

Evolution or Revolution: developing new organisational structures to meet the challenges of delivering online services

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Abstract:

The current convergence of technologies, international communications protocols and increasingly flexible web-based services has led to significant changes in the scholarly information environment. These changes, and the opportunities they present, have taken the 'hybrid library' from concept to reality. This new reality has forced academic libraries to give serious thought to how they can best realign resources to meet the challenges of the library in the 21st century. This means a significant cultural change requiring rethinking operational processes, as well as resource reallocation and the development of completely new services. This paper examines some of these complex issues within the context of UNSW Library's own experience in meeting the challenges, which have led to the establishment of a new department in 2003 – the Online Services Department [OSD].

This paper is dedicated to Marian Bate and Richard d'Avigdor, whose forward thinking contributed enormously in shaping the direction of UNSW Library.

The context

While this paper focuses on UNSW Library's attempts at coming to terms with the dynamic and increasingly complex information environment, the authors feel there is value in sharing experiences, as all, or most, of the issues are common to the profession, the library, and the institution.

What are our libraries becoming?

Firstly, there are increasing tensions between the traditional and the online operations of the library. These tensions are felt most when it comes to resource allocation – the 'invisibility' of the web/online environment makes it harder to shift the budget base to effectively support the increasing demands in this area. The majority of the budget still goes to support the physical side of the library – both in terms of staff and infrastructure – this is certainly the case at UNSW Library. Houghton [2002] has carried out some useful cost analysis of maintaining the physical library: the operational costs associated with print collections are hard to reduce, despite reductions in the use of the physical library. At UNSW Library, there have been dramatic decreases in the use of print collections over the last five years, but reallocating resources is a slow and often painful process. The reality, however, is that, unlike the physical library, the online library is always open for business, and its usage and significance increasingly competes with the physical. Technological evolution continues to provide greater opportunities for delivery of services and resources, and for these to become increasingly integrated, not only within the traditional library environment, but with other current and emerging applications supporting learning, teaching, research activities – where geographical space has no meaning. Even when the physical library is open for business a great deal of library usage within the physical structure is online. Our challenge is to express library services in the online environment, and achieve high levels of user satisfaction in this new form. It is more than providing online information as an adjunct to the print library; we must develop a new kind of library.

So we conclude that the 'hybrid' library is well and truly here. However, the realignment of resources and the necessary budgetary models to support this reality lag behind and often, way behind. The online and print libraries are not as interoperable as they could be for users; these boundaries must be overcome to present an integrated service.

How is technology affecting our services?

The other equally significant factors in this mix are the changes driven by the developments in information technologies mentioned above. The authors realise this is not something new – certainly since the mid 1980s information service professionals, and associated institutions, have had to deal with the increasing impact of technology on work practices and infrastructure, which has provided constant challenges.

The pace of change has increased over time, and since the arrival of the web – all those years ago, less than ten years in fact – the pace of change has truly accelerated. Expectations and usage patterns have also significantly changed; users expect everything to be on the web.

However, at times they are unsure as to what environment they are in – Google, the web-opac or other library web-based applications.

Technological change is forcing us to review our modes of information and research services. The tradition of in-person service, whether to answer the ready reference question or provide detailed assistance for a research project, is now just one way for users to seek information assistance. Our notions of service must now comprise self-help services, embrace the success of search engine type services to meet ready-reference needs, and acknowledge that increasing use will be off-site and online. Measuring off-site and online activities and evaluation of user satisfaction with virtual services are becoming critical indicators for re-allocation of resources and will force a re-thinking of in-person modes of service.

What are the key challenges?

We now have to come to terms with issues as diverse as:

- the growing momentum in questioning the traditional scholarly communication system, accompanied by experiments and initiatives to change it. These can be economic responses such as the Scholarly Publishing and Academic Resources Coalition [SPARC], which seek to introduce price competition, or lobbying efforts such as the Public Library of Science. The development of institutional research repositories has the potential to introduce radical and systemic change. Libraries must take up this challenge and play a key role in the development of institutional repositories, through facilitating, managing and preserving digital content produced in their institutions.
- the increasing use of online teaching and learning applications and their service integration with library and information systems, which will benefit from the opportunities afforded by portal and resource discovery environments in delivering services and resources. Underlying this are developments in communications and information technology protocols/standards allowing for greater forms of integration between disparate systems and architectures as well as increasing opportunities for collaboration between individuals and institutions at local, national and international levels.
- increased involvement of university libraries in teaching and learning, with particular emphasis on information literacy and ethical use of information. This is particularly challenging in the online environment. Ethical use of online information is not restricted to avoidance of plagiarism. Our users need to understand the terms and conditions under which access to licensed information is provided to them and we have to build systems to protect this access. ‘Security’ in the online environment is a new challenge for libraries.
- an information environment where a significant proportion of the resource base is increasingly digital and online, and owned by someone else – ejournals, ebooks, and aggregator services. There are risks to assess and manage in developing library services around a mix of owned and licenced material. Academics fear loss of long-term access to information. We will probably need to address this more through collaborative effort in the digital environment and not transfer the physical warehouse model of libraries to the online world.
- severe budgetary constraints, made worse by the increasing costs and inequities thrown up by the traditional scholarly publications model, further exacerbated by a trend to fewer and bigger publishers. The outlook for higher education funding will

require us to reallocate our limited resources to meet changing user expectations in the networked environment.

This is not an exhaustive list, just a few examples. Another key area is how to manage the changes – both within the library, and without, for staff and users alike. Is the future really a choice: between “chaos or anarchy”? [d’Avigdor, Cargnelutti & Cunnington, 2000]. Probably.

What can we do about all this?

While all that has been stated up to this point is nothing new – this convergence and greater integration of technologies provide quantum shifts in possibilities and opportunities not thought possible even a year ago. The authors believe that the necessary structural and operational changes needed to remain relevant will be painful at times, but we are at a point where we have no choice. We can continue to react to change, accept it and make the necessary changes only, or be more engaged, proactive and take up some of the opportunities that present themselves in continuing the evolution of the library and building on the solid foundations and goodwill the profession and institution itself has.

Evolution: the UNSW Library roadmap to uncertainty

How UNSW Library began its attempt to deal with the environment described above, is probably similar to experiences elsewhere – some changes and strategies were deliberate, some happened purely by accident, and some as a consequence of actions that started elsewhere.

The starting point is an experiment in organisational change from 1997. That year a deliberate attempt was made to form a unit within the Library that better reflected the electronic world we had increasingly had to deal with, come to terms with, and to develop unknown forms of online services. The Electronic Information Resources Group was formed (EIRG, or ‘ergh,’ as we came to affectionately know it!) This unit initially brought together the Systems unit as well as the position of datasets coordinator/project development librarian. In time, EIRG was augmented by the web coordinator. Another semi-accidental addition was what would become a key position as viewed by UNSW Library – that of metadata coordinator. A final addition was to formalise the helpdesk/desk top support activity within the unit. So there you had it - the old Systems unit, the relatively new position of datasets coordinator/project development person, web-coordinator, metadata coordinator and desktop support. A grab bag that somehow never really worked as intended, but on the other hand was successful to an extent, and was able to initiate, and go on to develop significant outputs for both UNSW, and the profession as a whole.

What did EIRG achieve?

EIRG assisted the Library to develop new ways of working and enabled rapid development of new services.

The key elements of practice in EIRG were experimentation, risk-taking, teamwork and responsiveness. The Electronic Information Resources Group *was* able to make advances in

response to the increasingly chaotic information environment and the rapidly changing demands of its own Library users. This was mainly due to the individual staff members bringing to the group disparate skills from across the organisation, and also because they were freed from being heavily involved in day-to-day traditional physical services delivery. Rather than working in any sort of hierarchical framework, along traditional lines, projects were assigned, deadlines negotiated and revised as necessary and results achieved. Methodologies were tested, or discounted, while learning on the job, and/or making it up on the spot was the general *modus operandi*.

The position of datasets coordinator was pivotal in forging new industry standards and service models for procurement, management and delivery of electronic resources. Trail blazing thinking explored new synergies between the vendors and libraries leading to greater and more effective customer/vendor/user liaison and relationships.

EIRG made extensive innovations in online services, both for UNSW Library and Council of Australian University Librarians [CAUL]. The development of the Library web site into a cohesive framework for integrating access to the Library services and resources provided improved user feedback and access problem reporting. Embedded metadata was also endorsed as Library policy in 1998, and was coordinated by EIRG [Talmacs, 2000] with distributed creation. The Library-wide metadata expertise through participation in projects such as the Australian Digital Theses Project (ADT), Australasian Virtual Engineering Library (AVEL) and OCLC's CORC has been invaluable as cataloguing formats are evaluated for use with emerging information resources.

The Library's urgently needed Web based catalogue drew on Library expertise, with the process feeding conveniently into the writing of the tender document for a new information delivery system in 2001 – the Information & Resource Access Management System [IRAMS]. A comprehensive set of exam papers, first available online since 1993 were included as a distinct database.

EIRG was a major contributor to the development of [MyCourse@UNSW](#) [Koppi & Terry, 2001], which complemented the catalogue in providing access to Library course resources. This database also augmented the traditional reserve services, hitherto provided mainly in hardcopy – due in large part to the digital restrictions prior to the amendments to the Copyright Act. The MyCourse experiment provided another opportunity to “think outside the box”, exploring further the possibilities of delivering information and services in the web environment, in a more integrated way – what were later to become known as “portal” models. The MyCourse project developed a useful prototype for the redevelopment of the university's online services for its students.

The Australian Digital Theses Program, initially the ADT Project, was developed from within EIRG. Although its beginnings predated the Open Archive Initiative there was a conscious effort to adhere to standards e.g. Dublin Core. ADT also exemplified EIRG's collaborative role, initially with six then later all Australian universities.

By chance or design EIRG had also developed an advocacy position at UNSW, both within and outside the Library. It was thus able to engage with the university community, exploring opportunities to collaborate as well as articulate the library's intentions, ideas, policies and so on.

Post EIRG...transition & more uncertainty

EIRG had a 'use-by' date. The marriage was never going to work in the long term, but it clearly demonstrated what was possible, and what was achievable over a very short time. The loss to the Library of two key individuals within a few weeks of each other was a catalyst in rethinking the experiment. The other significant event was the procurement of new library systems. We had concluded that we needed more than the standard Integrated Library Management System [ILMS].

The collective exploration, work and thinking that was made possible within the EIRG framework, was to find expression in the specifications for the new UNSW Library systems. The new systems procurement gave the Library the opportunity to articulate a vision for a hybrid library. In doing so, we deliberately began redefining the types of applications/systems we wanted to procure. For this, we had to come up with a new set of semantics and descriptors that best described what we needed. This was also to be a deliberate signal to systems vendors; we wanted information systems, not merely library systems. We intentionally gave priority to a module described as the 'Information Access System – IAS'. This was the apex of our information model, and described what we saw as users' information needs in a hybrid, heterogeneous and distributed information environment. It can be characterised as a portal and resource discovery application. We saw then, and see now, this as the key service and resource delivery application for the UNSW community. The system procurement project was called the 'Information & Resource Access Management Systems' – again a deliberate strategy.

Revolution: well, a start...

With the new systems in place, the above projects and programs commenced, the new University Librarian formed the Online Services Department [OSD] from the beginning of 2003. With the mission "to develop and implement online programs/services/projects for the Library as required and in conjunction with other Library/University units as appropriate" [Cargnelutti, 2003], and taking into account the old EIRG, this hardly sounds revolutionary. Yet the decision was a strategic move to set up a unit quite different to other Library units, with its increased project focus and brief to serve the special libraries who needed opportunities to work even more closely with faculties in online teaching and learning teams. The creation and naming of the department gave visibility and status to its mission: it was no longer a 'group'.

The Online Services Department – what is it?

- *The Staff*

Staff came from Website management, the ADT Program, IRAMS implementation, Reserve Services and the Digitisation Service to work in the new online team. With the latter two services under review, and the website being redeveloped at the time of writing this paper, the department will not be standing still in any sense.

The appointment of an Online Services Coordinator as the operational manager was a key appointment to the Department.

- *The Services*

i) Web Services

During 2003, core Library Web Services staff have been supplemented by additional staff from other departments to assist with finalising the implementation of the Library Resources Database [the Library's web OPAC using Aleph from Ex Libris] and Sirius [the Metalib/SFX systems] as well as the application of the university's new web content management system, Interwoven, to the UNSW Library web site. During these processes the Web Services Manager works closely with subject and information skills experts library-wide. While these arrangements are not new within the Library, they reflect the need to move staff to work in project mode - a feature of the OSD.

The measurement and evaluation of the Library's web services will become key outputs of OSD. Receiving consistent and reliable information about the usage of the virtual library will enable careful and strategic reallocation of resources to deliver an effective hybrid library to UNSW.

ii) Digitisation and Reserve Services

High demand items, e.g. books, copies of book chapters, journal articles, lecture notes, as requested by lecturers for specific courses, form a reserve collection. Much material is also digitised, with the result that, at the time of writing, some material is provided both digitally and in hard copy. Reserve Services provision therefore encompasses the traditional work of the department although there is an increasing overlap with the digital world. For example, hard copy items from digital sources such as web sites or ejournals are now very often submitted for processing. Copyright and licence issues need to be identified and solved by staff. Within this service, the Library is exploring further possibilities of integration within online teaching platforms and programs, looking to deliver most resources and services within the online environment.

Although UNSW Library digitisation first commenced ten years ago with the exam papers going online, it wasn't until 2000 that course material subject to copyright was first digitised, with permission needed for each item – a very slow and unwieldy process. With the digital amendments to the Copyright Act coming into effect in March 2001 and the signing of the PartVB statutory licence, digital copying was easier and led to the Library taking on university-wide digitisation in 2002. The MyCourse database is used to monitor copyright limits, thereby serving two purposes – record keeping and access provision to course material.

ii) Publication & Promotional Services

These services are still being developed. It is seen as another and complementary set of services within the scope of the OSD. They include the following programs and areas of activity – some well defined, and in production, some conceptual only at this stage:

- ADT Program – both the local UNSW operation as well as the ongoing management and stewardship of the national program as CAUL's agent. This involves liaison with, and contribution to national and international movements in scholarly publications and information. Within the national context, actively involved in redefining and formalising a new governance structure and business plan for the program. [Wells, 2003]

- Development of other institutional repository programs within UNSW. The Library has deliberately held back on developing such repositories until it was able to identify valid and useful content and gain sufficient support from academic staff. It has now begun to develop a program involving the Faculty of the Built Environment & College of Fine Arts initially, to build a distributed system of digital Masters Theses [coursework]. Through the OSD, the Library, is actively pursuing “new collection development strategies for the digital world” and taking seriously its “stewardship responsibility for content” management and access [Lynch, 2003]
- Official Library publications including the Annual Report will be produced by this new service and will exist in online format only.
- Development of library wide policy and programs for online services. Role of OSD is to generate policy, and to continue experimenting with ideas and develop projects and programs as appropriate.
- Promotional activities. While this is still being developed, activities will include defining target groups, doing a targeted survey on needs, perceptions, as well as involvement in university wide calendar of events, for example, becoming proactively involved and contributing to university wide lunchtime seminars; staff/student induction programs, International Week, etc.

iv) Program/Project Development Services

- HelpOnline – while this was not new at UNSW Library, the OSD was able to bring together a team from across the library to significantly redefine and extend this chat-style information and research service. The operators come from across the library’s functional areas, not just Information/Reference services staff, and include General Library Assistants, Library Technicians and qualified Librarians. This mix has created significant levels of collaboration, sharing of information and experiences, and general enthusiasm not seen for some time. HelpOnline will in future play a more proactive role – targeting the academic community by providing specialist help/information at particular times. An effective way to meet the needs of the whole community – particularly those that have very limited time at their disposal.
- DigiTool – [the Digital Object Management system with the ExLibris suite of applications]. OSD will explore the possibilities of this new digital object management system, initially integrating its use with a new Dublin Core metadata repository in the Library Resources Database [UNSW Library’s WebOpac]. Initial collections for digitisation will be documentary photographs from the University Archives and art slides from the College of Fine Arts.
- Supporting the implementation of automation of the Library’s interlibrary lending and document delivery activities within the new systems framework.

Issues

Organisational change

The University Librarian conceived this department as a centralised operation, working across the entire organisation. Physically, UNSW Library comprises five special libraries, four of which are in the main building on the Kensington campus. These special libraries have developed separately over the years, although successive university librarians have steadily centralised operations such as serials processing and interlibrary loans. This style of operation has developed specialised services to users, but at the cost of complexities in collection layout and a lack of sense of organisational unity and purpose. OSD was conceived as a centralising force, an opportunity to provide a coherent set of online services and to influence the coming reorganisation of physical services.

Integrating staff into the one department

Staff were drawn from a number of areas and brought valuable experience, expertise and cultures. The new department needed to develop its own distinct culture reflecting the need to lead in online matters and respond quickly to opportunities in the changing environment. Excellent communication with users, with other colleagues and departments within the Library, the University and beyond has been critical. Balancing current services with working in new ways and on new projects has to be carefully managed, both in terms of satisfying the needs of students and academics, and maximising the creative inputs of staff. This has taken some time, and has been affected by further restructuring – physical and organisational. Weekly meetings plus the openness and dedication of the staff have assisted working through this process.

New skills

With most duties (apart from complex web work and advising students re Word to PDF conversions for the ADT Program) now shared by all staff, and new projects assigned, the range of skills required from the staff has grown dramatically. An OSD skills audit and the new university Workplace Planning and Career Development Scheme have both enabled identification of new required skills and a methodology for ensuring staff are trained up to meet their and departmental expectations.

Learning and skills development

Learning has been, and promises to be, a feature of working life within OSD. The department has been established to provide a locus of online expertise and a place to develop skills. Skills development in new technologies and in new legislative requirements will be ongoing.

Links with other departments

- All OSD staff formed new interdepartmental relationships as the structures and roles were carved out in the changing library. The increased trend to providing online teaching and learning resources together with Library restructuring – organisationally and physically - has meant that OSD has relinquished Reserve desk management to the User Services Department. This is a logical development, but a significant break from past practice.

- HelpOnline, coordinated by OSD, is staffed from across the Library.
- ADT Program: links with students, cataloguers, other universities and institutions, national and international.
- Copyright - As well as advising the Library on copyright, OSD staff advise academics, check the submitted Reserve and Digitisation material and collaborate with the university Copyright Office and other units such as the Educational Development & Technology Centre in presenting at seminars, writing brochures, contributing to the university copyright web site. Through the OSD, the Library is becoming a recognised centre of expertise on issues of copyright compliance and licence requirements, and their overlap.

In the short time the Online Services Department has been in existence, it has achieved high performance against the goals set for it. While its staff numbers are small (less than 10% of the staff) its impact has been high. The most recent Rodski user survey (2003) shows an increasing number of daily online visits to UNSW Library (46% of the sample) and a dramatic fall of physical visits (from 57% daily or every second day in 2001 to 36% in two years). The online visitors interact with systems and services developed and coordinated by this new department. The physical presence of this new department in the Library is a daily reminder of the need to provide increasing resources to these new services. Looking ahead, it is hard to predict whether this grouping of services and responsibilities can remain within a department: a division or larger unit may be required. However, at this time, this experiment is working. As an incubator of new services and skills and as a focus for online service development, this innovation is delivering benefits to the users and staff of UNSW Library.

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