

Marketing Your Public Library: Librarians as Liaisons & Implementing Electronic Databases

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() "Marketing Your Public Library: Librarians as Liaisons & Implementing Electronic Databases," *JLAMS*: Vol. 10 : Iss. 2 , Article 1.
Available at: <https://scholarsarchive.library.albany.edu/jlams/vol10/iss2/1>

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JLAMs

A Peer-Reviewed Journal of the New York Library Association

Marketing

YOUR PUBLIC LIBRARY

Librarians as Liaisons &

Implementing Electronic Databases



Spring 2014
Vol. 10, No. 2

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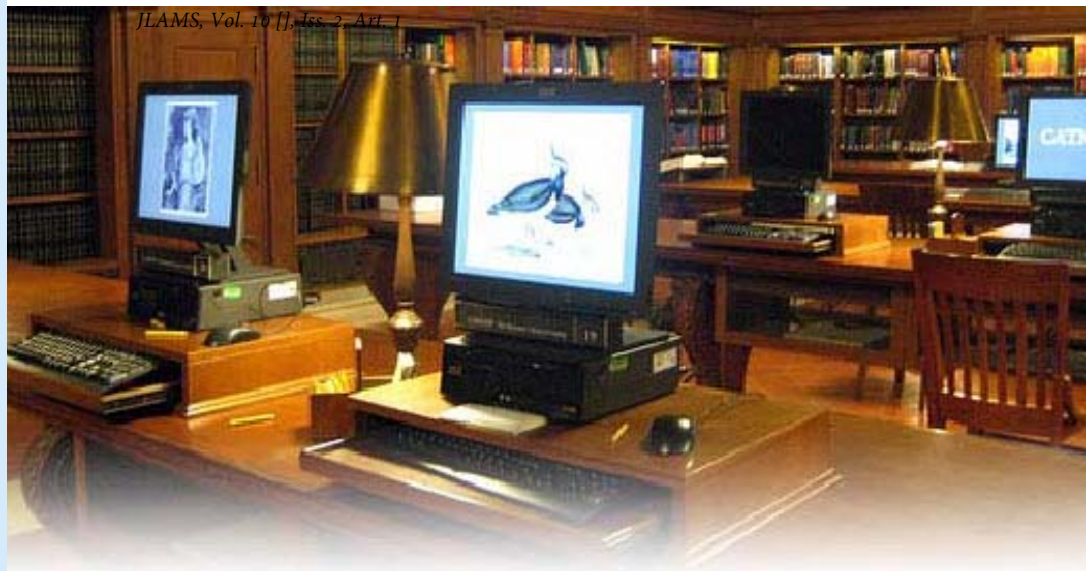
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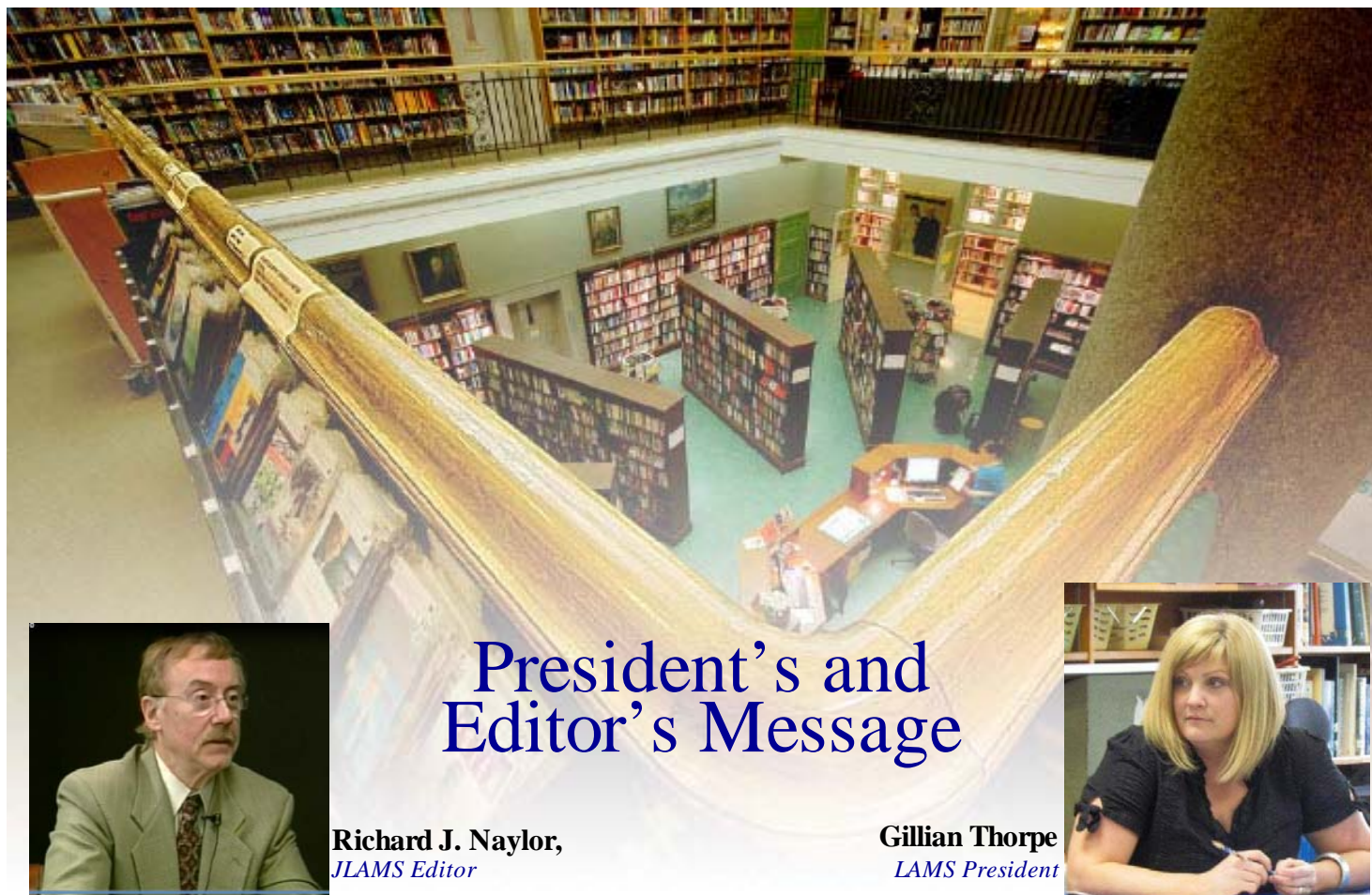
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Richard J. Naylor,
JLAMS Editor

President's and Editor's Message



Gillian Thorpe
LAMS President

JLAMS, the electronic Journal of the Leadership and Management Section of the New York Library Association, is in its tenth year and we are happy to introduce the Spring 2014 issue.

In this issue we have for the first time an editors column focusing on discovery and curation. We also have an article on an important aspect of the marketing of public libraries that can be easily overlooked even though it is critical to our funding. We also have an article on working in the community that takes works in the dimension of liaisons. Finally we have a technical article on mounting data bases that focuses on making the usage of databases more successful.

JLAMS provides a valuable outlet for the dissemination of ideas, articles, academic papers, and essays of interest to library leaders at all levels and of all types of libraries: academic, public, school and special libraries. As library leaders, we have a lot in common, but we have few places to share in detail what we know and what we learn. JLAMS was the first peer-reviewed journal in NYLA, and the original editorial board set a high standard for the publication and we are proud to maintain that standard. Readers of JLAMS are well-served by our team of referees, as are those whose contributions are published here. For the high quality and value of JLAMS to be continued your submissions are vitally important. For information on article submissions, editorial policy, a submission form and more, visit the JLAMS website page at <http://www.nyla.org/displaycommon.cfm?an=1&subarticlenbr=318>

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Editor's Column

Too Many Ebooks, Too Many Choices

By Richard Naylor

The starting hypothesis of this article is that professional curation of books should be one of the core competencies of librarians. The reason for the article is that the need for professional reviews has been questioned and because this is an important concern right now as we grapple with major changes in the ecology of publishing and reading.

Two factors come together to bring the curation question to the fore. First, there is a sharply increasing number of titles from small and indie publishers which many of us consider a relatively untapped resource; and second, while ebook use by the public grows more important each year, there is a continued lack of cooperation from the Big Five publishers to recognize that libraries are a critical part of the reading ecology. This second factor has resulted in those publishers making it impossible to acquire many of the ebook bestsellers at a fair price and under fair conditions.

Probably the main reason some library leaders have questioned the need for additional curation is that it is difficult and expensive to ramp up a review system. Even though David Vinjamuri has suggested in one of his Forbes blogs (1) that “there are 16,000 library buildings in the United States. If each library were to review just one unique book a month, as a group they would cover 192,000 titles in a year”, it would take a large coordinated effort to get there. So, unless we remove the inertia caused by doubts about the necessity of additional curation, we will probably not recognize book curation as an important role of the librarian and spend the resources to implement the expanded system.

Another factor contributing to the questioning of the importance of reviews may be that there is a competition between alternate future library realities. Between maker spaces, community spaces, and other types of endeavors that precede “the library is more than just books” tagline. (It is the “just” that bothers this writer).

Do we really need a curation system?

To the question, do we really need a curation system at all?, we might consider this thought exercise. If you could have someone magically provide your library with a million new ebooks, would you want them? We’re not talking about a collection that has been carefully selected and catalogued and that comprises a broad spectrum of materials from the subsets of your most needed topics. Let’s say we are talking about the last one million titles published. Think about how difficult it would be for patrons to navigate a universe of one million randomly acquired ebooks.

Think also about the fact that for most public libraries, about half of their current paper circulation comes from their new book sections and from their reserve list. One reason is that many patrons find it much easier browsing a few hundred titles than browsing the hundreds of thousands of titles in the stacks. Patrons also pay a lot of attention to best seller lists and that is not only because of a desire for simplification, it also is a search for quality and a desire to keep up with what is new and being talked about.

But can the same result as curation be achieved more simply with natural processes or machines?

Still another question is causing us to hesitate in embracing curation as a core librarian competency. Since machine routines that suggest titles are constantly improving, can the same result be achieved more simply with a combination of

natural processes and machine logic? Can we provide a high quality, broad collection more easily than with spending time studying genres and reviewing books?

One process to exploit so as to develop such an automatic system is what might be called the ‘bubble up’ factor. This is basically doing nothing and letting people try things and then spread the word as to what is good and what is not. This will happen whether there are professional reviews or not. The acquisition strategy thus might be that when we detect a book finding favor with patrons we can buy more copies of it.

A detection tool we might use to do that is machine computation. This is already being done in various ways, much of it protected as trade secrets, by Amazon for example. While the underlying algorithms may be hidden, we can see some of the process. There are sales rankings and if you click on a category and leave it sorted by relevance you get it basically sorted by sales rankings with small categories, such as “#15 in Books > Literature & Fiction > Foreign Language Fiction”.

Amazon is able to offer more than the ranking of course. You also get other customer’s star evaluations and reviews. It definitely helps although as anyone who has looked at the star rankings can attest, without reading the human reviews it is hard to judge the average number star rating. And any author who wants to can ask friends and associates to do nice reviews for them. To quote Eric Ward: “Any system, if it can be gamed, will be. It’s then up to the people who maintain the system to clean up the mess. And that rarely happens.” (2) And the more money available for promotion the more will be spent. This of course always happened in the big book stores where it costs thousands of dollars to get a big display with dozens of copies stacked up that says, “I am really popular”.

Perhaps the biggest problem with every system is that the world is rather messy and machines have a hard time dealing with that. Go to amazon and buy a present for a friend and then you will see adverts for the same thing for yourself on a multitude of web sites. And with the number of results we get for searches, relevancy on the first few pages of results is critical.

So how good a case can we make for professional reviews of smaller press and indie titles?

We already have reviews of materials from the Big Five so we are interested here more in extending the review process to smaller publishers and indies. What curation brings to the table is a level of expertise that can be employed to judge the quality of something, whether it be for a museum exhibit or for a recommended reading list. Public comments vary tremendously in quality yet all contribute evenly to the average number of stars. Professional curation is based on expertise built up over many iterations of experience and hopefully some study.

Curation gives legitimacy to titles the way an Oscar makes gives legitimacy to a film or Wine Spectator to a bottle of wine. Curation is important to customers as it helps them find more value for their time spent looking for a good book.

If we just look at a library as a warehouse or database of what has been published, curation looks less important. If we look at it as a forum where the best and most talked about new books meet and compete with the previously famous, we will give more people a much better reason to use us.

In a broader sense the main mission of the library has always been to put the right book in our patron’s hand. While we could depend on the main standard review sources to provide us guidance through the much more limited number of new books each year, most of us needed only to subscribe to the reference sources. As the number of ebooks that we

can buy at a fair price has exploded the traditional sources are no longer sufficient and we would need more librarians to develop reviewing competence.

The creation of relevance.

Looking through the prism of relevance is an interesting way to gain perspective on our curation question. It may seem a play on words but it is really just the two sides of the mirror. If we want to keep libraries relevant we need to give patrons relevant service and in terms of books this means meeting their twin demands of new quality titles and popular, already talked about titles.

With the ebook we are freed from worrying about how much physical space our books take up and so we can afford to keep a title that is seldom needed because of space. But to take advantage of this benefit we have make sure that the browse and retrieval systems continue to provide relevant results and that these seldom used titles only return to take valuable computer screen space when needed, or that they seldom do. The challenge here is generally to avoid the near hits that are still not what the patron wants and this is requires that we do not acquire too many poor quality materials.

Put another way we have to worry about relevancy and “findability”. We need to be concerned about how many screens our patrons have to go through to find what they are looking for and we have to be concerned with what they get when they click links. And of course the initial screen should provide interest and well as guidance.

Curation and the ebook collection

The library is still a brand that people respect and support. It is also an important part of the ecology of the universe of reading and we of course want to keep it that way. In order to do this we need to continue to supply what readers want. However libraries are threatened by the sales practices of the Big Five. Even when they sell to us they often charge 300% of retail and expire the books after two years. These practices undermine our ability to supply the volume of books we have in the past.

One way to work around this and at the same time find excellent books by authors that are not vetted by the Big Five is to do our own curation. Thus our readers advisory service is becoming more important than ever and we should embrace and deepen our expertise in this arena. The curation of the ebook world is a great way to do this.

References

1. Vinjamuri, David. Why Public Libraries Matter: And How They Can Do More. Forbes, January 16,2013. <http://www.forbes.com/sites/davidvinjamuri/2013/01/16/why-public-libraries-matter-and-how-they-can-do-more/>
2. Ward, Eric. Link Curation – Man Vs Machine. Search Engine Land, November 30, 2010. <http://searchengineland.com/link-curation-man-vs-machine-57192>

Peer Reviewed Article

Marketing Public Libraries: Knowing Where the Money Comes from and Who Pays the Bills

By Deborah Lines Andersen and David Fadum Andersen

A *bstract:* This paper presents a framework for understanding how to gain financial support for public libraries. While patron support is key to marketing any library, understanding the context in which public funds are allocated to library functions is a key driver to the financial success of the library. The framework is illustrated for four settings: (1) Glasgow, Scotland, (2) Montréal, Canada, (3) Puebla, México, and (4) Albany, New York. This comparative perspective highlights how subtle shades of differences in financial support structures influence the portfolio of services provided and patrons served.

Introduction—Marketing Public Libraries When Patrons Really Do Not Pay the Bill

Traditional marketing approaches when applied to public libraries do not work for a very basic reason. Satisfied patrons (as satisfied “customers”) do not directly pay for the services that they receive. So direct marketing to customers can backfire unless linked to a clear vision of how library services and salaries are actually paid for. The language of markets, marketing, market share, and certainly pricing do not really apply to public libraries. Instead, libraries need to adopt the language of public administration, talking in terms of public tax dollars being spent with public accountability in the context of a performance management system.

This paper presents a simple model for thinking about how to market libraries and then shows how this same model makes sense literally around the world by discussing its applicability in Glasgow, Scotland; Montréal, Canada; Puebla, México; and Albany, NY. Each of these countries supports its public libraries using different public management structures and successful librarians at each site “market” their libraries in different ways, employing collection development and service delivery patterns that are fine tuned to differing segments of the patron “market.” This comparative perspective on public libraries sheds light on methods of increasing overall support for the library through tailoring services to the public management context within which public libraries

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function. The authors have visited and done research in these regions, using participant-observer and grounded theory approaches to address the issues of marketing library services in these varied environments in Scotland (2003), Montréal (2010-11) and México (2010-11). Rounding out the international scope of this analysis, we conclude by looking at how the public libraries in Albany, New York were able to significantly increase their base of support by smart marketing that was sensitive to the public management and political structures that support the library budget.

Traditional Marketing Approaches in the Library Literature

A survey of research on public library marketing yielded a wealth of information about promotional activities that libraries have used to create more support for themselves. Most of the literature on marketing libraries tends to focus on getting individuals to use services. Secondary is the idea of marketing so that individuals will promote the library at the time of budget decisions. Both definitions are critical to the mission of libraries—they must have both funds and users to be viable agents in the community. **Generally missing from this mix is the concept of public management approaches that take public administration structures into account. This paper works to fill that gap in the literature.**

Choices about Marketing

There is a host of choices to be made when considering marketing and marketing services for public libraries (Sutherland, 2002), and there is a long history of approaches that public libraries and library systems have used over the years (Kleindl, 2007). In 2004 Shontz, Parker, and Parker conducted a survey of public libraries to study their attitudes about marketing, finding, among other things, that librarians in New Jersey believed that library science programs should include courses in marketing and that marketing was necessary in order for public libraries to survive. A tension in how to create support for libraries can be seen in opposing points of view in the literature. Toshiro and Kim (2010) are strong proponents of using library data—usage data and circulation records among them—to drive marketing campaigns. Rooney-Browne (2010), on the other hand, has questioned whether any sort of marketing or branding in the supposedly impartial world of the public library will cause the public library to be threatened by commercialism and consumerism.

Sources of Patrons

Library patrons can be divided into three broad categories with a lot of overlap. First, there are those individuals who actually use the library. Next there are “lapsed borrowers,” those who used to use the library but for some unknown reason have stopped. Getting former users to return can be a major marketing goal (Kerr, 2010). Finally, there are potential patrons, individuals who have yet to visit the library but might be brought it with the right incentives (Keller, 2011; Murphy, 2010), or businesses that might use library services with the right encouragement and marketing (Pankl, 2010).

Promotion of Library Services

Often the greatest obstacle to use of information is lack of information (“Perception,” 2011). The user who does not know about services cannot very well ask for them. Thus one function of promotion is to make hidden services visible to user populations and potential user populations (Germano, 2010; Loprinzo, 2009; “Small Public Library,” 2006). Some of this promotion can take place in library displays as well as in readers’ advisory services. A distinction can be made between patron-passive and patron-active methods. Patron-passive activities can include posters, displays, and other marketing methods in which patrons basically bump into services that the library has. Patron-active methods require that the patron make the first move, asking a librarian for help, going to a website, using a catalog, or signing up for a course. One might expect that patron-passive methods, especially if used outside of the library itself, might bring in new or lapsed customers. Patron-

active methods assume that the patron has some familiarity with services, and is not shy about asking for help or has familiarity with the library's online services (Saricks, 2010).

Education as a Marketing Tool

There is no question but that education is a strong marketing tool for libraries. Teaching people how to use resources should cause them to request those services and become citizen advocates for the services they have received ("Promotional," 2007; Palmer, 2011). This education can take the form of one-on-one formal or informal sessions, or workshops designed for specific user segments. Individuals drawn to a particular workshop have their interests in common and thus can be used as an effective user community to promote library programming (Vielle, 2007).

Community and Marketing

Public libraries can be critical community centers, providing a place where individuals can meet as well as a vital information source for multiple audiences within the community. Targeting particular audiences or segments of the population make it possible for libraries to establish how they fit in peoples' lives (Baird, 2009). Campaigns to make library systems visible in the community can attract users and non-users alike ("Promotional," 2011). Many people are passionate about their communities. By targeting strong supporters and believers in library services the library can capitalize on the emotional investments that people make in their communities. Children who go to the library early, and often, and have positive interactions with library, librarians, and staff, will grow up to have these emotional connections and be strong supporters of these institutions in the community (Clark, 2009; Crowley, 2010; Mylee, 2011).

Furthermore, the "community" within which a library exists is greater than its catchment region. In New York State, for example, public libraries work within a structure of library systems. Each system provides services for its constituent libraries, creating an additional layer of marketing potential and expertise. At the state level, there are not only state libraries, but government departments which promote libraries and provide funding for their services. Additionally, there are state library associations, such as the New York or New Jersey Library Associations, which advocate for libraries and provide marketing consultation to member libraries. At the national level, the American Library Association and the Public Library Association provide yet another level of information and expertise about library marketing. Similarly, OCLC promotes library use, libraries, and librarianship for all (DeRose, 2009). In México the Mexican Library Association takes on a similar role of promoting and encouraging academic, public and school libraries (Lau & Lee, 2010).

Events as Marketing Tools

Public events that bring individuals into the library can be a strong promotional force for those individuals who might not otherwise enter its doors. Author events benefit the library and the community ("Fundraising," 2011). Musical events with local bands, advertised by social networking as well as more conventional flyers, can market to various age and interest segments in the community and beyond (Moyer, 2011).

Digital Marketing

Library marketing quickly embraced a multiplicity of digital information delivery mechanisms. The web has redefined how library services can be delivered and marketed (Aira, 2007; Menchaca, 2008). The web has made it possible to quickly and easily link library services online in multiple places on individual websites and across multiple, linked website ("the Web," 2011). With the subsequent advent of Web 2.0 there have been additional marketing opportunities for branding, changing the image of the library, and customer focus through social computing

mechanisms (Post, 2009; Ashcroft, 2010; Dowd, 2011). Marketing has taken the form of reaching out and informing intended patrons about library blogs (Stover, 2006), as well as marketing through electronic as well as traditional paper newsletters to get tax payers involved in library services and budget issues (Duncan, 2009). One of the strengths of using traditional as well as digital methods of marketing has been the ability to reach a variety of patrons and potential patrons in marketing efforts. Those who already advocate for the library will reach out to library websites for information about budgets and programs, or sign up for listserv updates. Those who are potential patrons are best reached through push mechanisms, as when the library sends budgetary updates to taxpayers through standard mail, or creates press releases for dissemination by local media sources—newspapers, radio, or perhaps television for appropriate events.

Relationship Marketing

For those patrons who frequent the library a strong marketing plan can use employees to engage the public (Cooper, 2009). This use of employees is a form of relationship marketing that has received a lot of play in the private sector. Users have a special relationship with staff at the library and as a result are more likely to have customer loyalty and advocate for its support among other users and non-users of its services (Gall, 2010). Additional relationships go beyond the library staff, partnering with local college and university departments to generate ideas and create marketing campaigns in marketing courses (Nunn and Ruane, 2011).

In the literature reviewed above there have been snippets of information that specifically deal with getting more money for libraries. In general, however, the marketing strategies that populate academic library literature deal with a multi-step process. The literature vaguely makes the connection that if there are enough patrons for the library, they will use its services, support that library at voting time, and therefore create enough funding to support the library. **Below we present a two-level approach to thinking about directly creating more operating funds for public libraries.**

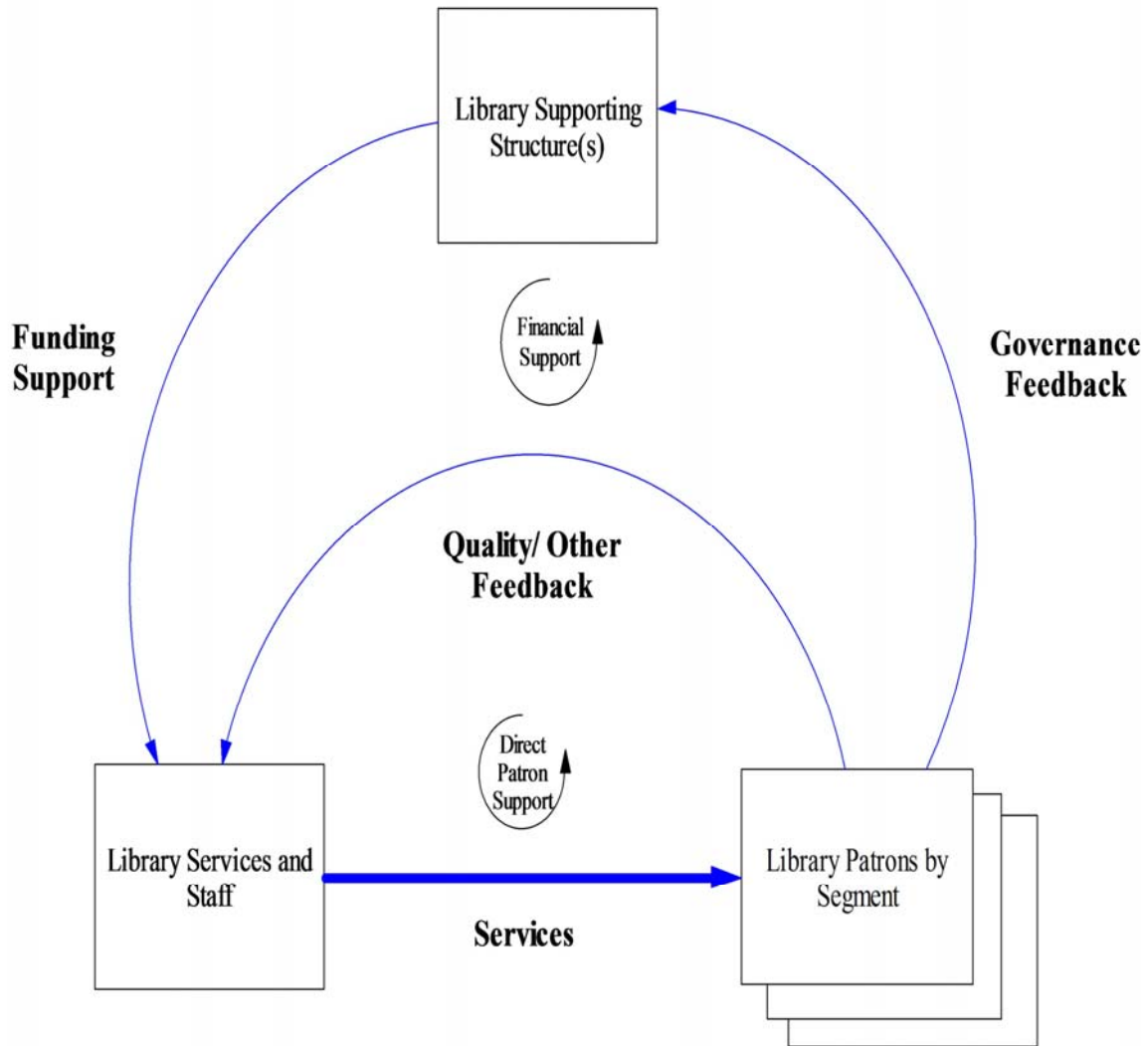
The Library Support Model—Two Layers of Support and Funds

Figure 1 (on the next page) portrays a general model that is useful for understanding how to “market” a public library. The bottom portion of Figure 1 portrays the critical interactions between library staff, programs and services with the various segments of patrons who make up the library’s market base. By understanding key market segments (e.g., young adults, book groups, students) library staff design and deliver services that meet user needs. Patrons provide direct support to the library in the form of feedback about quality and relevance of services. No funds change hands.

Since satisfied customers do not pay a fee, the smart marketer of public library services must keep an eye on the upper loop in Figure 1—the financial support loop. In this loop, a number of different forces are at work that generate a number of key questions. What public management structures manage and support the library? Who are the public managers that support the library? What are the political structures that provide public funds to support the library? What is the basic value calculus that convinces these political actors to continue to fund the public library? How does feedback from library patrons reach these political actors and public managers? How can we as librarians market our libraries to muster the right kinds of support with public managers and politicians?

Stepping outside of a well known, day-to-day context for support of public libraries to look at how such support occurs in other places around the world is a good way to get some perspective and insight into how our own US-based support structures work. Over the past decade, we have spent considerable time studying libraries in three locations—Glasgow, Scotland; Montréal, Canada; and Puebla, México. The brief vignettes presented below are

Figure 1: Marketing Public Libraries: Two Cycles of Support



based on structured site visits to over 75 public libraries with accompanying interviews of both public librarians and the public managers who support the libraries¹.

What we have found in our comparative research is that at each site we have studied the political and public management structures supporting the public library system have a unique focus that has emerged over time. **This macro focus of the overall library system shapes more micro decisions within each library.** In these systems, the successful library crafts its micro policies such as collection development policies, staffing policies and priorities, the portfolio of services offered, and even its physical layout and location by being sensitive and responsive to the macro-political and public management climate. While all libraries that we visited share a common mission to serve the public at large, each differed in subtle ways as it configured itself to meet the demands of its niche defined by political and public management forces. For each site, we begin with a broad brush characterization of the macro environment followed by a description of some of the micro level policies that specific libraries in that research site used to “market” and gain support for their services.

Glasgow, Scotland—Libraries Coexist with Recreation, Sports, and Culture

The public library system in Glasgow, Scotland consists of 32 community-based branch libraries anchored by Mitchell Library, a major research library located near the University of Glasgow and maintaining ties with the research and specialized libraries in the metropolitan area. Libraries in Glasgow are administratively housed within other public functions including sports facilities, swimming pools, museums and other cultural venues such as theater groups or summer camps.

The Macro Environment. The administrative location of the Glasgow library system shapes the micro-dynamics of its programs and funding support in subtle but important ways. A recently promoted director of a library in Glasgow might find herself supervising a public swimming pool, youth soccer league, or a summer theater-in-the-park program. On the other hand, a staff person at a branch library could expect that his direct supervisor might not be trained as a librarian, but rather in physical education or theater. Programs proposed for this library would be competing against these other types of programs, shifting how one would “market” the library to make it survive and grow.

A second important macro feature of the library programs in Glasgow is their orientation toward specific neighborhoods. Some local libraries are in predominately immigrant regions with Urdu- or Hindi-speaking patrons from Pakistan. Other neighborhoods are dominated by ethnic Scotsmen with pride in their national heritage. Additionally, a very strong public transportation system makes it possible to easily move from one library to another, allowing for program marketing across libraries and across segments of the population.

The Micro Activities to Market the Library. The macro environment shapes more micro level policies, procedures, and strategies as library directors seek to “market” their library. Below are some of the micro features found in local branch libraries in Glasgow.

- **Co-locating libraries with sports facilities.** Since libraries are administratively housed with sports facilities, over time their physical sites have migrated toward public swimming pools and gymnasiums. The library’s

¹ The work in Glasgow was completed during 2002-2003 and is summarized in Andersen (2004). Our more recent field work in Canada and Mexico has been supported by the Carlos Rico Fulbright Scholars program funded by the Canadian Fulbright Commission, and COMEXUS, Mexico. See Andersen & Andersen (2012) for a summary of international marketing strategies.

location itself becomes a marketing tool in that individuals interested in sports cannot help but find themselves near a public library.

- **Supporting immigration services.** In those regions where non-English speaking immigrants form an important part of the user base, libraries provide direct support to patrons who are filling out the UK’s immigration forms. Since collection development policies include materials other than English, patrons may read in their native tongues, providing an impetus to visit the library even after immigration issues have been settled.
- **Transmitting culture.** Cultural heritage is a strong marketing force. Not only do libraries sell materials about local history, but they also coexist with museums and archives, displaying historic photographs on their walls. Since many of the library buildings are historic in and of themselves, built by funds provided by Andrew Carnegie, the structures are reminders of the rich cultural history of the area, and market to individuals who appreciate that heritage.
- **Promoting public transportation and neighborhood advertising.** Branch libraries promote the programs of other branches. This strategy encourages individuals to sample the collections of libraries near their neighborhood, marketing the diversity of resources that are available throughout the city, and available easily through a strong public transportation system.
- **Providing computing.** Glasgow’s push to put public access computers in all its public libraries has meant, as it does throughout the world, that individuals who come in to do email or Internet searches are exposed to the other resources of the library. As with athletics, computing and technology market the rest of the library.
- **Focusing on children and young adults.** Children and young adults use the libraries of Glasgow. There are specific sections of libraries devoted to young children and their caretakers with colorful seating, specially designated computers, and areas of story hours. Young adults are usually distanced from the children, have walls of shelves and comfortable furniture in their spaces, and have easily accessed, age-appropriate materials available. Promoting use of libraries to these groups—marketing through interesting materials, computers, and athletics facilities—promotes future participation and advocacy for libraries when they become adults (Andersen, 2004). This is not a new phenomenon, but it bears discussing when thinking about future marketing of libraries as public goods that need a strong, supportive public.

Montréal, Canada—Libraries Support Cultural and Linguistic Change

Montreal’s public library system boasts 43 libraries that are anchored around the Québec Bibliothèque Nationale, a newly constructed francophone library supported by Québec’s national (provincial) government.

Administratively, libraries are housed close to other cultural activities as is the case in Glasgow, but as discussed below with some important differences.

The Macro Environment. In the latter half of the 18th century, the French-speaking colony of Québec was taken over by the English as a result of a wide-scale French-English conflict known in US history books as the French and Indian Wars. After the American Revolution, Loyalists, who no longer felt welcome in the newly formed United States, moved to the British colony to the north, reinforcing a tension between the French and English languages and cultures in Québec, a tension that would last for over two centuries.

In the 1960s, these tensions broke out into Québec’s “language wars” with pitched political struggles, some bombings and street violence, and several referendums proposing that the Québec nation secede from Canada. While the province/nation of Québec did not ultimately secede from Canada, a long standing set of legal and constitutional as well as linguistic and cultural “wars” have taken place within Montreal, a linguistically split city in the midst of a solidly French province.

Schools and schooling policy (e.g., laws requiring English-speaking but non-Canadian immigrants to send their children to French-speaking schools) have been the front lines of these conflicts. Libraries as an institution focused on language and literacy have also become very engaged in these conflicts, emerging as an instrument of linguistic and cultural change.

These conflicts have led to a split administrative structure for individual branches in the library system. While computing and technical services for public libraries have been largely centralized within the over-arching metropolitan government, funding to support some staff and programs comes from 22 individual arrondissements (similar administratively to New York City's boroughs) creating some degree of autonomy in individual branches. In general, a tradition of robust local branch libraries has been strongest in the English-speaking districts seeking to retain linguistic uniformity within their communities. In recent years, francophone arrondissements have been rapidly building their libraries to bolster French language. The Québec Bibliothèque Nationale, the anchor of the French library system and a large well-funded French language facility, was opened to the public in 2005.

The Micro Activities to Market the Library. “Marketing” public libraries in Montréal is a somewhat different business than in Glasgow. Outlined below are some of the micro-level ways that public libraries are marketed in Montréal.

- **Balancing multiple languages.** Whereas in Glasgow library administration tracks the shifting and varied language demographics of neighborhoods, in Montréal two languages are dominant throughout the city. By providing collections in English and French, libraries draw on these two dominant groups and then additionally collect in other languages. Although French is the official language of Montréal, libraries collect in English and therefore, critically, market to the entire population of the city.
- **Branding and signage, and partnering with other cultural institutions.** Marketing very often depends upon unique and easily identifiable signage. In Montréal the sign is a rosette, in red, on all its cultural sites including libraries. It is easy to find public buildings and public spaces—museums, swimming pools, archives, art galleries or libraries—or a combination of these as libraries coexist with educational and athletic facilities in the city. Furthermore, bus stop signage often includes the names of libraries, bus routes, and distance from bus stops.
- **Repurposing historic buildings.** As seen in Glasgow, libraries often exist in historic buildings that market the cultural heritage of the city. In Montréal there are libraries that were built as libraries, but there are also buildings that have been repurposed. In particular, and because of the religious heritage of the city, some libraries are in structures that used to belong to the Roman Catholic Church. Mile End Library, in particular, not only still looks like a church, but it has retained its stained glass windows and other religious artwork. Furthermore, because Montréal is composed of districts that used to once be their own political entities, there is a wealth of former city and town structures, “hôtel de ville,” that are now used for libraries as well as other cultural centers. Repurposing does require spending tax dollars to retrofit buildings, but this repurposing expenditure is often far less than razing and building new structures, and a marketing point for supporting collections rather than structures for libraries.
- **Creating an exclusive children’s and YA library.** Montréal is noteworthy for its public library branch that only collects children’s, young adult, and education materials for the city. Its other public libraries all have extensive children’s and YA collections, usually on separate floors of the buildings, but the Hochelaga Library caters to a demographic that does not yet vote. This marketing strategy brings parents as well as children into the library to become lifelong learners and library advocates.

Puebla, México, Part I—Libraries as Local Politics

The analysis of Mexican libraries is divided into two sections, taking into account first local, individual libraries and second the organization of library systems which can provide nationally sponsored services. In our field work, we have visited public libraries in the Mexican states of Puebla, Tlaxcala, and the Distrito Federal de México (México City). A diversity of public libraries has sprung up in response to a wide variety of local political pressures and support mechanisms that appear to wax and wane over time.

The Macro Environment. In the city of Puebla, the Palafoxiana Library is featured as the oldest public library in the Western hemisphere. This alleged public library is a richly supported archival treasure preserved from Puebla's proud colonial heritage. Its locked collection of ancient manuscripts, some dating from the 16th century, serves archival research purposes and is a wonderful museum of colonial culture open to the public (for a tour fee). In downtown México City, the José Luis Ordóñez public library of the Chamber of Commerce on Paseo de la Reforma is located within a public agency building devoted to regional economic development. Ordóñez was a director of the chamber as well as a writer of management books and poetry. The library's specialized collection is designed to serve government workers in the building, and while the public can visit this site, they must first present identification, be screened, and pass several security check points. In San Andreas Cholula, the local public library was revived in 2010 when a local champion was able to secure a federal grant to renovate the building in which it is located. In other towns, immigrant clubs located in the United States provide funds that can put one of these local library projects on the local political agenda and available for matching federal funds.

However, every three years (Lau, 2010) national elections can bring in a new national administration and local elections can shift the local political scene even more frequently. (See Castillo & Martínez, 2008 for a discussion of political pressures on library funding in Mexico in their article on the problems with library education in México.) At these points of transition, local library champions—local “heroes” for libraries—have a chance to make a case for improved library services. Local champions also face the real possibility of having a local library facility cut and need to make the case for sustaining local libraries on a regular basis in an environment of tight finances.

The Micro Activities to Market the Library. Champions emerge as local stakeholders struggle to both create and sustain these locally-sponsored library projects in México. Libraries use a number of strategies and tactics, quite different from those in Montréal or Glasgow to “market” their local libraries.

- **Naming libraries after a local champion, celebrity, or sponsor.** In order to muster and sustain local political support, local library facilities often bear the name of the local champion, such as Ordóñez, celebrity, or sponsor who helped them come into existence.
- **Funding and election cycles:** Local champions also come in the form of political figures who are running for office and can make or break the budget (and thus services) of a local library through their attention. Getting the support of local politicians is critical for the health of Mexican public libraries.
- **Collocation with other facilities.** Libraries are in the center of the community, near the town square (*zocalo*) which also houses government buildings and other support services. Co-locating schools, government and information services increases the probability that citizens will use these facilities.
- **Making due with what is available.** While libraries held common collections there was also often unique sets of materials on their shelves. These were materials that had been donated, had regional significance, and that were perhaps older but nonetheless useful (e.g., encyclopedias).

Puebla, México, Part II—Libraries as a Nationally-Delivered Public Service

In México as a whole, garbage collection has been nationalized and is supported by a rationalized allocation of national tax revenues to local jurisdictions. Experience over the years demonstrated that local politics had the potential to leave a community without some critical public services, such as garbage collection. Local libraries are similarly at risk of dropping on and off the local political agenda.

The Macro Environment. Layered over its system of strictly local libraries, México has established a network of regional libraries that is supported by national funds. México, in fact, has the largest public library system in Latin America. (Lau & Lee, 2010). The local library in San Pedro Cholula is a member of this national network. The look and feel of this local public library is quite different from the public library in nearby San Andreas Cholula. Being in the national system creates a range of more uniformly professional services to serve library patrons in the region, although as Lau and Lee point out, “the size and quality of services vary more or less according to the size of the town” (p. 96).

The Micro Activities to Market the Library. With the backing and support of a professionalized network of public librarians with an ear-marked stream of federal funds, directors of regional libraries in México pursue a suite of micro strategies and policy to market their libraries (much the same as most library directors in the United States).

- **Starting with a base of critical materials.** After surveying a variety of public libraries in México it became apparent that many of them had a basic core of materials supplied by regional and national organizations.
- **Providing access to the Internet.** The penetration of Internet services in México is still under rapid development. Regional libraries are part of a national strategy to provide some Internet access to large segments of the local population, especially in rural areas (Lau & Lee, 2010). With resources at a premium in México, and due to the aforementioned support shifts that take place around elections, the Internet has become a critical device for seeking current and low cost information. As emphasize by Lau and Lee (2010), “Our users need to develop information capabilities that take advantage of the wider availability of free and open internet access, including the ability to locate, retrieve, evaluate and use information for a broad range of purposes” (97).
- **Branding with local, culturally significant names.** As was seen in Montréal, branding at the local level can emphasize rich Mexican cultural heritage. The Biblioteca Pública Regional Maestro Vincente T. Menoza (Cholula) is the local library but its name harkens to a national figure—a local folklorist, composer, and artist born in Cholula (1894-1964). General Ignacio Zaragoza (1829-1962), the Hermanos Serdán of the Mexican Revolution, José María Morelos y Pavón (1765-1815; a priest and revolutionary leader), Benito Juárez (1806-1872; lawyer, politician and five-time president of México) and the economist Carlos Salinas de Gortari (1948-) all have libraries named after them.

Albany, New York—Shifting Support Structures Can Make All the Difference

In 1902, the voting public of Albany, New York defeated a public referendum that would have allowed the city to accept funding from the Carnegie foundation to build a new public library. One century later in 2002, the public approved a referendum endorsing an arcane shift in how the public library system’s budget was to be created and approved, shifting from city council approval to direct citizen vote. This shift resulted in an immediate and long-lasting increase in support for Albany’s public library system. These two events are book-ends in a century long effort by Albany’s library champions to “market” library services to the public.

The Macro Environment. As is the case in Glasgow, Montréal, and Puebla, México, library champions in Albany seek to continually read and respond to the administrative and political environment in which their libraries are housed. New York State is a strong local rule state and as such the state legislature delegates to local taxing and spending districts a wide range of public functions including education, fire and police, and yes in many cases local library services. However, in New York City and the next five largest cities in the state, special powers can be given to the mayor and city council to budget for and administer funds for all public services within the geographic boundary of city limits. Under these conditions of unified fiscal administration established by the New York State legislature, the Mayor of Albany retained authority to approve the library system's budget as part of the overall city budget. However, the arcane details of local autonomy held out the possibility that the local library system's budget could be removed from direct control of the mayor and be subject to direct approval by the voters on a year-to-year basis.

Shifting the administrative and political basis of support for the public library system would not be a risk-free move. The library system could find itself "out of the frying pan and into the fire" so to speak if it had to face an annual referendum by an angry and dissatisfied voting public.

The Micro Activities to Market the Library. Hence, details would matter a lot as the director of Albany's public library system devised a set of micro level policies and strategies to better "market" Albany's public library system by exploiting ambiguities in the state's local fiscal powers statute. Working deliberately and over time, the library's director designed and implemented a series of micro level initiatives that when successful in 2003 yielded a 100 percent sustained increase in the library's operating budget and set the stage for the passage of a bond to support renovation and expansion of the overall library system's physical plant. A variety of actions expanded the library system's "market share" of public funds in Albany.

- **Establishing a new city-wide advisory committee.** Before attempting a city-wide referendum, the library system established a large advisory committee in addition to its elected board of directors to better read sentiments in the local community and be both sensitive to and responsive to local political pressures. This advisory group was composed of library advocates and community leaders who could also activate community networks and get out the vote when it counted. Often library budget votes are determined by a very small number of voters. Citizen advocacy and participation at fairly modest levels can mean the difference between positive and negative outcomes for the library.
- **Activating school parents.** Special attention was paid throughout the process to gaining active support of organized parent groups in neighborhood-based schools.
- **Tying timing of library referendum to the local school budget.** Parents of school-aged children normally turned out in large numbers for the annual vote on the school budget. Linking the library's annual budget approval to the school budget helped to garner support from this large and organized political constituency.
- **Focusing on public relations.** As seen in the literature review at the beginning of this article, voters are library users, lapsed library users, and potential library users. Enlisting the help of all three groups is necessary if library referenda are going to pass. The marketing techniques that all the libraries have used here—to create more users—also creates more positive library voters. The two go hand in hand although this kind of marketing can take a lot of time (especially if the potential voters are in grade school), and require creativity to create programs and opportunities for library exposure and advocacy.
- **Canvassing others who have gone through this process.** A major question when marketing public library financing issues is whether or not to enlist the help of a marketing firm. Sometimes citizen reaction will backfire. If there is money for marketing why should citizens be paying more? Partnering with local university or college faculty or doing research on one's own is a way to find out what others have done, adopt best

practice, and create strong marketing campaigns that work. Albany used this method of collecting data to find out what methods worked best (Andersen, 2003).

Conclusions and Implications

Marketing libraries follows an odd business plan. A portfolio of totally successful services yielding perfectly satisfied customers in and of itself does nothing to secure resource for the library. “Satisfied patrons” is a necessary, but not sufficient condition. Delivering excellent services and having a happy base of patrons when coupled with a fine-tuned appreciation of the library’s administrative and political environment is the key to successfully “marketing” library services.

As seen from this brief tour around the world, the macro-environments in which local libraries operate can be quite different and hence the successful library director must use micro-level strategies that are well tuned to her macro support environment. In Glasgow, linking to sports facilities may be important. In Montréal, envisioning libraries as important places to support linguistic change in a bilingual city is key. In México, securing long-term support of a local champion is the key to local library services on the one hand, while taking advantage of regional library resources allocated on a national level on the other hand appears to be a robust “marketing” strategy. In Albany, New York the key to successful marketing rested in a subtle understanding of and ability to exploit the local autonomy provisions of legislation governing state-and-local fiscal relationships. Additionally, a small number of highly committed library advocates can be enough to create positive votes for changes in budgets.

As seen in Figure 1, the marketing of services and the marketing of libraries are interconnected relative to funding. The figure also emphasizes the feedback effects between these two kinds of marketing. Public accountability and public performance management can make all the difference in having the funds to be able to provide the services that citizens depend upon.

References

- Andersen, D.L. (2003). Selling a public good: The case of rechartering public libraries by referendum in New York State. *Public Library Quarterly*, 22(4), 5-23.
- Andersen, D.L. (2004). The library as living space: How Glasgow, Scotland defines its public libraries. *Journal of the Library Administration Section*, 1(1), 5-11.
- Andersen, D.L. & Andersen, D.F. (2012). Marketing public libraries: An international perspective. In *Marketing Your Library: Tips and Tools That Work*. C. Smallwood, V. Gubnitskaia and K Harrod, eds. Jefferson, NC: McFarland & Co., Inc.
- Ashcroft, L. (2010). Marketing strategies for visibility. *Journal of Librarianship & Information Science*, 42(2), 89-96.
- Baird, C. (2009). I’d like to buy the world a coke library. *Access*, 15(4), 28-29.
- Castillo, A. & Martínez, C. (2008). Library science in Mexico: A discipline in Crisis. *Progressive Librarian* 31: 29-36.

- Clark, Sarah. (2009). Marketing the library? Why librarians should focus on stewardship and advocacy. *Progressive Librarian*, 33, 93-100.
- Cooper, J.F. (2009). You already have a marketing department. *Public Libraries*, 48(3), 2-15.
- Crowley, B. (2010). Know your ROEI. *Library Journal*, 135(3), 34-35.
- DeRosa, C. (2009). Advocacy and OCLC. *Journal of Library Administration*, 49(7), 719-726.
- Dowd, N. (2011). Is mobile marketing right for your organization? *Reference Librarian*, 52(1/2), 166-177.
- Duncan, R. (2009). Smarketing: Smarter marketing for libraries. *APLIS*, 22(4), 149-156.
- “Fundraising.” (2011). Fundraising and marketing for author events. *Public Libraries*, 50(1), 24-26.
- Gall, D. (2010). Librarian like a rock star: Using your personal brand to promote your services and reach distant users. *Journal of Library Administration*, 50(5/6), 628-637.
- Germano, M.A. (2010). Narrative-based library marketing: Selling your library’s value during tough economic times. *Bottom Line: Managing Library Finances*, 23(1), 5-17.
- Keller, J. (2011). Targeted markets. *Public Libraries*, 50(1), 30-33.
- Kerr, G.D. (2010). Gaining and retaining customer loyalty. *Public Library Quarterly*, 29(1), 1-29.
- Kleindl, B. (2007). Marketing practices used by the emerging American public library system from inception to 1930. *Journal of Macromarketing*, 27(1), 65-73.
- Lau, J. (2010). Mexico: Libraries, Archives and Museums. In M.J. Bates & M.N. Maak, eds. *Encyclopedia of Library and Information Sciences, Third Edition*. Boca Raton: Taylor & Francis, pp. 3628-3631.
- Lau, J. & Lee, J. (2010). Libraries in Mexico: Context and collaboration: An interview with Dr. Jesús Lau, President, Mexican Library Association. *Collaborative Librarianship* 2(2): 96-101.
- Lepik, A. (2007). Relationship marketing and library 2.0. *Signum*, 5, 13-16.
- Loprinzo, G. (2009). Perceptions and awareness of library services. *Journal of Library Administration*, 5(2), 15-29.
- Menchaca, F. (2008). Funes and the search engine. *Journal of Library Administration*, 48(1), 107-119.
- Moyer, M. (2011). Library as performance space. *Library Journal*, 136(4), 53.
- Murphy, D.O. (2010). Baiting the hook. *Public Libraries*, 49(3), 45-47.

- Mylee, J. 2010. An exquisite paradox: Making teens and young adults welcome in public libraries. *APLIS*, 23(3), 107-110.
- Nunn, B. & Ruane, E. (2011). Marketing gets personal: Promoting reference staff to reach users. *Journal of Library Administration*, 51(3), 291-300.
- Palmer, C. (2011). This I believe...All libraries should be teaching libraries. *portal: Libraries & the Academy*, 11(1), 575-582.
- Pankl, R.R. (2010). Marketing the public library's business resources to small businesses. *Journal of Business & Financial Librarianship*, 15(2), 94-103.
- "Perceptions." (2011). Changing perceptions. *Public Libraries*, 50(1), 6-7.
- Post, L. (2009). Planning you library vote. *Journal of the Library Administration & Management Section*, 5(3), 15-18.
- "Promotional." (2007). A successful promotional campaign: We can't keep quiet about our electronic resources. *Serials Librarian*, 53(3), 41-55.
- Rooney-Browne, C. (2010). Public libraries as impartial spaces in consumer society: Possible, plausible, desirable? *New Library World*, 111(11/12), 455-467.
- Saricks, J. (2010). At leisure: Marketing 201. *Booklist*, 107(1), 43.
- Shontz, M.L, Parker, J.C., & Parker, R. (2004). What do librarians think about marketing? A survey of public librarians' attitudes toward the marketing of library services. *Library Quarterly*, 4(1), 63-84.
- "Small Public Library." (2006). Marketing the small public library. *Tennessee Libraries*, 56(2), 86-90.
- Stover, J. S. (2006). Making marketing work for your library blog. *Internet Reference Services Quarterly*, 11(4), 155-167.
- Sutherland, S. (2002). Passion, practice, partnership, and politics: Marketing the future of public libraries. *APLIS*, 15(2), 61.
- Toshiro, M. & Kim, E. (2010). Data analysis methods for library marketing in order to provide advanced patron services. *International Journal of Database Theory & Application*, 3(2), 11-20.
- Villel, L. (2007). Join the conversation: Show your library's Google Scholar and book search expertise. *Journal of Library Administration*, 46(3/4), 5-64.
- "The Web." (2011). Marketing and the web. *Public Libraries*, 50(1), 21-23.

Peer Reviewed Article

Librarians as Liaisons: A Risk Management Perspective

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A *bstract:* Librarian liaisons are credentialed librarians who reach out to promote library collections and related services to the communities served by their libraries. This paper provides (1) a brief introduction and background, (2) a discussion of outreach from the perspective of mission risk management, (3) a brief explanation and extrapolation of the literature, (4) a pick list of mistakes that highlight problems that need a solution, (5) related conclusions and recommendations; and (6) recommended readings.

1. Introduction and Background

All professional associations expect their members to do two things: (a) engage their communities in meaningful conversations and (b) make informed community-centric choices. In addition, the *raison d'être* of all librarians, regardless of their assigned duties and responsibilities, is to ensure that their library's unique blend of collections, programs and services will effectively and efficiently meet their mission informed needs of the communities they are paid to serve and support, both now and in the future.

Librarian Liaisons

Librarian liaisons are credentialed librarians who are academically prepared to understand and support research/teaching in their areas of responsibility; understand enough about pedagogy, cognitive processes, learning styles and content assimilation preferences to develop creative outreach service plans that improve stakeholders' literacy skills, actively seek opportunities to add value to the research, teaching and learning experiences of those they are tasked to support, and effectively identify contextually appropriate activities and accurately assess the outcomes.

In many types of libraries, librarian liaisons...*facilitate* [communication]...*coordinate collection activities* ...[and] *promote library instruction and other services and resources*. [13] Because outreach programs involve calendaring and multiple activities that must be independently managed and conducted, the core competencies and personal attributes identified by the Association of Research Libraries apply to librarian liaisons as managers/supervisors and innovators/leaders. In that context, librarian liaisons must be able to adapt, communicate, discover, flex, focus, lead, meet, seize, strive, serve, and work in teams to add value to their communities. They must

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also be intellectually curious, because they will be expected to identify, collect, enable, facilitate, deliver, and initiate collaboration. Librarian liaisons, of course, add this kind of value in many different contexts. [17]

Librarian liaisons perform a specific set of tasks, including but not limited to the following:

- Make office calls in person and offer 24/7 “house calls” via synchronous chats and asynchronous e-mails;
- Announce, advertise and promote library resources and services;
- Link specific resources to specific courses—and specific information to specific teaching points;
- Create bibliographies, research guides, workshops, writing/skills tutorials, blogs, exhibits, information kiosks, web sites, and wiki forums;
- Deliver guest lectures; team with faculty in academic disciplines to teach courses and offer their own workshops, seminars and credit courses;
- Edit/author/co-author alerts, newsletters, journals, empirical and theoretical research papers, grant proposals, technical reports, white papers, and patents; and
- Sponsor book talks, lectures and other campus and community events.

Today’s liaison outreach missions are more than simply a set of tactical responses to immediate concerns. Outreach missions are determined by librarian’s visions, *whether articulated or hidden*, that in turn determine outreach priorities and the individual librarian liaison’s choice of outreach activities. It is important for librarian liaisons in each library to develop a shared outreach mission. For example, let us assume the librarian has a hidden vision of what tomorrow’s library ought to be. Three examples follow:

- **A liaison envisions tomorrow’s library as *visible*.**

This means that the librarian liaison may assume that today’s outreach mission is to package, position and promote the library as a successful brand. However, if the hidden vision is that tomorrow’s library is *invisible*, then initiatives need to resemble strategic marketing campaigns for *declining* brands.

- **A librarian liaison envisions tomorrow’s library as *central* to the information seeking activities of the community.**

This means the librarian liaison may assume that today’s outreach mission is to ensure the library moves in that direction. Initiatives might involve creating contextually useful resource comparisons hyperlinked to resources, designing browser toolbars, customizing user interfaces, providing personal research advice, and using library funds to sponsor and promote the use of bibliographic utilities to support research and paper production (e.g., RefWorks™).

- **A liaison envisions tomorrow’s librarians as *capable* research partners/consultants and *effective* teachers/trainers.**

This means that the librarian liaison may assume that today’s outreach mission is to demonstrate that librarians are actually ready for these roles. This encourages librarian liaisons to ignore intellectual blind spots. Initiatives may shamelessly position and promote librarian liaisons as ‘experts’, ‘specialists’, ‘scholars’ and ‘master’ teachers. The liaison’s emphasis may be limited to the development of LibGuides™ and other forms of library research guides but may also include the promotion of collaborative research agendas, co-publications in top-ranked journals, and co-presentations in strategically valuable settings.

Since hidden assumptions can pull the library’s strategic plans off track, librarian liaisons need to resolve these hidden assumptions. Otherwise, the future they prefer may not be the future they actually get. In the early part of the 20th century, Rider predicted: “...if librarians did not use scientific management or cost benefit analysis to justify performance, non-librarians would come in and do it.” (White, 2002, 29) Unfortunately, the assessment of library services performance continued to remain static in terms of theories, models and practices until the mid-to late 1990’s.

...The traditional techniques of performance measurement that were developed and documented during the early history of libraries include interviews, input/output analysis, costs analysis, and activity analysis, are still the most popular forms of performance measurement today.” (White, 2002, 28-29)

In the context of library outreach, achieving ‘equilibrium’ is not the goal. Rather, librarians change one life at a time (hopefully, for the better), empower community voices that might otherwise be ignored, and protect society as a whole by defending each individual’s right to *private* inquiry. The dynamic and discontinuous changes in information sources, services and communication channels are inevitable and generally welcomed by librarians. Unfortunately, it will require considerably more effort to transform library outreach models, upgrade performance reviews and assess outreach outcomes in meaningful ways. Based on systematic reviews of the literature, position descriptions, and job postings, five related issues are identified and briefly discussed below:

- **Library managers appear to be late-adopters of assessment practices. They tend to favor ‘cookie cutter’ production models, retail sales statistics and related customer service metrics.**

The models and metrics currently used to quantify performance and assess quality were originally developed outside the library profession. It can take decades to identify and adopt useful metrics, but it takes even longer to apply lessons learned. Of course, these models and metrics often fail to accommodate service innovations and those that devalue diversity are sub-optimal at best.

- **Library service assessment metrics are losing their descriptive power.**

Current metrics should reflect *goodness of fit* between liaisons and subpopulations and identify deviations from populations that are not ‘normal’—in the statistical sense. Since library metrics are inextricably combined and inexplicably conflated, it is difficult to streamline operations or properly allocate resources, though it is sometimes possible to optimize unique benefits and apply individual lessons learned.

- **Liaison assessment metrics are production-focused rather than customer-centric.**

Reliance on ‘one size fits all’ assessment metrics inserts a bias against staff and stakeholder diversity. It can also devalue and hide the significance of many impact factors, such as current awareness of stakeholder needs, knowledge of learning styles and communication preferences, the existence of personal networks, the perceived value of specific services, and the liaison’s personal attributes and access to various forms of professional and personal support.

- **Service performance is affected by external factors.**

Metrics continue to emphasize ‘inelastic’ service saturation rather than ‘elastic’ service relevance. Changes in the environment do not impact all stakeholders in the same ways. For example, lack of a champion and individual information-seeking choice behaviors can have an uneven negative impact on service *visibility*. Library budget allocations and staff turnover can have an uneven impact on resource *availability* and librarian’s choice behaviors can have an uneven impact on *user acceptance*. The ‘long tail of consumer behavior’—determined by other experiences and the emergence of non-traditional competitors can also have a hidden negative impact on service *acceptance*.

- **Library managers ‘ration’ services but can rarely ‘allocate’ them equitably, so service ‘parity’ is hard to achieve.**

Service performance metrics that emphasize administratively convenient categories tend to push each librarian liaison to provide every service to every member of every subpopulation, regardless of goodness of fit. However, services are actually ‘rationed’ in that services available to some are *not* available to all for a number of good and sufficient reasons. Also, the levels of ‘expertise’ vary, so librarian liaisons are not interchangeable. The dirty secret, though, is that spanning boundaries and ‘going the extra mile’ are idiosyncratic (librarian-specific) choice behaviors. They are neither strategic nor programmatic. As a result of such uneven service, it hard to successfully manage stakeholder expectations.

The section below discusses outreach from the perspective of mission risk management and includes a recent example of an outreach failure.

2. A Brief Explanation and Extrapolation of the Literature

Shelfer [1998] provided a synthesis of the literature that focused on library outreach. Since 1998, there has been a surge in the body of LIS literature devoted to this topic. Currently, the literature focuses on a handful of issues that involve various forms of risk management. Each area of emphasis involves a different level of decision support and the production and use of context-specific artifacts. Selected examples are provided in Table I (below).

- Theory building (conceptual frameworks that focus on literacy and related social benefits) is used to suggest mental models that influence profession choice behaviors.
- Strategic Planning relies on various combinations of mental models and performance metrics to explain relevant resource requirements.
- Operational decision support depends on how library managers envision and support liaison roles, delegate responsibilities, assign tasks, measure outcomes, etc. At this level, librarians articulate job descriptions, explain processes, ensure workflow parity, reward excellence, record and report outcomes, and so forth.
- Community Relationship management (especially social and professional networks) increasingly conflate human attributes and communication channels, so traditional liaison activities have fallen off the radar. Since liaison relationships have a managerial component, an operational component and a personal component, it is tricky to assess the current conflation of outreach models, managerial mandates, job descriptions, procedures, librarian 'readiness', stakeholder preferences, and so on.

Using Table I (on the next page) and the following three-step process, librarians can articulate a role, assign responsibilities, plan activities and prepare a simple outcomes assessment plan.

Step 1: Decide what the liaisons can be expected to emphasize and identify the related services and artifacts that might be important to develop.

Step 2: Use examples harvested from the field and professional literature to articulate a general outreach model, articulate the liaison's role, and list the liaison's associated outreach responsibilities.

It might be important to remember that the perceived successes and failures of the liaison are based on the *community's* perspective, which is unlikely to be homogeneous. At this point, key informants are likely to be helpful. This next step is important because we should always ask stakeholders which services they need and are likely to value, if only to ensure that the liaison's performance is useful and that the liaison's service environment is incorporated into the liaison's performance review.

Step 3: Meet with key informants to make any necessary adjustments and validate the results.

Key informants represent the needs and vested interests of a specific group of stakeholders that the liaison is preparing to serve and support. For this reason, it is important to adjust the general outreach mode, clarify roles and responsibilities, understand communication preferences, and so forth. Liaisons can use a value—neutral icebreaker that encourages an exchange of perspectives. This can make it easier to identify and manage associated risks.

TABLE I. LIAISON-SPECIFIC LIBRARY OUTREACH FRAMEWORKS

Focus	Emphasis		Related Services and Artifacts
Theory-building (Conceptual Frameworks)	Information literacy Computer literacy Ancillary benefits	Cognition Decision Support Literacy Collection Utilization	Critical/Creative Thinking Hypothesis Testing Models, Roles Methods, Techniques Programs, Services Market Research Teaching/Training
Strategic Management	Strategic Planning	Analytics Benchmark, Gap Analysis Resource Optimization Futurize, Trendspotting	Advertising Outcomes Assessment Metrics Plans Reports Responsibilities
Operations Management	Library Scientist Scholar Librarian Teacher-Trainer	Analyze/Assess/Test Compile/Curate Develop/Maintain Expertise Demonstrate & Use Resources Understand & Do Research	Performance Evaluation Media Mentions Search Engine Optimization Library Research Guides Publications Talks, Tours, Tutorials Webcasts Wikipedians Workshops
Relationship Management	Advisor Consultant Partner	Cheerleader Friend Mentor	Appointments, Consults Joint Papers/Projects Social Networking Activity Reports Self-Assessment

TABLE II: EXAMPLE OF AN OUTREACH ICEBREAKER AND CONVERSATION STARTER

What do you think matters most to our library? <ul style="list-style-type: none"> • Visibility • Credibility • Centrality • Sustainability • Survival • Informing • Entertaining • Skill Building • _____ 	What do you think matters most to our community? <ul style="list-style-type: none"> • Demographics • Economics • Geographic's • Politics • Planning • Managing • Problem-solving • _____
How can the library's liaison contribute to the library's mission success?	How can the library's representative contribute to my community's success?
How can the liaison improve the library's strategic planning process?	How can the library's representative help my community in the context of strategic planning?
How can the liaison improve the library's operational choice behaviors?	How can the library's representative help my community in the context of operations management?

The Use Of Ice Breakers As Discussion Starters

Library outreach models and liaison processes are intended to be the library's answer to key questions that influence mission success/failure. At the point of origin, however, stakeholder input is rare, so the librarian-liaison and the key informant(s) should use a mutually beneficial icebreaker. In Table II (below), each individual should independently answer the questions recorded in both columns. Comparing and clarifying each other's responses is an extension of the 'reference interview' that provides a value-neutral framework to identify needs, articulate assumptions and clarify expectations. More to the point, this practice provides a shared opportunity to consider the other person's role, responsibilities, communication preferences, learning styles, and so forth. This type of information can be used to manage the associated service risks.

The literature provides useful information and examples of liaison models. For example,

- Lori Harrison [2014] posted a LibGuide™, which identifies literature that discusses eight different liaison models. It is located online at <http://libguides.bgsu.edu/libraryliaisonmodels>.
- The ALA provides an online guide for process improvement at <http://www.ala.org/rusa/resources/guidelines/guidelinesliaison>.

A separate paper discusses various models and metrics, but in a nutshell, analytical frameworks such as factor analysis and force analysis can be used to develop a general library outreach model that reflects the perfect balance of organizational *efficiency* and individual *effectiveness*. All other factors being equal, the most efficient model normally represents a 'one to many' relationship and the most effective models tend to reflect a 'one-to-one' relationship, but the needs of the community and the resources of the library determine the appropriate balance. The model is important, because it can be used to manage risks associated with a misalignment of expectations and service plans.

Associations of professional librarians archive and distribute job descriptions that can be used to articulate librarian-liaison roles. Peer support in the form of knowledge sharing can help library managers assign outreach responsibilities and consultants can help library managers assess program outcomes. For some odd reason, however, librarians who are assigned liaison duties and responsibilities may decide to just ‘wing it’. This hinders the librarians-liaisons’ efforts to develop and operationalize a formal service plan, but context-sensitive expertise is available and existing plans can be used to jumpstart the planning process.

Librarian liaisons are self-managers with a number of competing priorities. They are likely to need personally meaningful incentives to rebalance their workloads to help others without burning themselves out. This is because liaisons support training and use of library systems and services, provide a conduit for stakeholder feedback, use distance education platforms to deliver online training and research support, and generate and nurture various forms of collaboration.

For everyone’s benefit, it is important to avoid verbal criticism of other librarian liaisons.

- Most of us cannot ‘be all things to all people’ on a consistent basis. If and when a librarian liaison discovers a gap that needs to be filled, one of the benefits of outreach teams and peer review is that support may be available on demand.
- Some liaisons will not be successful, despite everyone’s best efforts, for reasons that are beyond that individual liaison’s control. This is why librarian liaisons should be rewarded for specified forms of ‘horse-trading’ that reduce various risks of an (outreach) mission failure.
- Training plans and mentors can be used to improve the performance of a novice liaison. Also, liaisons that share their service plans, explain their methodologies, publicly learn from their failures, share the credit for their success, and step forward to assist their colleagues, should be honored by the library for this type of exemplary service.
- The library manager may need to manage specific risks associated with uneven service quality popularity contests and personality cults. This is another reason that the librarian liaison should be rewarded for helping a colleague succeed.

3. Harvesting Evidence of Liaison Effectiveness

Liaison work requires librarians to be ‘ready’, which means the liaison needs the capacity, capability and personal motivation to reach out to individuals and groups in ways that meet the learning styles and communication preferences of a particular segment of the community that the liaison’s library is expected to serve and support.

Results of a Liaison Survey

To assess the effectiveness of one college library’s liaisons, a questionnaire was distributed that asked liaisons to report their interactions with any of the professors on the attached list(s) that were copied directly from department websites. The email cover memo also explained that individual responses were confidential and would not be discussed with their supervisor or tied to their annual performance review. The Outreach Coordinator (this author) had no supervisory authority and a response was not mandatory, but most librarian liaisons chose to provide the requested information for the library’s benefit. The results are explained (in general terms) below:

- A few librarian liaisons openly acknowledged their failure to contact anyone on their list.
- Most librarian liaisons reported a ‘contact’ with a small percentage of the names on their list that was normally related to a request for a class presentation or some other form of instructional support.

- A few librarian liaisons added at least one name that had not yet been added to the targeted department's website. This suggests that they were aware of current personnel changes in that department.
- Just a couple of respondents actually reported some form of collaborative *research* activity, even though these librarians hold a tenure-track faculty appointment and are expected to engage in (and report the results of) their scholarly research activities. Unlike most academic librarians, many of these librarian liaisons have earned research doctorates and are scholar-librarians who teach full credit academic courses in various departments.
- A few librarian liaisons reported attending meetings with one or more of the professors on their list. However, several reported being rebuffed for various reasons beyond their control.
- None of the librarian liaisons reported participation in a collaborative service activity.

The composite results of this survey were shared with the Chief Librarian, but individual responses were not shared with the respondent's supervisor(s). Once the information was compiled, individual responses were destroyed. (One anonymized response was kept as an example of 'proof of concept'.) Based on the composite results, the infamous '80/20 rule' applied. A few librarians were responsible for most of the outreach activity, but most of the individuals on each librarian liaison's list had not been contacted by anyone in the library. When a contact was reported, it was usually the equivalent of a handshake, but was sometimes the familiar request for a class presentation designed to help students learn how to research a specific topic.

Very few liaisons reported a mutually beneficial relationship. Some individuals with shared faculty appointments were 'claimed' by more than one liaison and two liaisons had actually worked with the same individual. Both liaisons resented that situation, rather than viewing it as evidence of a collaboration success.

One of the surprising results was that two large departments and the entire administration had fallen through the cracks. These service gaps convinced the Outreach Coordinator that backup was needed and a succession plan was required. At first, librarians who 'owned' a plum assignment were reluctant to trust their assigned partners. However, their role was publicly 'confirmed', and a few situations required the assigned partner to cover a scheduled outreach activity. After that, things settled down and liaisons began to voluntarily share information with their backups and a few also voluntarily rebalanced their workloads to support coworkers with heavier workloads.

The positive impact on many librarian liaisons was easy to observe. They began discussing ideas for self-improvement with each other and with their outreach coordinator. A few began quietly working their way down their list and sending updates on their individual successes/failures. The insights harvested from the activity reports and follow-up conversations allowed the Outreach Coordinator to identify and explain specific risks that were both context-specific and librarian neutral. A few librarian liaisons chose not to report anything. They were very polite, but also very firm. They also chose not to participate in the informal 'brain-storming' sessions that followed the release of the results. One of them explained that he thought supervisors would find ways to view his report and use it against him. Since this author carefully guarded the information and only distributed aggregate data, individual responses were not revealed, but the issue of 'distrust' prevented managers from obtaining all of the relevant information.

Various plans and best planning practices are fully discussed in the body of literature devoted to improving related management choice behaviors and best professional practices. In the 21st century, the complexity of the service environment suggests the importance of a team approach and the need for a succession plan. However, it will take time to eliminate turf wars and eliminate the perceived risks and rewards normally associated with truthful self-reporting of incriminating information. Results also indicate that the costs of implementing a CMS (contact management system) may outweigh the benefits for some libraries, but the development of simple contact lists is a service that librarian liaisons appear to appreciate and the ability to cluster and discuss similar problems can help teams find ways to manage the related risks.

The next section discusses a few mistakes that impact both performance assessment and outcomes.

4. Some Lamentable Mistakes

Below is a ‘pick list’ of problematic choice behaviors.

- **Librarians know—or certainly ought to suspect, that librarians have played a significant role in widening the digital divide.**

The format *du jour* continues to become outdated faster than libraries can afford to refresh their collections, of course. Librarians find that they cannot open their own files because the file storage formats have changed. Librarian liaisons fail to realize that risks associated with information diversity and format migration must be properly managed. Librarians are not yet habituated to best computer literacy and cyber security practices. The information seeking choice behaviors of marginalized and economically disenfranchised stakeholders should be a top data harvesting priority for librarians. For some odd reason, it doesn’t appear to be. Watching a child play with an iPad and viewing a teenager’s movie review mashup on YouTube™ suggests that librarian liaisons may need to revise their understanding of literacies.

- **It is risky for librarian liaisons to promote the cyclical adoption of arcane systems and obsolescent technologies and provide for vendors free advertising that devalues the library’s brand.**

Some librarians abandoned Project Gutenberg in favor of Google Books. The New York Public Library actively promotes the 3M™ eReader app. The Leon County Public Library prefers to promote Project Gutenberg (<http://cms.leoncountyclibrary.gov/Library/DownloadableMedia>), but its corporate sponsor (Overdrive™) receives top billing for its own eBook collection.

- **For the sake of convenience, stakeholders sacrificed their rights to private inquiry and helped vendors bypass our nation’s libraries.**

People apparently needed (a) federated indexing and (b) a free online encyclopedia that were willing to update hot topics in real time. This type of blind spot results in market myopia that is very risky to ignore. Library managers need to consider what is likely to ‘replace’ the free open web. Something obviously will, regardless of whether ‘1st class’ access for the information rich is ultimately approved. At this point, librarian liaisons have a mission-critical role to play. They have opportunities to influence the rate and direction of changes in information systems and technologies. They also have opportunities to serve and support community thought leaders.

- **Librarian liaisons and library managers need to know how much of which kind of data are actually required to equitably and correctly assess each librarian-liaison’s performance.**

Assessing stakeholder satisfaction with library outreach programs is usually based on nonscientific surveys, convenience samples and anecdotes. However, liaisons cannot afford to ignore those who reject library collections and services for all the right reasons. They are angry, and they are very well connected.

When useful data are hard to collect, there are few incentives to fix that problem. As a result, a tactical success could actually reinforce a strategic blind spot. Libraries are closely coupled to a number of environmental forces. All of these factors influence the library’s portfolios of outreach programs and services, but the current crop of assessment metrics fails to reflect these types of co-dependent choice behaviors.

- **It is axiomatic that human factors have an impact on stakeholder acceptance of the liaison’s service plan.**

Although libraries actively recruit for diversity, they use cookie cutter assessment instruments that reflect general outreach models that do not fit every context equally well. As a result, there is a need to consider how to numerically reflect the cult of personality that drives librarian ‘shopping’ and customer ‘swapping’ . At this time, libraries equate

the operation of ‘counting’ with the strategic valuation of library collections and services. To improve this situation, librarians need to improve their visual literacy skills. It is hard to explain knowledge flows, research cycles, information supply chains and value chains if we cannot help others visualize them.

- **A quick review of the 1938 Admissions Exam to one library school suggests that we have lowered our expectations.**

Librarians (and librarian liaisons in particular) need a well-rounded awareness of demographics, economics, geographics and politics. The field does not actually reflect the demographic diversity of the nation, so librarian liaisons who can rectify that unfortunate situation are urgently needed. Demographics and personal belief systems of librarians impact stakeholder acceptance of libraries, and, at the same time, create a small set of problems that could benefit from collaborative solution studies that the author hopes the readers will initiate and facilitate.

5. Conclusions and Recommendations

In a nutshell, there has been a century of ‘water cooler’ conversation and a parallel lack of serious attention to the need for scientific validation of library outreach practices. This is *not* actually true for other professions that have adopted similar outreach models. This author’s field experience and research activities have resulted in the following conclusions:

- **Liaisons are sometimes expected to deliver bad news, which causes stakeholders to devalue their offers of service and support. It would be better for library managers to accept that responsibility and optimize librarian liaisons as active listeners and encourage them to represent the ‘voice of the customer’ in every stage of the planning process.**

The library’s operational excellence is unlikely to be meaningful if the library uses liaisons to send information, but liaisons are used to inform stakeholders that the library is not going to meet their needs or live up to their expectations. The use of the term ‘advocate’ is more than just a jargon swap. It represents the goal of the library’s outreach, which is to identify and meet the information needs of the community.

- **Liaisons and stakeholders must be a ‘good’ fit.**

Failure factors tend to reflect the use of identical job descriptions, rigid activity plans and quotas. Success indicators tend to reflect workflow parity, mentoring, success plans, librarian readiness (knowledge, skills, expertise and approachability), and institutional willingness to accommodate stakeholder preferences and meet stakeholder needs. This adds layers of managerial oversight that cannot be avoided. However, better use of available data appears to justify this approach.

- **It is important to avoid treating ‘efficiency’ and ‘effectiveness’ as a zero sum game.**

Library managers need to incorporate outreach training and liaison development into the job descriptions of all librarians, so that the work of individual librarians—whether or not they have formal liaison assignments—can actually be counted and considered.

- **Organizational incentives and personal motivation are both relevant.**

Library managers rely on individual librarian liaisons to discover, validate and implement best outreach practices. Where libraries are not able/willing to fund a professional collection for librarians, it is important to fund opportunities for the acquisition and use of professional information. Examples

include RSS feeds, attendance at regional meetings devoted to this topic, and the establishment of funding to meet staff training and development requirements.

Bibliography

1. Allen, Mary J. 2004. *Assessing Academic Programs in Higher Education*. Bolton, MA: Anker Publishing Company.
2. Cameron, Kim S. and Whetten, David A. (Eds.) 1983 *Organizational Effectiveness: A Comparison of Multiple Methods*. New York: Academic Press.
3. Cleyle, Susan E. and McGillis, Louise M. (Eds.). 2005. *Last One out Turn off the Lights: Is This the Future of American and Canadian Libraries*. Lanham, MD: Scarecrow Press.
4. Corey M. Johnson, Sarah K. Mccord And Scott Walter (2003). *Instructional Outreach Across The Curriculum: Enhancing The Liaison Role At A Research University*. *Reference Librarian* 82: 19-37.
5. *Environment Factors Affecting the Future of Assessment in Academic Libraries*. McCabe, Gerard and Hurlbert, Janet (Eds.) Elsevier.
6. Epstein, Marc J. and Manzoni, Jean-Francois. (Eds.) 2004. *Studies in Managerial and Financial Accounting, Vol. 14. Performance Measurement and Management Control: Superior Organizational Performance*. Oxford, England; Elsevier.
7. Fogli, Lawrence. (Ed.) 2006. *Customer Service Delivery: Research and Best Practices*. San Francisco, CA.
8. Gorman, Michael 2000. *Our Enduring Values: Librarianship in the 21st Century*. Chicago, IL: American Library Association.
9. Gorman, Michael 2003. *Enduring Library: Technology, Tradition, and the Quest for Balance*. Chicago, IL: American Library Association.
10. Hernon, Peter, Dugan, Robert E, and Schwartz, Candy. (Eds.). 2006. *Revisiting Outcomes Assessment in Higher Education*. Westport, CT: Libraries Unlimited.
11. Karp, Rashelle S. 1994. *The Academic Library of the 90s: an annotated bibliography*. Westport, CT: Greenwood Press.
12. Kaufman, Roger, Guerra, Ingrid, and Platt, William A. 2006. *Practical Evaluation for Educators: Finding out What Works and What Doesn't*. Thousand Oaks, CA: Corwin Press.
13. Kraemer, Elizabeth W., et al (2003). "Beyond these walls: building a library outreach program at Oakland University," *Reference Librarian* 82: 5-17. *Discusses program values, shortcomings and improvement strategies*.
14. LaGuardia, Cheryl (Ed.). 1998. *Recreating the Academic Library: Breaking Virtual Ground*. New York, NY: Neal-Schumann.
15. Matthews, Joseph R. 2005. *Strategic Planning and Management for Library Managers*. Westport, CT: Libraries Unlimited.
16. McCabe, Gerard B. (Ed.). 1988. *The Smaller Academic Library*. Westport, CT: Greenwood Publishing.
17. McNeil, Beth (2002). *Core Competencies: A SPEC Kit*. Washington, D.C.: Association of Research Libraries Office of Leadership and Management Services. 125 p.
18. Melling, Maxine and Little, Joyce. (Eds.). 2002. *Building a Successful Customer Service Culture: A Guide for Library and Information Managers*. London: Facet Publishing.
19. Oldroyd, Margaret. (Ed.). 2004. *Developing Academic Library Staff for Future Success*. London: Facet Publishing.

20. Powell, David R. and McCabe, Gerard B. (Eds.). 2006. *It's All About Student Learning: Managing Community and Other College Libraries in the 21st Century*. Westport, CT: Libraries Unlimited.
21. Prentice, Ann 2005. *Managing in the Information Age*. Lanham, MD: Scarecrow Press.
22. Pritchard, Robert D., Holling, Heinz, Lammers, Frank, and Clark, Barbara. (Eds.) 2002. *Improving Organizational Performance with the Productivity Measurement and Enhancement System: An International Collaboration*. New York: Nova Science Publishers.
23. Reeves, Linda, Nishimuta, Catherine, Mcmillan, Judy and Godin, Christine. (2003) Faculty Outreach: A Win-Win Proposition. *Reference Librarian* 82 (2003): 57-68.
24. Russ-Eft, Darlene and Preskill, Hallie. 2001. *Evaluation in Organizations: A Systematic Approach to Enhancing Learning, Performance, and Change*. Cambridge, MA: Perseus Publishing.
25. Sapp, Gregg 2002. *A Brief History of the Future of Libraries*. Lanham, MD: Scarecrow Press.
26. Shelfer, Katherine 1998. Transaction log analysis as a method to measure the frequencies of searcher access to library research guides. Florida State University: Thesis (Ph.D.)
27. Thompson, Hugh A. (Ed.). 2005. *Currents and Convergence: Navigating the Rivers of Change*. Conference Proceedings ACRL 12th National Conference. Chicago, IL: Association of College and Research Libraries.
28. White, Larry Nash 2002. *Does Counting Count: An Evaluative Study of the Use and Impact of Performance Measurement in Florida Public Libraries*. Tallahassee, Florida: Dissertation.
29. White, Larry Nash. March 2007. *Defining Relevancy: Managing the New Academic Library*. "From Slide Rules to Scorecards: Service

Peer Reviewed Article

Making Electronic Databases Functional on the Library Website: a Practical Approach

by Kanu A. Nagra, Ph.D., MLS, MLIS

Abstract: This paper presents a process on making electronic databases functional on the library website for on and off campus access for optimum use. It covers the steps after the price, license terms and conditions are finalized between library and vendor and the decision is made by library and subject experts to subscribe or purchase the database. The operational workflow steps can be challenging for new professionals when implementing it for the first time. The step by step approach provided in this paper is meant to help new professionals in strategic planning, organizing the structure and management of library databases provision, along with providing an operational workflow for successfully mounting electronic databases and open access electronic resources on the library website. The operational steps include gathering necessary access information from vendor, local branding, creating metadata, enhancing discovery and access points, setting up access authentication, updating link resolver service and journal portal, testing, anticipated maintenance and delivery of subscribed electronic database and open access electronic resources on the library website.

1.0. Introduction:

In recent years library databases have gone through rapid and continued developments with respect to nature, format, access and delivery. Provisioning and presenting electronic access on a library website vary from institution to institution. Web platforms and collections also vary based on intrinsic and extrinsic factors. However the core idea of making databases available 24/7 is a common goal.

Because of the wide variety of databases in every discipline and the diverse vendor platforms it can be confusing to patrons to use them. This paper presents detailed steps for making databases fully functional and accessible on library website with multiple points of discovery and use. Libraries often perform trial run of database to evaluate and test the database's potential for their academic community. The paper describes the subsequent operational steps on making

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electronic databases functional on the library website successfully once the price and the selection of open access e-resource or purchase decision of database and licensing terms are finalized between library and vendor. This paper recommends a simplified step by step procedure for implementing databases on library website and building and maintaining related areas in database management.

2.0. Methodology:

The review of literature and author's own experience in the electronic resources field is used to investigate successful practices to make electronic databases fully functional on the library website for on and off campus access with multiple discovery and access options for optimum use.

3.0. Review of the Literature:

An extensive literature search was conducted. The literature summary is presented in categories below to highlight changing concerns of libraries and librarians.

3.1. Consistent Style of Web Pages:

Garlock and Piontek (1996) emphasized creating a similar design and document style for all the pages on library website to ensure a consistent structure of the web pages. According to them the creation of a standard template for the team working on different web pages helps to maintain consistency in style and look so that users easily recognize that they are on the same library website. In addition authors emphasized that the organization of resources and databases on a website may vary from standard classification system to library's own developed schemes or systems but whatever method a library is using it should be client centric.

3.2. Link Maintenance, Regular Testing and Updates:

Bartle (2000) presented a model to mount a web-accessible database using HTML pages, File transfer protocol (FTP) and a server supporting PERL. She provided numerous tips and recommendations on avoiding invisible characters and archiving every change for database as well as showing title and date of updates. In addition, she recommended checking file permissions for mounting database, building and maintaining a schedule for updates, and maintenance of resources for efficient mounting and maintenance. Herrera and Aldana (2001) reported the benefits of centralized maintenance of electronic resource URLs in the library catalog and linking subject guides to the catalog at the University of Mississippi. These practices helped to provide users with a uniform access to resources and also saved library staff time in updating the URLs. In addition, the authors described a method to present electronic resources effectively in the MARC 856 field in the catalog and of inputting the call number field with different categories' of e-resources such as e-books, e-journals and e-databases to deliver precise results.

3.3. Organization of Databases on Library Website: Alphabetical and Subject Indexes:

Murphy (2003) reported that web titles or databases is often times replaced from the catalog with an alphabetical list of web titles, subdivided into subjects or departments. This may facilitate users discovery and suggested that with the rapid development of web resources a controlled vocabulary and design terms need to be given careful consideration. Dupuis, Ryan, and Steeves (2004) described the development and ease of using dynamic subject guides at York University using a content management system (CMS) by subject experts. The subject librarians

created the guides using easy to use CMS templates which enabled them to maintain and manage links of subscribed resources on all the reflected subject guides at the same time which saved time and effort. In addition the CMS tool made it easier for subject librarians to publish pages and implement changes on library website quickly and efficiently. De Jager (2007) suggested including remote electronic resources into the library catalog to promote single source searches for both print and electronic resource collections within catalog rather than accessing separate subject lists on library website.

3.4. Implementing Controlled Vocabulary, Metadata and Description of Databases for Successful Retrieval of Information:

El-Sherbini (2001) stated that metadata for electronic resources is often an extension of MARC 21 and reported problems associated with the variety of metadata styles being generated. The author recommended using existing classification systems and standards for building metadata for e-resources. Baca and Harpring (2002) recommended implementing controlled vocabularies, authorities and consistent formatting for metadata for e-resources based on their experience with descriptions of works of art (CDWA).

3.5. Enhancing Discovery of E-resources:

Frick, Duncan, and Walsh (2005) described context-sensitive linking services and their benefits for enhancing access. They reported an OpenURL is an actionable URL, which consists of a base URL and a query which identifies the library of a searcher and is supplemented with one or more descriptions which identifies user's information request.

An OpenURL link resolver service enables libraries to provide increased access to full text in addition to Journal portals. It is useful for vendors in setting up and maintaining target sites to provide improved access.

Linoski and Walczyk (2008) described how development of federated search tools helps users to identify relevant subject databases and allows simultaneous search within multiple licensed and local electronic resources. Federated search has many synonyms such as meta search, parallel search, and broadcast search. They concluded that the federated search is not a replacement for searching individual databases but it is another research tool which performs simultaneous search and its selection requires careful planning to augment existing technology and budget. Further, Williams, Bonnell, and Stoffel (2009) affirmed that the majority of students in their focus group study were satisfied with library's Web Feat federated search tool and they were using the federated search tool in addition to individualized databases and other sources. Many participants suggested inclusion of instruction of this tool in library classes along with suggestions like placing the federated search link as starting point for research and displaying it at a prominent place.

Williams and Foster (2011) noted that discovery tools are the next stage for library resource searching and discovery. Their study findings revealed that discovery tools provide better search experience, more ease of use, more relevance to search items and improved response time compared to federated search. Further, they explained that the gap in content due to non-sharing of metadata with discovery tools by some vendors causes libraries to hesitate to use discovery services and to continue using federated search and/or standalone subject databases to fulfill user's information needs.

Miller (2012) affirmed that the web-scale discovery services provide a way to improve access to library collections but found that they are still evolving. According to Miller, hundreds of libraries are using discovery services to provide a better searching experience that competes well with Google, Bing and others by providing a library version of a universal search for resources. He mentioned there are still a number of publishers/vendors who do not share their

metadata with all discovery services so that careful planning is required to ensure that that discovery service that the library is planning to purchase or subscribe to is capable of incorporating all their paid resources to be accessed. He suggested libraries can modify acquisition policies to give preference to vendors who partner and share metadata with web scale discovery services.

On the other hand Hallyburton, and Marcus (2012) said that a multiple database search from a single vendor is cost effective and worthwhile if the library is using all or most of the research resources indexed in databases available from the publisher/vendor. And, it will add more value and enhance the library experience full text access and more content is provided. A small investment in integrated search which enables simultaneous searching in databases, can maximize discovery and user experience while leveraging what library already possess rather than a large investment on a new discovery tool.

Somerville (2013) described the evaluation, challenges, complexities, triumphs and final implementation of a discovery system in the Auraria Library. He revealed that the SerialsSolutions Summon discovery service was the best fit for their library. It allowed them to use the same knowledge base as an OpenURL link resolver service for enhanced access to journals already in use by avoiding a duplication of work.

4.0. Mounting Electronic Databases on the Library Website: A Model

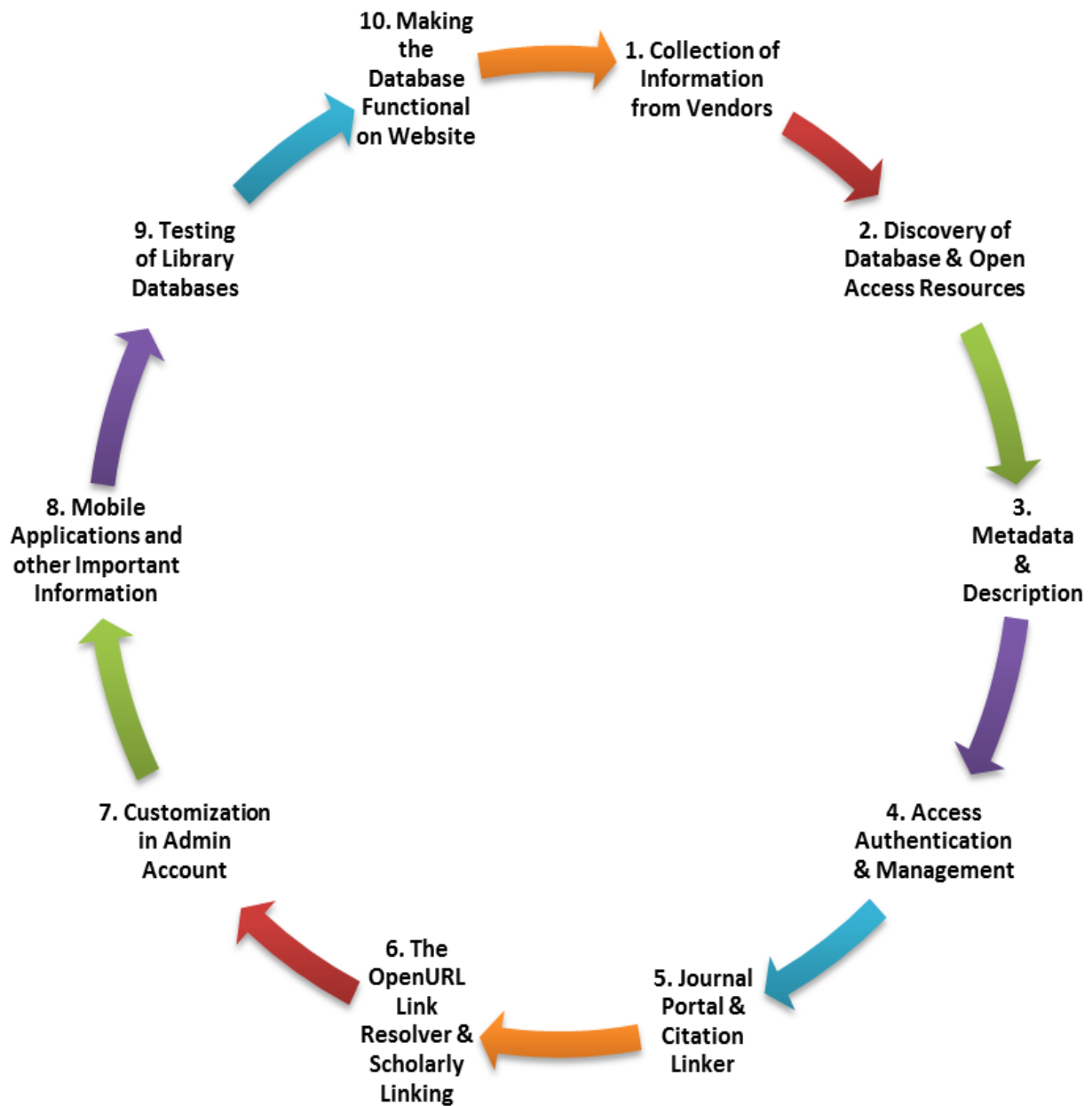
The process of mounting an electronic database on a library website can be a challenging endeavor. However, the model highlighted in ‘figure 1’ on the next page can be easily adapted for local use. The order of steps may vary for some libraries due to logistics but the basic idea is to provide 24/7 access with multiple access points and discovery to library clients on variety of devices.

Step 1: Collection of Information from Electronic Database Vendors and Open Access Resources:

Once the decision is made by the library team to implement an open access e-resource or subscription/purchase of a database, the process for making the database accessible to library clients begins. The electronic resources librarian needs to gather complete information and reconfirm related items for accessing the database. Some of the information may have been gathered during the trial access period if a trial was arranged; however, many vendors provide different settings for trial and purchased access. Therefore, it is important to ensure that you have the necessary information to enable database access for both on and off campus use.

In order to facilitate the process it is advisable to prepare a checklist for obtaining the information items from the database vendor to avoid any confusion and delays due to incomplete information. The checklist on the page following “Figure 1” may prove useful in collecting information from the vendor. Local variations can be added or deleted based on library's requirements.

Figure 1: Mounting Electronic Databases on the Library Website: A Model



Checklist of Information Needed for Database Access Implementation

- ___ URL of the database
- ___ Gather account details:
 - ___ Account number
 - ___ ADA Complaint details
 - ___ Contact details for billing
 - ___ Contact details and provisioning of access
 - ___ Technical support contact details for troubleshooting. Document process for opening and escalating support requests.
 - ___ Username and password for admin access for customizing the database and gathering usage statistics.
- ___ Identify exact date range for content access for indexing and full text access.
- ___ Proxy details for configuring on and off campus access.
- ___ Process to grant access to users. Do users need to create a login to use database features
- ___ MARC records
- ___ OpenURL link resolver/Scholarly linking details
- ___ Title of collection in Serials Solutions client center/Journal portal.
- ___ Availability of mobile applications.
- ___ Metadata sharing and partnership of database with your discovery service
- ___ Unlimited access is allowed or there is a limit on number of simultaneous users.
- ___ Frequency of content update.
- ___ Availability of basic tools within database such as email, save, listen, cite, print, export feature etc.
- ___ Is export feature compatible with your current bibliographical manager?
- ___ Supported browsers and compatibility
- ___ Are any special plug-ins needed to access content or features?

Step 2: Discovery of Database and Open Access Resources on Institutional Website:

After collecting the information from the vendor, prepare the database to make it discoverable from multiple access points. Different libraries follow different practices. Some libraries input the MARC record of databases in their library catalog, provided it is available from the vendor, along with placement of database titles and its description in separate indexes on the library website. Examples of such resources are electronic book databases and electronic video databases. Electronic resources can be organized, integrated and placed at various locations to be discovered by patrons on the institution's website. Then add and integrate the databases and electronic resources wherever applicable in your library and institution website. Examples of such resources are the library catalog, the university's union catalog, a journal portal, a multiple database search, and a federated or integrated search and library discovery services platform.

Most academic libraries arrange databases on their library website in various ways: an A-Z alphabetical list of databases, databases by subject, databases by categories / formats, mobile databases, trial databases, subject guides, library guides, databases by individual courses and university's shared web pages.

Nowadays, many academic libraries subscribe to discovery service platforms that work on the principle of searching, in a single search box, a complete knowledgebase consisting of multiple electronic resources from different vendors. The knowledgebase may consist of local resources such as institutional repository, catalog, free online resources, and the library's licensed or non- licensed resources which have metadata sharing partnership with discovery services. Examples of discovery services are Primo from Exlibris, Summon from SerialsSolutions, and EBSCO discovery services from EBSCO.

The federated search is a research tool which allows simultaneous search within multiple licensed and local electronic resources. Examples of federated search tools are WebFeat owned by SerialsSolutions, 360 search from SerialsSolutions, MetaLib from Exlibris and zPortal from OCLC. Discovery tools solved many of federated search problems, such as difficulty of use and irrelevancy of results and they also offer an improved search environment. However, discovery services are still evolving and libraries must carefully evaluate and choose between discovery services and the federated search.

If your library is using subscription discovery services and/or federated search it is vital that you provide the necessary access information for the database such as URL, vendor information, link resolver service, and any other relevant items for your library's open and subscribed resources to the federated search vendor or discovery services vendor.

Some database vendors do not provide access to content through discovery services. It is recommended that libraries check with individual database vendors about their database availability, connectivity and partnership to share metadata and access policy within discovery services platform before making their subscription/ purchase decisions to discovery service platform or any individual database.

Additionally, to enhance discovery and access of electronic resources on your institutional website, add your library's electronic database resources on virtual spaces such as virtual research commons, course management systems like blackboard, faculty and student resource web pages to facilitate discovery.

Step 3: Metadata and Description of the Electronic Resources:

There are varied practices and terminology commonly used to describe electronic resources and databases in the library catalog. MARC field 856 in catalog can be used represent electronic resources in the library catalog. MARC

856 subfield u (\$u) can represent the URL of e-resource and subfield z (\$z) is dedicated for public notes and captions as per the guidelines for the use of the 856 field by the Library of Congress.

The metadata for the database may include information about the database's coverage, features and uniqueness along with subject and extent of full text availability. Meta data may have a shorter or a more detailed version or both depending upon the requirements and decisions of your library. It may also depend on the nature of the database lists or indexes, the design of your library website and the discovery of databases on related web pages.

Alphabetical lists or subject indexes may organize the databases in different categories. These arrangements may not be sufficient for good patron's access. To let patrons know what is available in certain databases and to what extent, information on databases in the form of metadata or short descriptions is required. It is advisable to create a standard control vocabulary and style sheets for building a description and metadata for your library team. It will help in generating consistent design and formatting to maintain consistency.

Step 4: Access Authentication and Management for On and Off Campus Access:

Users want to access library e-resources from both on and off campus anytime they need them. Most database vendor's standard license terms and conditions allow on and off campus database access for legitimate users of institutions. Legitimate users are those users who are affiliated with the institution or allowed to access library facility. Institutions must maintain and utilize a system to authenticate their patrons and at the same time prevent outsiders from accessing their institution's subscribed content. According to Curtis, Scheschy, and Tarango (2000), this can be accomplished through authentication techniques that enable legitimate users who are enrolled in the institution to access library electronic resources. There are a wide variety of methods available to allow off campus access to resources on the library website. Ascertain what method your library is currently using and what is provided by the database vendor. Most database vendors are flexible in offering whatever method is preferred by library for off campus access. Examples are the user name and password method, IP authentication, proxy server and configuration of browser proxy settings and EZproxy server. Following are some examples authentication set-up for off campus access to library resources.

4.1 IP Range Authentication, Proxy Server and Configuration of Browser Settings:

Whenever a library subscribes or purchases licensed electronic resources, have your institution's IP ranges and IP address of the proxy server provisioned correctly by the database vendor for proper authentication to provide access on institution's IP ranges for the licensed resource. Users must configure their electronic device's proxy settings for accessing library resources from remote locations. Institutions may require users to enter barcode number or login information for authentication. Curtis, Scheschy, and Tarango (2000) provide a simple description of how the proxy server technology works on the principle of communicating directly with database site.

It is recommended that libraries provide patrons clear configuration instructions on their website for the various devices used by their patrons.

4.2 The Username and Password Method:

The username and password method is not preferred by many vendors and libraries as it either will likely result in the need for more help desk intervention when each patron has a different password or less security when a single password is used. If the library is using username and a single password access method for remote access for all or certain databases for some reason then provide this information to users in such a way that it is accessible to legitimate users of your library. Ensure the users are aware of restrictions on database usage and that it is available and limited to library users only.

4.3 IP Range Authentication, EZproxy Server and its Configuration:

According to information on OCLC (2013) website, EZproxy authentication and access software enables users to access library's licensed resources while off campus. EZproxy can be configured with a variety of authentication services, amongst them are LDAP, Athens, SIP, and Shibboleth which helps in reducing the number of authorizations / passwords and provides an uncomplicated experience to users.

As with the proxy server authentication method, database vendors need to be provided Institutions' IP ranges and EZproxy server's address so that IPs can be authenticated to the licensed resource for on and off campus access. Institution's Ezproxy administrator needs to obtain this information from the database vendor to configure EZproxy for specific databases by editing configuration files based on the library's decision to use EZproxy using host name or port number.

EZproxy works on the principle of altering the URLs within the library web pages for the databases. The database URLs can be supplemented with EZproxy server information either with port number or hostname. Ezproxy server name is embedded within the URLs of databases on the library website. Off campus database access is allowed after user's credentials are authenticated by LDAP (or any other authentication method). There is no need to configure a user's device as the Ezproxy server name is already embedded in the URL.

There are a variety of authentication options available and their selection and use may be based on many factors including the library or institution's existing technology infrastructure or preferences.

Step 5: Journal Portal and Citation Linker:

Libraries use different kinds of platforms to organize, manage and search journals on their website. SerialsSolutions journal portal service and A-Z e-journal list & citation linker from ExLibris are examples of some frequently used platforms in libraries for connecting users to journals and related databases in the library's collection. Once a new database is purchased or subscribed to by the library, update the relevant collection in the admin module of SerialsSolutions client center and ExLibris link resolver service or any other services applicable for your library. If your library is using another service or homegrown system for library's journal portal, then update the new database in the system.

Step 6: The OpenURL Link Resolver Service & Scholarly Linking:

OpenURL is an acronym for Open Uniform Resource Locator. OpenURL link resolvers help in connecting users to full text access through open access resources and other databases licensed by the library when the database they are searching does not provide full text access. There are a variety of OpenURL link resolvers available in market such as LinkSource from EBSCO, Article Linker and Journal Linker from SerialsSolutions, SirsiResolver from SIRSI Corporation and SFX from Exlibris.

According to NISO (ANSI/NISO Z39.88), the OpenURL application works in a networked environment in which packages of information embedded with a description of the referenced resource is transported with the purpose of obtaining context-sensitive services relevant to a referenced resource.

The following example describes using SFX from Exlibris, for setting up OpenURL and scholarly linking to a library's e-resources. To get more information on the standards and available products for OpenURL resolver, NISO and Library of Congress portal are good sources.

6.1. SFX: The OpenURL Link Resolver Service:

Database vendors make their databases available in either source (e.g. indexing databases) or target category with in SFX link resolver service which allows the library user to access the full text of documents or articles from an institutional defined knowledgebase through plug in-integration to resources such as open access resources, a library's licensed e-collection, library catalog and inter library loan service etc. Databases, whenever purchased or subscribed to by the library, must be updated and customized in the SFX knowledge base, so that linking becomes possible for the licensed database and e-resources.

Step 7: Customization in Admin Account of Databases:

Database vendors provide libraries administrative access to view usage statistics and customize the display of features within the database as well as the capability to embed other links, images and related content to customize the display of the database on a library website. Libraries can perform customizations for a number of items such as adding a College or University logo, linking to catalog, linking to a chat reference service, or linking to a homepage within the database. Account Administrator may be able to set up a desired limit of parameters for basic and advanced search.

Step 8: Mobile Applications and other Important Information about Database for Users if any:

Besides providing clear off campus access instructions to databases on a library website, the database metadata as well as library handouts or guides should mention any special features supported or not supported by the databases. Some examples of special features are:

1. A database provides mobile website or mobile application for access on devices. Ascertain the method(s) to access database on different mobile devices and provide this information on mobile database index or appropriate webpage on your library's website. Additionally, update your library's research guides, handouts and frequently asked questions (FAQ) and help page(s) with this information.

2. Certain databases such as E-book databases requires patrons to create username and password to check out e-books, personalize and utilize customization features such as note taking, highlighting, saving citations, embedding external links and more in their account within database. This information should be indicated clearly on relevant e-book web pages.
3. Some databases do not support an email feature within the database for sending full text articles via email. An alternative method to save and email or special instructions should be included in the description or at appropriate places on website so that patrons are aware of it.
4. Some databases are subscribed to based on the number of simultaneous users needed. This limitation should be highlighted in the description, handouts, guides and appropriate place on library website to reduce patron confusion in the case of high usage.
5. Some databases allow instructors to add and create content to connect with students in an online environment (e.g. Naxos Music Library, Transparent Languages, and Films on Demand) for interactive learning such as shared playlists for audio and video, saving favorites, online lessons and exercises, discussion in online groups etc. This feature should be mentioned in the description of the database and relevant library guides and web pages on library website.
6. Some databases display indexing to journals and articles for which the library does not have full text access based on subscription coverage (e.g. Science Direct and Springer). The search results may display symbols such as a green box image or partial green box image to represent the full or partial access available to institutional users. An indication of this feature in the description of the database or at an appropriate place on the library website will help users better understand the search results.

Last but not least the availability of special features such as cite, listen to audio, video and captions, email, PDF download, HTML access, bibliographic manager, export feature, availability of tutorials, help feature within databases, printing limits & loan period for E-books and its usage should be described on handouts, guides, database pages, in metadata and description of database or wherever applicable on the library website.

Step 9: Testing of Library Databases on Library Website:

It is important to note that thorough testing is required before making a database live on library website. Update the electronic database and open access resource in the testing phase first in all the relevant web pages of database indexes, subject guides, discovery services, and related discovery and access points with URL, metadata or description as applicable based on the design of your website.

If the library is using content management system (CMS) for the library website, then update it in the test phase. If the library is using any particular criteria for changes in cascading pages, then follow them to update all relevant indexes, discovery and access points in test instance.

Further test the functioning of electronic database resources for on and off campus access for the following:

1. Test the database for its presentation and display on all the relevant web pages, discovery services (if used by your library), all other discovery and access points on the institutional website.
2. Test database in browsers supported by your library for proper connectivity for on and off campus access.

3. Check the access to articles or documents in search results, functioning of journal access for available coverage dates, videos, captions and images in search results of database.
4. Check the availability and playing of audio and listen features for print disabled patrons.
5. Test the proper functioning of features such as save, email, print, citation, export and other options within database.
6. Check the connectivity to OpenURL link resolver service or any other scholarly linking service used by your library.
7. Verify the connectivity and search results within citation linker and journal portal.
8. Test the access, consistency in public notes and URL connectivity to databases, journals, e-books within library catalog (whatever is applicable for your library)
9. Check the linking and proper functioning of library catalog, chat reference service, college logo and library's home page within database platform.
10. Test the access and connectivity to database within integrated search and licensed discovery service subscribed by library.
11. Check the access of database on institution's course management system such as Blackboard.
12. Check the proper functioning and access of databases on various database indexes and library guides etc.

Ensure proper display and functioning of the database for all web locations to provide uninterrupted access. Also, the database URL maintenance and verification need to be done regularly to avoid any access issues. It is strongly advised to build a central database for maintaining vendor tech support information, databases URLs and relevant web locations of discovery and access for your institution's website to perform maintenance activities efficiently.

Step 10: Making the Database Functional on the Website and its Announcement:

Announce the mounting and addition of new database(s) in your library's e-collection to your institution's community after testing and ensuring that the database, all database indexes, library subject guides as well as sources for its discovery and access are functioning properly.

5.0. Conclusion:

Making electronic databases functional on the library and institution website along with the placement of databases on various discovery and access points for on and off campus access may be challenging for the first time. The steps by step approach provided in this paper can help in organizing the structure and management of library databases. The detailed operational steps can help in enhancing visibility, discovery, access and utilization of e-resources. The model provided in this paper can be utilized for any type of library with or without local variations to achieve successful mounting and functioning of library databases for optimum use.

Work Cited

- Baca, Murtha and Paricia Harping, ed. "Categories for the Description of Works of Art (Getty Research Institute) ", accessed 4/2/2013, 2013, http://www.getty.edu/research/publications/electronic_publications/cdwa/
- Bartle, Lisa R. "Mounting a Web-Accessible Database: A Model for Beginners." *College & Undergraduate Libraries* 7, no. 2 (2000): 111-121.
- Brown, Christopher C. "Building Your Database and Mounting it on the Web: A Model You Can Follow." *Computers in Libraries* 22, no. 2 (2002): 10-56.
- Curtis, Donnelyn, Virginia M. Scheschy, and Adolfo R. Tarango. *Developing and Managing Electronic Journal Collections : A how-to-do-it Manual for Librarians.* (how-to-do-it Manual for Librarians; no. 102). New York: Neal-Schuman Publishers, 2000.
- De Jager, Karin. "Opening the Library Catalogue up to the Web: A View from South Africa." *Information Development* 23, no. 1 (February 2007): 48-54.
- Dahl, Mark . "OpenURL." *Computers in Libraries* 24, no. 2 (February 2004): 26.
- Dupuis, John, Patti Ryan, and Merle Steeves. "Creating dynamic subject Guides." *New Review Of Information Networking* 10, no. 2 (November 2004): 271-277.
- El-Sherbini, Magda. "Metadata and the Future of Cataloging." *Library Review (Glasgow, Scotland)* 50, no. 1 (January 2001): 16-27.
- ExLibris, "ExLibris the Bridge to Knowledge, Overview", accessed 4/2/2013, 2013, <http://www.exlibrisgroup.com/category/SFXOverview>.
- ExLibris, "ExLibris the Bridge to Knowledge, SFX KnowledgeBase", accessed 4/2/2013, 2013, [http://www.exlibrisgroup.com/?catid={E95BFDD4-3D90-429D-BE04-277929E39997}](http://www.exlibrisgroup.com/?catid={E95BFDD4-3D90-429D-BE04-277929E39997)
- Frick, Rachel, Cheri J. Duncan, and William D. Walsh. "Nuts and Bolts of Linking: Understanding Context Sensitive Linking Services and Implementation." *Serials Librarian* 48, no. 3/4 (June 2005): 257-264.
- Garlock, Kristen L. and Sherry ZZ Piontek. *Building the Service-Based Library Web Site : A Step-by-Step Guide to Design and Options.* (ALA Editions). Chicago: American Library Association, 1996.
- Hallyburton, Ann1, and Elizabeth1 Marcus. "Maximize Discovery and Minimize Cost." *Journal of Electronic Resources in Medical Libraries* 9, no. 1 (January 2012): 1- 12.
- Herrera, Gail, and Lynda Aldana. "Integrating Electronic Resources into the Library Catalog: A Collaborative Approach." *Portal: Libraries & The Academy* 1, no. 3 (July 2001): 241-256.
- Korah, Abe, and Erin Dorris Cassidy. "Students and Federated Searching: A Survey of Use and Satisfaction." *Reference & User Services Quarterly* 49, no. 4 (Summer2010 2010): 325-332.
- Library of Congress: Portal Application Issues Group, "OpenURL Resolver Products & Vendors.", accessed 9/15/2013, 2013 <http://www.loc.gov/catdir/lcpaig/openurl.html>
- Linoski, Alex, and Tine Walczyk. "Federated Search 101." *Library Journal* (July 2, 2008): 2-5.
- Miller, William. "Web-scale Discovery Services: The Next Step in the Evolution of Improving Access to Library Collections." *Library Issues* 32, no. 4 (March 2012): 1-4.

- Murphy, James L. "Link It or Lump It: Basic Access Strategies for Digital Art Representation." *Journal of Library Administration* 39, no. 2/3 (2003): 139-160.
- NISO, "ANSI/NISO Z39.88-2004 (R2010) The OpenURL Framework for Context- Sensitive Services.", accessed 9/15/2013, 2013, http://www.niso.org/apps/group_public/project/details.php?project_id=82
- OCLC, "At a Glance", accessed 4/2/2013, 2013, <https://www.oclc.org/ezproxy/about.en.html>.
- OCLC, "Ezproxy", accessed 4/2/2013, 2013, <https://www.oclc.org/ezproxy.en.html>.
- Somerville, Mary M.1. "Summon Web-Scale Discovery Service Implementation." *Computers in Libraries* 33, no. 6 (July 2013): 22-26.
- Tom Tyler, "URLs, PURLs & TRULs: Link Maintenance in the Web-accessible OPAC," *Computers in Libraries* '99 (1999). accessed 4/2/2013, 2013, <http://www.du.edu/~ttyler/cil99/proceedings.htm#Introduction>
- Williams, Sarah C., Angela Bonnell, and Bruce Stoffel. "Student Feedback on Federated Search Use, Satisfaction, and Web Presence: Qualitative Findings of Focus Groups." *Reference & User Services Quarterly* 49, no. 2 (Winter2009 2009): 131- 139.
- Williams, Sarah C.1, and Anita K.1 Foster. "Promise Fulfilled? An EBSCO Discovery Service Usability Study." *Journal of Web Librarianship* 5, no. 3 (July 2011): 179- 198.
- Yeo Pin Pin, "Impact of a New Discovery Service at Li Ka Shing Library." *Singapore Journal of Library & Information Management* 41, (July 2012): 36-50.