

## Consulting in the Library Network Environment

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WHEN I AGREED to write this paper, under severe time constraints, a search of the literature failed to turn up any articles on the subject. However, as I got deeper into the topic, a considerable activity—if not literature—was discovered. This exacerbated the problem since it seems more difficult to track down itinerant networkers than elusive articles in obscure journals. I have therefore only explored the framework in which network consulting takes place and identified some areas of actual or potential network consulting, leaving a more definitive treatment to subsequent authors.

In general, this paper adheres to the classic definition of consulting—the formal seeking of advice relating to an identified problem or set of problems for which specific action-oriented recommendations is needed. “Library network” means a formally organized entity providing computer-based and related services to a defined member group linked by telecommunications. Although many topics addressed in this paper may be relevant to cooperatives and consortia, the considerable use of consultants that obtains in these endeavors has generally been excluded. Some attention is given to related agencies engaged in planning, financial support and other matters relevant to library networks.

This paper has helped me synthesize some previously inchoate perceptions about networks and consultation and has raised some intriguing questions about the caliber of much of our national network

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planning. It seems obvious that the library field generally has not used consultants with the discipline that prevails in areas such as business and industry, and it is possible that, just as networks have formalized interlibrary cooperation and planning, they will also play a role in formalizing the use of consultants. Their use will certainly become more frequent and rigorous as networks explore increasingly complex relationships, systems, and services, and their input will add an important new dimension to library and network management in the future.

### **Network Client Groups**

In the literature on consulting, organizations seeking the aid of consultants are called "clients." At least four specific client groups can be identified in the network environment. These are: the network, the member libraries, related agencies, and vendor/suppliers.

#### *The Network as Client*

The computer-based library network is a relatively new organizational entity. There is little tradition for networks to rely on, since most have existed less than a decade, and many of the standard formulations for library management do not apply to networks. Furthermore, within the limits of their resources, networks are probing the leading edges of technology, information service, and cooperation. Increasingly, networks will have to take risks and yet at the same time guard against failures that would adversely affect hundreds of libraries. Since networks exist outside the taxing base or private organization budgets that support libraries, and since they depend largely on sale of their services to members, they exist in an entrepreneurial environment foreign to most library endeavors.

This set of conditions makes networks natural clients for a wide range of consultant services. It is unlikely that all networks can or should develop a permanent staff with the wide range of specialist knowledge that will be needed for solving certain complex problems. Later in this paper, several examples of consulting for the network client will be reported.

#### *The Member Library as Client*

Participation in networks raises many issues for prospective member libraries. Which network? Which specific service? How do network services interface with local services? How should local long-range planning accommodate itself to prospective network develop-

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ments? What features should be provided in new buildings to facilitate total network participation? What changes in relationships will occur within the staff and with user groups as a result of network participation? How can local computer systems interface with network computer services? Are there any real alternatives to network services and, if so, at what cost? For larger libraries and systems these questions are especially compelling, given the contending desires for maximum local autonomy and for increasingly sophisticated services at the lowest possible unit cost and managerial risk.

The eagerness for information in this area has created a bibliographic *samizdat* which is passed from reader to reader increasingly illegible photocopies. One often receives such material sans cover and only through internal evidence can the original source be deduced. It is also often the case that the information value is all out of proportion to the cost of this internal library-supported documentation system.

Recently, new clusterings in the member library client group have been emerging in which libraries of the same type or subject interest join together to explore the network relationship. The possible permutations are endless. A recent example of this genre is described in the consultant report on LAWNET commissioned by the American Association of Law Libraries.<sup>1</sup>

#### *The Related Agency as Client*

Literally dozens of organizations at the state, regional, and national levels have a potential interest in library network development. These organizations may provide direct services to networks, may have library planning as part of their normal activity, may need advice on how network developments affect their own future plans, or may simply be seeking a piece of the action. Such organizations include professional associations, national and state library agencies, library and educational commissions, library and information science schools, government and private funding agencies, national and state education agencies, and so on. Although there are private organizations in this client group, the majority are public, tax-supported agencies.

Members of this group may overlap with other client groups. For example, the New York State Library is a library member of the SUNY network using the OCLC network system, is the administrator of the computer-based New York interlibrary loan network (NYSILL), and is a state agency with certain responsibilities for library development in New York State.

The use of consultants among this group is uneven, with the

heaviest use occurring among state and national library agencies. The reason for this probably is federal funding which makes available an external source of funds, renewed annually, to support such studies. The amount of such funding directed specifically to computer-based networking has been small in comparison to that spent for other types of library cooperation, but is increasing. The state or national plan and feasibility study appear to be the most prevalent products generated for this client group.

### *The Vendor/Supplier as Client*

One of the hallmarks of business consulting is the confidentiality of the consulting activity. For this reason, I cannot cite specific work for this client group and can only say that, based on general comments from former vendor/supplier employees, that it is occurring. Library, information and equipment vendors also must assess the impact of networking on their existing or planned products. Areas of concern that come to mind are market decline or opportunities presented by network activities, equipment and services to support network activities, and new services that are feasible for vendors only through network distribution. One example of consulting in this area is the study "Strategies in the On-Line Data Base Marketplace" by LINK Resources Corporation, an information marketing service firm. Consultants for the study include Carlos Cuadra, Peggy Fischer, and Martha Williams and, according to recent information, only the research sponsors will get the consultants' report at a reputed cost of \$7000 per copy. Time did not permit even a modest canvass of vendors; therefore, the remainder of this paper will concentrate on the library-related client groups identified previously. However, we should all hope that vendors are exploring this area with expert consultants so that we can look forward to a continued, vigorous symbiotic relationship between the library and information field and its vendor/supplier groups.

### **Potential Sources of Consultants**

For practical purposes I have divided sources of consultants into part-time and professional groups. By "professional" I mean consultants or firms whose business is consulting, whether they be librarians, computer specialists or management specialists. By "part-time" I mean individuals or groups who are not consulting as a primary vocation or as a major source of income. Generally, the arrangements with professional consultants or consulting firms are formal and based on a legal

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contract, whereas part-time sources of consulting are often available under more casual arrangements.

### *Part-Time Consultants*

Sources of part-time consultants include staff members of networks, member libraries, library agencies, library schools, and faculty and staff of the parent organizations of certain networks and member libraries. Types of expertise sought frequently include legal and financial advice, cataloging and other library specialist knowledge, system design and programming, statistical and surveying skills, and assistance in continuing education and training.

These consultants are heavily used by the three library-related client groups, and a few examples will suffice to show the diversity in this area. The library network staff itself serves member libraries in consulting relationships. Library use of network staff can range from day-to-day informal advice to more structured long-term tasks, such as work-flow analysis performed for a set fee. In turn, staff of member libraries may be used to augment the skills of the central network staff. For example, the SUNY network is in the process of identifying specialized skills of member library staffs and formalizing arrangements whereby these staff members can be called upon by other library members. In this arrangement, the network would provide some reimbursement for the consulting activity.

Network staff members also assist other networks, particularly when specialization has led to development of some specific skill or service not generally available. Member library and network staff may serve as informal consultants on advisory committees to organizations such as the Library of Congress (LC), the National Commission on Libraries and Information Science (NCLIS), the Council on Library Resources (CLR), and state agencies in providing advice and guidance on developments related to networking. In turn, these organizations may assist networks by making staff available for network consulting tasks.

If several part-time consultants are working on a project, they are generally organized into advisory groups, task forces, or project teams. The amount of time and money spent for such part-time consulting must be enormous, but since little fund transfer occurs (except for library support of network staff) it is impossible to estimate the actual cost. The common practice is for the client to pay travel and out-of-pocket expenses, with the cooperating organization donating its employee's services. However, if the project is of significant duration,

arrangements may be made for partial or full reimbursement for salaries as well. This arrangement is more common when the project is supported by an outside grant.

*Professional Consulting Organizations*

Fuchs divides the consulting industry into the following five major categories and provides a description of each: the international or national consulting firm, the large regional firm with specialization, the medium-sized specialized firm, the small independent specialist, and the small or medium-sized generalist.<sup>2</sup> Each of these types has been used in library network consulting. The criteria for selection of the type of firm are generally subjective and depend on the scope and direction of the project, the specific problem to be solved, and the type of support and advice the client is seeking. These professional organizations seem to be used more widely by the vendor/supplier, network, and public agency clients than by the network member client group.

Sources of information about these firms is provided by Klein, who notes that "getting reliable information about consultants isn't easy."<sup>3</sup> Indeed, the consultancy is served by eight professional associations, leading Klein to comment that "somebody ought to get those people organized."<sup>4</sup>

**Areas of Library Network Consulting**

A number of classification schemes for general management consulting have been developed. Fuchs, for example, has developed a scheme which identifies ten major categories and ninety-nine subcategories.<sup>5</sup> A comparable scheme for library consulting applicable to networks is not available, but I have developed the following preliminary scheme, limiting the categories primarily to activities of interest to the network client group.

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| <p>A. <i>General</i><br/>         Needs assessment<br/>         Information policy<br/>         Short- and long-range planning<br/>         Feasibility studies<br/>         Organization and governance<br/>         Legal<br/>         Performance evaluation</p> | <p>Forms design<br/>         Procedures<br/>         Staff organization &amp; utilization<br/>         Documentation &amp; internal communications<br/>         Word processing<br/>         Project control</p> |
| <p>B. <i>Administration &amp; Management</i><br/>         Management information systems<br/>         Records management</p>  | <p>C. <i>Personnel</i><br/>         Staff development<br/>         Labor relations<br/>         Policy</p>   |

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- Recruitment
- Health insurance & benefits
- Group dynamics
- D. *Financing, Budgeting & Accounting*
  - Accounting systems
  - Cost accounting
  - Short- and long-range financial planning
  - Capital investments
  - Grants procurement
  - Fees and assessments
  - Cash-flow analysis
  - Cost/benefit assessments
- E. *Marketing*
  - Member services
  - Market analysis & forecasting
  - Strategies
  - Pricing
  - Analysis of competitive services
- F. *Procurement*
  - Preparation of specifications
  - Inventory management
  - Purchasing
  - Quality control
  - Acceptance testing
  - Bid evaluation
- G. *Public Relations*
  - Graphics design
  - Printing and advertising
  - Communications planning
  - Audiovisual presentations
- H. *Data Processing & Telecommunications*
  - State-of-the-art assessments
  - Data base management
  - Computer systems analysis
  - Telecommunications network analysis and design
  - Software system design
  - Programming
  - Performance monitoring
  - Documentation
  - Security
- Inter-network linkages
- Technical audit
- System replication
- I. *Network Services*
  - Cataloging
  - Authority control
  - Acquisition
  - Serials control
  - Union list of serials
  - Bibliographic access & related products
  - Interlibrary loan
  - Document delivery
  - Information retrieval & subject access
  - Circulation
  - Abstracting and indexing
  - Centralized processing services
  - Reference and message switching
  - Retrospective conversion & reclassification
- J. *Building & Space Utilization*
  - Architectural design
  - Space modification
  - Space utilization
  - Security
  - Warehousing & storage utilization
- K. *Research & Development*
  - Basic research design
  - Applied research design
  - Project evaluation
  - Field testing
  - Statistical analysis
  - Surveying & data analysis
  - Standards & format design
- L. *International Networking*
  - Network design
  - Trans-border data flow
  - Governance
  - Funding
  - Telecommunications
  - Implementation strategies
  - Problems specific to developing countries

Space does not permit a detailed analysis of the characteristics of each category of network consulting. However, in order to give an idea of the scope of network consulting, examples have been provided for many of the categories listed. Unfortunately, the bare recital of these activities makes for dull reading.

### *General Consulting*

This area of network consulting has probably been the most fertile. Here we find the planning, feasibility, and general needs assessment studies that underlie decisions to implement, delay or restudy network activity. Here we also find the consulting activities most likely to be immortalized in formally published and disseminated reports, since the "real" client is often the professional library community which is to be persuaded to accept the consultant's efforts. Frequently, reports which the client decides are not what the public needs to know are quietly shelved away with as little notice as is consistent with legal requirements.

Becker and Hayes did several state network planning studies, of which the one dealing with the Washington State network is perhaps best known.<sup>6</sup> Markuson did surveys and network studies for Indiana, MIDLNET, and the Federal Library Committee.<sup>7</sup> A recent example of this genre is the Butler study previously cited, which recommends a law information network.

One of the most interesting examples in general consulting is the Parker and Kilgour effort for the Ohio College Library Association in 1965.<sup>8</sup> The study recommended establishment of a cooperative, computerized network for Ohio. The report is startlingly brief; the rationale, recommendations, action plan, budget and staffing, and development goals for services, including information retrieval, on-line acquisitions and cataloging, serial control, and circulation, are encompassed in just nine single-spaced pages.

Library of Congress and NCLIS reports relating to national networking generally fall into this area. For example, Ladd performed a national needs assessment for NCLIS.<sup>9</sup> Adding to the growing corpus of National Periodicals Center studies, NCLIS has engaged Arthur D. Little, Inc. to study alternative strategies for the National Periodicals Center. The two-month consulting effort will have been completed by September 1979. LC's Network Development Office has drawn together a team of part-time consultants from various networks to serve on its Network Technical Architecture Group. This group has explored a number of issues related to the feasibility of developing a nationwide

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network through linkage of existing networks.<sup>10</sup> Other studies include Dataflow Systems' effort to develop a network glossary, the Buckland and Basinski report on LC's role in the national network scene, and a consultant report issued by LC on design considerations for a nationwide data base.<sup>11</sup>

Arthur D. Little, Inc. did a major consulting study, funded jointly by OCLC and CLR, of network governance.<sup>12</sup> They recommended a new governance structure for OCLC encompassing all participating networks and expanding the board of directors to bring wider library representation and more expertise from nonlibrary management and technical fields, as well as a user's council to allow participating libraries to have more input into governance. Martin reviewed legal aspects of interstate networking which gave considerable attention to the possibilities of the interstate compact. The study, done for SLICE, the Southwestern Library Cooperative Endeavor, was also the basis of an article in *Library Trends*.<sup>13</sup> A governance study using local talent was the original basis of what is now AMIGOS. Lee Crandell of The Association for Graduate Education and Research (TAGER) as a special assignment did a network cost modeling and configuration study, and also assisted with the OCLC contract negotiations and the development of institutional agreements to establish the network.<sup>14</sup>

### *Administration and Management*

This area, so active in general business consulting, appears not to have had much formal consulting work. Perhaps this is because networks are new and administrative routines are still being evolved; perhaps it is because network boards and councils can provide a collective expertise that negates the need for outside consulting. The Markuson study for INCOLSA, cited earlier, made general recommendations on network administration and management. OCLC engaged Arthur D. Little, Inc. to develop a management plan for project development—an effort which has been suspended due to lack of funding, but which OCLC would like to renew at a later date.

### *Personnel*

Although the ability to attract and retain qualified staff is a problem of immediate concern to all networks, no overall consulting efforts related to this area were found. However, OCLC has used a consultant specializing in personnel-related benefits packages.

### *Financing, Budgeting and Accounting*

Networks are largely funded by transfer of money from member

libraries to the central office for cooperative purposes. As a result, financial affairs of networks differ significantly from standard library budgeting and accounting. Involved are accountability for the use of funds, maintenance of up to several hundred different library accounts (in some cases), the problem of equitability, the member's interest in cost-effective and viable services, and the desire for information to support cooperative establishment of fees for current services and support of new programs.

Accounting assistance was provided to the INCOLSA network in an informal arrangement, whereby a staff member from the Indiana State Board of Accounts worked with INCOLSA staff to develop a chart of accounts and a system to control all accounts and projects which would meet state auditing regulations. Similarly, the staff of the Washington State Data Processing Authority have identified and are reviewing two automated general ledger systems to be used for financial and accounting information for the Washington Library Network.<sup>15</sup> OCLC has hired a consultant to evaluate the potential of a financial and budget costing system.

Member libraries frequently make in-house cost/benefit studies to determine whether to join a network. Network staff are often available to help as consultants, and many times formal consulting assistance is used. Westat, Inc. was engaged to perform a cost and time study of selected AMIGOS (then Interuniversity Council) members using the OCLC system for cataloging.<sup>16</sup>

### *Marketing*

Growth of networks depends upon successful and continuing marketing. Despite this, no formal use of consultants to evaluate and recommend network marketing techniques was discovered.

### *Procurement*

Whether a network is nonprofit, or is in the public sector with more rigid procurement regulations, the procurement process can be complex at best. Complexity increases as the number of agencies involved in the process increases. Consultants can be used at any step, from preparation of specifications and Requests for Proposals (RFPs), to bid evaluation, acceptance testing, and final evaluation. Consultants have been used frequently in procurement of circulation systems. Bruce Alper was a consultant for the Washington Library Network system for on-line minicomputer procurement, and James Kennedy of AMIGOS has served as a consultant to the State Library of North Carolina in assisting

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with bid evaluation for a statewide procurement of circulation systems for public libraries.

Recently, the Mitre Corporation has been retained by OCLC to assist in the procurement of its new terminal, the OCLC 200. Services provided by Mitre include assistance in preparing detailed specifications and the RFP, bid evaluation, design review, and prototype acceptance testing.

### *Public Relations*

An important aspect of networking is effective communication with members and related agencies. No formal study of network public relations was discovered. An example of informal activity in this area is the Council for Computerized Library Networks' use of a graphic design consultant to advise the council on an integrated plan for its printed products, including logo, letterheads, newsletters, flyers, etc.

### *Data Processing and Telecommunications*

The technical orientation of networks and the increasing complexity of that technology frequently require use of specialists to supplement in-house staff expertise. State-of-the-art assessments, system planning, hardware and software design, technical audits, system interfacing, and hardware and software procurement are some of the tasks for which consultants are sought.

Consulting in this area does not generally lend itself to formally published documents. There are exceptions, of course, and a common instance is the state-of-the-art report. A recent example is the report *Introduction to Minicomputers in Federal Libraries* prepared by a team of Informatics, Inc. consultants for the Federal Library Committee, which covers general aspects of automation, the role of computers (including network applications), hardware and software characteristics of minicomputers, and recommended equipment selection and procurement practices.<sup>17</sup>

The National Library of Medicine used a number of consultants in developing its automated in-house and network services. For example, the System Development Corporation was engaged to help with the design and implementation of its on-line system. BALLOTS, OCLC, and WLN have all used consultants for technical evaluations and review, e.g., Arthur D. Little's technical audit of the OCLC system. The Library of Congress and other national information programs have also used consultants for various network-related studies.

The SUNY network has used consultants for several technical

tasks. Hank Epstein is assessing the feasibility of developing an interface between the SUNY/OCLC interlibrary loan system and New York's computer-based NYSILL network. Don Franz, a software consultant, developed the software design for SUNY's system for processing the OCLC-MARC tapes generated by its members as a by-product of on-line cataloging. The NYSILL system itself was the subject of a number of consultant studies as New York State Library pursued its development. Consulting firms such as Nelson Associates analyzed and evaluated various aspects of resource-sharing in New York.

The potential linkage of various networks, and in particular, the RLIN, WLN, OCLC and LC systems, has for some time been a major concern of LC's Network Development Office program. This work is being carried forward by CLR which has hired consultant Davis McCarn (formerly with NLM) to study the economics, services, and potential products of an inter-network communication (message) system and to identify the questions to be resolved. McCarn is to develop an RFP for a subsequent detailed investigation of inter-network linkage.

A matter of continuing interest for networks is the feasibility of replicating systems or parts of systems that are operating for other networks, vendors, or federal agencies. The consultant firm Software A.G., of Darmstadt, Germany, has been engaged to assist in transferring the Washington Library Network system to the National Library of Australia where it will operate on the latter's IBM 370/148.<sup>18</sup> Recently, Ralph Shoffner of Ringold Associates completed a study for the New Mexico State Library in which he recommends replication of the WLN system to form the base of a statewide resource-sharing network.

### *Network Services*

The most common network services are shown in the above list. As new services are added and as we increase the sophistication of computer support for existing services, more perplexing problems are revealed. All potential sources of consulting help have been directed toward solutions to these problems. Only a few examples can be cited here of this increasingly active area of network consulting.

Almost every network provides some consulting support for members to promote effective use of network services. For example, AMIGOS staff are available to members for consulting on evaluation of technical services and improved utilization of OCLC. A consultant fee is paid to AMIGOS by the member library client.

OCLC has used Michael Gorman of the University of Illinois as a consultant to explore various ramifications that result from adoption of

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AACR 2. The SUNY network uses a consultant to advise it on matters related to AACR 2 and the MARC formats. The advent of AACR 2 has stimulated interest in solutions to the authority problem in the network environment. The Library of Congress engaged Edwin J. Buchinski as a consultant to identify the requirements for authority control in a national data base.<sup>19</sup>

Serials control and union lists of serials are major network services and, unfortunately, often create major problems. The INCOLSA network engaged Elaine Woods to help it determine how best to upgrade the old Indiana Union List of Serials, an effort which eventually led to the present Indiana University/OCLC development of an on-line union list of serials system as part of OCLC's services. Elaine Woods also served as a consultant to Indiana University to develop the system specifications and to establish in-house procedures for conversion of its serials file into the OCLC data base as a basis for the union list system.

Bibliographic access, bibliographic products (such as COM catalogs) and interlibrary loan are closely related efforts and will be treated jointly. A recent report, *Bibliographic Access in Pennsylvania*, has been prepared by Strasser for the Pennsylvania State Library.<sup>20</sup> The report analyzes various bibliographic access tools, access dependency patterns, and the existing ILL structure in terms of present and emerging network services, and makes specific recommendations for improvement of access.

Martha Williams was chief consultant for a study funded by the Illinois State Library to explore the feasibility of creating a union catalog capability from disparate data bases using tapes from MARC, Northwestern University, University of Chicago, and OCLC.

Document delivery is frequently a network service or a service operated by a separate agency which is available to network members. Recently two state agencies have engaged consulting firms to make recommendations on statewide document delivery. The engineering firm Deleuw Cather is performing a design study for the Illinois State Library of a statewide document delivery system. Battelle Institute has recently completed an evaluation of document delivery in Pennsylvania for the Pennsylvania State Library.<sup>21</sup>

In addition to consulting efforts related to circulation systems procurement, circulation in the network environment presents many challenges. Network library members seek advice on the future linkage of local circulation systems into area or state networks, and networks are concerned with the feasibility of circulation as a network service. James Kennedy of AMIGOS is performing a consulting study for the Texas

State Library to explore system design specifications for linking five on-line minicomputer circulation systems—represented by three different vendors—now operating in that state.

### *Building and Space Utilization*

Although this is a well-established area for general consulting, building consulting efforts specifically directed to networks are just beginning to emerge. Areas of concern are planning for future data processing equipment and linkages to network centers. Networks housing large-scale computer systems do make use of special consultants. For example, OCLC has used a data processing security consultant to perform security audits and to identify security factors to be incorporated into the design of OCLC's new building, for which ground was broken in June 1979.

### *Research and Development*

Extensive research and development efforts have been undertaken by RLIN, WLN, OCLC, LC, and other networks and agencies to solve some of the technical and bibliographic questions of networking. Many of these projects rely on consultants. An interesting example of the use of library school faculty as a source of network consultants is the research project done by Ed O'Neil of SUNY-Buffalo Library School for OCLC. O'Neil is studying the problems of subject access to data bases, and has recommended criteria for access when the data base is between 5 and 10 million records. Two reports will be issued.

### *International Networking*

Several consultants have engaged in studies addressed to network development in foreign countries or to extending U.S. networks abroad. The example of the extension of the WLN system to Australia was mentioned earlier. Barbara Evans Markuson, Janice Alexander, and Harold Baker (associated with the INCOLSA network) did a network planning study for the University of West Indies, and Markuson did an informal evaluation of network efforts underway at the Bureau of Libraries, Museums and Archaeological Services of the Virgin Islands. Lou Weatherbee and James Kennedy of AMIGOS did a technical plan for a centralized cataloging and processing center for the University of Costa Rica. This team also surveyed university libraries in Colombia to determine the feasibility of centralized cataloging, and Weatherbee accompanied library delegates from Colombia on a six-week tour of U.S. and Canadian installations to develop this plan further. OCLC has

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engaged a British consultant to explore international networking with a principal emphasis on telecommunication factors.

### **Issues in Network Consulting**

By its very nature, consulting is associated with risk. Consultants are called in to solve problems. Problems can be solved correctly or incorrectly, and, moreover, there is the added risk that one isn't dealing with the real problem at all. To these general risks are added some particular difficulties inherent in network-related consulting.

#### *The Criteria for Success*

Consultants in the profit-making sector may deal with extraordinarily complex problems, but there is little doubt about the measure of success. Success is rather simply evaluated by the extent to which decisions based on the consultant's recommendations tend to increase the company's profit performance. Public agencies have yet to find a similar yardstick for success, and resort to substitutes which are subjective and open to question.

Clearly, consultant recommendations that lead to a 50 percent reduction in the cost of interlibrary loan processing would be successful. However, if the resulting cost per transaction is \$5.00, we still lack a market measure to tell us whether the service is "worth" that much. Part of the problem is the lack of comparative data on a national scale.

The lack of a success measure is exacerbated in network consulting. Essentially, we agree that a library must have a catalog at a reasonable cost, but what is a network data base worth and what is a reasonable cost? Although most network services espouse the goal of a reduced per-unit cost through cooperation, planning network services is difficult when the members themselves do not know what their costs are. Thus, the more vigorous cost performance test of business consulting is replaced by a subjective assessment either that more benefits result for about the same cost, or that the system is beneficial because it meets some social or bibliographic need. For example, the arguments of the costs/benefits of a National Periodicals Center assume local costs/benefits for libraries due to a guaranteed supply source, as well as the larger social value of preservation of a segment of serial literature as a national cultural resource.

#### *Who is the "Real" Client?*

The business consulting firm generally assumes that it will be held

accountable if implementation of its recommendations adversely affects the client. This implied accountability encourages thorough fact-finding and analyses prior to recommending solutions. Network consultants are not often held to such accountability because it is not clear who the "real" client is.

A consultant doing a think piece on national information problems or solutions does not generally have to worry about whether his recommendations will fail, since it is unlikely that they will be carried out at all. If the consultant recommends that "Agency X should take the leadership in national library network development," unless he recommends very specific steps projected to result in Agency X's actually becoming a leader, the recommendation is meaningless and both client and consultant should know it. If the consultant recommends that "Agency X should seek to develop a viable plan for providing information services to all citizens of the state," it will be hard to hold client or consultant responsible, and it is obvious that the consultant really is not recommending anything at all.

If a private foundation hires a consultant to develop an implementation plan for a national union list of serials system, it is clear to all that the foundation is not an action-oriented client needing a solution to a deeply perplexing internal management problem. Neither the foundation nor the consultant will be accountable, and this looseness must affect many studies as the normal accountability for recommendations is diminished. The prevalent use of consultants by clients who are not potential implementers may foster an illusion that tough problems have been rigorously analyzed by an objective consultant when, in fact, the findings may be another addition to an already considerable corpus of network curiosa.

### *Managing the Consulting Activity*

Effective use of consultants requires management that is able to define problems precisely and to get them answered rationally. Consultants are not miracle workers: good consulting can help good network management, but good consulting cannot rescue poor network management.

Many experts believe that minimal use should be made of outside consultants. Following the folk wisdom that a consultant is a person who borrows your watch to tell you the time, they argue that if management must know enough to define the problem, supervise the work and evaluate the recommendations and, furthermore, if the regular staff must be able to carry out the recommendations, then there is probably

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sufficient in-house expertise to do the whole job. These experts recommend use of consultants as a last resort, after all in-house efforts at tackling the problem have failed.

Others take a more charitable view of the benefits of consulting. Consultants can be used when there are severe internal management problems, when staff is too pressured to take on more work, when an independent outside review is needed, when highly specialized expertise is required for a short duration, and, finally, when an outside group is needed to tackle an issue too controversial to assign to permanent staff. One can envision network conditions that fit all of these instances.

Despite these diverse opinions, there is unanimity that effective use of consultants requires a well-defined work statement, an agreement on deliverable products (reports, computer programs, data analyses, forms, etc.), review points, schedule and fees, and the requisite staff for monitoring the effort. Ideally, consultants will be selected because their formal training, work experience, and prior consulting match the job at hand. Fuchs has pointed out that when consultants are engaged for assignments outside their basic area of competence, they are forced to rely not on knowledge, but on common sense and methodology (the bag of tricks), with perhaps only marginal results.<sup>22</sup>

Networks are affected by all of the above issues. Frequently, network staffs are small and overworked, face complex problems, have inadequate research and development budgets and, frequently, governing boards that are not technically oriented. Further, the body of skilled library network consultants available to cover the range of specialized tasks indicated in the above list is virtually nonexistent in comparison to general management consulting. Frequently, regulations may require use of low bidders. A poorly prepared work statement, an overview committee that itself barely understands the problem, or an inappropriate consultant is certainly going to result in a product that no amount of postconsulting effort can make good. Because of the limited availability of funding for network studies, it is beneficial to all if each effort is managed with competency.

An interesting view is expressed in a brief article in *Purchasing* which argues that consulting performance will improve if everyone involved treats the effort as a bona fide agency purchase with all the rigor that any major purchase involves.<sup>23</sup> They recommend that the scope of the project, the benefits which the client expects from this purchase, the tangible products, and the costs be clearly understood. This simple concept, if followed, should result in more consultant reports that are circulated and not filed away. Besides, it isn't so easy to

file away network reports; too many are aware of the effort. Foreknowledge of wide dissemination, coupled with sound purchasing efforts from the cooperative dollar, will obviously not be sufficient to guarantee good results, but will probably lead to more rigorous planning and more strenuous efforts to stave off complete disaster.

### *Evaluating the Consulting Effort*

Assuming that the satisfied client does not want to have just a rubber-stamp consulting effort, a good work effort should include solutions to the problems defined in the work statement (to the extent possible), rigor of analysis, creativity, and clarity in presenting recommendations. We often want to evaluate the efforts done for other clients. Evaluation is difficult if key evaluation criteria are missing. What did the work statement call for? What resources were provided? What was the total cost, or, failing this, what manpower was expended? What data were made available and what constraints existed? Were certain conditions or assumptions given to the consultant? What time was allotted? Is the report released as the consultant submitted it, or has the client made significant alteration, and if so, where?

The general failure to provide this information in the final report is deplorable and especially so when public money is involved. These data would help networking by adding to the substantive body of information that can be evaluated and upon which subsequent efforts can build.

As networks increase activity, as state and federal agencies step up network support, and as the post-White House conference era begins, we will probably see increased use of consultants. The consultancy will continue to play a role in shaping our perception of networking and in expanding network services. Therefore, we must demand better data for judging consultant performance. We need to hold networks and agencies accountable for the caliber of network consulting efforts they sponsor. We should press for more review and evaluation of the consultant literature in the professional press. These actions should improve the quality of network consulting efforts for the benefit of clients, consultants, and network constituents.<sup>24</sup>

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