PUBLIC LIBRARIES AND THE INTERNET

Roles, Perspectives, and Implications

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Chapter 16

The Ever Changing Impacts of Internet Access on Libraries and Their Communities

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INTRODUCTION

Public libraries are confronted with increased demands for a range of public access computing services and resources, while simultaneously facing diminished capacity to provide such services and resources. A number of economic, social, technological, and governmental factors contribute to this situation. This paper explores the implications of increased demand and diminished capacity for providing public access computing services on both the library and the community, offering a number of possible strategies that public librarians might consider to mitigate this situation and better provide public access computing services in the future.

The data from the 2007–2009 *Public Library Funding & Technology Access Study* (PLFTAS) (American Library Association, 2007, 2008, 2009) offer a perspective on public libraries' deployment and use of public access computing that raises a number of issues regarding the degree to which public libraries can continue to provide simultaneously many of their traditional and Internet-enabled services and activities. While the data suggest that some libraries continue to strengthen their technological capacity and involvement in public access technologies, other libraries find the current environment and increasing service demands to be significant challenges.

CONTINUING CONTEXT

Much of the data show a continuation of trends from earlier PLFTAS studies. These include increased deployment of wireless, some limited increases in connectivity speeds, increased demands for and use of various Internet-enabled services, limitations with existing physical facilities to support new or more technology, lack of staff with technology skills, and stagnant technology budgets. These issues are more accentuated in rural and small library settings. Overall, the 2008–2009 data continue to support the theme that public libraries are stretched to (and sometimes beyond) their capacity to provide a range of public access technologies, services, and resources (American Library Association, 2009; Bertot et al., 2009). Specific findings include:

- Almost 72% of libraries report that they are the only source of free access to computers and the Internet in their community, basically the same as in 2008;
- The vast majority of libraries (75%) report their wireless and desktop computers share the same network, thus diminishing the effective speed of access to the Internet at the workstation. This percentage has increased sharply since 2007 when only 44.5% reported that their wireless shared the same network as the desktop computers. Further, libraries are not moving above the 3.0 Mbps speed as quickly as had been anticipated;
- Funding remains flat for many public libraries while grappling with declining purchasing power;
- Staffing is at a standstill. The ratio of full time public library staff to the numbers of computers is declining, that is, there are increasingly fewer staff available to help patrons on more computers;
- Internet services show double digit growth in areas of homework resources, audio content, video content, E-books, etc. Some of the largest areas of growth can be seen in E-books, from 38.3% of outlets reporting providing E-books in 2007 to 55.4% in 2009. In addition, audio content significantly increased from 38.9% in 2007 to 72.9% in 2009; and
- More than three-quarters of libraries reported that space limitations are a key factor when considering adding public access computers. This finding has been consistently in the 75–77% range between 2007 and 2009.

These are but a few of the key findings reported in the 2009 PLFTAS study and begin to paint the picture of too much demand and not enough capacity.

In addition, traditional public library social and service roles have changed dramatically to providing a broad range of Internet-based social and service roles. Social roles are large societal purposes for which libraries exist and which communities, individuals, and governments expect the library to serve certain societal purposes. Service roles are the responses that libraries make to address society's expectations. Societal expectations of libraries have resulted in the public library responding with a large increase in both the scope and amount of Internet-based services, resources, capacity, and undertakings.

And yet, when public access technology is studied in context and service, public libraries face external pressures to expand their public access services while simultaneously facing staffing, skill, building, infrastructure, and financial challenges (Bertot, 2009). In short, there is increased demand on public libraries to provide enhanced public access services and adopt Internet-enabled roles in the face of substantial challenges.

CHANGING CONTEXT

The years 2008 and 2009 have been particularly rife with significant national events that have occurred or have been exacerbated and may cast a new perspective on the current context in which U.S. public libraries find themselves. These include:

- *Complicated and changing national and state politics and library policies.* While issues of information policy were prominently discussed in the 2008 elections, the impacts of these issues on libraries received little attention (Jaeger, Paquette, & Simmons, 2010). Limited cooperation among the various key political players and parties contributes to a range of policies—federal and state aid to libraries, national telecommunications and broadband policy, Internet security and privacy, and use of public libraries for e-government services—that fail to account for the affects on and needs of libraries. The degree to which national politicians are aware of these issues seems limited, and the degree to which it is possible to resolve the policy concerns that affect libraries is problematic. Within this context the Obama administration is planning to invest $7.3 billion through the *American Recovery and Reinvestment Act of 2009* in broadband deployment and access.
- *Reduced Travel.* Energy prices continue to fluctuate and in general increase, and airfares have also increased. Some immediate impacts from this include the inability of librarians to travel to meetings, to engage in additional community activities, and operate bookmobiles. For library users, it is likely that they are reducing overall car travel and may be more likely to engage in online and Web-based use of the library. In short, many Americans are quickly changing and/or reducing their travel activities.
- *Increased costs for consumer goods.* Many residents in the United States have found that food prices, due in part to increased costs associated with oil and petro-products and limited production of corn to make ethanol, have increased significantly. This rise of basic living costs, combined with the current worldwide recession, translates into less available money for luxuries such as travel, entertainment, and a range of household purchases (such as books, videos, DVDs, etc.). Thus, one impact from this situation is greater demand on libraries for the resources and services they provide since many people will not wish to use their disposable income for services and resources they might otherwise obtain from the local public library.

- *Increased costs for operations and declining budgets.* Another impact of increasing energy costs is that it simply costs more to keep the doors of the public library open. Heating, cooling, and electricity costs for library buildings continue to increase and consume larger portions of a library's operating budget. This is occurring at the same time that a recent study reported that over one-third of U.S. public libraries are operating with declining budgets and that many others operate significantly behind the current inflation rates for employee benefits, energy, and materials (De Rosa & Johnson, 2008).
- *Reduced local tax base.* Because of the mortgage/housing loan crisis, many areas of the country are experiencing falling values of homes. The number of home foreclosures has increased significantly, and some states such as Florida have passed laws that have reduced the amount local governments can tax property owners. Since many public libraries rely almost entirely on local property taxes to operate the library, the impact from the mortgage/housing crisis and reduced local tax base can result in reduced library budgets and in some cases (such as Florida) library systems that have been forced into wholesale reductions in staff and services. A reduced local tax base will also increase the pressure on public libraries to seek alternate sources of funding (e.g., grants, fund raising through library foundations) to support basic library services and operations.
- *National and international financial crisis.* Due in part to the U.S. housing market, the collapse of national stock market values, and the subprime mortgage financial crisis, there has been a huge loss of individuals' net worth and severe declines in retirement and other investment accounts. The degree to which this financial crisis will continue or be resolved is unclear; nor is it clear how long it will last. An implication for libraries, however, is that in severe economic hardships there has been significantly increased use of and demands placed on libraries by people applying for jobs, seeking social support, and looking or free entertainment options (Carlton, 2009; CNN, 2009; Van Sant, 2009). In addition, states and local governments have been even more disinclined to invest in public libraries given badly declining tax revenues and the financial uncertainties of the future.
- *Reduced consumption.* A full year into the global recession, there is evidence that consumer consumption habits are changing substantially. Doing less with less is becoming a trend, and this has impacted public libraries through increased visits, additional demand for public access workstations and Internet access, increased use of library programs such as story time, and more.
- *New computing and telecommunications products and services.* Google continues to offer improved resource discovery tools for network services and resources; Apple has just released its new iPhone 4 which includes a set of services and Internet-enabled resources; the Kindle electronic book/reader is being widely received; and a range of social networking products and services now exist that are redefining the manner in which people access, use, and create information resources

> and services. Increasingly, some people have much more sophisticated computing, telecommunications, and connectivity than their local public library. The ability of libraries to stay current with these new computing and telecommunications products and services is problematic at best—especially in light of the trends previously identified and the public library's ongoing inability to attract adequate staff training in technology use, administration, and deployment.

In addition to the environment around libraries, there are also changes in the users of libraries. For example, Google is gaining greater currency in the minds of many information seekers as being as good as the library at meeting their information needs (Waller, 2009).

The findings from the 2006–2007, 2007–2008, and 2008–2009 PLFTAS clearly show the decreasing capacity on the part of libraries to respond to user needs related to computing and telecommunications support. Indeed, PLFTAS findings and the above trends suggest the possibility of the "perfect storm" for public libraries—decreased library funding, increasingly out-of-date physical facilities, inadequate technology and staffing, and demand for computing and telecommunications capacity occurring at the same time as ineffective government information and broadband policies and increased user demands for library computing services, equipment, and resources. The potential for such a perfect storm can be seen in library support and infrastructure, access differences among libraries, usage of library resources, the rise of social networking, assessment challenges, partnerships and collaborations, and government polices.

EVOLVING MODELS OF SUPPORT AND INFRASTRUCTURE

The evolving public access technologies environment in which public libraries operate involves multiple types of technologies, configurations, requirements, and implementations. Moreover, the technology infrastructure continues to grow in complexity, and thus requirements for management and expertise also continue to increase. The current context not only involves a range of hardware, software, and networking architecture, but also incorporates a range of applications and content that libraries license (i.e, databases, ebooks) or provide access to (i.e., flickr, YouTube, Second Life). This context requires public libraries to consider how best to manage their technology infrastructure to meet the demands of the networked environment.

Given the range of hardware, software, and networking infrastructure, as well as planning and public access management requirements, public librarians need a range of skills to successfully implement and maintain their public access computing environments. Moreover, the skill needs depend on the librarian's position—for example, an actual IT staff person versus a reference librarian who does double duty by serving as the library's IT person. The skills identified include (Bertot, 2009, pp. 90–91):

- General computer troubleshooting;
- Basic maintenance such as mouse and keyboard cleaning;

- Basic computer repair (i.e., memory replacement, floppy drive replacement, disk defragmentation, other);
- Basic networking (i.e., troubleshooting an "Internet" issue versus a computer problem);
- Basic telecommunications so as to understand the design and maintenance of broadband networks;
- Searching and using Internet-based resources;
- Searching and using library licensed resources mouse replacement;
- Ability to train patrons on the use of the public access computers, general Internet resources, and library resources;
- Ability to design curriculum for various patron training courses;
- License/contract negotiation for licensed resources, various public access software and licenses, and maintenance agreements (service and repair agreements);
- Technology plan development and implementation (including budgeting);
- Integrated library systems;
- Web design;
- Grant writing and partnership development; and
- Building design.

The list is not exhaustive, but the above provides a broad cross-section of the skills that various public library staff may need to offer to maintain a robust public access computer environment.

Public libraries may or may not have a formal technology management structure or access to the technical skills listed above. Some libraries have their own technology support staff; others have an employee who is technology savvy and self-taught; others have the library director who does it all—from toilet repair to installing a wireless router; others are part of a centralized county or city technology support structure. Some libraries have a well-conceived technology plan that consistently adjusts to technological innovations and demands. Others are simply reactionary and engage in what could be at best described as ad hoc planning. Where ever libraries may fall on this spectrum—sophisticated planning with dedicated technology staff to ad hoc with no dedicated technology staff—it is increasingly clear that the public library community needs to rethink how it engages in the planning, implementation, and support of its public access technology services and resources.

If one parses apart the public access technology environment, there are four critical components: (1) hardware, which can include public access computers, laptops, servers, routers, etc; (2) software, which can include application software as well as operating software; (3) connectivity, which can include internal networking as well as broadband connectivity; and (4) content, which can include licensed and purchased resources; and services, which can include digital reference, instruction, video conferencing, etc. The key questions that public libraries need to ask are: what is the best way to work within an increasingly complex technology environment? Should the library carry the technology burden on its own?

There are several traditional organizational models for supporting public access technologies that libraries adopt (Bertot, 2009):

1. *No Technology Support:* Libraries in this group have neither technology support staff nor any type of organized technology support mechanism with existing library staff. Nor do they have access to external support providers such as county or city IT staff. Libraries in this group might rely on volunteers or engage in ad hoc maintenance, but by and large have no formal approach to supporting or maintaining their technology.
2. *Internal Library Support without Technology Staff:* In this model, the library provides its own technology support but does not necessarily have dedicated technology staff. Rather, the library has designated one or more staff members to serve as the IT person. Usually this person has an interest in technology, but he/she has other primary responsibilities within the library. There may be some structure to the support—such as updating software (e.g., Windows patches) once a week at a certain time—but it may be more ad hoc and as needed in approach. Also, the library may try to provide its designated IT person(s) with training so as to develop his/her skills further over time.
3. *Internal Library Support with Technology Staff:* In this model, the library has at least one dedicated IT staff person (part- or full-time) who is responsible for maintaining, planning, etc., the library's public access computing environment. The person may also have responsibilities for network maintenance and a range of technology-based services and resources.

   At the higher end of this approach are libraries with multiple IT staff with differing responsibilities such as networking, telecommunications, public access computers, ILS, etc. Libraries at this end of the spectrum tend to have a high degree of technology sophistication, but may face other challenges (i.e., staffing shortages in key areas).
4. *Library Consortia:* Over the years, public libraries have developed consortia for a range of services—shared ILS; resource sharing; resource licensing; etc. As public library needs evolve, so too do the roles of library consortia. Consortia increasingly provide training and technology support services, and may be funded through membership fees, state aid, or other sources.
5. *Technology Partners:* While some libraries may rely on consortia for their technology support, others are seeking libraries which have more technology expertise, infrastructure, and abilities with whom to partner. This can be a fee-for-service arrangement that may involve sharing an ILS, maintenance agreement for network and public access computer support, and a range of services. These arrangements allow the partner libraries to have some input into the technology planning and implementation processes without incurring the full expense of testing the technologies, having to implement them first, or hiring necessary staff (e.g., to manage the ILS). The disadvantage to this model is that the smaller partner libraries are dependent on the technology decisions

that the primary partner makes, including upgrade cycles, technology choices, migration time frames, etc.

6. *City/County/Other Agency IT Support*: As city or county government agencies, some libraries received technology support from the city or county IT department (or in some cases the education department). This support ranged from a full slate of services and support available to the library to support only for the staff network and computers. Even at the higher end of the support spectrum, librarians gave mixed reviews for the support received from IT agencies. This was primarily due to competing philosophies regarding the public access computing environment, with public librarians wanting a fairly open access policy to allow users access to a range of information service and resources, and IT agency staff wanting to essentially lock down the public access environment, and thus severely limit the functionality of the public access computers. Other limitations might include prescribed public access computing technologies, specified vendors, and bidding requirements.
7. *State Library Support*: The state library of West Virginia (West Virginia Library Commission) provides a high degree of service through its statewide approach to supporting public access computing in the state's public library. The state library has IT staff in five locations throughout the state to provide support on a regional level, but also has additional staff in the Charleston location. These staff offer training, in-house technical support, phone support, and can remote access the public access computers in public libraries. Moreover, the Commission also built a statewide network through a statewide application to the federal E-rate program, thus providing at least a T1 to all public libraries in the state. This model extends the availability of qualified technical support staff to all public libraries in West Virginia—by phone as well as in-person if need be. As a result, this enables public libraries to concentrate on service delivery to patrons.
8. *Online Technology Support*: Online communities continue to evolve to support and assist public libraries in managing their technology resources. Two notable communities include WebJunction (http://www.webjunction.org) and TechSoup for Libraries (http://www.techsoupforlibraries.org/). Both provide a range of tips, tools, tutorials, and documentation regarding public access technology management and other technology issues.

But in the current context, the library community would do well to look at these approaches not as distinct ways in which to manage their technology, but rather as building blocks that libraries can use to design their technology management and planning approaches. For example, a library could review material in WebJunction or TechSoup for Libraries to gain an understanding of a particular set of technologies and how libraries use them, receive training from the state library or regional cooperative, work with county or city IT to plan for wireless access, etc. In short, the public library needs to regard these technology options as part of an overall portfolio to best serve its community and

meet its own technology needs—and thus move away from the all too prevalent, particularly in rural communities—"no technology support" model.

DIGITAL DIVIDES AMONG PUBLIC LIBRARIES

The PLFTAS data clearly show that many rural and small public libraries are severely strained to provide adequate and high quality public access computing and the necessary infrastructure to support such services. In effect, there currently exist three broad categories of public libraries in terms of their public access technology infrastructure:[1]

- *Inadequate and below average computing services and infrastructure.* These have connectivity speeds of under 3 mbps limited or no wireless connectivity; outdated public access workstations; limited to no technical support staff; physical facilities that cannot be expanded, renovated, or modernized for the networked environment; and are largely dependent on statewide electronic resources (typically from the state library). These public libraries cannot meet existing public demands for networked services, staff support, and resources.
- *Adequate or average computing services and infrastructure.* These have connectivity speeds in the range of 3–5 mbps limited or some wireless connectivity; soon-to-be outdated public access workstations; limited to some technical support staff; physical facilities that only with some effort and costs can be expanded, renovated, or modernized for the networked environment; and some local as well as the statewide electronic resources (typically from the state library). These libraries increasingly find themselves at capacity or strained to meet public demands for networked services, staff support, and resources.
- *Better than adequate and above average computing services and infrastructure.* These have connectivity speeds of 10 mbps or more; significant wireless connectivity; relatively new and current public access workstations; onsite technical support staff; physical facilities for which there are resources for expansion, renovation, modernization of the networked environment; and significant local electronic resources as well as statewide electronic resources (typically from the state library). These libraries are currently able to meet public demands for networked services, staff support, and resources.

Data from the *Public Libraries and the Internet* national surveys conducted by the authors suggests that these categories have existed since at least 2000.

One might speculate, based on the 2006–2007 and 2007–2008 PLFTAS data that increasingly, those public libraries in the above average category and those in the adequate category may find themselves slipping down into the next category below them. Such may occur because of the current context described throughout the chapter and because of the general inability of public libraries to meet future demands and continue to update and expand the existing public computing infrastructure. One implication of this situation, ultimately, is that

different venues for public access computing—other than access through public libraries—may need to occur or perhaps there will simply be less public access computing available to residents of the United States.

In short, there currently exists a digital divide between the haves and have-nots of public libraries in terms of their current ability and future capacity to provide public access computing and the necessary infrastructure to support that computing. Recognition of this situation is welcome, but there is a lack of study or exploration of strategies to address the situation. Perhaps a first step is to recognize that the situation exists, and develop a tiered referral system in which public libraries refer public access computing services beyond their capacity to others in a local, regional, or virtual system. Other solutions may exist, but currently little to no attention has been given to resolving this issue and ensuring equal public access computing to users regardless of the public library they visit.

LOCATION OF SERVICES AND RESOURCES

The importance of traditional in-library services—such as children's story time, adult programming, and community meeting place—are certainly likely to continue as important services that libraries provide. There are a number of studies that document the importance of the library as "place" or a facility where people can meet face-to-face and community activities can occur (Bushman & Leckie, 2006). But data from the PLFTAS clearly indicate that the demand for library networked services continues to increase. These services include provision of traditional library services via the library Web page (e.g., request an interlibrary loan); access to unique library or statewide data bases; ask-a-reference librarian; and others.

There are three possible responses from the library to try to meet these increased demands:

- The library might reallocate existing resources from print and traditional services/staff to networked services/staff;
- The library might be able to obtain additional resources from its funding agencies or other organizations such that more networked services and infrastructure can be supported; or
- The library increasingly is not able to meet demand for such services, nor does it adequately update the infrastructure to support such services.

The degree to which libraries can make *additional* reallocations of resources from traditional and print based services to networked services is problematic, and so too is the degree to which libraries can obtain additional resources to support networked services.

It is important to remember that there is a wide range of public access computer and Internet user skills—from the novice who has rarely, if at all, used a computer or the Internet, to the expert user. The ability of library users to access electronic resources through the library's Web site or other electronic portals without the library having to provide significant staffing support is

unclear. The demand for these services may continue, but only to the point that the services are acceptable and meet user needs. But there are signs appearing that for some libraries, users of electronic services are beginning to consider venues other than the library to access electronic information. For example, users of electronic information clearly prefer to begin their Web-based search with Google rather than via a library Web site with links to a broad range of databases. The cumbersome nature of logging into library Web sites, moving through firewalls, and confusion about how the databases can be accessed and searched are only some of the factors that encourage the user to Google rather than use the library Web site or the library building.

The extent to which demands for increased library networked services may continue is problematic given the strained capacity of many public libraries. Competition from other vendors and services to provide a range of public access computing services, increasingly, may be easier and more effective for the user than access through the public library. Movement away from public library public computer use may be exacerbated if public libraries are unable to supply users with the most current, effective, and desired computing services and resources and at very fast connectivity speeds.

THE ROLE OF SOCIAL NETWORKING

In a recent paper, Lankes, Silverstein, and Nicholson describe library service in terms of participatory networks in which the library is a "conversation." They go on to state:

> A core concept of Web 2.0 is that people are the content of sites; that is, a site is not populated with information for users to consume. Instead, services are provided to individual users for them to build networks of friends and other groups (professional, recreational, and so on). The content of a site, then, comprises user-provided information that attracts new members of an ever-expanding network. (Lankes, Silverstein, & Nicholson, 2007, p. 19)

Of special interest to the topic being discussed here are several important questions: to what degree will these participatory network conversations include the public library or be developed by the public library? To what degree will public librarians be able to develop exciting and dynamic services that are participatory and draw on social networking principles successfully? To what degree will public libraries be able to facilitate user involvement in participatory networks through their public access technology infrastructure?

At the heart of all of these various social networking applications is a peer to peer relationship of community members that is not well-understood in terms of how it will affect public library Internet-enabled service roles. Many of the social networking applications "push" services to users, offer links to other information—much of it directly from other peers—and ultimately allow internet users to define and create information services that are personalized or customized to meet their specific needs. Perhaps more importantly, they encourage the development, content, and services to evolve based on

participants' needs and creativity—as opposed to the needs and perspective of the public library.

Lankes, Silverstein, and Nicholson (2007) conclude that "libraries have a chance not only to improve service to their local communities, but to advance the field of participatory networks" (p. 32). While this may be true, libraries also have a chance to *not* be effective players in the development of participatory networks, to *not* develop internet-enabled service roles that build on social networking, and to *not* develop valid and reliable measures to gauge the success of their involvement in such service roles. While participatory technologies open up new opportunities in library services, such technologies also create new demands on and expectations for libraries, as well as many accompanying assessment, staffing, economic, and service pressures. The future of Web 2.0 public library services is one laden with challenges and issues—and one that will be increasingly decided by individual internet users—not public librarians.

In the current context of public library services there simply are inadequate staff trained in and knowledgeable about Web 2.0 applications; there are inadequate finances to support the purchase and application of these new services; and to a large degree, public libraries have been bystanders in this development as other services, e.g., YouTube, Facebook, etc., continue to evolve. But there are significant opportunities for public librarians to work together in virtual systems and initiatives to offer and manage such services. A national initiative, directed perhaps by the Public Library Association, to explore these evolving services and determine: (1) national public library Web 2.0 services that all public libraries can use; and (2) the best roles for public libraries to play in this environment, certainly would be welcome.

ASSESSMENT CHALLENGES

There is also a need to consider how to evaluate "successful" public access technology services. Evaluating Internet-based services as opposed to traditional services would need to consider a number of factors:

- Traditional evaluation approaches typically base assessment on an imposed or organizationally accepted set of service goals/objectives. Services based on social networking activities build on dynamic, personally self-driven goals/objectives which are constantly evolving and changing.
- Outcome measures (for example) that assess changes in knowledge, behavior, skills, and/or attitudes may be of less importance in Internet-based services where learning, contacts, quality of life, and other individually-based measures are most important. Moreover, individually-based measures may have greater validity for measuring user success than system-based outcomes.
- Comparing the "success" of users across various types of Internet-based services, especially social networking service applications, presents numerous challenges given the situational nature of users of these applications.

- Defining and operationalizing "page views," "full text downloads," and other online statistics in the context of federated searching, firewalls, and complex network configurations continues to be problematic.
- The nature and definition of "community" as it relates to the library's service population changes significantly in a networked environment. Existing definitions from library standards (e.g., ISO 2789 and NISO z39.7)[2] for "population served" simply do not apply in a networked environment. Indeed, successful services that rely on "virtual" communities span the globe and are not "local" communities as defined by an artificial geographical or political boundary.
- Separating the evaluation and measurement of the technological infrastructure of the service from the actual use of that application may be impossible. In short, to what degree are evaluators measuring the quality of the technology and the technology infrastructure as opposed to the use of that technology?
- Success of an individual's use of an Internet based service is dependent on the skills and knowledge of the user—one person's success versus another's may have little to do with the application or service itself.

These are but a few of the challenges that the future holds for successful evaluation of public library services in the networked environment.

Yet, national, state and local agencies, (e.g., U.S. Institute of Museum and Library Services, state libraries, and individual public libraries) continue to rely on a range of measurement approaches (outcomes assessment) and statistics describing traditional services which comprise smaller components of overall public library services. The library and information science research community has not addressed these and related issues regarding evaluation in a networked environment. Meanwhile, the current context described above will desperately need data to describe, analyze, justify, and plan for a range of public library networked-based services.

RETHINKING PARTNERSHIPS AND COLLABORATIONS

The terms "partnerships," "resource sharing," and "collaboration" have a long and checkered history in libraries in general and public libraries in particular. But due to the manner in which public libraries are organized, successful resource sharing, partnerships, and collaborations are difficult to establish. Successful resource sharing, partnerships, and collaborations are those that:

- Produce tangible and intangible benefits for each member participant;
- Require less administrative overhead to operate than the benefits that result;
- Detail clear guidelines as to which members have what responsibilities—including the administrative unit of the effort;
- Allow individual members flexibility to select and choose those services and activities of most importance/impact to them;

- Do not include personality and power conflicts among the key individuals engaged in the effort; and
- Do not result in the "rich" members subsidizing the "poor" members nor the "rich" members getting "richer."

Many of the successful resource sharing efforts are those with statewide purchase of databases or are in similar situations where costs can be reduced by larger number of purchases.

Because most U.S. public libraries receive 85% or more of their financial support from their local community, there is also a strong resistance to external controls and administrative involvement in local public library activities. Nonetheless, the ongoing call for public libraries to establish better/more resource sharing, partners, and collaborators is likely to continue and become much louder in the future.

Will the new context of public library public access computing change the ease with which public libraries can engage in more and/or better resource sharing, partnerships, and collaborations? The answer, it seems, is maybe. But there are too many factors in play that mitigate better resource sharing. Indeed, the current context of reduced/stagnant funding for public libraries reduces the staff and time available to establish such efforts.

In the past, resource sharing, collaboration, and partnerships were developed within a clearly defined geographic area. For example, a number of the states have "regional library systems" or "multi-type library systems" that are state mandated and are established for a specific region of the state. Typically these efforts, e.g., Multi-type Library Cooperatives (MLCs in Florida) and Public Library Systems, as well as Reference and Research Library Resources Councils (in New York), form the basis for public library resource sharing, partners, and collaborations. In short, libraries typically with limited resources and budgets share their limited resources and budgets with other libraries that have limited resources and budgets.

The networked environment allows for the establishment of virtual public library systems, multi-type library cooperatives, and partners/collaborators not within a specific geographic area. Indeed, it is possible for a public library in Illinois, a public library in Texas, a database producer in New York City, and a special library in Boston to establish a partnership or collaborative effort and conduct their activities virtually. A model of virtual resource sharing, partnerships, and collaboration may have some potential to better assist public libraries leverage existing resources and services. This is largely unchartered territory, though one finds experimentation with distributed services and collaborative models for digital reference and digitization projects, as examples. It is unclear as to the extent to which it is possible to expand such collaborative service approaches across a wide range of libraries and services.

While not understating the importance of resource sharing, partners, and collaboration, the traditional models for such efforts need to be re-examined and analyzed in light of the networked environment and conditions described in the current context above. Research to identify best practices innovative resource sharing efforts, and how such models might be transferred to other settings and applications, may assist public libraries weather a perfect storm.

CHANGING GOVERNMENT ROLES AND RESPONSIBILITIES

Federal, state, and local governments do not currently provide broad-based support for public libraries—either financially or in terms of policy. Data from the PLFTAS generally show a stagnant or declining role for federal, state, and local governments in their financial support of libraries. The current national, state, and local economic condition does not suggest that significant increases in the support of public libraries from government will occur, unless there is a national and carefully orchestrated effort, which the broadband deployment and access stimulus money from the *American Recovery and Reinvestment Act of 2009* might affect. But such an effort would need to be tied to the role of public libraries in addressing specific national, state, and local priorities such as:

- Promoting national, state, and local economic development;
- Helping citizens and residents access and use government services more effectively and economically;
- Providing more formalized support for job seekers;
- Reducing overall national health care costs;
- Contributing to emergency/disaster preparedness and response;
- Improving the social conditions and/or quality of life for selected population groups; and
- Helping veterans—especially those from the Iraq and Afghanistan wars—return to a productive life.

While there certainly may be other areas for attention, the key here is asserting the things that public libraries can do for governments, as opposed to maintaining the argument that governments should support libraries so they can continue to do what they have done in the past.

If public libraries can clearly demonstrate value in their ability to address national, state, and local social and economic concerns—even if only on a small scale—then public libraries would have a much stronger argument to make in terms of how governments should provide them with additional or different types of resources than they currently receive from government. Unfortunately, little concerted research and thought has been given as to the ways in which public libraries, at a national level, can move from some of the more traditional roles they have taken on to new and different roles—roles that public libraries might be much better able to address in a networked environment, e.g., employment assistance, technology training, or e-government services.

Another aspect of the relationship between governments and public libraries is the information policy perspective. Federal information policy initiatives in recent years have not been favorable to public libraries:

- The *USA PATRIOT Act* has increased national secrecy and decreased access to government information;
- National Security Letters have been used to access library records and other records without formal recourse;

- The *E-Government Act of 2002* failed to strengthen the role of public libraries as a possible vehicle for access to government information;
- E-rate and universal service as outlined in the *Telecommunications Act of 1996* continue to be under attack;
- Increased restrictions on copyright and intellectual property rights affect libraries' ability to provide access to electronic information and to own the electronic resources they purchase;
- The lack of a national broadband policy and program has limited libraries' ability to obtain adequate Internet bandwidth; and
- The *Children's Internet Protection Act* (CIPA) requires public libraries to adopt filters if they wish to receive federal support (E-rate or *Library Services and Technology Act* funding).

This list is illustrative and not comprehensive. A key theme across these laws has been the lack of thought about the impact of the laws on libraries during the crafting of the laws (Bertot et al., 2006a, 2006b; Gorham-Oscilowski & Jaeger, 2008; Jaeger, Bertot, & McClure, 2004; Jaeger et al., 2004, 2007; Jaeger & Yan, 2009).

Without widespread knowledge and understanding of these issues and how they affect public libraries and their provision of information, it is unlikely that public libraries and organizations that support them will successfully resolve these, and other, information policy issues. Working with governments to support public libraries as opposed to the current environment of actively hurting public libraries, will require more than a letter writing campaign or signing an email petition. The effort will require sustained long-term political activism on the part of public librarians, their supporters, and political leaders, that has hitherto been unknown in the public library community.

RIDING OUT THE PERFECT STORM

Clearly, the current environment presents a difficult scenario for the ability of public libraries to sustain high levels of Internet access, training, and assistance. A range of papers have highlighted many of the data that support this scenario over the years (e.g., Bertot, 2004; Bertot & Davis, 2007; Bertot & McClure, 1997, 1999, 2007; Bertot, McClure, & Jaeger, 2008a, 2008b; Bertot, McClure, Owens, 1999; Jaeger et al., 2006; McClure, Jaeger, & Bertot, 2007). But only with the careful review of the most recent years' data and the current social, economic, technological, and government factors shaping the environment around public libraries does this image of the perfect storm for public libraries begin to take shape. Responding to the storm after its arrival is likely to be too little, too late.

In the current environment, without a national focus on these issues, many libraries will face unpleasant and unpopular choices such as:

- Reducing overall service levels and options on an ongoing basis;
- Limiting traditional services and print materials to better support electronic services and resources;

- Limiting electronic services and resources to better support traditional services and print materials; and
- Curtailing support and training for patrons.

None of these options would be welcome to librarians, patrons, or policymakers.

To ride out this perfect storm, libraries must look to the challenges as opportunities in disguise, providing the chance to redefine the role, organization, and funding of public libraries in the networked environment. A core part of this response will be emphasizing coordination and cooperation among the groups with a stake in maintaining the quality and scope of public library Internet access and services:

- The American Library Association and especially the Public Library Association and the ALA Washington Office;
- Federal, state, and local government officials;
- Researchers, especially those in the Library and Information Science (LIS) research community;
- Foundations (especially the Bill & Melinda Gates Foundation) and other funding organizations (such as the U.S. Institute of Museum and Library Services);
- State Library Associations;
- Friends and trustees of public libraries;
- Concerned citizens and residents;
- Public library database and other vendors;
- State Libraries; and
- Individual public library leaders and innovators.

Although this list is long and other groups could also be included, the success of public libraries in this country has always depended on many groups and on the involvement of many leaders. To weather these difficult economic times and meet increasing demands on access and training, libraries will particularly need to focus on two key areas.

First, libraries and the stakeholders in libraries must be creative in finding ways to build partnerships and cooperatives to share expenses and resources and to use economies of scale to negotiate cost savings. State libraries and library consortia would be well-positioned to take the lead in such ventures. However, libraries that are not currently part of consortia or cooperatives should carefully explore the potential benefits of banding together in the face of the current extenuating circumstances. While libraries are a widely trusted and respected public institution, that status does not make them immortal. In fall 2009, major systems were facing reductions in hours of operation and numbers of open branches. For example, until a budget compromise was reached, the libraries of Philadelphia were slated to close indefinitely due to insufficient funds. In short, libraries and interested stakeholders in libraries need to work together nationally, regionally, and locally to preserve their ability to meet patron, community, and government needs and expectations.

Second, libraries need to work to educate policymakers and taxpayers about the quandary they have been placed in. Public libraries cannot continue to meet ever-greater demands and expectations for public access computing at the same time that significant limitations on infrastructure, capacity, and staffing continue to occur. Libraries must articulate and demonstrate their value to individuals, to communities, and to governments through education and advocacy. Libraries do many things, and are generally taken for granted. If libraries are to benefit from a coordinated national response to the current situation and take part in the development of some form of national library policy, libraries must clearly demonstrate their value and educate stakeholders about this value.

MAINTAINING THE PUBLIC SERVICE TRADITIONS THROUGH THE STORM

Libraries have existed for millennia, having gone through many permutations, functions, and levels of availability (Jackson, 1974). Difficulties in the surrounding environment are, in fact, nothing new to library service. The Middle Ages in Europe stands as the low point for libraries—scientific knowledge became equated with paganism, making the educational mission of libraries very difficult to carry out without running the risk of meeting a fiery ending (Manchester, 1993).

Since its origins as isolated colonies, America has maintained an especially strong relationship with libraries. At the beginning of American Revolution, nearly a hundred libraries existed in the colonies; one hundred years later, there were more than 3,500 libraries in the United States (McMullen, 2000). While 1876 is considered the beginning of the modern library movement, thousands of libraries in the United States were founded before then—social, circulating, subscription, academic, church, hospital, asylum, government, military, commercial, law, town, scientific, literary, and philosophical society, mechanics, institute, antheneum, and lyceum libraries, among others (Green, 2007; Jackson, 1974; McMullen, 2000; Raven, 2007).

American towns began passing legislation to create tax-supported school libraries in the 1830s and public use libraries in the 1840s, while states made legislation for public funding of libraries commonplace shortly thereafter (Conant, 1965; Davies, 1974; DuMont, 1977; Gerard, 1978). Many early public libraries were established with support from philanthropists, none more prominent than Andrew Carnegie, who bestowed more than $41,000,000 to 1,420 towns to establish public libraries between 1886 and 1919 (Davies, 1974). Since becoming widespread due such philanthropic endeavors, public libraries, as demonstrated throughout this book, have become a widely trusted and virtually essential part of the fabric of American society.

Throughout history and through the modern era of librarianship, public libraries have proven themselves to be quite resilient. As social institutions, libraries "have evolved in response to certain problem situations and have been shaped by countless, relatively independent individual decisions" (Swanson, 1979, p. 3). The current difficulties and challenges, while significant, will not spell the end of public libraries.

For all of the extra responsibilities and costs that the Internet has created for public libraries, it has greatly expanded the resources and services that libraries can provide and has created vital new roles that libraries can play in the lives of patrons and communities. This book provides a catalogue of new ways that libraries help their communities and the specific populations who benefit from these services. While the Internet has forever changed the public library for both the good and the bad, the overwhelming majority of these impacts are positive. When addressing current challenges, these amazing and innovative ways to serve patrons, communities, governments, and society as a whole made possible by the Internet in public libraries must not be forgotten.

NOTES

1. Admittedly, "adequacy" is difficult to define and depends on a number of situational factors such as the number of public access computers using a connection and the types of applications in use at any given time, whether wireless connectivity shares the same connection as a library's public access computers, whether staff computers share the same connection as public access computers, etc.
2. See http://www.niso.org/home for additional information about library standards and definitions.

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