

**Managing change : libraries and information services  
in the digital age**

by

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The evolution of the 'digital age' has prompted profound changes in the library and information services environment. The main characteristics of the information society have been defined as: "changed perceptions of the importance of the role of information; the growth in the amount of information now available and the wide variety of formats; the size and continued growth of the information sector in modern economies; and the rate of technological change and the impact of technology" (Mullins, Ferguson & Houghton, 2000, p. 5). Clearly this has implications for libraries and their staff, who must be ready to face new challenges, and devise procedures to manage organisational change.

Examples quoted in this article refer mainly to a number of strategic plans and initiatives that have been implemented at the University of Hong Kong Libraries (the Libraries) during the past few years. We also draw on a paper presented by the Libraries in 1998 to an international workshop for library administrators, the Commonwealth University Management Benchmarking Club. This document outlines the mechanisms and procedures necessary to ensure and improve library services, plan strategic goals, develop mechanisms for improving communications and financial management, expand the use of information technology, and use space and equipment in the Libraries more effectively. It also focuses on ways of training for the Libraries' staff, on the updating of skills (particularly with regard to the new technology), to promoting flexibility in performance, and to encouraging staff research into services and operations.

**Developments in Information Technology**

Developments in information technologies and advances in telecommunications have revolutionised the worldwide information society. Access to information, via the Internet, is now ubiquitous. New techniques have facilitated the rapid transformation of data, information and knowledge into digital form, while leaps in software development have aided the provision of powerful new methods of knowledge management. As a result, there have been significant changes in the ways in which documents and information are input, stored, organised, accessed and retrieved.

**Changing Economy**

Continuing advances in information technology have also done much to effect the

development of a new electronic economy that makes full use of innovations in the field and is supported by knowledge-based databases and technologies such as smart cards and intelligent systems. This economy does away with the middleman, brings a new immediacy to trading and is available worldwide via global information networks. E-commerce requires that accurate and appropriate information be instantly accessible.

### **Changing Educational and Learning Environment**

Changes in society, culture, the economy and technology have generated corresponding changes in education. Lifelong learning has become the norm. Education is no longer seen as the domain of the privileged but as a universal right and a need, as well as a prerequisite for success. Continuing education is needed to maintain employment prospects in an increasingly competitive workplace. In a wider context, the drive for self-improvement, and the need to solve problems in a world becoming ever more complex demand a greater breadth of learning, of multiple intelligences. The library is the gateway through which users pass in order to acquire that learning.

This changing learning environment is affected by technological innovations that put the learner first, through a greater participation in the learning process, through new and wider choices of curricula, and through the vastly extended availability (via electronic networks) of informational materials. All of these empower learners to choose what they want to learn, to monitor the learning progress and to interact online both with their instructors and with other learners. The 24-hour networked classroom has led to the evolution of the 'virtual library', which provides a high level of support for the demands of this new breed of learner. Librarians must learn to embrace this idea of a user-centred culture.

### **Changes in scholarly communication**

Change has also led to a crisis in scholarly communication, seen in the dramatic increases in journal costs and in the increasing commercialisation of scholarly publishing, which have reduced the scholar's access to essential research resources.

The evolution of a new pattern of scholarly communication via electronic publishing has made access to information easier and faster, facilitated communication among academic colleagues engaged in the creative process, and promoted more direct contact between scholars and their readers. However, the same process has brought with it new problems: of preservation, of the archiving of electronic information, of copyright issues, and of restrictions in access to information due to the demands of commercial licensing agreements.

### **Impacts and Challenges for Library and Information Services.**

These various developments have had an impact on, and have provided new challenges for, library and information services.

**From Developments in Information Technology**

Developments in new technology have meant that users have become able to access information via local and global networks, so that fewer visits are being made to libraries. Digitisation enables the information to be delivered in electronic form, and users are becoming increasingly reluctant to use physical materials, perceiving the Internet to be the answer to all their informational needs. The library now has many competitors for the provision of that information; but end-user access requires training and real-time support, and expert database searches demand subject knowledge. There is still a place for trained information professionals who are prepared to accept changes in their roles.

**From the Changing Economy**

The boundary between the library and information production is becoming blurred. Demand for information (particularly business information) will increase, and speedy delivery and high productivity will be essential in order for the library to compete with other services that are now available. Fluctuations in the economy directly affect the library's growth, the services it can offer, its staffing levels, and its ability for strategic development. Conflicts between budgetary constraints and the desired level of financial resources must lead to a move towards providing services that will generate income and improve funding, as cost-effectiveness and efficiency become increasingly important to the library's survival. E-commerce may empower the traditional process of library work, and may provide opportunities for new partnerships.

**From the Changing Educational and Learning Environment**

As the learning needs of library users change, the library's relationship with its clients will become more important. Lifelong learning requires that varying levels of informational materials be available to users at all different stages of the learning process. Restricted access to either the physical library or its networked resources will exclude potential users. The increasing practice of copyright for scholarly articles residing with commercial vendors rather than authors has led to the very real possibility of a new divide forming between the 'information-rich' and the 'information-poor'; in the digital age, lack of access to information is another face of under-privilege.

The increasing diversity of users will require wider subject specialisation on the part of information workers. In addition, the development of hybrid and virtual libraries means librarians must acquire new competencies and skills. Libraries will not become redundant, but they will change, and the role of the librarian must change with them.

As noted above, advances in electronic communication may reduce the user's dependence on the traditional library. In the future, librarians will have to handle more complicated legal, ethnic, technical and advocacy issues.

## **Responses of Libraries to Changes**

### **Responses To Developments in Information Technology**

Developments in information technologies have brought home to libraries the need to be innovation-driven and customer-oriented. With the development of their electronic and digital collections, libraries are being transformed: they now range from a physical entity through hybrid operations to the virtual library. Libraries are providing proactive support and training to users and many are focusing on supplying access to information resources, rather than acquiring them, using the full range of appropriate technologies now available.

Useful information resources are being selected via the Internet, organized and made easily accessible to the user. The Libraries has an extensive collection of Internet Resources pages, maintained by professional staff, as well as a comprehensive library of electronic resources of all kinds. Reference staff provide training for both staff and students, and publicise new acquisitions throughout the campus to ensure their wide use. The Reference Department plans to initiate 'boot-camps' designed to teach faculty how to integrate digital forms of information into their course, through concentrated workshops of 1-3 days' duration.

Librarians are now also being trained to provide deeper subject knowledge. They are in the vanguard of support for new technological innovations such as Internet2 and are actively involved in collaborative digitisation projects.

### **Responses To the Changing Economy**

In one response to the new economy, libraries have begun to seek financial resources from business sponsors. One way in which libraries are able to play a new role is in the provision of enhanced business information and in their ability to deal with consumer issues. They can use consortial power to obtain better prices for information resources, and by developing diversified programmes can attract partnerships between entrepreneurs, government, schools, the media, etc. Libraries are now applying the principles of e-commerce to the library work process and are adapting business system design methods to library management.

### **Responses To the Changing Educational & Learning Environment**

Libraries are adapting to the changing educational and learning environments by making the library fully accessible both physically and intellectually via electronic networks, and by providing ICT support for remote users on a 24-hour basis. By building a user profile database they can develop a collection that reflects the needs of the whole community and that can attract all social groups. By acquiring information resources in the appropriate formats the library of today can cater to users at different levels of learning and in different subjects. By developing cooperative online learning and educational programmes, library services can be incorporated into the teaching and learning process. Libraries are also initiating partnerships to facilitate consortial funding aids and are training staff to cope with

changes in the learning environment.

### **Responses To Changes in Scholarly Communications**

Libraries are increasingly participating in and monitoring changes in scholarly publishing by providing advice, for example on journal prices; by pointing scholars towards journal cost-effectiveness; by encouraging appropriate publishing, for example in reasonably-priced journals; and by finding alternatives to print resources, such as electronic publishing and research archives (Create Change, 2000). Close collaboration between the Collection Development Department and faculty will ensure the best use of resources.

They are increasingly subscribing to e-journals to attract users. Some e-journals are free, and a subscription to the print version generally includes free online access. Many libraries now have a policy of keeping e-journals rather than the print version, if the latter experiences low usage. At the Libraries, some print subscriptions have been cancelled as less-expensive electronic options became available. Additionally, some little-used electronic resources have been discarded.

Libraries are increasingly seeking to improve cost-effectiveness by sharing resources; for example, by organising co-operative acquisition of scholarly publications (Johnson, 2000). Some have created an electronic forum for scholarly publishing in all subjects and have made it accessible both within the parent organisation and to outside academics. In the UK, the Electronic Libraries Project (eLib) was established with the aim of providing on-demand electronic resources for students in higher education, by the creation of a database of digitised texts already in publication (Rowlinson, 2000). Following on from that, the HERON (Higher Education Resources ON-demand) project was set up in 1998 in order to widen access to course materials by the development of a national resource bank and database, and to streamline associated copyright issues. Through this initiative, it is also possible for lecturers to disseminate their own course materials both to their own students and to the wider world of higher education.

The Libraries is to conduct a two-year pilot project with the science, social science and humanities faculties to test the value and feasibility of creating a full-text database containing articles written by University of Hong Kong faculty. Another project currently underway is the online reserves study, whereby materials placed on reserve by faculty staff are being digitised to allow wider student access (with due regard for copyright).

The smooth dissemination of information has been further improved by the strengthening of librarians' skills in dealing with copyright and in negotiating with publishers. The Libraries, in common with many other academic libraries, has recently created a position of Collection Development Assistant for Electronic Resources to handle such duties.

## **Strategies for the Management of Change in Library and Information Services**

Demands for change are both external and internal. As we have seen, outside factors include legislation, technology, socio-economic forces, the political agenda, etc. Those from inside include re-orientation, the new function of libraries, leaders and reorganisation.

However, change does not happen by itself; people make it happen. To be successful, change has to incorporate the mission, goals and objectives of the organisation. Simultaneous changes in structures, systems and people will lead to a change in the culture of the organisation.

### **Strategies for Change**

In order to implement change, the library needs to develop a strategic plan. Its vision and values should be evaluated and redesigned based on Critical Success Factors (CSFs) (Smye, 1994). CSFs for libraries include customer-oriented services and the innovation of new technology.

In order to create a sense of unity within the organisation, libraries need to alter their management style from 'top down' to 'top down, bottom up', encouraging participation at all levels, and empowering the staff through representation. Management should engage human potential rather than deny it, and so engender motivation for, commitment to and coordination of change (Joyce, 1999).

Staff should be given the facts. Management must explain the reasons for change, specify the expected benefits, seek and answer any questions that the staff might have, and invite their participation in the process. They should avoid surprises and acknowledge problems when they arise. Deadlines by which standards and targets are to be accomplished should be set, and the proposed changes discussed informally beforehand with staff representatives. Management must give praise where it is due, for positive reinforcement, and should make change a continuing process using fresh examples and different approaches.

The 1998 the Libraries' submission to the Benchmarking Club emphasised a strategic and integrated approach with good internal and external communications, a participatory team management approach and the introduction of means for ensuring continuous feedback and assessment. Outlines of triennial, annual action and business plans were included within the strategic plans at that time, plans that were linked to the Libraries' vision and mission, which in turn were linked to the mission and vision of the University as a whole.

More recently, all members of staff were invited, individually and in small groups, to meet the Librarian in order to discuss their personal role within the Libraries, to express their concerns and to outline their hopes for future developments. With the feedback thus acquired, a set of Strategic Directions was compiled and presented to staff in a series of brainstorming

sessions. The ideas garnered from these sessions were used to further refine the strategic goals in preparation for a "Library retreat" at which all these measures were assessed and discussed. In this way, all the professional staff were involved and included in plans which will necessarily involve a great deal of change in their daily lives. It has been heartening to observe the enthusiasm with which the vast majority of staff have welcomed prospective changes, as well as the way in which they have become involved in the process itself. As a result of all the discussions, everyone has been made aware of what the Libraries hopes to achieve, where and how changes will be made, and a number of targets have been set for the next few years.

Before introducing changes, a fact-finding process should be carried out in order to establish objectives, so that concrete issues can be identified. For example, the library manager may wish staff within a particular section to exchange jobs in order to extend their skills, or may decide to give a particular individual the opportunity to develop their potential. In order for the sections to be run efficiently, the organisational objectives of the exercise must be clarified.

At the Libraries, discussions have recently taken place as to the feasibility of rotating staff between different departments. Whilst many members of staff would welcome the opportunity to broaden their horizons, the recently formed Staff Development Committee is of the opinion that such an exercise may not be practicable in some areas; for instance, it would probably not be possible for rotating staff to acquire the necessary levels of cataloguing skills in a short space of time. However, it seems likely that individual members of staff will be given the opportunity for personal development via attendance at conferences, study leave, and so on.

The likely impact of change on the organisation, and on individuals within the unit, should be determined before any changes are implemented. For example, changes may be made in workflow, in scheduling of tasks, in the use of technology. Some staff may lose their specialization, or there may be conflicts in the roles they are now asked to play. Responsibilities may need to be redefined, and there may be a perceived loss of continuity. On the positive side, staff may find that the new flexibility within their working environments, or new ways of doing things, make their jobs more interesting.

It is advisable to try to predict the reactions of the individuals who will be affected by or called upon to implement change. Possible negative reactions may include fear of the loss of predictability in their work, or reduction in its professional content, with a resultant downgrading of their importance within the organisation. There may be a reluctance to learn a new skill. However, there may also be positive reactions, such as increased job satisfaction, the fulfilling of ambitions, improved career development, leading to a better understanding of the whole section and enabling staff to perform better and to cooperate and interact more effectively.

Recent changes in the use of technology have included the Libraries becoming a full member

of OCLC, and the introduction of the use of the CatMe programme to upload original cataloguing records into the OCLC database. Again, those members of staff affected were fully involved in the discussions leading up to the decision to join, and once their various fears had been laid to rest and a few minor problems ironed out, welcomed the innovations. Staff in the same department are also currently getting to grips with the use of metadata to catalogue the Libraries' digital resources and make them more freely available via the Internet.

Several steps are involved in committing to the implementation of change. First, a strategy must be devised in order to secure the support of those subsystems that are vital to the change effort. The next steps are to identify the target, whether a group or an individual, to define the critical mass needed to ensure effective change, to develop a plan to ensure the commitment of the critical mass, and then to create a monitoring system to assess progress. The level of commitment will vary from 'let it happen', through 'help it to happen' to 'make it happen'.

### **Implementation of Change**

The implementation of change involves a number of areas; in the organisation's structure, in its systems, in the nature of the tasks undertaken, and in its personnel.

#### **Structural Change**

Organisational change in library and information services includes a migration from a hierarchical to a matrix structure, through the flattening of the organisation, the removal of management layers (particularly the now-redundant supervisory or middle management level), and the formation of committees, task forces, working groups and cross-divisional working groups (Bloss, 1997).

In the changing organisation, management is led by teams, so that those staff most closely affected by the changes propose, institute and evaluate decisions, as opposed to the previous situation, in which such activities were all carried out by top management. Such management by objectives ensures that all staff are allowed - indeed required - to lead, think and do. Ineffective systems hinder potentially effective people.

At the Libraries, a number of library-wide discussion groups have been set up. The first of these was the Technical Services discussion group. Library staff decided together that the best way to communicate their suggestions for improvements, and solutions to problems would be via online discussion groups. Senior management do not attend these discussions. Anyone who wants can make a contribution, and proposals and suggestions are forwarded to the Quality Assurance Team.

Communication in the changing organisation is by means of horizontal rather than vertical interactions, so that instant communication networks are available to staff at all levels. They



should facilitate effective, productive and empowering communication.

New functional departments, such as Management Services, Electronic Information Resources, Outreach, and Research & Development may be created.

At the University of Hong Kong, the Libraries has recently appointed a Publicity Officer whose duties will include the investigation of possibilities of increased funding through external donations. It is hoped also that the creation of a 'Friends of the Library' scheme will provide support of various kinds for the Libraries collections and services. There has also been a suggestion (made by the Staff Development Committee) that a Research & Development position be created.

The design of the organisation will become simpler, from a function-based to a process-based design (for example the Digitisation Project Team), and cross-functional working groups will operate within and across the major work process areas. Departments whose work is fundamentally the same may merge; for example, the cataloguing of Chinese materials and of Western-language materials may be carried out by one Cataloguing Department, Chinese serials and Western-language serials processed in one Serials Department, Chinese and Western acquisitions handled by the same Acquisitions Department. The library and the Computer Centre may merge to form the Information Services Division (Convergence Model) (Library Hi tech news, 1998).

At HKU several studies have been made regarding possible changes in workflow arrangements, particularly in the Technical Services Department. As a result, Chinese and Western Cataloguing departments are physically to be moved together, and Acquisitions processes streamlined. Some Technical Services work formerly carried out in the branches is now also to be centralised.

### **Technological Change**

Technological changes in libraries and information services will include the designing of a new system that is Web-based and incorporated into the parent organisation, such as the Municipal Council or a University. Such a system needs to be robust, secure, and capable of searching, generating reports, and allowing users to customise it according to their needs. It should consist of several subsystems and linkages, which should include a management information system designed to reflect policy, the strategic plan and the change management process, from the housekeeping systems designed to aid acquisition and processing to the seamless integrated systems intended to support users and electronic services (Wilson, 1998).

An interactive user-librarian service system could incorporate a user profile system to trace users and prevent misuse of library resources. Such a system would enable each user to develop a personal digital library consisting of downloaded materials that would also be

available to other users, and might include a librarian profile system that allows the users to communicate directly with the librarian most qualified to handle their particular informational need (Morgan, 1999). A digital resources system could also be included amongst the subsystems.

The Libraries is currently investigating the "My Library" option for online users. MyLibrary@NCState allows library users to reduce information overload by selecting the type and amount of information from the Internet that they wish to appear on their personal pages.

A financial management system would link the library directly to the publisher and vendor databases, and to an accounting system used to monitor use by individuals and departments of particular services, such as interlibrary loans, online searches and journal subscriptions. The system should also be capable of managing the library's human resources.

### **Task Changes**

A number of changes will also take place in the tasks carried out in library and information services. As the 'case-officer model' from the insurance industry shows (Wilson, 1998), each officer is trained to make use of all processes in order to interact with and satisfy the users, and the method of interaction has changed from a face-to-face to a more remote operation. The introduction of subject-oriented services means that each officer or, more broadly speaking, a team of two or three, will take charge of one or more subjects, carrying out all the tasks associated with that area; for example, compiling a subject guide to electronic resources, subscribing to e-journals and acquiring e-books in certain subjects, as well as conducting on-line literature subject searches.

In the changed organisation, the focus will change, in negotiation with the vendors, from acquisition to supply. Information can now be supplied electronically using e-mail, image processing, on-line databases and e-journals, and book purchases recommended and authorized via interactive online services.

Selection staff at the Libraries have had access to an online book recommendation service for some time, linked directly to the Acquisitions Department, and last year this was expanded to include both staff and students.

Much library work is now outsourced to ensure professional excellence; book selection is made via approval schemes, library Webpages designed by professionals in the field, IT development passed to the organisation's Computer Centre, and databases developed in collaboration with various faculty institutions. Streamlining the work process achieves high efficiency and productivity.

Some cataloguing operations at the Libraries are outsourced. The Libraries has had approval schemes with several vendors for some years now and intends to streamline this operation in

the near future by buying only from one major supplier, at which point the approval plans will probably be reassessed. The Libraries is actively seeking to carry out projects in collaboration with other departments of the University, for example, the digitisation of HKU theses, in cooperation with the Computer Centre.

Staff can also be trained by external organisations with professional expertise in the field. Job design and specifications are also changing, from narrow responsibilities to broad, providing cross-sectional job role assignment and job rotation, as seen, for example, in the Collection Development Team or Web Design Team. Job specifications are becoming more fluid, boundaries blurring between departments as responsibilities shift, and more responsibility shared (for example in materials budgeting and control) amongst different departments.

A Staff Development Committee has recently been set up at the Libraries, with responsibility for ensuring that all staff have access to the resources they need to develop their potential both for their own benefit and for that of the Libraries. Upcoming workshops will include one to promote the library staff's perception of the Libraries as a service organisation, to reinforce the idea that its survival depends on how well it fulfils its users' needs.

The recent appointment of a Staff Development Officer who will have the responsibility for staff training will help to ensure that the Libraries' staff have access to workshops and training materials, and that all staff receive the support they need for personal and professional development.

### **People Changes**

Finally, organisational change involves people: it starts and ends with them. Thus the organisational change agenda needs to be translated into an individual change agenda. Staff need to be committed to the mission and strategic directions of the organisation, and to work collaboratively in a supportive and focussed manner.

Applying a task-competency approach (Spencer, 1994) will identify the competencies needed in the library of the future for staff of all levels. Library directors must develop their strategic thinking, that is, their ability to understand the trends of change in the library environment, to recognise the marketing opportunities, competitive threats and the strengths of the library, and to identify the optimum strategic response. They are the ones who must lead organisational change, who must make the strategy feasible and desirable to library stakeholders, including the staff, arouse motivation and commitment to change, and allocate the library's resources optimally to implement change. Directors must also possess the ability to establish partnerships and to handle co-operation within diverse groups.

Department heads and branch librarians should be flexible, possessing both the willingness and the ability to change managerial structures and processes. Like library directors, they too have to be instrumental in the implementation of change, must develop change management

skills such as communication, and should undertake training in order to be able to implement change in each working group. They need to adopt an entrepreneurial, innovative approach, developing the motivation, for instance, to adopt new information services and IT products. They also have to be able to extend their ability to understand the people affected by the change process, and to develop their managerial behaviour, for example in encouraging staff participation in the process, in fostering employee development, in empowering staff and in rewarding improvements in performance. Managers at this level must also foster their team management skills in order to facilitate the working together of diverse groups of people.

Library employees too have their part to play in adapting to change. They need to be able to see change as an opportunity rather than a threat, have the motivation to seek information and the ability to learn. To these employees, achievement is the motivation for excellence in performance. They must be able to work well under pressure, and to work in collaboration with other members of the team, their primary goal being the serving of the library's clientele.

These people-oriented changes in library and information services will require the redesigning of the human resource system. This will include the creation of a database not only to record the competencies and skills needed for each task, but also to match employees to jobs. Linking the database to the inventory of a professional recruiting company will also help to locate suitable candidates when vacancies arise. The development of the digital library will particularly require the recruitment of people with IT skills.

As noted in the 1998 Benchmarking Club document, a high priority must be given to staff development, with equal opportunities for staff at all levels, whether professional or clerical, permanent or temporary. Such opportunities for development should be provided on an ongoing basis. The designing of a task-competency and task-skill training plan database will aid this process, as will the organisation of diversified modules of training; for example, workshops on different themes (such as the management of change, teamwork, customer orientation and communication skills); demonstrations, for example, of IT products; seminars on such themes as the issue of copyright as it relates to electronic publishing; training courses; and conferences. Staff competency training may be outsourced to professional organisations with training expertise.

The criteria by which staff performance is evaluated must also be reassessed (Schneier, 1994). The satisfaction of users rather than management must now be taken into consideration, and staff performance measured by both behaviour and results. The changing information organisation must provide benchmarks, standards for productivity, user satisfaction, effectiveness in communications, and so on. Assessment will change from the hierarchical to the horizontal, empowering the working group, weakening the supervisory level, and enabling top management to see individuals at each level and thus prevent a biased evaluation.

The prevailing reward system needs to be redesigned (Schneier, 1994) so that excellence, rather than not failing, and the prevention, rather than the fixing, of problems become the basis for praise. The new system should strengthen recognition and appreciation of high-quality performance. It should be linked to a performance measurement system and open to all staff.

An ongoing staff performance appraisal scheme is soon to be implemented at the University of Hong Kong Libraries, to enable staff to discover areas of their work that require improvement and to encourage them, and provide them with the means, to improve their skills.

A healthy career management system means that value-added and competency-based distinctions, rather than status-based or seniority-based differences, will play a key role in the development of a successful career path.

The change process must also include the creation of a supportive staff grievance system to assist those members of staff most closely affected by change on a case-by-case basis, in a secure and confidential environment, and by coaching rather than instruction.

### **Conclusion**

The management of change in the library and information service environment in the digital age can be summarised as follows. First, decide what needs to be changed. Make the pre-change analysis by deciding why changes need to be made and setting objectives. Next, carry out a force field analysis by predicting the likely impact of change: who will be affected by change, and to what degree. Finally, engage the commitment of others by involving them in the process, whether that involves individual, cultural or organisational change. Commitment and a willingness to adapt to the changing information environment will help to ensure the library's survival in the digital age.

### **References**

Bloss, A. & Lanier, D. (1997), "The library department head in the context of matrix management and reengineering", *College & Research Libraries*, Nov., pp. 499-507.

*Create change: a resource for faculty and librarian action to reclaim scholarly communication.* (online). 11 Aug. 2000.

<http://www.arl.org/create/> [Accessed 6 Jul 2000].

Johnson, Richard K. (2000) *Competition: A Unifying Ideology for Change in Scholarly Communications* (online). 11 Feb. 2000.

<http://www.arl.org/sparc/core/index.asp?page=a2> [Accessed 22 Oct 2001]

Joyce, W.F., (1999) *MegaChange: how today's leading companies have transformed their workforce*, Free Press, New York.

Morgan, E.L. (1999), *My library: a model for implementing a user-centered, customizable interface to a library's collection of information resources* (online). 9 Feb. 1999.

<http://my.lib.ncsu.edu/about/paper/index.html> [Accessed 31 Jul 2000].

Mullins, V., Ferguson, S. & Houghton, J. (2000), *INF100 The information society and future of library and information services: Study guide*. Charles Sturt University.

Re-engineering information services for the 21<sup>st</sup> century. *Library Hi Tech News*, Jan./Feb. 1998, pp. 22-23.

Rowlinson, Carolyn (2000), "Supporting learning through on-demand and electronic reserve services", *Collection Building*, Vol. 19 No. 2, pp. 56-60.

Schneier, C.E., Beatty, R.W. (1994), Making culture change happen. In *The change management handbook: a road map to corporate transformation*, L.A. Berger. McGraw-Hill, New York.

Smye, M., (1994), The key to corporate survival: change begins and ends with people. In *The change management handbook: a road map to corporate transformation*, L.A. Berger. McGraw-Hill, New York.

Spencer, L.M., Jr., (1994), The right stuff for the new dynamic. In *The change management handbook: a road map to corporate transformation*, L.A. Berger. McGraw-Hill, New York.

Wilson, T.D. (1998), "Redesigning the university library in the digital age", *Journal of Documentation*, Vol. 54 No. 1, pp. 15-27.