

## WILL YOU SURVIVE THE ELECTRONIC LIBRARY?

Janet Tomlinson

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"There will be an end-user revolution". This premise is disputed in some quarters but undoubtedly many strands of activity are converging to empower users to carry out their own information gathering to a far greater extent than has been possible in the past.

First, what is meant by the end-user revolution? The best way to describe this is to put it into context. Bruce Royan<sup>1</sup> has classified the shifts in information provision as following these three steps:

1. Collection oriented where the emphasis was on development and maintenance of the bookstock.
2. Service oriented where the emphasis shifted to include the range of information services produced outside the library.
3. User needs oriented where the starting point is no longer 'what services', but what the user actually wants.

Implied in 'what the user actually wants' is to have the information available at the desktop or place of need as well as the right information and a simple means of accessing it. So we see the end-user requiring the sun, the moon and the stars and the information profession has to gear up to meet this requirement or potentially be left out of the information chain. It is not that there isn't a role to play, it's that new rules have to be learnt to be able to play.

Why will this end user revolution happen? We have entered the 'Information Age' where information has acquired a commodity-like status and fills a vital role in industry, government and academia. Information is now recognised as an important resource for management and workers to carry out their jobs effectively. In parallel with this increasing need, there is a massive increase in the volume of information available and major changes are taking place in the methods of generation and distribution of information.

Technological advances are both enabling and forcing the increased generation of information and its wider distribution. This is bringing about fundamental changes in the whole economic structure and relationship between publishers, information providers, libraries and users. Information is becoming increasingly global in nature and new models are emerging. Large scale consortia based on national libraries and large publishers, new forms of scholarly communication by academics, shrinking of customer bases for traditional products and technological solutions

*Janet Tomlinson is Information Manager, Institution of Electrical Engineers, Savoy Place, London, WC2R 0BL*

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without information community involvement are some of the ways that the fundamentals of information provision are changing.

Further evidence that change is taking place in the user environment resides in many technological and organisational developments.

Key amongst these are the following:

- Convergence of computing and communications which in turn has brought about the networked organisation. The resultant increased connectivity has enabled flatter organisational structures which mean that users will have to take more responsibility for their information requirements. With the networks in place they will have the technology and skills to use and accept electronic information services.

Further, interface developments which attempt to make it easier to search for information have led to the development of many products aimed at the end-user rather than the intermediary.

- In addition, IT literacy is increasing. It is the case that, anyone in this country under the age of 31 has experienced some sort of IT training during their education and there are quite a few 'oldies' beyond this age who have managed to climb the learning curve. If we look at what is happening in tertiary education the development of electronic learning centres and the experience with Campus-Wide Information Services (CWIS), scholar's workstations and BIDS we see that there is a body of users poised to enter the workforce with increased expectations for electronic delivery of information.

Despite these developments there will be a need for some time to cater for different types of information seekers. Some will readily negotiate the networks, some will need extensive training and others will still choose to use an intermediary.

### **Other issues impacting on the development of electronic libraries**

The **technological issue** is, of course, fundamental to the electronic library and it is necessary to be aware of the main areas of

software, hardware, networks and telecommunications, digital systems and the standards relating to these.

The advent of electronic publishing brings new types of publications, new methods of production, new ways of distribution and new requirements for economic, social and legal structures. Publications are freed from the journal, book or article as the unit and can be published as smaller items of research more rapidly. The text format can be augmented with graphics, sound and moving pictures. Authors can publish directly onto networks, bypassing the publishing process and electronic copies can be distributed instantaneously to many users.

The management and personnel functions will change. Staff will need to progress from their existing intelligent warehouse type operations to become 'knowledge navigators' encompassing the need to understand the content and context of information on the electronic systems. There will be four main areas of staff operations:

- collection management and development dealing with selection, acquisition and filtering of the available information resources.
- service development dealing with the presentation of new products and services, maintaining currency and relevance of existing services.
- user support and help desk which will oversee user training and assistance, password and access control and intermediary searching.
- IT systems development and maintenance to look after the storage, transmission, receipt and manipulation of the information resource.

There is a need for partnerships and joint ventures. The global nature of electronic information provision means that various parties will have to work together to achieve successful information flows.

### **Threats and opportunities**

Now, of course, the reason for all this preamble about the end-user and other issues is to highlight the need for the library and information professional to take a stand and develop a role in

this changed and changing world. There are a number of threats which will have to be countered. The most onerous of these is the threat from the IT specialists or 'techies'. There are many activities being carried out where technological solutions to information problems are being sought without the involvement of the information profession.

A major example of this is the development of the Internet, the one single development which is having the greatest impact as a huge information resource and a channel of distribution. This started as a technological solution to the transfer of information with little or no awareness by the information profession for many years. However, we eventually cottoned on, and it is encouraging that recently the 'techies', having created this ocean of information with the most rudimentary mechanisms for controlling and organising it, are now turning to information professionals to apply traditional skills of classification, indexing and subject control.

At a more local level, another example of technological threat is one mentioned by Martin White at a recent EUSIDIC conference where he had identified the company LAN manager as a problem because of his monopoly over connectivity on LANs. He described the situation

where a library would happily access online hosts direct for many years and then the LAN is installed and the LAN manager either doesn't know how or doesn't see the need to provide this connection.

There are many more examples of this type as well as threats from budget constraints, outsourcing opportunities for the organisation and of course, the end-users themselves. But, instead of being bowed down by these we have the opportunity to re-engineer the role of the information professional and raise the profile.

### The survival kit

The kit must be well planned, well stocked and, of course, must be understood by all parties. The latter may sound self evident but it is often the poor communication of ideas which is the greatest stumbling block to any development.

The steps to take:

1. **Get a vision.** It is important to know where you are heading even if parts of the vision are muddy (and they will be because some of the elements are possibly still developing and there will be continuing changes). Figure 1 is a generalised vision for an electronic library model

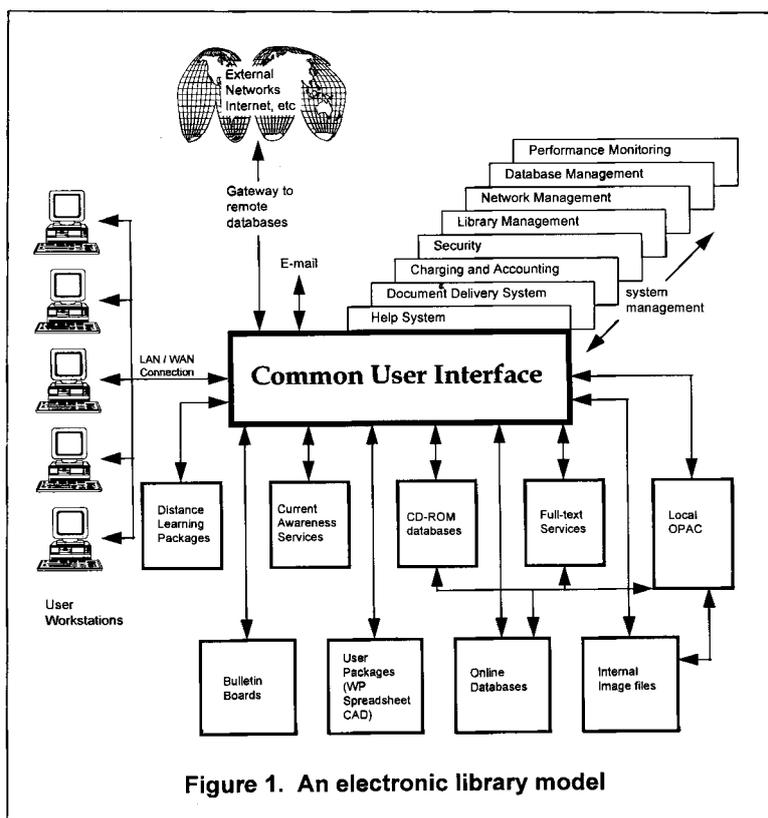


Figure 1. An electronic library model

but it was developed with the requirement of a learned society environment in mind. The organisational and financial models for academic, public, and other special libraries are very different and in these contexts there will be different emphases depending on subject areas, connectivity issues, strategic requirements and homogeneity (or lack of it) among the user population. At present there are a number of barriers to achieving this vision, the biggest of which are the attainment of the common user interface and the legal rights to the use of the wide range of data products implied in the information sources depicted.

2. **Create a strategy** to enable the vision to be realised. The strategy must be pegged to the requirement of the organisation. Understanding of the user need is vital.
3. **Get technical.** The technology is the enabler for the electronic future and knowledge about its capabilities and limitations is a requirement for survival. Partnerships are mentioned elsewhere in this paper and perhaps the first and most important of these will be with the IT department. If they are still bogged down in mainframe operation, take the lead and push for networked systems.
4. **Develop the electronic collection.** The emphasis is on access rather than holdings in an electronic library, and balancing the content between in-house held information and acquiring the rights for access will exercise and stretch the acquisitions operations.
5. **Tackle information overload.** All users have too much to read and the greatest appreciation will be shown by providing only what they want at the time. Apply the existing well-honed skills of selecting and filtering to the electronic sources and only provide access to the relevant portions.
6. **Present information attractively.** This encompasses the need to present the whole information gathering process attractively from the first interface screen through the searching process to the presentation of the results.
7. **Train the staff.** Staff will need extensive training for the new systems and time and money

for this must be allowed on a continuing basis. Skills required will include:

- IT systems operation, application and management
- integration of information management with IT systems
- customer care and support
- management of partnerships
- management of change
- contract negotiation
- user training
- marketing and sales

8. **Train the users.** Provide a range of user aids which can include written material, videotapes, classroom and one-to-one instruction and online tutorials. And then, still be prepared to provide help at all times when the system is available.

9. **Develop partnerships.** The number and type of partnerships required will evolve but will need to be with both internal and external parties.

These could include:

- system vendors
- publishers and information providers • other library and information units
- network operators and communication companies
- users

10. **Develop close links with the organisation's total information resource.** Many organisations' core resource is information although it may not be recognised per se. Standardising and simplifying procedures for accessing all types of information for the user will be a significant gain for the information unit.

11. **Identify the barriers** to achieving the vision and classify and address them. Whether these barriers are internal or external, staff or finance related, technological or cultural, they cannot be resolved until they are indentified.

I have tried to demonstrate that electronic systems have made it easier for others to enter our game. To survive we have to be able to provide total support systems for the user. We have many of the skills required but we must be prepared to learn more and/or work with others who have them and to adopt an entrepreneurial approach.

As John Harvey Jones said "We all have to get on a moving staircase". As it seems to be moving faster and faster, the sooner you get on and understand the directional forces, the less chance there is of falling off.

## Reference

1. Royan, B.: *A practitioner's view of self-service information systems*. In HancockK-Beaulieu M.: 'Information systems for end-users', (London: Taylor Graham, 1992), pp.79-85.

### The Education Working Group of the UKSG is planning a programme of events over the coming year

Two Serials Administration and Management one-day courses have been arranged. These are designed as an introduction to those new to working with serials or requiring consolidation and updating of their practical experience. Speakers present the work of publishers, subscription agents and librarians, and a serials automation system is demonstrated.

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| <b>Wednesday 8th June 1994</b><br>Strathclyde University<br>Glasgow                   | Publisher: Valerie Burgess, Churchill Livingstone<br>Agent: Andy Alferovs, Faxon UK<br>Librarian: Heather McEwen, Glasgow Caledonian University |
| <b>Wednesday 2nd November 1994</b><br>Birmingham and Midland<br>Institute, Birmingham | Publisher: Peter Williams, MEP<br>Agent: John Cowley, Dawsons<br>Librarian: Geoffrey Gilbert, Aston University                                  |

#### Other possible courses for 1994

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| Commercial access to JANET                   | still in planning stages with a provisional date of June 1994  |
| A Day in the Life of a Publisher             | a repeat of this successful day giving librarians a view of the world of journal publishing (Autumn 1994)                        |
| A Day in the Life of a Librarian             | another opportunity for publishers to exchange views with librarians and tour a serials department; provisionally September 1994 |
| Serials Management and the Special Librarian | under discussion (Autumn 1994)   |

Further information as it becomes available from Jill Tolson, UKSG Administrator, 114 Woodstock Road, Witney, OX8 6DY; tel: 0993 703466; fax: 0993 778879; e-mail: uksg@uk.ac.bham