ACCESS : AN ISSUE FACING LIBRARIES AS WE RESPOND TO AN INCREASINGLY DIGITAL WORLD

1. Introduction

“Netting the fish”, the theme of this portion of the 2003 LIANZA conference, is very pertinent for this topic: enabling access to content to ‘get’ the item in a digital age.

Initially, the commercial fisherman has to know the environment and know the market to be in a position to net the species which will give the most return on investment. He or she has to have the right tools and skill to use them for the job at hand, then the most appropriate distribution channels. Finally, dollars in the bank are the likely measure of success, but there are likely to be other criteria as well: the budget required to support research into best fishing grounds; latest equipment; developing new markets; sustainability over time; condition of equipment and so on.

It is these factors:
- know the environment
- know the market
- right tools and skills
- appropriate distribution / access channels
- return on investment
- measure of success

that are all issues facing libraries as we respond to an increasingly digital world, and it is these that I would like to spend some time discussing today.

In the National Library of New Zealand, our two outcomes are:
- New Zealanders access their documentary heritage now and in the future
- New Zealanders access a range of information services
A challenge for us as a National Library, along with other organisations exploring content provision in an increasing digital world, is to decide on the processes which help us to best target how we provide access, and also to decide on the priority content to deliver. The following section focuses on the processes used in some projects (both local and international) to ascertain what users want. The latter part of this paper provides some examples of the tools used to deliver that content and finally some examples of measures used to determine the extent that targets are met.

2. Processes to know the environment & market & responses to this information

In relation to ‘end-users’, there are many initiatives which focus on knowing what end-users want and most value, but because the web is a fairly anarchic environment it is still a challenge to really pin down user requirements.

In the National Library, the Te Puna databases (NBD, NUC, NBA, Gateways and INNZ) provide the New Zealand library community with tools for cataloguing, nationwide document discovery and supply as well an indexing tool for access to a selection of current New Zealand journals.

The National Library has developed mechanisms intended to produce a customer driven service. These include:

- Te Puna Strategic Advisory Committee
- Te Puna Client Relationship Management Strategy (reviewed annually)
- Account Managers responsible for and knowledgeable about each sector (universities, public, polytechnic/other tertiary, wānanga, specialist, schools)
- Systematic recording and analysing of client feedback taken during regularly scheduled visits
- Customer Satisfaction Surveys designed to prioritise and respond to areas of customer concern
- Client involvement in product development (eg end-user initiated Interloan requests)
- Product development directly responsive to expressed user demand e.g. Blackwell’s Table of Contents, Te Puna Charging Model, INNZ screen display, Gateway databases
- Survey-based product evaluation.

Te Puna Subscriber Services has 91% market penetration across all library sectors. However, usage is largely limited to library professionals within each organisation. In addition, all university, some polytechnics and a steadily increasing number of larger public libraries provide Te Puna access to end-users although this is limited to on-site use at public libraries.

Work commissioned by the National Library in 2002, to determine an economic value for the National Bibliographic Database and Union Catalogue (NBD/NUC) found that subscriber services achieve a very low penetration of the potential market (despite organisational coverage) for bibliographic services. This work also estimated that market penetration could be increased fourfold if subscriber charges were eliminated and NLNZ were able to increase awareness of the usefulness of the Te Puna service amongst library professionals and, in particular, end-users. This research was particularly interesting, not just for the economic outcome (see section 4) but in the methodologies that were employed to reach the outcome. As well as the traditional desktop financial analysis, the computer assisted structured surveys with both reference librarians and end users of bibliographic information from a range of New Zealand libraries teased out the value placed on attributes such as efficiency (time taken), accuracy and availability in terms of dollar value.

In the broader digital arena, Dr Paul Miller, (Interoperability focus at UKOLN) was one of 40 representatives of various cultural content creation programmes at a meeting held in Washington, D.C., in March 2002. The National Library of New Zealand was represented at this meeting by Steve Knight, Manager Digital Library Transition Team. The meeting was the second in a series focussed on exploring scope for collaborative working and standard setting amongst world digitisation activities. One of the two main outcomes of this meeting “was a recognition of the importance of gaining a far better understanding of our users, the uses they make of digitised cultural content, and their requirements around the creation of new content.”

I liked Paul Miller’s comment that “the broad trend is unfortunately one, to paraphrase, of building it, safe in the knowledge that ‘they’ will come (and, presumably, enjoy, tell their friends, and come again!)”. He then goes on to talk about the gap between actual visitors to a website versus the number of potential visitors. Meeting participants agreed to commission research to do a stocktake of initiatives aimed at identifying and analysing material relating to the evaluation of digital cultural content. The report of this work was published July 2003 and was reported on at the next Cultural Content Forum (CCF).

The various presentations at the 2003 CCF form a rich resource of how organisations around the world have responded to the challenge of defining in a digital world the user need. Interestingly many of the presentations demonstrate that for any one project, a variety of methodologies need to be employed. The meeting agreed that further work is still needed in this area particularly with a focus on working collaboratively do develop measures where results can be compared across organisations.

A range of user orientated methodologies have been used in the following projects and provide a few concrete examples as sample case studies.
**RedLightGreen project.**
The Research Libraries Group (RLG) a not-for-profit membership corporation of over 160 universities, national libraries, archives and historical societies has been working with, and for, research collections and their communities for nearly three decades. Over recent times they have been doing some exciting work on a project called, RedLightGreen. RLG have been experimenting using FRBR (functional requirements for bibliographic records) which is allowing them to recast library catalogues as web resources, and display user friendly clustering of search results. Particularly appealing is the ability to handle multiple friendly versions of a title.

To ensure their results meet the target audience, (undergraduate students’) research was done prior to and during the project, using ‘wire diagrams’. A group of students, (each bringing a friend) responded to these wire diagrams (working in pairs), with the Project Team watching (unseen). Tapes and transcripts of the sessions were produced. As a result of this research, significant changes were made to some design/language features etc used in the project. RLG are aiming to have their union catalogue fully migrated in 2004 (based on IFLA functional requirements for bibliographic records).

**AVEL, The Australasian Virtual Engineering Library**
AVEL, on a tight budget chose a practical approach to gather and analyse user data. Nicole Clark, AVEL Coordinator and Denise Frost from the State Library of Queensland defined useability as an imperative for client focussed content presentation. To support their approach to user-centred design and usability testing, over a three year period they employed a number of cost effective usability testing methods including, focus groups, online surveys and heuristic evaluation (using a small group of evaluators against a set of specified principles). The later was AVEL’s preferred method, finding the most problems out of any of the other techniques.

**National Library of New Zealand**
The mechanisms (mentioned earlier) employed by NLNZ intended to produce a customer driven service have resulted in the two following projects: Purchasing Electronic Resources, A National Approach (PER:NA) and New Zealand Journals Online (NZJO). Both PER:NA, a proof-of-concept project to explore the feasibility of a consortium approach to purchasing electronic resources for New Zealand libraries and NZJO, a feasibility study to identify cost-effective options for providing an increased amount of full-text New Zealand journal and newspaper articles online for New Zealand libraries and their users are projects that have arisen initially out of direct feedback from users of National Library services and then have progressed as projects through a collaborative approach from interested parties. Methodologies used in the first instance in both projects included:

- focus group
- quantitative survey
- informational survey
- forum at LIANZA to gain cross sectoral level of interest (PER:NA)
- analysis of INNZ and document supply usage data (for NZJO)
- cross sectoral working groups (both projects)

The PER:NA Proof-of-Concept project will determine whether New Zealand libraries are ready for a consortium approach to electronic resources.
The New Zealand Journals Online (NZJO) project is in response to New Zealand libraries telling the National Library: ‘New Zealanders are increasingly using electronic full-text articles in preference to print copies because online access is immediate and available from the home, classroom, library and office and users need local content but very few New Zealand articles are available online.’ It’s aim is as a feasibility study to identify cost-effective options for providing an increased amount of full-text New Zealand journal and newspaper articles online for New Zealand libraries and their users.

Conservative estimates suggest that by 2005 there could be 12 Terabytes of unique, digital original material available online in New Zealand, with a growth rate upwards of 1 Terabyte annually. viii

In addition to methodologies to establish user requirements, decisions on the best choice of tools to support the access and distribution channels are critical, particularly where end-users are expecting fast, seamless access to content delivered electronically to the desktop.

3. The right tools and distribution channels
One of the holy grails for content providers is the development of easy to use interfaces to ‘search & get’ information meeting user expectations of fast and seamless access. Ideally, libraries will establish interfaces which are flexible, providing enhanced access for the individual user and able to cater for communities of interest. To achieve this, adherence to internationally based standards is essential.

The National Library’s softwares for the provision of bibliographic products and services and the development of online products (Voyager and ENCompass) both come from the one vendor, Endeavor Information Systems. Rounding out this group of resource sharing software is Fretwell Downing’s Virtual Document eXchange (VDX) interloan management software.

The Voyager system is the leading library software available in the world today and has over 1100 installed sites. Of particular significance for NLNZ is that Voyager customers include a large number of national libraries, including Library of Congress, National Library of Australia, National Library of Finland, National Library of Scotland, Royal Library of Sweden. Voyager is also installed in a number of universities in New Zealand including Auckland University, Manukau Institute of Technology and has recently been selected by a consortium of universities comprising Waikato University, Otago University, Auckland Institute of Technology, Victoria University. It is possible that more universities will sign up to the consortium in the future.

The ENCompass software is the first production system designed as a portal for electronic resources and currently has an installed base of over 40 sites worldwide. It is XML compliant and designed to support a range of markup standards including Dublin Core and Encoded Archival Description. Discover: Te Kohinga Taonga, the Library’s new online resource designed to directly support the New Zealand Curriculum Framework, is delivered using ENCompass and is a world leader in its application of the software. ENCompass is a new product, at the beginning of its life cycle, and the Library can look forward to its development and increasing sophistication in the years ahead.
VDX is a standards compliant and commercially proven interloan system. At the same time as VDX was purchased by the National Library, LIDDAS, the University of Auckland and the National Library of Australia also tendered for an interlibrary loan system and all three, quite independently, chose the same vendor. VDX is becoming a popular interloan software choice. Several large libraries have recently purchased it, including the Ohio Public Library Information Network, New York Library Resources Council, Colorado State Library and the University of Toronto. The British Library also uses the software, increasing the likelihood of interaction between systems, a development option for the future.

With the goal of improved and seamless access, one of the Library’s strategies is the use of ENCompass to develop a generic single user interface.

The intention of the Generic Search Interface (GSI) is to make possible:
1. A single search of multiple NLNZ sources and eventually information sourced from outside the organisation (federated search)
2. A generic display format for digital objects:
   a). as a basis of screen layout to be re-used in other digital object products
   b). as a default view for viewing digital objects when you are not in a particular product (e.g. when you have followed a URL in a citation)

The concept is diagrammatically represented in Figure 2:

**Vision for the Future**

FIGURE 2: NLNZ: Single Generic Interface

In the current environment, a user has to go into the various databases one at a time.

Advantages of this type of presentation are that the user is presented with a single interface rather than having to know and delve into multiple interfaces but, has the flexibility to go straight to a specific database or collection of digital objects if that is preferred.
International examples of responses to finding the right distribution channels

What follows are a few internationally sourced examples where organisations are exploring the best ways to collate and present content for users. The screen shot below is from the Cornell University Library and illustrates how they have organised the collections of several libraries into subjects areas also using ENCompass. The user can do a generic search across all the information presented or follow a subject orientated trail in the area of their interest.

FIGURE 3: ENCompass for Resource Discovery

National Library of Australia (NLA)

NLA are currently redeveloping their website to deliver streamlined access to content with a focus on delivering to end users (either onsite or offsite). From the top level of their new website, it is intended that a result set will deliver a range of results sourced from their catalogues as well as digital collections. This activity is one of many supporting the National Library of Australia’s current strategy document Directions for 2003-2005 and details the Library’s high level approach to its activities in the next three years. Their major undertaking in this period is ‘to provide rapid and easy access to the wealth of information resources that reside in libraries and other cultural institutions and to break down barriers that work against this.’

This will entail the achievement of four main objectives:

- to ensure that a comprehensive record of Australian history and endeavour, and a selected record of the world’s knowledge, is collected, cared for and accessible
- to meet the needs of our users for rapid and streamlined access to collections
- to foster understanding and enjoyment of the National Library and its vital role in Australia’s cultural, intellectual and social life
- to advance the development and understanding of libraries.
4. Return on investment / Economic Impact of investment in cultural heritage

Libraries have always needed to “prove” their worth to their funders, and a variety of methods with variable success have been used over the years. We talk glibly of libraries’ role in building a knowledge economy, building an informed democracy, supporting lifelong learning, avoiding social exclusion and strengthening cultural identity, but without a recognised way of evaluating these ideals, they remain elusive, both to us, the library community and to those who fund us.

The National Library of New Zealand, as part of central and local government’s move towards an outcome-based policy evaluation has been fortunate enough to establish a robust methodology to determine the economic value placed upon National Bibliographic Database and National Union Catalogue – the system that provides universal access to library held information efficiently, effectively and equitably.

The economic valuation research commissioned in 2002 employed standard financial and economic analysis but in addition, the backbone was supplied by reference and cataloguing librarians as well as library end-users from a range of New Zealand libraries. The extensive survey employed a number of methods, which resulted in the “shadow pricing” of a service not usually charged for. Attributes such as efficiency (time taken), accuracy and availability in terms of dollar value were teased out in each of the surveys.

One of the outcomes of this research was to establish the Total Economic Value of the NBD/NUC at $160.6 million, at its present level of usage (2002), and a benefit-cost ratio of 3.5:1. Expressed another way, each dollar expended by individual libraries on the collaborative maintenance of the NBD/NUC, returns a value of $3.50 to them.

This successful work was the first New Zealand trial of a methodology to place an economic value on a national cultural resource.

In the following report, Heritage Institutions in Canada: characteristics, impacts and benefits the authors point to two documents written by the World Bank which reflect the turn to economic analysis to assess cultural and heritage projects. This is just one of a number of recent publications exploring how to place an economic value on cultural heritage.

5. Measures of success

This section of the paper brings us back to the earlier statements attributed to Dr Paul Miller where he raises questions around how do we know we are collecting, preserving and making available the content that users want to access, are we just doing it in the “hope that they will come”?

Measures in relation to electronic access to content are done for multiple reasons:

- To inform continuous improvement processes for existing products and services
- To inform the funding body of priorities and preferences for new developments
- To inform organisational reporting requirements (performance measurement)

The test is not just how much the sites are used, but how much of the potential market does the actual usage represent. The National Library of New Zealand Discover product (a digital collection of New Zealand art and music resources designed to support the arts and music curriculum of the senior school), is a wonderful product in terms of being able to record measures of success. That is because we know how many secondary schools are in
New Zealand and the number of art and music teachers, so it is an easy matter to measure usage and the market penetration in this target sector. As mentioned before, this was an atypical project and in the main, detailed knowledge of the potential market is not as easily defined.

In the National Library of New Zealand, amongst other methodologies, we use the client satisfaction survey primarily to inform continuous improvement processes for existing products and services. The results of this years survey for example showed up a couple of areas where there was a gap between what clients valued and what their satisfaction, it is these areas we will concentrate on over the up and coming year. The National Library is currently trialing a new product, NetTracker to support web based usage information. The initial stages of this trial look very promising with the ability to, within an electronic collection, drill down to what has been searched for and by whom. This type of demographic may be usefully employed in targeting new electronic content areas or in improving the breadth and depth of existing products.

Anne Beaumont from the State Library of Victoria examined search logs on a regular basis over a period of time and says that this type of activity, time consuming as it is can be used to:

- Give early warning of changes in market trends, for example an increased trend in requests from outside the building
- Indicate the need for changes to an interface design

Neither of the above approaches however address what the potential market is. As libraries and cultural institutions move more into the world of providing access to digitised and born digital objects we may need put more effort into identifying seamless ways to know more about the demographics and preferences of users.

6. Conclusion
Digitisation and delivery of online content is a new business, not just for the National Library of New Zealand but for other libraries and cultural institutes nationally and internationally. It is a challenging process to ascertain user needs and to do so organisations need to define research agendas to identify marketplace trends and service requirements for current and future digital products.

The technologies to enable access continue to change and develop rapidly, with little being able to be ‘set in stone’, except maybe one message; adherence to internationally based standards is vital.

Placing an economic value on digital objects, material which essentially falls in the ‘public good’ domain is a relatively recent activity for those agencies interested in providing increased access to either their own collections or increased access to collections across several agencies. Although recent, it may become an increasing requirement from funders of these digital initiatives.

The McDermott Miller research is the National Library’s first attempt and it is pleasing to note that the New Zealand research aligns with other internationally based research.

The digital world is an expensive place to provide access. First there are the capture, storage, description and preservation activities. In a world of limited financial resources,
we need to develop processes to help inform where the resources should best be targeted and to keep reviewing the level of market penetration.

REFERENCES


iii Ibid


