed that a consortial approach to the purchase of a new system could be appropriate, and this was confirmed at the meeting in June 2001. At the same meeting, it was agreed that CONZUL should examine the broader possibilities of working collaboratively, and this led later in the year to the establishment of the Big Picture Project. From the beginning, it was envisaged that the areas of collaboration that would be proposed by the Big Picture Project would be facilitated by the availability of a common library system in at least some of the university libraries. The possible inclusion of all or most of the university libraries at a later stage and a subsequent extension of the consortium to other tertiary and research libraries in New Zealand was also a key element of the thinking. Further, there was the potential for a long-term goal of enabling access to a single virtual New Zealand-wide tertiary and research collection.

CONZULSys vision

Early on CONZULSys agreed that it was looking at something bigger than just a library management system. The CONZULSys Steering Committee was guided by the assumption that the aim was not to simply replace existing library systems with a shared and improved

version but to respond to the need for something that was fundamentally different. This expansion in focus was signalled in the shift from an integrated library management system (ILMS) to the much broader Information and Resource Access Management System (IRAMS). In using the term IRAMS, CONZULSys was including the ILMS and the full suite of software required to access and manage licensed electronic resources, provide federated searching and deep linking at the digital content level and provide support for the storage, management and access to locally created digital objects.

The vision statement agreed to by the consortium was:

> *"To use and develop the best enabling technologies in a pioneering collaboration which will enhance the innovative delivery of library and information resources to the New Zealand tertiary learning and research community"*

Specific CONZULSys business objectives were to:

- Provide a common interface with familiar functionality for the benefit of Library patrons and the New Zealand research community

- Maximise the intellectual investment involved in purchasing and implementing new systems

- Provide a strong development group to work in partnership with vendors

- Purchase a system and develop an implementation approach that facilitates the smooth implementation of the chosen system for other institutions that wish to join the consortium in the future

Consortial approach

In February 2002 the newly established CONZULSys Steering Committee made a key decision concerning the purchase and management of a common software system. This was to purchase the software and run separate databases in a shared environment rather than common software run on individual sites. The decision then necessitated a shared "hosting" environment for hardware and services and was central to the RFPs sent to vendors for both the IRAMS and the hosting. The establishment of a common hosted environment was seen as facilitating the development of standardised data management and system implementation standards and providing economies of scale savings as the consortium grew. The decision on shared hosting, which was approved by the University IT Directors, was very significant for the project. Although similar models had been adopted internationally in the library community, it was new to New Zealand. However where it differed from other models was in the decision to outsource to an external host rather than having one of the member institutions host the system on behalf of the consortium. This would require the software vendor to establish a strong working relationship with the host as well as the participating libraries.

The consortium recognised that the member universities were embarking on an ambitious programme of change. Consequently it was looking to build mutually beneficial relationships with the selected host and IRAMS vendors. This would reflect both the consortium's reliance on the experience of the vendors in implementing a hosted systems environment, and the leading role that the vendors would play in the direction of library systems in the New Zealand tertiary and research community.

The consortium was also aware that other tertiary education libraries were watching for the outcomes of the RFPs with interest and might possibly wish to join in the consortium in the future. The take-up of this opportunity would be partially dependent on the reputation gained for ease of use of the new IRAMS in the hosted environment.

Business environment

It was recognised that university libraries, in common with other institutional libraries, were operating in an environment characterised by:

- exponential growth in the amount of information now available

- a substantial decline over recent years in the purchasing power of the New Zealand dollar

- increasing expectations on the part of users with respect to electronic access to a wider range of material.

The universities were also operating in a political environment that had seen student fees held at 2000 levels and where, very recently, the Government had indicated that it wished to see reductions in fees charged to students. The EFTS-based government funding regime had also fostered unsustainable competition between tertiary institutions, seeing a proliferation of often similar courses all of which have resource implications for libraries. However the Government had recently introduced its Tertiary Education Strategy 2002/07, which pointed to greater collaboration and rationalisation within the tertiary sector. In particular the document referred to the opportunity for "... shared management and other services; mergers and joint ventures; new and innovative links among tertiary providers to build critical mass around areas of strength ..." (*Tertiary education strategy 2002/07*, May 2002, p. 19).

In summary, the consortium was formed in an environment which was now encouraging:

- a climate of increasing co-operation and collaboration

- the need to provide an efficient, cost-effective library service to New Zealand university students, staff and researchers

- the long-term goal potentially of enabling access to a single virtual New Zealand-wide tertiary and research collection, reflecting the developing e-learning delivery environment.

It might be said that one of the consequences of such collaboration could be a loss of diversity of products in the market place. However the tertiary education market is only one library sector in New Zealand where collaboration is being promoted, and there are other sectors for the competition to target.

Business case at each university

Having accepted the business environment across the consortium, each university library had to present a business case to its own institution in order to secure funding. This differed from the situation in other countries where often the funding was made available on a state or national basis. At Auckland University of Technology (AUT) the following points were made in the business case.

In the 1980s the case that was made for integrated library management systems (ILMS) was to automate existing library functions and to integrate processes such as acquisitions,

cataloguing, circulation, short loan (reserve) collections and of course the online catalogue. A further level of integration occurred with the inclusion (with varying degrees of success) of digital library resources into what had been designed as an online catalogue of primarily print resources. As the proportion of digital resources that are managed and accessed by university libraries has grown, two new levels of integration are required:

- Integration across different university libraries of the management of resources that they access in common (primarily digital) or are able to share (primarily print)

- Integration within universities, of information resources with the learning environment. With the growing availability of digital library resources, information provision and tuition can now be brought together at the stage that the curriculum is designed - by building the library into the courseware

The first level of inter-university integration will be greatly assisted by the consortium approach of a number of university libraries selecting and jointly managing the system. The return on investment arises both from the sharing of costs, expertise and development, but also from the capacity to more effectively share information resources. It will be further enhanced by being able to bring in appropriate participants, other than the initial four members in the consortium.

The second level of intra-university integration offers a much more far-reaching return on investment. This will be at the university-wide level, not just for the library. More importantly it has the potential to change the learning paradigm. The interoperability of library systems and learning technology becomes a key factor in the success of a mediated or managed learning environment (MLE). Each system must be based on technical architecture that represents the needs and behaviour of the learner.

AUT accepted that the IRAMS would be a significant building block in its e-learning initiatives. After similar business cases were accepted at each university, and on the last working day of December 2002, the Vice-Chancellors of the four universities signed the software contract with Endeavor Information Systems.

Operating principles

CONZULSys members agreed to create, encourage and grow a culture which would:

- Value the goals of its member libraries:

  The members of CONZULSys, while remaining autonomous, will collaborate to maximise benefits to its members and to the nation. In an increasingly global world, CONZULSys recognises the need for sectoral and national strength.

- Recognise and acknowledge common good contributions:

  Access to the combined resources of the consortium has benefit for all members, their libraries and patrons. All members participate in and contribute to the whole.

- Favour open communication, with "no surprises" on material issues:

  Any issues or disagreements are aired within the consortium rather than outside, to continue to develop trust amongst members. Better, sustainable decision-making is regarded as coming from healthy dialogue.

- Treat its members as equal partners within the consortium:

CONZULSys is characterised by democratic decision making processes, governance and equitable cost sharing methods.

- Foster a climate of responsible experimentation for business efficiency and service to patrons:

  CONZULSys encourages libraries and library staff to revise and redefine current IRAMS practices in line with changing needs, employ co-operative actions to help overcome inertia, to grow and develop library operations.

- Provide opportunities for shared problem solving amongst library staff:

  CONZULSys encourages the staff of its member libraries to do together what they would not be able to do on their own, extending and developing their capacity.

- Maximise interoperabilities:

  CONZULSys will work to ensure standards-based, open and scalable information systems are employed to facilitate inter and intra institutional data exchange.

These principles have proved their value and served CONZULSys well during its deliberations.

Significant decisions for the project

In any project, a number of decisions are made which have a particular significance for the way in which the project develops. The CONZULSys project is no exception to this and those that stand out are:

Acceptance of AUT's and Otago's RFI short-list

In the second half of 2001, AUT and Otago independently chose the same four short-listed vendors from their RFI processes and, in order not to hold them back, the others agreed to accept this outcome as the starting point for their involvement. This was a defining moment for the consortium, establishing a climate of trust from the outset.

Sharing of costs

The allocation of costs is a frequent cause of argument in consortia, with some reportedly changing the formula almost on an annual basis. A good deal of time and energy could have been devoted to this, but it was agreed to adopt an initial allocation mechanism on the understanding that the formula would be revisited after a year or two of use of the system. The formula settled on is 25% of the cost spread equally between the four members, 50% spread on the basis of EFTS, and 25% based on bibliographic records. The expectation is that once the data are available there will be an element of usage of the system built in to the formula.

Professional project management

Having originally assumed that a project manager would be drawn from one of the participating libraries, the Steering Committee quickly came to the view that, if the project was to be successfully completed within a tight timeframe, professional project management and the use of an established project management methodology was essential. This was a key decision for the success of the project

Evaluation approach

The Steering Committee recognized that a critical element in reaching agreement on the preferred software and hosting vendors was that each member needed to have confidence in the process of evaluation and decision-making generally. They drew up a list of evaluation principles, which included that:

- there would be one vote per university

- the evaluation would be driven by the common needs of the consortium rather than the individual needs of each university

- the evaluation would be conducted in the spirit of honesty and trust.

Each of these was critical to the way in which the members would work together. As a result of the evaluation Endeavor Information Systems Inc was selected as the software vendor and Datacom Systems Ltd was chosen as the hosting vendor.

Governance

From the beginning of the project the members recognized the need for an incorporated body, referred to initially as NewBody, to manage the affairs of the consortium. Until this entity could be set up, it was agreed that the CONZULSys project would be governed by the Steering Committee. In the interim the authority to proceed was determined by a Memorandum of Understanding signed by and between the Vice-Chancellors of each participating University.

The role of NewBody has been agreed by the Steering Committee to be to:

- Manage the system contracts, contract performance and contractual relations on behalf of the members

- Coordinate the development of common system standards, negotiate and manage the venture's resourcing, and resolve issues among the members

- Undertake common functions on behalf of the members when these can be done more economically or effectively at one point

- Investigate, promote and support new system based common initiatives by the members

- Promote and manage the expansion of the membership in the long term national interest

Lessons learned

As the project proceeded the consortium has learned much about the implications of true collaboration. Hawkins (2000) distinguishes between cooperative behaviour that may be informal and superficial but where autonomy is retained, coordinated activity that involves a greater level of mutual commitment and resource sharing and collaboration that leads to a new community through a shared vision. In particular the challenges for CONZULSys fell into the following areas:

Some loss of autonomy

Each member has had to give up some of its autonomy and think in terms of the good of the consortium rather than solely in terms of the good of its own university. In practice, because of the commitment to the success of the project, this has not proved to be anything like as difficult as might have been expected.

Geographic spread

More challenging is the fact that the four universities are located over the length of New Zealand. Communication among the members has been largely by email, with regular use of teleconferencing, and face-to-face meetings as required.

Buy-in of staff

The nature of a national project has meant that staff at each university were not able to be as involved in the selection process as they would have been if buying a system for an individual university. The initial, informal evaluation of the software RFP was done by a small group in each university from the perspective of the particular university, and a further assessment was made by these groups following the vendor demonstrations, but the formal evaluation was carried out by the Software Project Team and the decisions on the preferred vendors were made centrally. However with the involvement of staff in data review and training the commitment to the new system has increased markedly.

Communication

It has been very important to put effective communication mechanisms in place. The project could be described as well documented, if not highly documented. This in itself has been time-consuming, but it has proved to be a vital element in the management of the project, ensuring that all involved have access to all of the information about principles, processes, and decisions.

Regular communication to staff has been given a high priority. The Project Office has issued a fortnightly newsletter for all staff in the four libraries, with contributions from each of the universities. This has been supplemented in the individual universities by local updates provided to all staff on a regular basis.

Pressure of conflicting deadlines

This occurs with all projects, especially those which involve staff who are not seconded fully to the project but have some or all of their regular work to do at the same time. In a consortial project such as CONZULSys these pressures can be intensified and they need to be managed carefully.

Despite the challenges the members of the consortium have found the project stimulating and they value the new community that has developed as a result of the shared vision that has led to the shared system. The success is undoubtedly a result of the above challenges being outweighed by the following benefits:

Benefits of membership of CONZULSys

The economic benefits include the ability to negotiate more favourable software and hosting contracts than is possible for any library acting on its own. In addition the hosting charges are spread across CONZULSys sites, rather than being directly linked to the existence of any one site and the hardware costs are apportioned across CONZULSys sites. There is the potential to smooth out system growth by being part of the overall infrastructure growth rather than having sole responsibility for provision of capital funds for growth. There will be future benefits from CONZULSys representation at Endeavor user group meetings, and task forces, without having to fund them alone.

Hosting and hardware infrastructure

In terms of the technical infrastructure, CONZULSys libraries benefit from having access to a high availability system, contractually specified to meet 99.5% availability on a 24 by 7 basis. The system performance and growth are smoothed by inclusion of dynamic load balancing switches for the web servers and application servers. This provides a constantly balanced system load. If one of the web or applications servers is unavailable the switches manage the load through the remaining servers. There is the ability to expand the web and application layers using lower cost servers on an as required basis. There is also the provision of a separate test server and disk environment, large enough for each CONZULSys site to maintain a copy of its production database.

CONZULSys is funding Datacom staff to complete Endeavor 500 level certification so that Datacom can do system upgrades in local time, lowering the cost of software upgrades. Database administration is provided by Datacom and Endeavor jointly, with responsibilities listed clearly in the Datacom/Endeavor service level agreement.

Common functionality

CONZULSys parameters have been established for public functionality such as the web OPAC. The benefits to CONZULSys libraries from having common public functionality is that it minimises the work effort required by each library to develop and then maintain shared functions such as the WebVoyage OPAC and ensures that each OPAC has a homogeneous look and feel to reflect the mixture of CONZULSys brand in conjunction with each University's own brand. Search functions operate in the same way for each OPAC, simplifying the introduction to patrons of the functionality at each site.

Ability to maximise the intellectual investment

There has already been benefit from joint development by CONZULSys teams across the four universities. This has raised the skill levels and provides greater opportunities for problem solving among library staff. There are also greater opportunities for staff development as staff become involved in consortial activities.

The implementation approach adopted facilitates the smooth implementation of the chosen system for other institutions that wish to join the consortium in the future. This will lead to benefit for the wider tertiary research and teaching community in the use of a similar and familiar interface to information resources.

And finally, the participating libraries are provided with a stronger voice in the future development of the system software to suit the New Zealand learning environment

Future

The CONZULSys consortium is moving beyond its initial aims and being used to leverage other consortial activities. For example a capability study on the Next Generation Internet (NGI), which is seen as essential infrastructure for the knowledge economy in New Zealand, refers to CONZULSys as a model for collaborative development. In its Discussion draft, the Internet Society of New Zealand argues that:

> "The establishment of the CONZULSys Consortium, involving four Universities, and set up with the aim of acquiring a common shared library management system, is an excellent example of new "innovation economy" thinking. CONZULSys not only is a potential large user of a national NGI, but also provides a business model for collaborative activity. The NGI and CONZULSys initiatives should proceed in close consultation, preferably with shared governance infrastructure." (Internet Society of New Zealand, 2002).

Similar prominence is given to CONZULSys in proposals that are being submitted to the Tertiary Education Commission (TEC) for funding to build capability in the areas of e-learning, with the e-Learning Collaborative Development Fund and innovation with the Innovation and Development Fund (Tertiary Education Commission, August 2003). A number of the proposals have been able to use CONZULSys as a collaborative platform to support initiatives in the wider tertiary education sector.

Following the official launch of CONZULSys in July 2003 the Chair of the Steering Committee, Rosemary Hudson was reported as saying "the centralised implementation puts New Zealand universities up with the state-of-the art in most university libraries around the world and ahead of many of them". (Bell, 2003). The value of having selected the same software as the National Library of New Zealand, and that the University of Auckland had bought independently five years ago, was also acknowledged as being valuable for sharing expertise in future development.

Having installed the core modules in Phase one work is underway on Phase two which includes media scheduling, inter-library loan, ENCompass for Resource Access, and LinkFinder Plus. Phase three will begin in 2004 and will involve the implementation of Universal Borrowing and starting work on ENCompass for Digital Objects. There is much work still to do on the project but the essential infrastructure is in place to achieve the ambitious vision first conceived such a short time ago.

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