"As research and learning behaviors change, so do the ways in which the library needs to create value. This is precisely the time to focus on providing information services which are available in the workflow, to explore appropriate support for personal collection management and other productivity tools, and… to decide roles in relation to management of institutional research and learning outputs."
- *Lorcan Dempsey (Lorcan Dempsey's weblog 4 May 2007)*

"Because of the fundamental role that academic libraries have played in the past century, it is tremendously difficult to imagine a college or university without a library. Considering the extraordinary pace with which knowledge is moving to the Web, it is equally difficult to imagine what an academic library will be and do in another decade."
- *Jerry Campbell (EDUCAUSE Review, vol. 41, no. 1 (January/February 2006): 16–31.)*

"Perhaps the library is not and has not been the climax state of the information provision environment. Perhaps we're just one of the species that makes up the climax state. The library is part of the change, just one of the actual participants in the movement towards a climax state whose particulars we don't know or understand. In this scenario all the energy expended in changing and adapting ensures the library a successful place in the new system that will eventually emerge."
- *Jim Michalko (Equilibrium & Opportunism: information strategies and the new environment, eLib Conference 2-4 December 1998)*

The view from OCLC Programs and Research

Information Contexts:
Supporting the Changing Pattern of Research and Learning

RLG Programs supports research institutions in collaboratively designing their future. RLG Programs works with and for its partner organizations, enhancing their ability to support research in all its forms.

Our work agenda proceeds from the needs of our partner institutions. It is informed by an understanding of the current information context, a developing sense of the challenges presented by that context and a point of view about the implications for the future of research collections.

The Current Context

Libraries, archives and museums deliver services in an environment increasingly dominated by large-scale information hubs competing for users' attention e.g. Amazon, Google, etc. The information seeking behavior of potential users bypasses the authoritative offerings of cultural repositories in favor of just-in-time information from sources more conveniently embedded in the users' daily networked life.

To deliver value in this environment, cultural repositories need to coherently and effectively signal their presence and availability to information and service aggregators of all types. They must transfer their currently hidden full capacity onto the open network to leverage the effectiveness and the value of hubs as the preferred resource discovery mechanism.

Libraries, archives and museums need to allocate their resources in support of this goal and reduce investment in non-value creating and redundant legacy activities. New organizational structures and incentives are now needed to achieve this web-scale model.

To understand this context, two perspectives need to be considered:

- *Information consumer behavior* – Information users are migrating to new services, and deserting traditional repository environments.

- *The operating environment* – The ability of repositories to compete individually for users' attention, to deliver solutions to those users and to attract new ones is deeply diminished.

Information consumer behavior

There is a spectrum of information-consumer behavior that has to be considered, but trends, challenges and opportunities can be identified by observing the 'leading edge' of activity:

- Network level aggregation of demand and supply – There has been a radical transformation in how people find and use information over the last five years via major information and communication hubs.

- Changing patterns of learning, research, information production and consumption - Information will increasingly be created and consumed within integrated environments in the network space rather than as a stand-alone activity.

- Personal collections and data replication – Whether for personal or educational use, people are growing accustomed to being able to 'gather, create and share' digital resources and manage large quantities of digital information.

- Institutional collections and data replication – This 'gather, create and share' model is also visible at the institutional level where the creation, dissemination and curation of a range of institutional research, learning and administrative assets is increasingly seen as central to mission. E-research, e-learning and e-administration – to use useful if unimaginative labels – are creating serious institutional and system-wide pressures.

- Customer relationship management – Information suppliers are becoming increasingly efficient and consumers are expecting increasingly high levels of personalized service.

Operating Environments

In parallel with this fundamental shift in information consumer behavior, repository operating environments are also undergoing significant change. This compounding pressure on services is exposing systemic weaknesses and indicating the ways in which cultural repositories must be re-created for the future:

New players; highly capitalized, fast moving and focused – The lure of the potential for substantial revenues has generated a growing number of increasingly powerful players who offer "library-type services" and content from cultural repositories to drive traffic and hence revenue streams.

- Budget pressure – while service competitors are driving greater revenues, paradoxically cultural repository budgets are under continuing downward

pressure; steady-state at best, they are largely absorbed by 'legacy service management issues'.

- Service fragmentation –The complexity of the legacy environment does not easily map onto users' expectations and behaviors. In addition, there is fragmentation across institutions resulting in shallow representation where supply and demand is increasingly aggregated in the large web presences. This is seriously debilitating as activities move to the network level.

- Redundant effort – libraries are still vertically integrated around their collections, they carry out routine work in massively redundant ways (cataloging, acquisition, etc.), they repeat research and development activity as they tackle new areas (institutional repository, digitization, etc.), and they support multiple cottage industry activities. Museums and archives are similarly organized and act in like ways while having little or no capacity to invest in new, large scale activities.

There are three principal barriers to progress:

- The level of process standardization in newer areas of library activity is low (ERM, for example); traditional archival activities have some forms of process standardization while information activities (in contrast to artifact-based activities) in museums historically have very little;

- There is a cultural resistance to outsourcing, accompanied by a relative absence of collective planning around systemic infrastructure, a lack of reasonably-priced, efficient alternatives and a deficit of leadership across all types of repositories in identifying new areas for collective attention.

- One-dimensional customer relationships – While a key potential strength of cultural institutions is proximity to and knowledge of their users, their customer relationship management is often limited to personal contact with the narrow population of library enthusiasts, archival adherents or museum-goers both virtual and physical. This contrasts starkly with the general environmental trend towards broad data-driven market knowledge and customized service.

Research Collections – the implications

Within a generation the library's information sources and delivery services will be largely virtual. Libraries will continue to provide direct access to physical materials but this will be very much focused on the special demands of their local constituencies. 'Comprehensive' research collection building will be done by a very small number of institutions while special collections of the special or unique materials of research will be maintained and featured at many institutions.

Within ten years museums and archives will expand their primary missions to emphasize widely-disseminated disclosure of their collections and the routine provision of digital surrogates of those collections.

The primary mission of cultural institutions will be to provide access to trustworthy, authoritative information in support of the research, teaching and learning process.

Providing tools and services which enhance research and learning productivity around those knowledge resources will be a vital part of institutional operations.

They will discharge this mission in new ways and provide alternatives for many of their traditional activities:

- Redundant physical collections will be consolidated and managed via a centralized system and set of processes.

- Library purchase or provision of physical materials not held locally will be done largely on demand based on examination of digital surrogates.

- Disclosing what an institution collects and licenses in the most efficacious fashion will be a major investment.

- Collecting materials which are distinctive to local mission and milieu will define research-focused institutions while being an activity in which all libraries engage. This includes locally created intellectual assets, as well as those procured externally.

- As collecting activities become more focused on rare and unique materials, libraries, archives and museums will increasingly depend on shared standards, processes, and technology.

- There will be major reorganizations of staffing effort and major shifts in the types of staff expertise required to maintain vibrant and valued arrays of teaching, learning and research support.

This is a time of disruptive change and uncertainty for cultural repositories. The expectations of the information consumer and the state of the operating environment demands shared attention and collaborative action from the cultural community and their support agencies.

> **Through deliberate investment and leadership OCLC Programs and Research can help libraries, archives and museums design compelling new institutional futures, building and delivering collections and services that are responsive to a dynamic information context. The aim of Programs and Research is to enhance the ways in which libraries, archives and museums create value in the research and learning process. Programs and Research will choose its program areas accordingly.**