Abstract
For large public libraries, the development of digital technologies poses challenges that have yet to be fully explored. While library sector rhetoric rightly imagines that digital technologies bring change to all aspects of library operations, it is not enough to focus on the technologies. Using the State Library of Victoria (SLV) in Australia as a case example, this paper identifies two key challenges for large public libraries in the new millennium. The first is to obtain a thorough understanding of the nature of the environment in which they operate; in particular, an understanding of the ways in which both the ecology and economy of information are changing. The second challenge is for libraries to develop a policy framework that clarifies institutional goals and brings coherence to diverse and sometimes conflicting policy demands in rapidly changing technological and service settings.

Contents
Introduction
Libraries and new digital technologies
Continuing old debates
Changing information ecologies
Changing economies of information
Establishing the value of libraries
Concluding remarks

Introduction
Large public libraries [1] face enormous challenges in the new millennium. These challenges bear most significantly on the traditional library tasks of reference and cataloguing services, collection development and the use of library space.

Recent library sector statements describe these challenges in dramatic terms. A widely circulated set of 15 ‘provocative statements’ about university libraries claims that before 2011 ‘All information discovery will begin at Google, including discovery of library resources’ and that ‘There will be no more librarians as we know them’ (Taiga Forum Steering Committee, 2006).

The Big Bang: Creating the New Library Universe (National and State Libraries Australasia,
2007) and Libraries in the Digital Environment (National and State Libraries Australasia, 2006) are major policy statements from NSLA, the association which represents the National, State and Territory libraries of Australia and New Zealand. The first of these policy statements describes the challenges for large public libraries in the perceived need for libraries to ‘shift’ to the ‘digital world’. The second statement outlines what libraries should look like in this digital world. Together these statements encapsulate the national digital agenda of large public libraries in Australia. The thrust of these two documents is that digital technologies are mainstream and are shaping user expectations and behaviour, requiring a reinvention of the library. The documents state ‘an agreed preference for digital over print resources’ (National and State Libraries Australasia, 2006) and a capacity to deliver information anywhere, anytime. One predicted consequence for librarians is that ‘[n]o job will be unchanged’ (National and State Libraries Australasia, 2007).

This rapid pace of change contrasts with the benign neglect of Australian public libraries in earlier times (La Scala, 1992). Public libraries in Australia were established by nineteenth century Australian colonial (state) governments as part of a wider set of liberal institutions advancing human capital and social progress. These libraries operate alongside the Commonwealth–funded National Library of Australia, established as the Federal Parliamentary Library following colonial federation and the inception of the Australian nation in 1901, and a network of local libraries under the charge of local government authorities. Initially funded by a combination of gold mining revenue and private philanthropy, the Victorian state library (established as the Melbourne Public Library in 1856) experienced subsequent periods of neglect interspersed with sporadic periods of development.

Large public libraries, as information portals and cultural storehouses, play a key role in digital information strategies, currently a major area of policy development by governments around the globe. Victoria was an early mover in re-configuring portfolio responsibilities to reflect the emergent digital economy, with the appointment of a minister for multimedia in 1998. Online access to government services and information has been articulated as a major policy goal since that time. In 2006 the government committed Aus$25 million to fund slv21, the State Library of Victoria’s (SLV) policy response to the perceived impact of digital technologies. The logic behind slv21 is “... the transformation of the Library’s service model to one based around digital information and access appropriate to the 21st century, while achieving a sustainable funding base for the future.” [2] One of the main tenets of slv21 is that “Victorians will be able to access information when and where they want it.” [3]

Notwithstanding the significance of new communication technologies, such claims have been subjected to limited critical evaluation. Webster [4] considers that the dominant technology–driven response of libraries is a case of presentism, or ‘the conceit that one’s own times are radically different from those that went before’. This paper analyses library responses to current developments in digital technologies, arguing that questions surrounding the uptake of new technologies can be understood as new manifestations of ongoing debates about the role and purpose of the library. Using the State Library of Victoria as a case example, the paper then outlines the policy context in which libraries operate, focusing on changes in the ecology and economy of information. The paper identifies a significant research gap in our understanding of the changing nature of information–seeking and information–provision, but argues that filling this gap is of itself insufficient to guide program and policy choices. Ultimately these choices require the support of a policy framework that clarifies institutional goals and brings coherence to diverse and sometimes conflicting policy demands.

- Libraries and new digital technologies

There are spectacular examples of libraries embracing the latest digital technologies and reinventing themselves online. Glamorous avatar Emerald Dumont has a real–world counterpart who works in an Australian library. She is one of more than 400 real–world librarians working on virtual library services in the 3–D online environment Second Life (www.secondlife.org). There are more than 4,000 visitors a day to Second Life’s Information Island, where most of the libraries are located [5]. Some Second Life libraries make their library collections accessible through external Web links while some have items especially
made for Second Life. Librarians can volunteer to do a shift on a Second Life virtual reference desk, and visitors can join virtual book groups.

Libraries have also been experimenting with social networking sites such as mySpace and Facebook. For example, the State Library of Carolina has a mySpace site with 118 'friends', (at the time of writing); these 'friends' include other cultural institutions, librarians, students of librarianship and members of the public [6].

These are not isolated examples but part of a growing movement of public libraries involved at the cutting edge of digital technology. Librarians have recognized the potential for Web 2.0 to facilitate large-scale user participation and the expression of multiple viewpoints. In Australia, several State Libraries have hosted conferences with the themes of Library 2.0 or Web 2.0, and sessions on blogs, wikis, RSS feeds, podcasts, virtual reality, instant messaging, LibraryThing, MySpace, Facebook, Youtube, Second Life and so on [7]. The 23 Things Online Learning Program is a self-paced tutorial where staff become competent in using Internet tools such as blogs, podcasts, wikis and tagging [8]. The State Library of Victoria has sponsored the implementation of this program in libraries throughout Victoria.

While digital technologies are enabling new forms of engagement with libraries, they are challenging traditional library services, bringing changes that forecast the end of the catalogue, reference services, even the book. Cataloguing is a resource-intensive and expensive process. In the 1980s, most libraries switched from card catalogues to online catalogues and now the Library of Congress is considering discontinuing the cataloguing of materials using Library of Congress Subject Headings (Campbell, 2001; Calhoun, 2006). A possible replacement for the catalogue is a Google-like interface with a single search box and relevance-ranked results based on keywords (Calhoun, 2006). Already, many individual libraries provide electronic access to hundreds of newspapers and millions of articles through subscriptions to electronic databases. Massive digitization projects currently underway, such as the Google Books Library Project and the Open Content Alliance, mean that by 2010, millions of printed books will be available in digital form on the Internet.

Libraries have traditionally provided reference services to library visitors. In recent years this service has extended to real-time online reference services, whereby people use online chat software to ask librarians questions and receive answers. For example, AskNow! — a national online reference service involving a roster of ten Australian libraries — answers approximately 35,000 inquiries annually. With the increased use of Internet search engines (Fallows, 2005), it is no longer obvious that the form of these reference services is appropriate. One prominent analyst (Dempsey, 2006) argues that online library visitors expect to find library resources in the same way as they find things on Amazon, iTunes, or Google, dispensing with intermediary reference services.

---

**Continuing old debates**

Superficially it may appear that the explosive impact of new digital technologies has necessitated entirely new thinking about how libraries do their work. A more critical look, however, reveals that these questions surrounding adoption of particular new technologies continue old debates about the role of the library. These debates focus on the role of the library’s physical space, the role of the collection, and the role of the library in organizing and providing information.

The library profession has long debated the uses of physical space and the comportment of visitors, alternating between views on the library as a hub of community activity or a quiet place for study and research (Totterdell, 1978; Council on Library and Information Resources, 2006). The grand architectural styles of large public libraries were intended to inspire reverence for collections of the world’s accumulated knowledge and symbolize state progress (Muddiman and Black, 1993; Newman, 2007). However, these grand places have been criticised for their oppressive and alienating qualities.

Now debate over the need for and use of the physical space has been sharpened by increased activity in virtual space. While in 2006–07, there were just over one million visits to the buildings of the State Library of Victoria, in the same year, there were more than double that
number of visits to its Web site ([http://www.slv.vic.gov.au/](http://www.slv.vic.gov.au/)) and more than 22 million visits to Web sites it supports. Questions about the role of the library space take new forms. If the library collection is digital, what should the virtual space be like and what are the implications for the physical space?

Parallel to the debates about whether the physical space of libraries should support serious research or conviviality, are debates about the extent to which the content of the library collection should inform and the extent to which it should provide entertainment, whether the library should ‘embrace the mass media or fight its alleged ill–effects.’ [9] In the twentieth century, radio, movies and TV were seen as grave threats to reading and the role of libraries in its promotion (Berelson, 1949; Leigh, 1950) In current times, debate over the response of libraries to media consumption has transformed to focus on the stocking of new release DVDs and computer games and whether the library should participate in commercial social networking sites such as MySpace and Facebook. Current debates about e–books (Grafton, 2007) echo earlier concerns about the introduction to the library of formats other than the book, such as CDs, videos, computer games, and comics. Debate in the nineteenth century over the inclusion of fiction in library collections pointed to divergent visions of free public library provision, and continues to animate critics (Webster, 2005).

The provision of information to citizens has been a key role of public libraries since their establishment, with rationales moving from specific concerns for democratic competence associated with the extension of voting, to the encouragement of civic participation and more generic concerns for a healthy democracy (Australian Parliament. House of Representatives Standing Committee for Long Term Strategies, 1991; Landheer, 1957). It is a principle of the Australian Library and Information Association that ‘freedom can be protected in a democratic society only if its citizens have unrestricted access to information and ideas.’ [10]. This principle has underpinned debate over restricted access to Internet sites in public libraries. Since the late 1950s, however, there have been two schools of thought in the library profession about the nature of the role of libraries in information–provision. One school of thought is that libraries have a progressive social role in educating the public, others consider that it should aim for neutrality (Gerard, 1961; Landry, 1993). Decades later, there is still no consensus amongst librarians on this issue (Kaur, 1995). The question of whether the library should provide online reference services or leave it to Google can be seen as a recent manifestation of this broader ongoing debate about the role of libraries in information–provision.

While Google has as its stated mission ‘to organize the world’s information and make it useful’, libraries have a much longer tradition of organizing information. This role has not, however, been uncontroversial. Cataloguing systems such as the Dewey Decimal System and the Library of Congress Subject Headings are top–down ways of organizing information. Materials are classified according to a predetermined scheme and using controlled vocabularies.

The advantages of classification schemes are that they are professionally created and there is a logical schema of relationships between different headings. Like all systems of categories, this means that they also support, and create, a particular view of the world (Bowker and Star, 1999), a criticism to which the Dewey catalogue is especially vulnerable (Jordan, 1975).

New Internet technologies make possible an alternative to the top–down structure of catalogues. A folksonomy is the outcome of user tagging, whereby users label material in a way that makes sense to the user. One major disadvantage of user tagging through online services — such as Library Thing ([www.librarything.com](http://www.librarything.com)) and BookJetty ([www.bookjetty.com](http://www.bookjetty.com)) — is that lack of control or consistency may result in a meaningless structure (Mathes, 2004).

The questions of whether the Library of Congress should abandon its subject headings in favor of keywords and whether public libraries should follow bookstores rather than Dewey in arranging their shelves should also be seen as part of this debate about the role of libraries in the organisation of information. Librarians themselves are keenly involved in these debates. For example, there has been a heated debate among the library profession about the virtues of the traditional catalogue and the limitations of Google (Mann, 2007; Herring, 2001).

---

Changing information ecologies
Changes in the technological and policy context of large public libraries have been accompanied by changes in the ecology of information (Nardi and O’Day, 1999). As the following indicates, the advent of the Internet has resulted in changes in the nature of information-seeking and information-provision.

An Australian study undertaken for the Libraries Working Group of the Cultural Ministers’ Council in 1994 (Mercer, 1995) found that 53 percent of library non-users and roughly 90 percent of library users would automatically use the library if they wanted to find something out. In contrast, a study undertaken by the Pew Internet & American Life Project in 2007 (Wells, 2008) found that almost 60 percent of respondents would consult the Internet when they needed to address problems, while just over 10 percent would consult the public library. In Australia, the Bureau of Meteorology Web site (www.bom.gov.au) and Wikipedia are the most commonly visited online reference sources. An OCLC study, conducted in 2005, found that ease of use, convenience and accessibility were as important as information quality and trustworthiness in choosing amongst electronic information sources (OCLC, 2005).

In the early 1990s, the ‘content’ industries were traditional, specialized industries, generally with high entry costs. These included newspapers and magazines, film, TV and video, packaged software, recorded music, books, online information services, computer games and consumer directories (Mercer, 1995). In 2008, Web 2.0 technologies enable user-contributed content to directly compete, in scale and popularity, with these established industries.

These changes in the nature of information search and online information provision need to be better understood in order for the library to provide services appropriate to the twenty-first century. There have been many fine-grained studies undertaken on what sort of search terms people type into search engines if they are researching a particular topic, how their eye travels down a Web page of search results and so on (Bar–Ilan, et al., 2007; Spink and Jansen, 2004, Jansen, et al., 2006; Kellar, et al., 2007). There is also a range of large-scale quantitative analyses that attempt to address issues related to information search (for example, CIBER, 2008; Dutton and Helsper, 2007; Fallows, 2005; Fallows, 2008; OCLC, 2005). However, existing research does not relate social context to practices and values around information search nor investigate how these have changed with the advent of the Internet.

Statistics on the use of search engines and wikipedia are often quoted as evidence of the decreasing relevance of the library in providing information to searchers (for example, OCLC, 2005; CIBER, 2008). However, while such statistics do demonstrate changes in information search, the interpretation disregards the multifarious nature of information search. Both anecdotal evidence and preliminary analysis of online searches suggests that the small amount of effort expended in using a search engine means that a multitude of additional searches are being undertaken that are of little consequence to the searcher. For example, suppose in casual conversation, I make reference to the character Skipper from Gilligan’s Island, a popular TV series from the 1960s [11]. I can’t think of the name of the actor who played the Skipper, so later when I am at a computer, I type ‘Gilligan’s Island Skipper’ into a search box. Almost immediately, I retrieve 50,000 search results and hardly need to glance at the first of these to see that it was Alan Hale, Jr. who played Skipper. I am momentarily satisfied, and then return to what I was doing. Without the resource of the Internet, I would have finished my conversation without giving Skipper another thought.

This type of additional search, which by the searcher’s own judgment is an idle search of little consequence, can be compared to communications facilitated by SMS, e-mail, and instant messaging (IM). In Australia, hundreds of millions of SMS communications are sent each month (see Wallace, 2003). Obviously, IM, SMS and e-mail can be used for communications that mean quite a lot to the sender or recipient, but the fact of communication tells us nothing about its significance. Similarly the fact of ‘information searching,’ tells us nothing about its significance or the level of information sought. In terms of significance, the searcher may be idly searching as in the example above. In terms of the level of information sought, it may be facts, an understanding of an experience or conceptual understanding.

Significance and purpose are in the eye of the searcher, so it is not possible to deduce the significance or purpose of a search on the basis of the search term. However, these complexities need to be acknowledged as they make it very difficult to meaningfully interpret pre-coded responses to questions such as ‘How do you decide which electronic information source to use’ [12] Some analytical purchase on the complex nature of information search is needed in order to sensibly discuss the appropriate role of the library in information provision.
Figure 1 depicts the library as just one amongst a multitude of different types of information sources, most of which have arisen in the last 10 years. Of particular relevance when analyzing the role of the library, given these information sources, are issues of accessibility, reliability, validity and authority of content, and potential or actual conflict between commercial interests and the public good.

![Diagram of information sources]

**Figure 1:** The library as one among many information sources.

With regard to accessibility, it should be borne in mind that slightly less than half (46 percent) of Australians are assessed as below the minimum literacy requirement for operating competently in the knowledge economy (Australian Bureau of Statistics, 2006). Roughly one in four Australians aged over 15 do not use the Internet (Nielsen/Netratings, 2006; World Internet Project, 2007; unpublished data, Swinburne University of Technology). An often overlooked point regarding accessibility is the way that information is structured. One of the library’s key contributions to the organization of information is the development of the catalogue. Providing search results through an algorithm is very different from using a highly structured environment such as the Dewey decimal system. The implications of these different structures of provision for accessibility of content (for different types of search) have not been researched.

### Changing economies of information

The rapid development of digital media and online services has three particular consequences for the strategic decision-making of major public libraries and the implementation of major policy statements such as *The Big Bang*.

The first is that libraries operate within an increasingly complex and cross-portfolio policy environment. At the current time this comprises whole-of-government information policy, digital content policy (sometimes aligned with economic or industry portfolios rather than cultural ministries), education and citizenship policy, and the libraries’ ‘home’ domain of cultural policy. With such demands, the question of sustainability has been increasingly
pressing for cultural institutions over the past decade or so, but resolution is more likely to be found in areas of public entrepreneurship, partnership and innovation than expectations of increased public outlays.

The second consequence is the development of a digital economy that defies standard economic analysis. Marginal cost pricing for some forms of information provision is driven down to near zero, challenging conventional market failure arguments underpinning the public funding of cultural institutions (Anderson, 2008). Alternatively, the cost of other digital products, particularly the digitisation of ‘analogue’ library collections, is so high that partnerships with major private players in the digital industry are considered the only feasible arrangement to provide on-demand access (British Library, 2006). The limitless availability of information and variety of delivery platforms has led to conceptualisation of an ‘economy of attention’ (Lanham, 2006), in which libraries compete with online commercial enterprises and other public institutions for scarce human attention.

The third consequence is that libraries must reconcile different timescales in making strategic and resource decisions. The speed of technological change — the uptake of ‘social’ media provides a pertinent example — calls for rapid strategic responses and program development over a period of months or a few years. However the role of major libraries as cultural storehouses and information commons operates on an extended timescale and is connected more directly with institutional and social values than program or audience concerns.

Establishing the value of libraries

The SLV has, like many library counterparts, sought to assess the value of its services in the interests of public accountability and in putting a funding case to government. SLV’s interest in its economic value, the subject of a planned study, is framed by wider policy interest in the information or knowledge economy. However, a growing literature points to both methodological difficulties in this area and the wisdom of privileging economic arguments in seeking public funds (Berryman, 2005; Hutter and Throsby, 2008). A number of authors have argued for the development of value assessments that recognize the long-term, qualitative outcomes of cultural institutions in place of metrics tied to short-term quantitative outcomes and electoral cycles (Scott, 2002). Such a framework has also proved elusive, particularly in an era when governments are urged to reinvent themselves through market emulation. Some cultural institutions have adapted the U.S. public administration scholar Mark Moore’s (1995) concept of public value as a new and politically appealing way of combining attention to service roles with the pursuit of wider, equity-based goals of public provision. Moore argued that public institutions should be responsive to both individual and collective aspirations, to expectations of efficiency and effectiveness, as well as justice and fairness. However, Moore placed emphasis not so much on the development of scorecard-type performance measures, but on constructing a compelling narrative of an institution’s purpose and role that will be endorsed by governments, as funding providers, and citizens, as funding authorisers. Several commentators have been discomforted by Moore’s suggestion that public institutions ‘sell’ their story in the manner that a private company sells an investment prospectus (Rhodes and Wanna, 2007). However, this strategy bears a remarkable similarity to the pamphleteering of earlier advocates for cultural institutions. One of the prime movers of the Melbourne Public Library, Sir Redmond Barry, published a booklet which identified four rationales for that library’s establishment: political, economic, cultural, and moral. Setting aside Barry’s redemptive tone, his combination of intrinsic and instrumental goals remains remarkably current (see Figures 2 and 3). It also bears interesting comparison with recent publications by cultural commentators (McCarthy, et al., 2004; Ferres and Adair, 2007), cultural institutions (British Broadcasting Commission (BBC), 2004), and even cultural ministers (Jowell, 2004) that, dissatisfied with the empirical turn in public policy, draw on public value analysis to develop framing statements of the intrinsic and instrumental value of arts and cultural institutions.
In the library domain, the scale of technological change and the looming presence of commercial forces, from subscription databases to Google, introduce further reasons to adopt a policy framework which effectively combines service delivery and wider public good attributes. The TAIGA provocation that all information discovery will begin at Google (TAIGA Forum Steering Committee, 2006) threatens to sharpen the contrast between the high level of public trust and low level of use that characterizes public cultural institutions. Yet, to paraphrase McMaster [13], the biggest risk to libraries is to take no risks at all. As early adopters of information technologies and networked organisation, libraries have proven adaptive institutions in changing technological environments. In the twenty-first century, public libraries need the support of a policy environment that recognizes their central role in the preservation and access of public information and cultural memory, in all its forms. The paradox of digital information — infinitely reproducible but inherently unstable — requires the sophisticated use of digital technologies and networks. It has a greater requirement, however, for the wise use of libraries’ institutional capital: authority, trust and professional expertise.

**Challenges for Public Libraries in the Digital Era** –

- **Political** – strengthening democracy through the development of information competency and participation in e-government
- **Economic** – promoting innovation and competitiveness in the digital economy, especially for small economies such as Australia
- **Cultural** – preserving cultural memory (in analogue and digital forms) and cultural distinctiveness in a sea of globalised content
- **Ethical (moral)** – securing public domain characteristics of digital space by ensuring equity, accessibility and universality of the online environment; while preserving these characteristics in the library’s physical spaces
Concluding remarks

Large public libraries are multi-faceted and busy institutions, located at a major policy intersection where information, culture, technology and the economy converge. While we have suggested that the current period may have earlier parallels, especially in the development of electronic media, there is little doubt that the scale and pace of change associated with digital technologies requires a major re-appraisal of library policy and service environments.

We have argued in this paper that library planning should be informed by a sound understanding of how the ecology and economy of information is changing. We have described some of these changes and indicated the need for more research into them. In particular, we have noted that while there are numerous fine-grained studies on how people interact with search engines, there is a lack of research on the social practices and values around information search. We have also discussed a requirement for libraries to articulate their distinctive public good role, especially at a time when they appear to be competing with online commercial enterprises.

It is unsurprising that library policy and program development proceeds ahead of research, especially in rapidly changing service environments. Large public libraries such as the State Library of Victoria, have a vanguard role in shaping sectoral policy (Joint and Wallis, 2005), suggesting the relevance of such research to local branch libraries as well.

The authors are currently engaged with the State Library of Victoria in a major research project titled The Searchers. This will help to address the current research gap identified in this paper. However, as indicated, the usefulness of data yielded by this project will be enhanced by development of a library policy framework that clarifies and re-evaluates institutional goals. This policy framework should also bring coherence to diverse and sometimes conflicting policy demands. Rapidly changing technological and service settings make this task difficult, yet urgent. Rather than perceiving the digital era solely in terms of paradigmatic change, a focus on the enduring values of libraries may, ultimately, assist libraries in making the most beneficial use of digital technologies.

About the authors

Vivienne Waller is a Research Fellow at the Institute for Social Research, Swinburne University. She has a research interest in information and the social aspects of technology use.

Ian McShane is a Research Fellow at the Institute for Social Research, Swinburne University. He has research interests in public policy, cultural heritage and public infrastructure.

Acknowledgements

This research is supported by the Australian Research Council Linkage Grant LP0775215. The authors gratefully acknowledge the assistance of the State Library of Victoria.

Notes

1. Large public libraries are defined here as libraries that provide collection and reference services at state (provincial) or national levels.

2. Library Board of Victoria, 2006, p. 4.

3. Library Board of Victoria, 2006, p. 15.


12. Question from OCLC, 2005. As mentioned before, the results of this question were that ease of use, convenience and accessibility were as important as information quality and trustworthiness.


References


Science and Technology, volume 58, number 7, pp. 999–1018.


---

Editorial history

Paper received 28 March 2008; revised 25 September 2008; accepted 10 November 2008.

This work is licensed under a Creative Commons Attribution–Noncommercial–No Derivative Works 2.5 Australia License.

Analysing the challenges for large public libraries in the twenty-first century: A case study of the State Library of Victoria in Australia

by Vivienne Waller and Ian McShane

First Monday, Volume 13, Number 12 - 1 December 2008
FM
Volume 13, Number 12 - 1 December 2008

TABLE OF CONTENTS

Reading Tools

Analyzing the cha...
Waller, McShane

Abstract
Review policy
About the author
How to cite item
Indexing metadata
Print version
Notify colleague*
Email the author*

RELATED ITEMS
Author's work
Government policy
Book
Book reviews
Dissertations
Online forums
Quotations
Resources
Media reports
Web search

SEARCH JOURNAL

All

Search

CLOSE

* Requires registration