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Research for Change: Creating Strategic Futures for Public Libraries

ABSTRACT

Research is a policy-making imperative for public library practitioners. It helps them understand the cognitive errors that limit their operation, establish a policy framework for their operations, and assess operational efficiency and effectiveness. A growing insufficiency of applied or action research on public libraries creates the need for practitioners to undertake studies themselves. This need is greater because of rapid demographic, economic, and cultural changes associated with the information age. These changes—and public library responses to them—are explored in some detail. The research projects of the St. Louis Public Library are summarized. The article ends with an invitation for cooperation to obtain more research on public libraries and a call for a second Public Library Inquiry as an appropriate mechanism to inspire new commitment to such research.

INTRODUCTION

"How we know what isn't so." That's the title of a recent book by psychologist Thomas Gilovich (1991). Gilovich's specialty is human cognitive error. In other words, he studies how and why people make mistakes when they think about their world.

Gilovich shows that all of us make errors. Sometimes these errors are nothing short of monumental. Francis Bacon thought that warts

could be cured by rubbing them with pork. And Aristotle thought that male babies were conceived in a strong north wind. Gilovich's book contains many more examples.

Sometimes we make cognitive errors on the job. If these misperceptions dominate the institutional culture, organizations work poorly (Bolman & Deal, 1991, pts. 5 and 6). If the errors are of sufficient magnitude, they can imperil an institution's future.

When I came to direct the St. Louis Public Library (SLPL) in April 1987, management staff portrayed institutional culture almost entirely in negative terms. For them, the future appeared grim. Here are four of the claims they made:

1. Library customers used only one branch, the one closest to their home, almost always walking there. If the library closed any branch, that circulation was lost forever.
2. Over 40 percent of Central Library visitors were noncity residents who provided no financial support to the institution.
3. Not many business persons used the library because they had their own sources of information.
4. Conservative St. Louisans, who had voted down most citywide tax increases since 1971, the year of the library's last successful levy election, would never increase tax support for the library.

Between 1987 and 1991, various SLPL research projects (all of which are listed in the Appendix) demonstrated that each of these assertions involved human cognitive error:

1. A branch services study (1990) demonstrated that most library customers shopped at two or three branches and that circulation could be transferred.
2. Regular surveys of walk-in and telephone users (1990-1991) demonstrated that less than 20 percent of all Central Library visitors were nonresidents.
3. A business users survey (1990) demonstrated that the principal reason that business researchers did not use SLPL was because they did not know about its information services. The study showed that a latent market existed for the library's information services to business.
4. A series of constituency analyses (October 1987, January-March 1987, October 1990) revealed a broad base of support for a library tax increase. These surveys translated into a 61 percent vote for a March 1988 tax referendum, which nearly doubled the library's tax base.

If public library leaders want to chart a strategic future for their institutions, they must begin by creating a climate in which that change

can take place (Waterman, 1987). Research is a tool to help define the human cognitive errors that keep an institution from developing its strategic future.

RESEARCH TO DEFINE INSTITUTIONAL PLACE

Research to sort out cognitive errors involves analysis of institutional culture. Formulation of an institutional rationale entails asking a different set of questions, those that relate to its environment (context), the character of its operations, and its roles.

Here are four questions worth asking while attempting to develop a strategic rationale:

1. What expectations are realistic given budget and staff size? In fiscal year 1990, the seven largest public libraries in the United States each spent over $40 million, but only 8 percent managed a budget of more than $1 million. Seventeen percent had a budget less than $10,000. Ten percent (910) of all public library districts served 72 percent of the population. Ninety percent (8,058 systems) attended the remaining 28 percent. Only 10 percent of all public libraries had over 25 staff members. Twenty-five percent had less than one paid full-time staff member (Public Library Association, 1991, pp. 17-28; Podolsky, 1991, p. iii).

2. What is the socioeconomic character of the community served? At a recent PLA workshop, Michael J. Weiss (1988, 1989) suggested that American communities can be sorted into forty "neighborhood types." Applications of techniques like those utilized by Weiss may help a public library comprehend the community to be served.

3. What is the financial setting in which the library functions? Most public libraries remain 85 percent to 95 percent locally funded and compete for support with other public services like schools, police, and sewers (Prottas, 1981; Trezza, 1989). Affecting the ability to deal with this competition is the particular ideology of public finance that dominates the thinking of a library's administration or its board (Robinson, 1989).

4. Of what significance is an institution's role as a legatee institution? Like public schools, public libraries are legatee (inheritor) institutions. As knowledge has broadened and as society's needs have changed, public libraries have taken on new jobs.

    The public library is, first, the legatee of subject types. Public libraries began as repositories of useful knowledge. As the world grew more specialized, so too did their collections.

The public library, second, is the legatee of changing formats. After books came microforms, 16-millimeter film, videotapes, CDs, and other electronic formats. If a format exists, public libraries usually try to collect it.

Third, the public library serves as a legatee of functions. Because public libraries engage in community library service, local governments ask them to register voters. Because they circulate children's books, some parents expect them to baby-sit and to offer specialized day care for latchkey children. Because they offer books and information on learning to read, corporate America expects them to help illiterates learn to read.

To sum up, whether the public library legacy has involved subject matter, formats, or functions, the result has been additive. This additive, legatee character may not serve public libraries well in the current "age of convergence" (Wedgeworth, 1991). This age, according to Robert Wedgeworth, is one where firms from one information technology sector broaden their business to compete with those in other sectors. In the process, private companies probably will begin to compete with some services offered by public libraries.

How should legatee public libraries act in an age of convergence? Some already are repositioning themselves for new kinds of competition. Others appear oblivious of the convergence trend.

Research to create an institutional rationale creates a sense of how one public library fits among the many and locates the institution within the community context. Asking the kinds of questions posed in this section usually is part of that research.

A SEARCH FOR SUFFICIENCY

It is hard to read very much library science research literature without encountering a variety of articles discussing its demerits. Among those authors criticizing library research and researchers are Freeman (1985), Childers (1984), Converse (1984), Schlachter (1989), and Van House (1991). Public library practitioners must not become obsessive in their attention to this criticism.

When practitioners search for research literature that addresses operational and policy concerns, their principal criticism usually is that an appropriate article does not exist. The research article they would most like to have is the one that has not yet been written.

This fact should not be surprising. The practice of librarianship generates a huge research need, yet the number who write to meet that need is very small. Charles McClure and Ann Bishop (1989) suggest

that no more than 300 "active researchers" furnish the critical research foundation for the work of a labor force of 153,000 in a business dominated by books, journals, and electronic information.

Public library practitioners do little formal publishing to meet their own research needs. Keith Swigger (1985) found that library school faculty, comprising slightly "less than one percent of the professional community—authored over 23 percent of the articles" (p. 105). Academic librarians authored 30 percent of the articles. Public librarians contributed less than 9 percent of the total research. Swigger's findings are substantiated by Watson (1985). Current trends make it improbable that public librarians can rely on library school faculty to increase public library research because the number of such scholars is shrinking.

Fourteen library schools have closed since 1978, reducing library science faculty opportunities. In 1975-1976, 67 library schools had 648 full-time faculty. In 1985-1986, 64 schools had 562 faculty (Biggs, 1991, esp. p. 37, n. 7). The loss of schools in this comparison amounted to 4.5 percent. The loss of faculty was 13.3 percent, indicating that some relatively large library schools had been shut down.

Even at schools still open, replacement faculty, especially those in growth fields, are in short supply. Doctoral output is dropping, with the ability to replace aging faculty becoming problematical (Futas & Zipkowitz, 1991). The continuing "Darwinism at the University," which has forced library school closings, seems likely to continue (Stieg, 1991). Because of these trends, public library practitioners face the prospect that they increasingly will have to undertake the research that needs to be done.

ACTION RESEARCH

Practitioner research, in reality, already is a significant fact in the United States and Great Britain. Recent examples include D'Elia (1991); Smulyan (1989); Sunnydale, CA (1990); Milwaukee Public Library (1987); Enoch Pratt Free Library (1989); Franks (1991); Lyman, Slater, and Walker (1982, p. 40 & passim).

Practitioners undertake research for different reasons than library school faculty. Reflecting this difference, practitioner research is usually labeled "applied research." Robert Swisher and Charles McClure, reflecting the typical policy orientation of practitioner research, call it "action research" (Swisher & McClure, 1984).

Swisher and McClure (1984, p. 14) articulate four rationales for action research. Following each item is my listing of institutional research activities which that particular rationale statement seems to justify.

1. Test "traditional assumptions of library services and activities." This rationale covers tests for service quality, user surveys, staffing assessments, training surveys, and operations measurements.
2. Establish and measure "goals and objectives, accountability, and justify library activities." This rationale covers the development of mission statements, plans, and accountability studies.
3. Measure "effectiveness and efficiency, and select which of the two is to be maximized for individual library programs." This rationale allows service-level assessments, input-output analysis, cost accounting, and cost-benefit analysis.
4. Measure "environmental change . . . [a]s a natural, ongoing occurrence." This rationale encompasses environmental scanning as part of strategic planning, demographic assessments, user assessments, support assessments, and marketing studies.

To the Swisher and McClure list, I add one other rationale that is of growing importance in public library management:

5. Research to add value. This rationale allows creating new access points to the collection, product development, donor research, and development of funding proposals. Special libraries already have begun to add value as an explicit part of their professional purpose (Bender, 1991). Public (and academic) libraries will follow.

These five rationales justify a variety of practitioner studies. The need for such studies exists even without rapid change. With change running at seatide, an even greater need exists to undertake institutional research to help create strategic futures for modern public libraries.

A SEATIDE OF CHANGE—FUTURE TRENDS

Six major trends add to the imperative for action research. Futurist Joel Barker (1991) speaks of these momentous changes as paradigm shifts. Definitionally expanded and popularized by Thomas Kuhn (1962), a paradigm is a fixed form or set of forms. In culture, whether for a whole society, one of its institutional sectors, or for a single organization, a paradigm shift occurs when old forms break down and thereby change the rules for doing business.

Here are six major trends that are breaking down the old rules for conducting the business of public libraries. Along with the specific references cited, this section draws from Snyder and Edwards (1991), Research Alert (1991), Cetron and Davies (1990), Toffler (1990), Naisbitt and Aburdene (1990), United Way (1988, 1990), and Kidder (1987). It also draws on the literature on library futures, including Mason (1985),

Blodgett (1986), U.S. Department of Education (1987), OCLC (1988), Epstein (1989), Garfield (1988), Summers (1989), Furthering the Vision (1989), and Croneberger (1989).

1. *Globalization of Information Culture.* Instant electronic communication has created "the global village." The shift is exemplified by wars fought on CNN and a battered American economy that reacts to news from Moscow, Berlin, and Tokyo. "Currency" (instant access) of information is the hallmark of global-village culture. Those without such access become information have-nots who are unable to compete or even to react because they do not know that anything is happening.

2. *Innovations in Information Technology Will Remain the Driving Force (the Independent Variable) in Exponential Change.* Television, personal computers, CD-ROMs, and faxes all created turmoil in old markets and brought rapid development of new businesses. A massive latent market for current information still remains untapped, and markets already served by one information form will be served by newer, more convenient forms.

3. *Increased Competition for Public Funding.* In recent decades, the public economy has become more competitive at all governmental levels. All agencies, including public libraries, will have to compete for resources at every level. When competition for funding is severe, demands for accountability and increased productivity increase. Calls will increase for public libraries to add value and to share resources.

4a. *The American Population is Changing through Demographic Shifts.* By the year 2000, "80% of all mothers will have a career during some portion of their child-rearing years," and "85% of work force entrants will be minorities, women, and new immigrants" (Vanderkolk & Young, 1991, pp. 11, 20). People live farther from work, with average commuting time expected to double through the 1990s. More families have made it into the "upper one-fifth" income category, but the middle class is shrinking: About one-fifth of all families (and one-fourth of all children) live below the poverty line (Gallagher, 1991). Fewer persons reside in traditional families, and more persons, including increasing numbers of the elderly, live alone. Varied birthrates (and migration) will make Hispanic Americans the largest U.S. ethnic and racial minority by 2000. Other nonwhite groups, including African-Americans, are increasing as well.

4b. *The American Population is Changing through Migration.* America's population is rearranging itself. Employment is becoming more footloose, creating significant inter-regional shifts in the location of jobs. Regions (and areas within regions) with high amenity levels (including physical newness) are attracting

inhabitants. The populations of inner cities are becoming both older and younger, with higher percentages of minorities and those with literacy problems. Edge cities are growing on the rims of old metropolitan areas. Exurban (on the periphery of metropolitan areas) population is increasing. Large sections of American urban areas are coming to be dominated by multicultural groups different from prevailing white culture.

5. *Increasing Alternatives to the Public Library.* New information technology access combinations—the growth of CompuServe and Prodigy, Sony electronic books, and CD-ROM libraries on disk—have appeared in the last half decade. These new "library" or information-source alternatives represent the edge of new kinds of competition for the public library's information and reading customers. That is especially true for upper- and middle-income users who will be presented with information and book-acquiring options that do not involve going to the public library.

6. *Library School Teaching and Research Positions Will Continue to be Affected Negatively by Changes in the Academy.* American universities have become less regional and more national, less oriented to the service professions and more centered on "pure research," and more conscious of needing "bottom-line" departments that generate high national visibility, significant research income, and high levels of donor support. Library schools historically fit on the regional- and local-service side of the new academic equation, and many have closed. As this trend continues, public library practitioners will have to deal with the implications of fewer library science researchers and fewer schools where librarians can receive their MLS training.

PREDICTED PUBLIC LIBRARY RESPONSES TO FUTURE TRENDS

For public libraries, paradigm shifts in the critical environment signal a need for an institution to shift its goals, constituencies, or ways of doing business. Barker (1991) suggests that unless an institution makes such shifts, it faces the prospect of becoming absolutely or relatively less useful. If it does not adjust, it eventually will lose its claim to resources. Paradigm shifts also flag a management challenge: to adapt in an appropriate way and at just the right time so that resource use can be optimized.

Institutional change in libraries is a continuous process. Many authors have written about changes currently taking place in public

libraries and about those expected to take place. In the paragraphs that follow, I have attempted to summarize a large amount of literature dealing with current and seemingly imminent shifts in public libraries associated with the momentous and rapid changes—the paradigm shifts—already occurring in the world and in the United States.

Responses to Economic Pressures

Consolidation

Consolidation to obtain service efficiencies and to cut costs already has occurred in financial institutions (Dealers Return, 1991) and information companies (Goldstein, 1990, p. 330). The public library field contains a large group of chronically underfunded institutions with low levels of capitalization and no case reserve. To remain independent and still serve their users well, such institutions must find income to pay for electronic access. Meanwhile, information technology makes cooperative arrangements easier. A shrinking of branch-outlet numbers and the joining of underfunded library districts seems a likely scenario through the 1990s.

Resource Sharing

Along with the possibility of consolidation, many public libraries will face pressure to share resources (Sherman & Sanders, 1989, pp. 143-144). At the national level, NREN (National Research and Education Network) legislation will impact public libraries, even though profound funding and operating issues remain unresolved (Corbin, 1991; McClure, Bishop, Doty, & Rosenbaum, 1990). Poorer district, interlibrary loan (ILL) demand will escalate exponentially, with net-lenders initiating policies to deal with inequities in borrowing versus ability to pay (Sager, 1991; OCLC, 1990; Ballard, 1990). Questions about the appropriateness of ILL requests will become sharper and louder. An important new resource-sharing issue is the organization of "just-in-time delivery" as the need for materials currency increases and as libraries cut back on their purchases in anticipation of sharing resources. Reciprocal borrowing agreements also can be expected to proliferate, probably to the detriment of library districts that are unable to enter such agreements (Sherman & Sanders, 1989, pp. 140-143).

Cross-type Library Cooperation

The "official" barriers retarding and even prohibiting cooperation between "types" of libraries, including those involving no governmental funding, will break down through the 1990s (Townley, 1989). Public library cooperation with schools and colleges will grow in significance (Beach, 1989).

Partnerships

Public libraries will form extensive partnerships with nonlibrary institutions and private corporations. "Teletext, videotext, and videodisk technologies hold great promise for cooperation between the public and private sector" (Sager, 1981, p. 309). Single-function partnering also has appeared among libraries. One example is the Philadelphia Area Consortium of Special Collections Libraries cataloging project involving sixteen Philadelphia institutions (Holdings, 1991).

New kinds of public-private partnerships will appear through the 1990s. IBM and the "Baby-Bells" are the biggest and best-known among current public library partners, co-developing products and protocols that offer greater access or add to service levels in libraries throughout the United States.

Flattening of Library Hierarchy

Well-funded suburban and small-town community libraries will purchase access to sophisticated electronic information networks, reducing their customers' need to travel to large city or university libraries to gain access to certain research collections (Blegan, 1990). Unless federal and state governments, historically those most concerned with equity issues in resources, furnish support, those people who reside in public library districts without resources will be disadvantaged even more because they will not have access to information sources.

Collections and Programmatic Responses

Some of these traditions are old, but these areas often gain nuances in response to the forces of change.

Books

"The book will remain a key instrument for the preservation of historical, cultural, and social knowledge," Ken Dowlin (1986) writes. "Yet, we will need to enhance its viability by expanding the retrievability of the knowledge contained within" (p. 5). "Books will still be the predominant medium in most libraries," and, combined with computers, they will be used to create what Dowlin (1991) calls the ideal library, "a library with the ambiance and sense of community of a small town with instantaneous global communications" (p. 5). Computers will be used to print books on demand (O'Brien, 1989, p. 29). The cost of books remains an important factor in any future equation (Mason, 1991, pp. 2-3, 7-10).

Business Users

Public libraries will expand their efforts to help business constituents, especially those in small businesses, to compete in a world

market. Some already have begun to enhance services to businesses. Home office workers, "America's fastest growing work force," present a special opportunity (Working from Home, 1991).

Special Constituencies

Demands for library services for special populations are bound to increase. The recently passed Americans with Disabilities Act (PL 101-336) is not a suggestion but a demand for services that public libraries will have to meet (Gunde, 1991). Foreign-language speakers, most especially Hispanics, will have new and heavier reading needs. The elderly require special services. Those involved in distance education and in-home schooling will make greater demands (LaRue & LaRue, 1991). Poorer Americans, especially nonwhites, have special library and information needs, including the need for access to government information (Berman, 1990). Responding to special populations requires the public library to be more proactive in serving those populations (Panz, 1989, pp. 151-171; Sherrill, 1970, p. 34). That means operating in nontraditional ways, often away from library buildings.

Consumer, Environmental, and Volunteer Association Information

As deregulation of business has freed up competition in many market sectors, consumers want more information on companies and products in order to protect themselves. As volunteerism has received renewed emphasis, associations and organizations of volunteers, without large capital resources, turn to the public library for information of all types (Westin & Finger, 1991, pp. 4-5, 40-42).

Literacy Collections and Programs

New Orleans Public has literacy instructors on staff, and several systems support PALS (Project for Automated Library System) computer-assisted, literacy-tutoring learning stations as part of their regular library operations. Others have begun or are beginning family literacy programs.

Training in Information Handling and Searching

Some public libraries can respond to a significant latent market for training in information handling and searching by contracting to train private sector company employees in database management. A University of Missouri School of Library and Information Science course in reference methods taught in St. Louis this fall attracted nearly 50 percent of its enrollees from persons looking for help with their jobs. This demand constitutes a new (or at least an increased) adult education need with which at least some public libraries will be asked to deal.

More Service and Less Place Oriented

"In the evolving electronic era, the public library is becoming less a place than a service" (Westin & Finger, 1991, p. 55). Easy access to information through technology has brought library output to "a greater emphasis on the provision of information rather than provision of the material" (Perry, 1986, p. 7). At the same time, public librarians will follow their museum colleagues in paying more attention to service quality (Sorensen, 1989; Wright, 1989).

Children's Services

Children's services will receive greater emphasis because public libraries will react to the reality that childhood has changed. Richard Louv (1990) writes that childhood has been redefined by a broad "expansion of experience and the contraction of positive adult contact . . . . Children and adults pass each other in the night at ever-accelerating speeds, and the American social environment becomes increasingly lonely for both" (p. 5). Public libraries will be looked to as "the last safe place" and as volunteer "family hubs" that will take on surrogate school and parent roles (pp. 325-329). This shift will make children and students—along with researchers and pleasure readers— the primary in-building users of libraries (O'Brien, 1989, p. 29).

Responsive Use of Resources within Libraries

Information Technology Changes Library Work

Technology historian Derek de Solla Price (1980), commenting on the arrival of computers in libraries, notes, "A new technology never just replaces the old method—it enables quite different styles of life to come into being" (p. 14).

The computer already has changed information agency work-styles (Information Technology, 1991; Zuboff, 1988; Siegel, 1991). It has enhanced frequent-user expectations about what they can find and reference librarians' anticipations of the help they will be able to provide. Librarians also will assume new evaluative and directive information roles (Nitecki, 1983; Smith, 1991; Young, 1989, pp. 7-10; Whitlatch, 1991).

"Information is data endowed with relevance and purpose. Converting data into information thus requires knowledge. And knowledge, by definition, is specialized" (Drucker, 1988, p. 46). To deal with this reality, public library professional staff will assume new evaluative and directive roles and practice "critical librarianship," becoming "mediators" (or "navigators") who develop "cognitive maps" to improve individual access in anticipation of customer need (Blegan, 1990, pp. 464-465; Wurman, 1989, pp. 45-50; Webster, 1987, pp. 173-189; Malinconico, 1989, pp. 142-144; Summers, 1989, pp. 25-30).

Measuring Productivity and Defining Output

The composition of library staff is changing, with increasing numbers of nonlibrarian computer programmers, information professionals, service para-professionals, and clerks involved in shaping public access to library materials and information databases (Penniman, 1991a, 1991b; Young, 1989). These shifts suggest the need to redefine professional library work. They also suggest a need to develop more comprehensive statistical methods than those suggested in Van House, Lynch, McClure, Zweizig, & Rodger (1987) to measure public library productivity. The shifts also suggest a need for new attention to the ethics of librarianship.

Productivity—Staff Education

To meet the pressure for improved productivity, public libraries are following private sector corporations and spending more money to improve the quality of their work forces through education (Patterson, 1991; Altman & Brown, 1991; Marchant & England, 1989; Zuboff, 1985). Large public libraries can be expected to start or enlarge their in-service education function dramatically over the next decade (Cargill & Webb, 1988, pp. 113-141).

Productivity—Exported and Shared Jobs

Larger public libraries are likely to follow the lead of the National Library of Medicine, which contracts with abstractors, and McGraw-Hill, which employs clerical help working in Ireland (Wysocki, 1991). Public library cataloging probably will be the first library function to move not only off-site but in many cases out of system.

Competition for Top-Notch Professional Staff

Quality information professionals, especially women who make up a majority of most public library professional staff, will be in high demand through the next decade. Public library management will have to respond to the needs of this work group, who want higher salaries, pay equity, child care, and flexible hours, along with self-actualization on the job (Yankelovich, 1981). More generally, one futurist writes, "This means that people don't have to put up with management stupidity. Their attitude now can be 'Shape up or I ship out'" (Thornburg, 1991, p. 41).

Although library managers "will become more conciliatory, collaborative, and team oriented" (Thornburg, 1991, p. 41), they also will become increasingly self-conscious about the productivity of staff. That means not paying high professional salaries to just anybody. "The ratio of support staff to professional staff should continue to increase

from 2 to 1 to 4 or 5 to 1, minimizing an organization's need to replace each professional with another professional'' (Cargill & Webb, 1988, p. 162). Pay-for-performance programs also can be expected to increase in public libraries (St. Louis Public Library, 1990).

Minority Employment

The overall public library record on the recruitment and retention of minority employees is less than cause for a celebration. Given the current and probable national legislative and court situation, the main effort to recruit, train, and promote minorities will occur in a few states and some local systems. The arrival of well-educated, foreign-born professionals will affect libraries' minority-recruitment pattern.

Technology Investment

In the past twenty years, this nation has invested a trillion dollars in computers and communications technology, with only small increases in productivity (Snyder & Edwards, 1991, pp. 10-11). We should see a productivity payoff beginning in this decade, but most public libraries will continue to invest in new technology so staff and customers can have access to numerous current databases that are relatively easy to search. In the words of futurist Joseph F. Coates, "Smart companies will pour capital into their businesses; dumb companies will tighten their belts" (Thornburg, 1991, p. 39). Public libraries that do not invest in technology risk limiting future options.

Measurements of Accountability and Institutional Development

Cost Accounting

The old adage, "What you don't know can't hurt you" is no longer true. To present viable policy alternatives to boards of directors, library policy makers need to know the costs of new programs and those to be supplemented or replaced. More effective management will require effective accounting systems that can track work functions. During the 1990s, many public libraries will see the introduction of true cost accounting in order to place dollar value on the delivery of particular services.

Ascertaining Value Added and Planning Resource Use

One specialized aspect of cost accounting is ascertaining value produced by public investment (Snyder & Edwards, 1991, p. 10). During the 1990s, to keep up with other information agencies, many public libraries will devise mechanisms to measure effectively the value they add to area economies. Before the end of the decade, most larger public

libraries will join other public services and cultural institutions in offering their financial supporters an analysis of their costs and benefits. Snyder makes the point for information firms generally. It seems obviously relevant. We also will develop measurements by which we can talk about benefits-to-cost ratios of our library expenditures.

Measuring Services and Users

User Studies
Although we know a great deal about which public library customers borrow what books, there is a good deal still to be learned about customer services and how those services relate to users. Motivations for using the public library, for example, still need more work like that of Marchant (1991). And how do we go about measuring equity of services? As part of a move toward more efficient allocation of resources, user service studies will continue in large numbers through the 1990s. There also is a need for specialized studies of youth services such as that of Lynch and Rockwood (1986).

Community Input and Involvement
Libraries, along with other public institutions, face a growing demand for community involvement, representation, and participation. "The library management team . . . must go into their communities and 'hustle'. They must actively seek out support . . . by listening to the needs and demands of the public" (McCabe & Kreissman, 1986, pp. 1-2). Discerning community needs will have to be done directly, through meetings, focus groups, and surveys (Sherman & Sanders, 1989, pp. 140-143).

Demand for Quality Customer Service
With the existence of competitive alternatives, public libraries will be pressured to deliver quality customer service. This demand includes the expectation that "librarians must lead us into this new and exciting world" of electronic database searching (Snyder, 1986; Sherman & Sanders, 1989, pp. 144-148).

Technological Innovation

Machine Searching
Helping customers deal with the electronic search environment calls for new kinds of instruction in library use and information searching (Oberman, 1991; Baker, Huston, & Pastine, 1991) and the creation of more hospitable social and intellectual settings for end-users (Miericke,

1991). Ultimately library practitioners will help design friendly search environments, including those utilizing "probabilistic 'best-match' weighting and ranking schemes derived from information retrieval research, . . . hypertext-style browsing . . . and heuristic . . . searching . . . [with] clues" (Larson, 1991, pp. 224-229).

Multimedia

Multimedia access platforms will become the principal form of individual access to electronic databases (Gates, 1991), especially desired by those who use libraries regularly as information gateways. The promise of multimedia is the ability to search a wide variety of databases, including those in different media, with one search routine (IBM, 1991, p. F2). The use of artificially intelligent 'agents' . . . to serve as personalized information services for users will accelerate the trend (Young, 1989, pp. 7-10).

Virtual Libraries

The potential of virtual libraries, a technology system that makes it possible to use a library without being inside a library building, which was fully articulated by scholar F. W. Lancaster (1982) more than a decade ago, is now being realized. Virtual libraries are now coming into their own. They may be free-standing or included with a branch or central library (Ghikas, 1989, pp. 123-124). The massive adoption of dial-in catalogs by public libraries marks a significant beginning. Public libraries already are mounting other customer information services and products on these catalogs.

Lancaster notes that virtual libraries have profound implications because librarianship is "perhaps the most institutionalized of all the professions" (Lancaster, 1982, p. 137). Virtual libraries challenge this institutional identity (Dowlin, 1986).

Demands for Currency

In a mature information age, time will become the new strategic frontier (Time, 1990). Public library customers increasingly will want this month's magazine, not one from two years ago. In response, the public library will organize just-in-time delivery of needed material using electronic mechanisms.

New Product Design and Evaluation

Through the next decade we will see many individual public libraries produce databases to export to other libraries online, on CD-ROM, through fax, or in standard paper formats (Szynaka & Cain, 1989;

Neff, 1991, p. 17). To reduce costs and protect their futurity, public libraries also will become more involved in new product testing (Boss & Casey, 1991).

Alternative Futures

As part of their strategic planning, individuals, organizations, and companies have begun to explore alternative futures for public libraries. The rate of technological change makes it imperative for individual institutions to conduct environmental scans, to assess strengths and weaknesses, and to consider alternative futures based on different causal scenarios. These behaviors suggest the need for sophisticated strategic planning.

DEVELOPING AN INSTITUTIONAL RESEARCH AGENDA

Research is a good tool to help public libraries achieve their strategic futures. Because of differences in their history, stages of development, and contexts, libraries are likely to have different research needs at any particular time.

As public library practitioners, SLPL administration and staff recognize that our institution is part of a larger library community but one with current needs and a history that is particularly our own. Our research strategy is built on this observation. We borrow whatever we can from wherever we can find it. The literature search, the calls to colleagues who may have had similar experiences, the glances outside the profession to see if other public sector institutions or private sector companies can furnish models for behavior all precede any thought of attempting to set up and undertake research. Our policy is to undertake research only when there seems no other way to find out what needs to be known.

The SLPL research experience over the past four years demonstrates how particular institutional needs translate into research concentrations. A listing of SLPL studies can be found in the Appendix. A summary of the research themes follows.

One group of studies has involved analysis of constituencies—to find out what users and potential users want, how they use the library, the depth of their support, and whether they will increase funding. Constituency studies form the basis for specific policy changes—and a grounding for institutional marketing. Constituency research helped SLPL win a tax campaign in 1988 and suggested priorities for how new funding should be used.

Creation of a revised policy for collections development was a second research area. A staff team undertook extensive collections assessments and gathered collections policy documents from around the country. The new collections development policy has had enormous impact, offering substantial guidance to institutional buying and weeding. This new policy has focused collecting and helped reduce the cost of storing materials.

Another group of studies demonstrates the library's interest in adding value to our collections by increasing access points. Publications on local and ethnic history, the art history collection, and an ongoing bibliographies program increase access to the library's rich holdings. Several of these publications also have earned incidental income and have served the more general purpose of enhancing institutional visibility. The collections studies have allowed critical development of our research and reference collections, which, with appropriate staffing, helps make the library a community knowledge center.

Two related study categories, technology and facilities, both involved capital investment and, therefore, the element of futurity discussed in a previous section of the paper. The high cost of capital investments has led to extensive study before expenditure is made. One study—a facilities needs assessment for all buildings in the system— cost more than $400,000. And staff spent many work-months developing criteria for the new DEC VAX to replace the old mainframe. The result of these studies has been effective expenditure of taxpayer funds.

Planning also occupied a great deal of time. Planning efforts involved developing the library's first formal master and strategic plans and the establishment of the library's first sustained fund raising program. Planning is at the core of modern library management, and, as Brooke Sheldon (1989) has suggested, no modern development program can do well without it. The library undertook inquiries to improve the quality of management and operations. These assessments resulted in the establishment of in-service training program for top-level and intermediate managers, the installation of a preventative maintenance program, and the movement of some incidental support services like lawn maintenance and snow removal from staff to contractors.

Two final observations about the studies. Over 30 percent of them involved a paid consultant as the principal or as a consulting author. In every case, the library was well-served by its consultants, most of whom were professionals from outside library science. This fact should not be misinterpreted; it reflects the strength of skills of librarians on staff and the range of knowledge specialties that a relatively large library system needs in making sound management decisions.

The second observation is a warning that the brief summary in this section should not be regarded as advocacy for institutional research

only on the topics outlined. Every library needs to set its own research agenda. For the public library practitioner, research is a policy-making imperative. But research is not cheap, and it takes time. Research is never undertaken for fun or for show. Public library research should be executed when policy makers need information or answers that they can obtain in no other way.

BUILDING AN INFRASTRUCTURE FOR
PUBLIC LIBRARY RESEARCH

Because research is a policy-making imperative in American public libraries, there is a need to build its support infrastructure (McClure, 1989). Development of such an infrastructure, however, is a task with many dimensions (Rothman, 1980, passim).

To start, academy-based library researchers must learn to communicate with public library policy makers on some equal basis (McClure, 1991). This communication will have the most impact if accomplished as part of specific marketing mechanisms that reach into practitioners' work lives (Hevey, 1984).

As part of their communication with practitioners, scholar-researchers need to develop dissemination strategies that apply before, during, and at the conclusion of their research projects (Havard-Williams & Stewart, 1986, p. 33). That means announcing research in newsletters like *Library Hotline* and *Urban Libraries Exchange* (Lyman et al., 1982, pp. 46-52). It also means the need for more research-based articles in widely circulated library journals (Magrill, 1984).

Electronic networks provide a research-information distribution mechanism much easier to control. The University of Illinois PLATO system, for example, offers the opportunity for library school scholars and practitioners to work together to start an interactive library journal of the type that F. Wilfrid Lancaster suggested almost a decade ago (Lancaster, 1982, pp. 66-70).

Beyond electronic communication, there are conferences and conventions, which are a mainstay of communication for all professions—because they work. The better ones showcase talent and new ideas, especially those of older management professionals who tend to be more interested in research than younger practitioners (Lyman et al., 1982, pp. 13-24). Conferences also expand networks, a primary source of information for practitioners as they conduct a policy inquiry (Lyman et al., 1982, pp. 13, 46, 52).

Another benefit may be to reveal to public librarians that they already use research techniques in their daily work even though they do not regard themselves as interested in "scientific research" (Hill,

1986, pp. 746-749). The Allerton and the Data Processing conferences at the University of Illinois and the conferences on information technology at the University of Pittsburgh offer excellent examples.

Those most interested in widening interest in library science research among practitioners need to target library directors and upper-level public library managers for special attention. Such persons determine if institutional research will be conducted and how it will be resourced.

Library directors who already see research as a policy-making imperative have an important role to play as well. Within their own institutions, they can offer key staff financial support for travel to conventions and conferences where research is featured, schedule work so that staff have time to conduct research, hire consultants where needed, and purchase a sufficient body of materials to keep staff alerted to research developments in the library field (Camp, Anderson, & Mosby, 1989, pp. 9-14; Hewitt, 1991; Hoadley, 1991, pp. 184-188).

Although they will be helpful, the strategies I have suggested for building a public library research infrastructure will be insufficient if used alone. With so much research needed, there must be movement beyond exhortations. The latter include Lenox (1985), Farmer (1985, 1986), Varlejs (1987), and Swisher (1986).

Momentum for more public library research will require a broad-based and focused collaborative effort. Fortunately, the model for that collaboration already exists in the library profession. It is, of course, the Public Library Inquiry.

The Public Library Inquiry was inspired by a desire to modernize public library practices at the end of World War II. The strategy was collegial in tone and cooperative so far as research talents involved.

The Inquiry obtained a grant from the Carnegie Foundation and then set to its work. The Inquiry organizers gathered prestigious social science and humanities scholars and joined them with scholars and practitioners from inside the profession. Studies and publications poured out, enough to fill many volumes of books and journals. At the end of the Inquiry, the volume of research on public library policy and operations had increased exponentially (Berelson, 1949; Leigh, 1950; Bryan, 1952).

At the same time, questions that practitioners still most want to answer had been posed. Bernard Berelson (1949) in his volume, for example, suggested the need for more quantitative studies of library use and users, for practitioners to take a more active role in defining research needs, whether or not opinion makers used the public library, how the poorly educated could be induced to make greater use of the

library, if the library had any impact on keeping students from dropping out of schools, the "social utility" of library services, and "unrecorded use" of the public library (i.e., noncirculation measures) (pp. 112-132).

I do not propose that we replicate the Public Library Inquiry. I do suggest that it remains the most profound, connected, sustained, and most focused attempt to conduct research *about* and *for* the American public library. For years the Inquiry focused attention on public library research. And for a decade during and after the Inquiry, it engaged public libraries in the research process.

Building on the model of the Public Library Inquiry has some real advantages. It builds on existent structures rather than attempting to create a wholly new "think tank"; its strategy is collaborative, a traditional way of doing business in the library profession; and it has the potential for inducing a significant body of practitioners to become stakeholders in research projects. (In St. Louis, the initiative associated with the Inquiry produced a number of studies, including Compton [1939], University of Denver [1945], and Bruns [1951].)

A new inquiry also could be designed to contain successful training and dissemination mechanisms and incentives for those who become part of the training network to start research on their own. And it could offer the opportunity to establish a mechanism for constructing bridges between researchers and library managers. Charles McClure (1989, pp. 292-293) maintains that this absent bridge has been the missing linchpin in the practitioner-academic researcher equation since Herbert Goldhor assumed a leadership role in promoting library science research more than three decades ago.

Reinventing the Public Library Inquiry for a new generation recognizes that a latent market already exists for applied research. It also recognizes that many public libraries currently conduct research, but that this research is not widely disseminated through the formal distribution mechanisms of the profession.

To quote Susan Beck (1987), who led an unsuccessful attempt to get practitioners to publish their studies:

> Internal projects on which we spend long hours can be enhanced by a written analysis of the processes and results of the project. In some cases reports are written for internal distribution, describing the processes used to solve specific problems. Such studies will often be useful to other librarians. We must communicate these results and conclusions with one another. (p. 3)

Unlike the unsuccessful publication that Beck attempted to compile, a new Public Library Inquiry does not require a consensus of the disinterested to make it happen. It allows those most interested in action research in public libraries to undertake research, to disseminate that work, and to promote the further development of support for research in a focused, collaborative way.

Oliver Wendell Holmes reminded us years ago that "the first step toward improvement is to look the facts in the face." The facts are these. Public libraries are not one thing but many, and there is an insufficiency of research on which to deal with their variant needs. Many public library practitioners are doing research, but their world of finding out and resource sharing is different from academic researchers. Most practitioner research is localistic in purpose. It goes without saying that many libraries do not do very much, if any, research.

This situation grows more critical in a fast-changing environment where the future is at best uncertain. St. Louis Public is one library that has developed a research imperative to deal with these uncertainties. We do not want to claim too much for our research and inquiry efforts, but they have met our policy-making and decision-making needs. The studies have helped make easier the development of strategic policies.

This paper ends where it began—by asserting that research is a public library policy-making imperative. It can help public library practitioners offer high-quality services to all constituencies while adapting to rapid changes and at the same time positioning institutions for the future.

Those of us at St. Louis Public Library who have undertaken our own institutional research hope that others who share our point of view will want to work with us to promote public library research. If we can generate a focused and collaborative research effort, the research work of a few can benefit many more. In the process, more of America's public libraries can gain the tools to deal strategically with the forces for change associated with information-age convergence and new competition.

ACKNOWLEDGMENTS

APPENDIX

Annotated Listing of
St. Louis Public Library Research Projects, 1987-1991

[Abernathy, Fred] (1991). *Public safety procedures for the St. Louis Public Library.* Development of a training and procedures manual for staff orientation and reference. Based upon contacts with many other libraries, consultation with attorneys, and a literature search.

[Abernathy, Fred] (1991). *Security plan for the St. Louis Public Library.* Plan developed after contact with many other institutions, a literature search, and consultation with attorneys. Resulted in rekeying and installation of electronic alarming systems in all library facilities.

[Abernathy, Fred; Piquet, Jeanette] (1990). *St. Louis Public Library disaster response guide.* Established priorities and procedures for institutional response to fires, floods, earthquakes, etc. Drew on disaster manuals from other cultural institutions, especially libraries and museums; conversations with disaster-preparedness officials; assessments of codes and hazards in relationship to libraries. Authorship paired a former policeman, now head of SLPL security, and a librarian.

Ackerman, Aric S.; Holman, Rodney G.; & the staff of Attitude Research Corporation (1990). *St. Louis Public Library. Coro Foundation market survey report.* An examination of knowledge of, use of, and support for SLPL in comparison with other major area cultural institutions with a structured sample telephone survey. Sample instrument developed in consultation with a professional survey research firm. Statistical reliability tests applied.

Alloway, Catherine; Bouchard, Celia; McDonald, Brenda; Smith, Lori (1991). Field-tested reference books: A survey of what has worked best. *Wilson Library Bulletin, 65*(January), pp. 26-31, 137-140. Purpose: To share knowledge about reference-book usefulness with other librarians. The second of two articles a year apart on the same subject by SLPL staff, assisted by other reference librarians.

By Design, Inc. (1991). *Architectural drawings and blueprints for the Julia Davis Branch Library.* Architectural and engineering bid and design specifications developed with heavy staff involvement.

Cohen, Aaron, and Associates (1990). *St. Louis Public Library Main Branch five-year building program.* (Croton-on-Hudson, NY, 1 March 1990). A master space plan for Central Library through 2010. Involved extensive statistical survey of current and future space needs based on linear-foot count of shelving needs and square-foot assessments of service and support needs. Devised formula estimates for space needs for 5 years and for 20 years.

Community Consultants, Inc. (1987). *Tracking poll results, 1, 2, ...* Assessment of potential voter support for a library tax referendum in order to establish weak and strong areas of support. A structured sample telephone survey of registered voters by census tract. Use of verifiable statistical methodologies, with rate of error assessed.

Edmonds, Leslie (1991). Can they really find it on their own? Children's use of public library catalogs. (Paper presented at the PLA Convention, San Diego, CA, 22 March 1991). Based on a literature review and Edmonds' ongoing research in this field.

Edmonds, Leslie (1991). Starting out right: The effectiveness of online catalogs in providing bibliographic access to youth. In Martin A. Siegel (Ed.), *Design*

and evaluation of computer/human interfaces: Issues for librarians and information scientists (Papers presented at the 1988 Clinic on Library Applications of Data Processing, 17-19 April 1988) (pp. 139-161). Urbana-Champaign: University of Illinois Graduate School of Library and Information Science. Based on a literature review and author's continuing research in this field.

Edmonds, Leslie; Jacobsen, Frances F.; Sutton, Ellen (1991). Reference services to special groups. In Richard E. Bopp & Linda Smith (Eds.), *Reference and information services: An introduction.* Littleton, CO: Libraries Unlimited. Based on a literature review and the authors' continuing research in this field.

Edmonds, Leslie; Moore, Paula; Balcom, Kathleen Mehaffey (1990). The effectiveness of an online catalog: Determining how well students use the technology. *School Library Journal, 36*(October), pp. 28-32. Included in *Library lit 21: The best of 1990.* Based on a literature review and authors' continuing research in this field.

Franzwa, Gregory (forthcoming 1994). *The Lincoln highway: A history, gazetteer and guide.* (Vols. 1-4). Tucson, AZ: The Patrice Press and the St. Louis Public Library. Co-publication of an important reference work, which will involve extensive use of the library's collections. Publication will raise the visibility of the library and its collections. Work is under way by a well-known author and publisher.

[Gosebrink, Jean] (1988). *What's in the St. Louis Public Library cat-fiche and bibliographic database?* Printed users guide drawing on pre-announcement tests by staff and patrons.

[Gosebrink, Jean] (Comp.) (1989). *St. Louis Public Library board of directors orientation manual.* Revised for each new board member, a loose-leaf notebook compilation of all statutes and policies affecting SLPL operations along with minutes of recent meetings and ALA canons and guidelines.

[Gosebrink, Jean E. Meah] (Comp.) (1991). *St. Louis: An annotated bibliography on the city & its area.* Compilation and annotation of the first significant bibliographic treatment of St. Louis history and culture in over a decade, stressing recently published works. Methodology: Included review and annotation of all recent scholarly and popular work on the community's history and culture.

[Holobeck, Noel] (1991). *The German-American heritage of St. Louis: A guide.* The inaugural publication of the SLPL Local Area Studies Center intended to create knowledge of the library's local history and genealogy collections and its status as the official repository of the archives of the German-American Society of St. Louis. The publication described fifty historical buildings and sites and included an auto tour map of the locations.

[Holt, Glen E.] (1987). *St. Louis Public Library background fact book.* Development and compilation of documents used by all library spokespersons throughout the 1987-1988 tax campaign.

[Holt, Glen E.] (1988). *St. Louis Public Library master plan. Goals and objectives for the library, 1989-1994.* Development of the institution's first master plan, based on a literature review, unit assessments, and consultations with library and other cultural institution directors.

Holt, Glen E. (1990). Redefining the library's place. (Paper presented at the session, *The reality of changing and changed environments,* ALA Annual Convention, Chicago, IL, 26 June 1990). Presentation of a rationale for and the results of SLPL's use of off-site computers, vans, and programs to enhance library service for niche markets in St. Louis.

[Holt, Glen E.] (1991). *A community information system for the City of St. Louis by several developmental partners and the St. Louis Public Library.* A rationale and plan for a community information system. Document used to publicize development and attract donors. Document created after an extensive review of the literature on various urban information systems. Resulted in active partnerships with information companies.

[Holt, Glen E.; Junz, A.] (1989). *Documents organizing the Foundation for the benefit of the St. Louis Public Library.* (St. Louis, Adopted by the Board of Directors of the St. Louis Public Library Foundation, 11 September 1989). Development of a rationale, an organizing structure, and all documents to start a library foundation and a development program.

[Holt, Glen E.; Smith, David] (1989). *St. Louis Public Library strategic plan.* Revised and updated in 1990 and 1991, this document guides the development of all policies and budgeting.

[Jinks, Paul, et al.] (1988). *Salary market study.* (Semi-annual). Analysis of all relevant reports on the salaries of all categories of library, government, and cultural institution workers. Mathematical formulae, with adjustments gradually refined, integrating national statistics from ALA, PLA, and SLA with those for local and regional markets. Results in accurate picture of "salary market" for all staff. Used to determine entry and range levels of all salary categories.

[Jinks, Paul] (1989). *A pay-for-performance plan for the St. Louis Public Library.* Revised in 1990 and implemented in 1991. An assessment of library, cultural institution, and corporate literature to propose a plan which would work at SLPL.

[Jinks, Paul] (1989). *Position evaluation plan for the St. Louis Public Library.* A study that preceded the writing of new job descriptions.

[Jinks, Paul] (1990). *Personnel policies.* Development of up-to-date, legal personnel policies reflecting current operations at SLPL.

[Junz, Al] (1988). *A proposal for a St. Louis Public Library business information center at the St. Louis Centre.* A true feasibility study considering the move of a library business, science, and technology unit to the most significant downtown shopping center. Modeled on retail location studies. Concept rejected after costs and benefits assessed.

Koch & Associates, Inc. (1988). *Architectural drawings and blueprints for an elevator for the handicapped.* Architectural and engineering bid and design specifications with heavy staff involvement.

Koch & Associates, Inc. (1991). *Feasibility study regarding the financial feasibility of relocating the technical services department to Compton Branch Library.* Analysis of capital costs and changes in operating costs from an architectural and engineering perspective.

Marketing Edge, Inc., The (1990). *The Julia Davis [Branch] Library focus group report.* Structured focus groups with neighborhood citizens to explore their perceptions of needed services and interior design of a new branch library. Interviews resulted in several significant changes to the interior and exterior plans for a new branch library.

Mulroy, Mary; with Kafron, Charles (1990). *Branch services study.* An analysis of branch services using statistical analysis of transaction-load and census-

tract statistics. Statistical reliability tests applied. Quantitative findings expressed in tables, maps, and bar graphs. Computer mapping used in presentation of the work.

Numerof & Associates, Inc. (1989). *Managing for organizational effectiveness.* Development of a program to improve the quality of middle-level library management by an industrial psychologist working with managers to assess training needs. Resulted in a 43-hour management training seminar for middle managers, including all librarians.

Numerof & Associates, Inc. (1990). *Continuing education development [for St. Louis Public Library Managers].* Development of a program to improve the quality of upper-level library management by an industrial psychologist working with managers to assess training needs. Resulted in nearly 100 hours of formal in-service, seminar discussion training for upper-level managers.

Peters, Frank (1992). *Historical Midwest buildings: The Piaget photographs in the Library of Congress.* (St. Louis: The Patrice Press and the St. Louis Public Library, forthcoming 1992). Co-publication of an important reference work revealing the architectural heritage of the Midwest and the St. Louis region. Publication will raise the visibility of the library and its midwestern collections. Project nearly completed. Authorship by a Pulitzer Prize-winning journalist and respected St. Louis-area author.

[Peterson, Kim] (1991). *Interlibrary loan study.* Used OCLC statistics to assess net-lending demands and to predict impact of changes made in Missouri State Library computerized access system. Resulted in policy decisions regarding ILL charges.

Porter, E. F., Jr. (1990). *Harland Bartholomew.* (Bibliography by Jean Gosebrink). St. Louis: St. Louis Public Library and the Landmarks Association of St. Louis, Inc. An exhibition catalog and guide to the library's holdings on St. Louisan Harland Bartholomew, an early leader in the city planning movement in the United States.

Price Waterhouse, St. Louis Office (1989). *Saint Louis Public Library. Management review of finance office* (St. Louis, 11 January 1989). Three certified public accountants conducted detailed procedural analysis of the library's financial practices, compared SLPL with norms for public sector institutions, and made wide-ranging recommendations for changes in policies and procedures.

Ross & Baruzzini, Inc. Engineers-Architects; Koch & Associates, Architects (1988). *St. Louis Public Library facilities needs assessment.* (2 vols.). A detailed facilities analysis and inventory that would guide all future rehabilitation and construction work on every building in the SLPL system, including fire protection and security requirements. Involved on-site analysis by certified and licensed construction engineers, engineering specialists, and architects.

Schlafly, Thomas (1991). Winning a tax election. (Paper presented at the session, *Funding fun: How to bait the money trap,* ALTA Education of Trustees Session, ALA Convention, Atlanta, GA, 30 June 1991). Summarized organization and methodology for winning a tax campaign. Schlafly is a regional vice-president of ALTA and twice president of the SLPL Board of Directors.

SLPL (1988). *Manual for using the St. Louis Public Library automated system.* A 55-page publication for staff to ready them to explain and demonstrate all electronic catalog functions and procedures. Drew on pre-announcement tests and product literature.

SLPL (1990). *Reference policy of the St. Louis Public Library.* Staff contacted many other libraries about reference policy, consulted with attorneys, and did literature search.

SLPL (1990-1991). *Walk-in and phone-in survey of Central Library.* (Quarterly). Regular surveys to determine the residential zip codes of Central Library users. Part of a long-term study connected with possibilities of reciprocal usage with other library systems.

SLPL (1991). *Collection development policy of the St. Louis Public Library.* A staff training and reference manual including a conspectus, definition of all collections, policies, and responsibilities involved in selection and weeding. Involved written analysis and descriptions of all collections, examination of literature on collections development and the collections development policies of many public and academic libraries.

SLPL (Mary Mulroy, Team Leader) (1990). *Building program for the Julia Davis Library.* A detailed building program that formed the basis of an RFP for an architect and a guide to design a new branch library.

SLPL, Technical Services (1991). *Missouri union list of serials project (MULSP).* (Annual since 1976). Compilation and production of the Missouri union list of serials under contract with the Missouri State Library. Publication issued electronically and in paper based on bibliographic compilation, updating, and cross-checking.

SLPL, Technical Services (1991). *Monograph acquisitions procedures manual.* Review of training manuals from other libraries and literature to create a staff training and reference guide.

SLPL, Technical Services (1991). *MULSP bibliographic record manual.* Designed to establish continuity and efficiency of record-inputs from entry to entry and from year to year.

SLPL, Technical Services (1991). *Serials acquisitions procedures manual.* Review of training manuals from other libraries and literature to create a staff training and reference guide.

[Smith, David] (1990). *RFP specifications for development of a computer main frame for St. Louis Public Library.* A multimonth assessment of future SLPL computer needs, the computing capacity of various machines, along with capital and operating expenses. Involved an extensive literature review, quantitative analysis of current and future needs, and cost analysis.

[Smith, David] (1991). *Literacy hotline software.* (Copyrighted and Marketed, 1991). Product developed under an LSCA grant issued so that other potential library users may have access to a neat software package.

Smith, David (1991). Planning for library automation obsolescence. (Paper presented at the session, *Weeding your terminals: Understanding and planning for library automation obsolescence,* PLA Convention, San Diego, CA, 21 March 1991). Analysis of rationale and intellectual and policy issues involved in single library-developed OPACs based on the SLPL experience.

[Smith, David] (1991). *St. Louis Public Library strategic plan update, 1990-1995.* Updated annually, this document serves to measure progress against planning.

Southwestern Bell Telephone Company (1991). *Assessment of telephone needs of Central Library.* Study to bring SLPL a modern, flexible communications

system capable of sophisticated voice and data transfer. Hired a telephone consultant who helped staff specify needs, then allowed SWB's free consultant service to develop options for solving institutional problems. Resulted in a contract with SWB to remove SLPL from the telephone business in lieu of a digitized Plexar I System using Bell's Chestnut Street switching facility as the library's out-of-house PBX.

Telephone Contact Inc. (January-March 1988). *Library campaign telephone survey results, 1, 2, ...* Same purpose and methodology as in the previously cited study by Community Consultants, Inc. (1987).

[Tillinger, Elaine] (1992). *Dictionary of St. Louis artists.* A three-year project to compile an electronic dictionary of artists who worked in St. Louis between 1764 and 1950. Available as a reference tool in art history with plans for electronic and paper publication. Involved extensive primary and secondary research.

[Wandel, David] (1991). *Job descriptions of the St. Louis Public Library.* Revision of all SLPL descriptions to comply with all federal and state statutes and making them reflect changed (and changing) work conditions. The author, with more than fifteen years of human resources and operations managements in large hospitals and as a consultant to other institutions, researched and rewrote each policy. These were checked and rewritten by an operations consultant and by the library's attorneys.

[Wandel, David; Washington, Debra] (1990). *Staff training plan for St. Louis Public Library.* Development of a comprehensive training plan for all categories of SLPL staff. Established an inventory of training needs with recommendations on most effective training to be used.

Watts, Anne; Kofron, Charles P.; CPK Consulting Services (1990). *St. Louis Public Library business users survey.* Assessment of business information and library needs through a structured mail survey. A five-page survey instrument was mailed to 2,800 businesses in St. Louis, geo-coded by zip code. Statistical reliability tests applied. Survey formed the basis for major policy shifts and the development of a business, science, and technology unit.

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