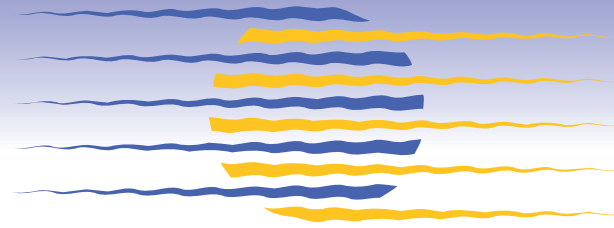


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challenging ideas

Enabling The Information Commons

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Abstract

As more libraries embrace the term 'information commons' to name and symbolise services, this paper explores the meaning of the concept in Australia and overseas. The public library as we know it was founded on principles of providing free access to all. This is now threatened by the growth of information as commodity, and has led many to question the controls and costs of information in society. This is a conceptual paper that examines the threats that emerge from restricted access, legislation, rising information costs, and the changing role of libraries. The response to these threats by libraries, individuals and organisations is detailed. Projects and models that aim to protect the information commons are discussed. This paper aims to encourage debate on these issues to clarify the nature and role of the information commons.

What steps can librarians take to ensure access to information for all in the future, and how can they build communities in an era of declining participation? Do the information commons represent a new direction for librarianship, or a renewed emphasis on traditional values?

1. Introduction

1.1. Definition

The information commons is a relatively new concept in librarianship. It is derived from the historical commons – resources that are freely available for the benefit of all in society to build relationships and cultural democracy. The information commons is an evolution of information technology centres that already exist in many libraries, and a renewed emphasis on libraries as places of community-building. Currently defined, the information commons comprises two halves – the physical of information commons as space, and the virtual, of resources and values as a platform for access to and advocacy for ideas (Beagle 1999; Kranich 2003). Information commons are not just about resources, but about relationships and community between the creators and users of information. The American Library Association's Office of Information Technology Policy has defined the concept as –

Information commons ensure open access to ideas and the opportunity to use them. These commons are characterized by values and laws, organizations, physical and communication infrastructures, resources, and social practices that promote sharing, community, and freedom of information. They encourage people to learn, think, and participate in democratic discourse, fundamental to ensuring an informed and active citizenry. In short, information commons are essential to democracy (Kranich 2003, p. 1).

1.2. Characteristics

The information commons are often separate buildings within a library complex or a redesigned space within an existing building, providing a range of resources similar to those already in many libraries including room booking, word processing, printing, communication software, and access to licensed databases (Cowgill, Beam, & Wess 2001). Commons are bright, welcoming and open spaces. As they are often designed when libraries are built or renovated, there are fewer limitations on placement of computers, wall outlets, wiring, and lighting, which can allow libraries to make radical changes to physical organisation in a building. Resources in the commons go beyond text-based information and can include audio, video and multimedia (Brigham Young University 2003).

Two characteristics distinguish information commons as a physical space from other types of computer access in libraries. Information commons are a space where patrons are encouraged to stay and work for long periods of time, often collaboratively, and reference and technical departments work together to create integrated reference and information assistance to patrons (Bailey & Tierney 2002; Beagle 1999; Halbert 1999). Information commons stress the need to integrate these services in the organisation to cope with increased demand for librarians to have advanced reference and IT skills, and to answer questions that are of a different nature to those traditionally asked in reference situations (Beagle 1999).

1.3. Community building, values and democracy

Inherent in the information commons is a notion of values. The aim of the commons is to provide access to information for all, and the values of free access to information and freedom to read are entrenched in the history of librarianship (Symons & Stoffle 1998). Many library associations have recognised these values in policy statements (Australian Library and Information Association 2001; International Federation of Library Associations and Institutions 2002). The commons support the notion of resources for all. Commons are an equaliser –available to all without prejudice or preference. Democracy is fostered by the very nature of the information commons, and encouragement of discussion and learning (Kranich 2003).

Information commons as a concept organises several issues that are at stake in the digital era and provides context and a cohesive banner (Bollier 2001). Information commons stress the importance of the public domain and the free exchange of ideas and information. This is under threat in the digital era, due to copyright and licensing restrictions. Values are not consistent with market forces, and this has caused librarians to be under pressure to protect their values (Bollier 2001; Brennan 2003). Additionally, as there is no hierarchy of values in librarianship, there are differences in opinion as to which values are the most important (Symons & Stoffle 1998). Disagreement about values may lead to conflict, weakening the power of libraries to lobby against restricted access to information.

Libraries make information available regardless of the market controlling it. Patrons do not know about the complexities of licensing, negotiation, funding, and technical issues to make resources, such as databases, available. The complexities are burdens off the patron's shoulders – without them, they need not be concerned with such issues themselves. All they see is that the information within a resource is available to them. They can use the resource unhindered by restrictions that may otherwise impact on resolving their information needs.

As collaborative work and recreational spaces, the information commons have a major role in community building physically within the library, and virtually between information users and creators. The design of information commons is based on patrons working together. Extra room is provided between computers to facilitate sharing, and talking is encouraged. To counter increased noise, many commons also have quiet areas for individual study (Brigham Young University 2003). In academic libraries, this arrangement extends group study areas that already exist in many libraries, and accommodates group work in undergraduate curricula. Libraries that have meeting rooms can extend their attraction by promoting computer resources in the commons. Information commons may also be an attractive benefit to new community groups that wish to utilise the library.

Virtually, the information commons provides access to many resources that enhance community building. Through the Internet, patrons are exposed to Usenet, bulletin boards, blogs, and chat services. The growth of self-published information has increased communication possibilities between information creators and users. Users can now not only read new work, but comment on it in context where it can be read by the creator and by the public. Librarians too, can communicate more with their patrons through websites, email lists, and virtual reference. The Internet enables democracy because it is free of many restrictions that exist in the

non-virtual world such as time and space, and it evolves through creation by individuals, not bureaucracies (de Cindio 2000).

Libraries are becoming the centre of community life in many regions of Australia (Environment Communications Information Technology and the Arts References Committee 2003). They are battling a worldwide trend of rising individualisation and declining community participation in other sectors of society (Putnam 2000). Libraries have always provided community roles such as collecting local history, holding meetings, exhibitions and cultural events, but technical innovations have extended the scope of a library's ability to connect with communities well beyond walls and outreach services. Apart from enhancing the lives of people in their communities, community building makes the future of the library more secure by ensuring that it is indispensable at the centre of society.

1.4 The changing role of libraries

It is undeniable that libraries have undergone massive changes in the past few years. They are no longer just keepers of information but also creators of information, social places, community meeting places, and training providers (Environment Communications Information Technology and the Arts References Committee 2003). The way people access and use information is changing, and so libraries need to change the way that they serve patrons –

Research has shown a downturn in loans and photocopying, which suggests that students are using resources online. That doesn't mean that the physical environment of the library is less useful. It does mean that staff need to stay in tune with the way that people absorb information today, including the use of video, television and related technologies. Libraries need to acknowledge and encompass those technologies and provide environments where students can relax and enjoy using them." (Benton as cited in University of Newcastle 2001, p. 2 of 3)

Information commons can meet these needs, as long as they are open to as many people as possible. The success of the information commons relies on being truly common and not restricted to certain members of a community.

2. Information Commons In Australian Libraries

The Australian National University, Illawarra Institute of TAFE, the University of Newcastle and the University of the Sunshine Coast have opened information commons in recent years. Other centres similar to information commons in terms of physical design, but known by other names, include the University of Technology, Sydney's Learning Commons, and the Educational Technology Access Centre at Sydney Institute of TAFE, Ultimo Campus. In New Zealand, the University of Auckland has recently opened the Kate Edger Information Commons, and the University of Otago's award-winning Information Services Building.

Information commons in Australia focus strongly on the physical aspect of the concept. Commons websites emphasise the availability of room booking systems, software, Internet access and the notion of the information commons as research space. There is not yet the drive towards information commons as a forum for advocacy and access in Australia. It is difficult to predict if this aspect of the information commons will be adopted in the Australian library environment, or how long the diffusion may take, or how widely it may be implemented. The diffusion of an

innovation “is a kind of *social change* [emphasis in original], defined as the process by which alternation occurs in the structure and function of a social system. When new ideas are invented, diffused, and are adopted or rejected, leading to certain consequences, social change occurs.” (Rogers 1995, p. 6) It is likely that, as with other innovations in libraries, including the physical implementation of information commons, some libraries will be quicker to adopt and implement the idea of information commons as a forum for advocacy and access than others, and some libraries may reject this aspect of information commons. However, it can be argued that the physical, virtual and advocacy aspects of the information commons are all interrelated, forming a technology cluster (Rogers 1995), and thus each aspect of the information commons as an innovation should be investigated together rather than separately.

The characteristics of Australia’s information commons include:

- Generally established when library buildings are significantly renovated or newly built
- Collaborative study areas
- Electronic room, PC, and lecture theatre booking systems
- Expanded PC services, including CD-ROM burning, scanners, web cams, printing
- Integrated information and reference desks
- Standardised PC login, authorisation and software (Australian National University 2002; TAFE Illawarra Institute n.d.; University of Newcastle 2004; University of the Sunshine Coast 2004)

Many information commons have a comprehensive website detailing services and resources. Several also have photographs of the space, emphasising the attraction of design in information commons (University of Otago 2003).

Overseas, significant examples of information commons include the University of Calgary, Leavey Library at the University of Southern California, Chapman Learning Commons at the University of British Columbia, and the University of Arizona.

3. Issues

The concept of an information commons has become more pertinent in an era where more information is delivered and created digitally. New methods of information creation, distribution and retrieval have raised questions about who should have access to information, in what manner, at what cost. Four issues have arisen from the implementation of information commons in Australia and overseas – access, legislation, licensing and cost.

Initiatives to protect and promote the information commons go some way towards addressing the issues. Projects range from creative licenses, new models of journal publication and distribution, software distribution, and activism. They are headed by organisations and individuals inside and outside librarianship. Information commons are a society goal, and many sectors are engaged in advancing the concept.

3.1. Access

Information is increasingly owned by organisations that place strict terms of use and limits on the individuals that are authorised to access it. Restricted access to information, particularly scholarly databases, has become widespread, despite predictions that information would be freely exchanged amongst individuals in the so-called information age (Webster as cited in Butterworth

2000; Kranich 2000; Lessig 2001). Common ownership of information is being eroded at the expense of being a consumer of information products (Kranich 2000).

A consequence of information as a product is uncertainty of access to information. Bundling is a popular method of selling journals, but this complicates acquisitions for librarians and makes it difficult to add or cancel specific titles (‘Harvard, Cornell Slash Journal Subscriptions’ 2004; Gibbs 2003). Dorman (2002, p. 51) observes, “collection development is becoming the art of the annual lease, rather than the art of the permanent purchase”. Information has become subject to the nature of business, and if a resource or information product is no longer profitable, a business will cancel that service. Businesses do not want to be obliged to make a resource available in perpetuity if a more profitable or advanced service is available (McDonald 2003). Patrons may benefit from improvements and innovations in new services, but may find that the information within is constantly changing. Access to information will continue to be tumultuous for some time –

The digital communications revolution has given us new ways to store material; new ways to use, modify, aggregate and sort material; and new ways to access and distribute materials. These developments in technology have been accompanied by experimentation with a variety of business models governing the supply and distribution of electronic materials (McDonald 2003, p.3).

Librarians need to maintain awareness of advancements in technology and to continually seek solutions for patrons and library management that do not impact upon provision of existing resources.

Rejecting the idea of information as product, several projects aim to facilitate access to information. The American Library Association’s Office for Information Technology Policy has commenced a major project to define and promote the concept within libraries (Kranich 2003). Central to the project is the recognition that access is the key issue for libraries and other stakeholders. The initiative includes workshops, resources for researching the information commons, and a blog (<http://www.info-commons.org>) highlighting the work of other projects in the commons.

The World Summit on the Information Society (WSIS) is of interest in the development of the information commons. The WSIS is organised by the United Nations and is supported by governments and organisations, including the International Federation of Library Associations and Institutions (IFLA). IFLA is lobbying WSIS to recognise the role of the library in fulfilling this purpose, introducing a campaign for “libraries @ the heart of the information society” (International Federation of Library Associations and Institutions 2003b). The WSIS defines the information society as a place where –

...everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights (World Summit on the Information Society 2003, p. 1 of 9).

The Australian Library and Information Association (ALIA) has affirmed the need for access to public libraries. Such freedom of access is essential to the democratic process and to the social well-being of the Australian community. Additionally, ALIA notes that governments must “provide access to the library’s information resources, regardless of the format in which material is held, and including print, tape, disk, CD-ROM and networked electronic resources” and that this is a core service of public libraries (Australian Library and Information Association 1999, p. 1 of 2). Yet, as long as other services such as “providing, for public use, standard office software such as word processing and database software” (Australian Library and Information Association 1999, p. 1 of 2) are not core services, the viability of the information commons in public libraries will be under threat. Email access is not seen as a core service, which may impact upon community building in public libraries (Environment Communications Information Technology and the Arts References Committee 2003). Further muddying the waters of what services libraries can provide on a fee-paying basis –

A local library is not to provide any service (whether or not it charges for the service) that under guidelines issued by the Council is classified as a commercial service which is unfairly competitive with the private sector (Government of New South Wales 1939 s. 10, ss. 1).

Different types of access in different libraries may confuse patrons. “Some make extremely generous provisions for all their users, well over and above core services, while others charge usually modest amounts for ‘non-core’ services. In between lie the libraries where staff use their discretion about who to charge, and for what” (Environment Communications Information Technology and the Arts References Committee 2003, p. 70). A guide to computer access in New South Wales lists dozens of different access arrangements in public libraries (Government of New South Wales n.d.).

Information commons have the potential to revitalise libraries at a time when they appear to have lost exclusivity as information providers to the Internet. Yet information commons, particularly in academic institutions, are generally not available to those who are not staff and students of that institution. Academic libraries make browsing the stacks available to the general public, but licensing restrictions mean that they cannot provide browsing of electronic materials to those outside core borrowing categories (Courtney 2003). Reciprocal and community borrowers are often excluded from using these resources (Environment Communications Information Technology and the Arts References Committee 2003). This trend is worrying as many Australian libraries worked together in consortiums during the 1990s to co-ordinate serial purchases to avoid duplication. Reciprocal borrowing amongst member libraries in Australia was promoted to provide access to the resources in each library. In the digital era however, without a password, reciprocal borrowers are locked out (Courtney 2003).

Academic libraries will have to determine for themselves whether the loss of access to some digital resources for non-core library users is a significant issue for them to challenge (Environment Communications Information Technology and the Arts References Committee 2003). Concern has been raised in the scientific community about access to medical journals to the general public and lay researcher (Gibbs 2003). If academic libraries are no longer able to provide this role to the general public, whether due to licensing restrictions or a choice on their behalf to

change the nature of access, who will take up this role? Whose role is it to provide scholarly research information to the public, if anyone’s? Public libraries do not have the funds to provide access to the same resources, and indeed such duplication is potentially wasteful. The National Library of Australia may take on part of this role, and it has been recommended that they examine the possibility of acquiring national licenses for a range of scholarly databases on behalf of public libraries (Environment Communications Information Technology and the Arts References Committee 2003). Such initiatives require additional government funding to be successful. At a local level, public libraries will need to lobby for increased funding, training and staff to fulfill a new role as providers of scholarly information.

Lacking in the concept of information commons as currently defined is recognition of the importance of advocating for community-focused resources. The need for the information commons to be a hub of new technology is well established, but definitions focus on the physical aspect of library as place, rather than establishing the nature of commercial resources provided to patrons in the commons. If libraries provided the same resources to everyone in the same way, they would not be able to cater for special interests or needs (Symons & Stoffle 1998). Specialisation can be problematic however, with commercial resource providers preferring to make products for the majority that can be difficult to customize for local interests, despite the need of libraries to serve their communities (Brunvand 2001). Advocacy by librarians is needed to end the practice of bundled resource purchasing by information providers and a return to acquisition decisions based on local research and recreational needs.

3.2. Legislation

Changes in legislation and new interpretations of the law can have a major impact on the ability of libraries to provide information. The role of copyright is to balance the rights and to encourage the continued creation of new ideas. Yet in recent years, copyright has swung in favour of owners, who are not necessarily the creators (Lessig 2001). Libraries are reliant on fair use (which has some similarity to fair dealing in Australia) and first sale provisions in copyright legislation around the world, but owners have introduced filters, encryption and licenses on information, changing the nature of access (Kranich 2000).

Several organisations and projects exist to lobby for the public domain and legislative change. These include the Electronic Frontiers Foundation, Electronic Frontiers Australia, Center for the Public Domain, and the Free Expression Policy Project. Along with individuals including Lawrence Lessig (2001; 2004) and Siva Vaidyanathan (2001), these projects argue that there need to be legislative changes in order to swing the balance of copyright to creators, and to encourage more work to enter the public domain where it can be used by anyone.

Librarians should work towards legislative change to achieve equitable access for all by, “observing laws and regulations governing access to information and ideas but working towards the amendment of those laws and regulations which inhibit library and information services in meeting the obligations and responsibilities” (Australian Library and Information Association 2001, p. 1 of 2).

3.3. Licensing

An extensive amount of information made available digitally is now accessible only if librarians accept the terms of licenses

and payments. Licenses are not always negative, as they can clarify aspects of the Copyright Act, but they mean more work for librarians in managing access to resources (Environment Communications Information Technology and the Arts References Committee 2003; McDonald 2003).

Unlike books and serials, digital resources including software, websites, databases, DVDs and audio attract a myriad of licensing and conditions. McDonald (2003) suggests that libraries now need license negotiation skills. Librarians need to ensure that they can negotiate licenses that are equitable and acceptable to all parties. However, many types of licenses are not negotiable, and this may affect purchasing decisions. In Australia, the lack of flexibility in licenses is complicated by importing products from different countries that are governed by different copyright laws, and the relatively small size of the library market. Lessig (2004, p. xiv) notes that licensing has in effect created a culture where action and innovation can only occur with the consent of another, "The opposite of a free culture is a 'permission culture' - a culture in which creators get to create only with the permission of the powerful, or of creators from the past".

Several projects aim to change the restrictive licensing culture. Open Access is a new model for creating and distributing journals, aiming to make research available at no cost to readers on the Internet (Budapest Open Access Initiative 2002) IFLA has adopted a statement to affirm their support for Open Access (International Federation of Library Associations and Institutions 2003a). The Budapest Open Access Initiative (2002, p. 1 of 3) states that Open Access will –

Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge.

Authors pay to have their articles published and to fund the cost of archiving. This model represents a shift in cost from subscriber to researcher, but it does not represent a decrease in the costs associated with publishing research as researchers have always paid for their own work by subscribing to the journals they were published in. Open Access also aims to make using work published under the license available to copy, redistribute, or used in derivative works which is not possible for works affected by copyright (Public Library of Science n.d.). BioMed Central and The Public Library of Science (PloS) are the most prominent initiatives. Currently publishing two journals using an Open Access license (PLoS Biology and PLoS Medicine), the PLoS aims to compete with well-established, but expensive and restrictive scientific journals in those fields. The PloS also plays an advocacy role, with much of their work devoted to promoting the Open Access model in the scientific community (Public Library of Science n.d.). The American Library Association's Office for Information Technology Policy sees Open Access as a key goal of the information commons (Kranich 2003). Small libraries have an opportunity to become involved in advocating for Open Access by acquiring materials published using this model. Apart from enhancing the distribution of such publications, they can be acquired at low cost to libraries.

In a similar way to Open Access, Creative Commons (2004) is a project designed to promote the intellectual commons by helping

content creators to license their work in ways that encourage sharing of work in ways that are less restrictive than the Copyright Act. Creative Commons aims to provide a balanced approach to ownership and control of work, creating licenses where creators can reserve some rights, but allow public use of their work for some purposes (2004). Licensed content includes writing, art, music, and film. The list of projects working for access to the public domain and new licensing models continues to grow rapidly.

3.4. Cost and "Tragedy"

Hardin's paper, *The Tragedy of the Commons* (1968), is still cited today as a rebuttal of the benefits of resources held in common. Libertarians too, deny the value of such resources (Brunvand 2001). Does the "tragedy" apply to the information commons? Lessig (2001) defines resources as being rivalrous and non-rivalrous. That is, when a resource held in common is used, is that resource being depleted (rivalrous), or can it be used again by another person without diminishing the resource (non-rivalrous). Hardin's thesis relates to rivalrous resources. He argues that the depletion of resources does not provide enough incentives to continue producing it (Hardin 1968). In the information commons, the physical space can potentially be a rivalrous resource. When all computer terminals are being used, no other person can use them and their value is diminished. Databases that limit the number of persons that can log in at any one time, time restrictions on the use of computers, fee-based access to services and other measures are further examples of rivalrous resources. Yet, it is necessary to impose these limits on resources in order to ensure that they are available to all and not abused by a minority (Bailey & Tierney 2002). Limits are a reality of the commons in order to ensure their survival. The goal for librarians is to ensure that limits are at a minimum to encourage use of these resources.

Butterworth (2000) argues that public library funding is inadequate to expand more fully into providing electronic resources and information. However, many public libraries are already providing some of the services found in information commons, such as Internet access, databases, printing, and word processing. The main limitation is the number of computers, which has led to many libraries adopting time limits and fee-based access to these services (Bailey & Tierney 2002; Environment Communications Information Technology and the Arts References Committee 2003; Government of NSW n.d.).

There have always been costs involved in the production, distribution, and dissemination of information. The question is who should bear the burden of those costs. Until recently, patrons have generally been able to use library without payment at time of borrowing or using a service. Fees for photocopying, printing, and Internet use have been increased as a way of reducing waste of these common resources (Bailey & Tierney 2002).

The argument is not that access to all resources should not be free of charge, but that costs must be reasonable. As ALIA states, librarians need to ensure "that their clients have access to information from a variety of sources and agencies to meet their needs and that a citizen's information needs are met independently of location and an ability to pay" (Australian Library and Information Association 2001, p. 1 of 2). Many values conflict when providing access to high-cost, restrictive resources such as databases. Most pivotal is the value judgement of access for all at low cost against access for none if the library absorbed all costs. Libraries must decide for themselves what is most appropriate in

their community (Symons & Stoffle 1998). There is no prescriptive solution to these kinds of problems.

Training and maintenance in the information commons can be expensive and time-consuming. There are several options for integrating reference and technical services in the commons, but most involve teaching reference librarians the skills to use software applications (Beagle 1999; Brigham Young University 2003). The time and expense to train librarians in a wide range of applications to an advanced level can be considerable. Patrons will also need to learn how to become familiar with new ways of finding and using information, as well as gaining specific software and hardware skills (Beagle 1999; Cowgill et al. 2001). Their self-efficacy, a person's belief in their ability to achieve a goal or outcome in using new resources and new skills will be an important factor in the success of the information commons (Bandura 1997). Librarians need to ensure that the design of resources in the information commons allows patrons to learn without failing too often, but at the same time, they should not build a false sense of security by making resources too easy to use. Patrons need to have occasional difficulties to learn from their weaknesses (Bandura 1997). Librarians should be alert to the role performance has in changing a person's self-efficacy, and be aware that it is affected by, amongst other factors, preconceptions about their capabilities to perform, difficulty of the task, and the amount of assistance that they receive from others (Bandura 1997). Assistance from librarians can play a large role in patrons' performance-determined self-efficacy. Librarians need to pay attention to determining what factors motivate patrons to seek out and use information resources (Waldman 2003), and in this instance, what factors motivate them to seek out the information commons. Library resources may be perceived as being more difficult to use than other resources such as Internet search engines (Waldman 2003). There may also be differences in adoption of the information commons amongst different age groups, and depending on factors such as encouragement from lecturers in academic environments, and patrons' current frequency of library use (Waldman 2003). The adoption or rejection of the information commons by patrons may occur in patterns described by Rogers (1995), fluctuating according to the perception of how useful the information commons are, how they fit into patrons' values and experiences, the perception of how difficult or easy the resources will be to use, and the degree to which patrons can trial the new resources. Information commons are a significant change in library operations and management. Adjustment by patrons and staff to the new environment may be lengthy, and must be taken into account during planning. Berman (2003, p. 20) warns against librarians that alienate existing patrons by building resources that ignore other aspects of the library as a community environment –

They passionately embrace digitisation – of nearly everything – as the irrepressible wave of the future, even if that means the severe reduction or possible elimination of traditional print and AV resources, as well as the diminution of the library as a place, a physical space to gather, talk, browse, read, hear, and think.

Information commons can be a new space for communication and community-building, but they are not the only place in the library that has this function. Librarians need to ensure that they balance the needs of patrons who have different resource preferences and prefer 'traditional' library services (Halbert 1999).

As information commons are intended to be state-of-the-art, computer hardware may age quicker than computer resources in other library areas. Librarians need to weigh the costs of upgrading equipment with the information and resources they intend to provide.

4. Enabling The Information Commons

To enable the information commons, librarians need to gain new skills, embrace role and organisational change, and re-examine values. Librarians will need license negotiation and advocacy skills to change the power-relationship between journal publishers and libraries. License negotiation skills will enable librarians to better understand the complexities of resource licensing, and to gain better conditions for libraries and their patrons (McDonald 2003). Through embracing of Open Access and other new models for journal publication, librarians will gain an awareness of alternatives to current licensing models. Librarians should also acquire advocacy skills to promote the benefit of Open Access to faculty and students. In turn, this benefits the movement by increasing the size of the Open Access lobby. Many library associations have already embraced alternative licensing and publishing models (International Federation of Library Associations and Institutions 2003a; Quint 2004). But to ensure the success of Open Access, it needs to be supported at the local level in each library.

For public libraries, the shift to providing scholarly information will require changes in job roles and in organisational structures. To cope with increased demand for such services, reference services and computer access rules may need to be modified. Librarians need to be willing to learn new computer skills to make reference and technical service integration successful. Any physical changes in the library to accommodate an information commons should be made in consultation with patrons (Kranich 2003). The effectiveness of the space for communication is greatly dependent on the resulting physical layout, and so must be made with patrons' needs in mind. The level of consultation would obviously vary depending on the size of the project and type of library. Physical changes are also constrained by connectivity and existing structures, "libraries were a trusted source of information, with staff trained to help, but those libraries required access to 'affordable, fast and appropriate bandwidth'" (Halliday as cited in Environment Communications Information Technology and the Arts References Committee 2003, p. 60). Access to high quality information and assistance from librarians are major benefits that should be publicised more widely, but librarians should be careful to not place design before function when planning an information commons. Information commons are visually attractive spaces, but their main role is to be a hub of research and recreation.

Value hierarchies will become increasingly necessary in the future to deal with conflicts over access, cost, and the encroaching of the free market on the library (Symons & Stoffle 1998). Cost issues are likely to remain dominant for some time, with sourcing funding for new projects from governments becoming increasingly difficult. It is sobering to note the Senate inquiry's observation that, "the libraries whose need is greatest are probably those least capable of raising funds" (Environment Communications Information Technology and the Arts References Committee 2003, p. 76). Will the costs of installing and maintaining an information commons force librarians into seeking funding from other sources, such as companies willing to sponsor a service

or resource? Librarians need to lobby governments in order to provide additional funding for the maintenance and expansion of new services. The recent Senate inquiry calls for states to increase their funding to public libraries as one measure to combat decreasing resources (Environment Communications Information Technology and the Arts References Committee 2003). Increased funding would decrease libraries' reliance on philanthropists and corporate benefactors for funding new projects, who may have hidden motivations that do not always benefit the library (Davies 2004). The success of the information commons as a resource available to all and as an enabler for community-building relies on the exclusion of the market. Encroaching of the market into schools has caused many to question the validity of learning materials sponsored by companies (Klein 2000). The information commons should not be threatened by similar concerns. Moreover, moves to adopt the language and behaviour of business may be doomed to failure, as libraries are not profit making enterprises and have "interested parties... [that] ascribe values to vague ideas" and a lack of clear bottom-line fiscal outcomes (Brennan 2003, p. 60).

Libraries need to be at the forefront of the issues in partnership with other sectors of the community in advocating for the information commons as, "there is a growing realisation that what constitutes genuine access to information transcends connectivity" (Environment Communications Information Technology and the Arts References Committee 2003, p. 54). Librarians can partner with projects like Open Access to create a powerful lobby working to enhance the availability of information for the public.

5. Conclusion

What is the goal for information commons in the future? For libraries, strong partnerships with projects that advocate for access and other sectors of the community will be important goals. Libraries will aim to be at the centre of a democratic society, while recognising the role and place of other commons in the community. For academic libraries, an end to restrictive licensing and a return to the tradition of access for all may become a reality.

Information commons are an acknowledgement of how information will be accessed and used in the future, and a concept that brings clarity to the diverse issues within it including access, decreased funding for libraries, and the need to end community disintegration (Bollier 2001). Information and resources will continue to change, but with new models of integrated service delivery, librarians will be more able to adapt to the future while recognising the importance of inclusive, patron-focused services (Cowgill et al. 2001).

As currently defined, information commons offer many benefits to libraries, at this stage these will be most effectively realised by academic libraries, but in the future, other types of libraries including public libraries will benefit from the emergence of alternative publishing and licensing models. Information commons provide an opportunity to redefine service delivery in integrated IT and reference departments and to create collaborative work environments. Virtually, the information commons fosters the values of democracy and free access to information, and helps to build community. Challenges will arise from value conflicts over the role of the market and the redefinition of reference and IT roles. Information commons may be able to revitalise libraries as information providers, but only if the issues of access, legislation,

licensing and cost can be addressed successfully enough to allow a wide range of libraries to adopt the concept.

Keywords: information commons, open access, advocacy, licensing, community

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