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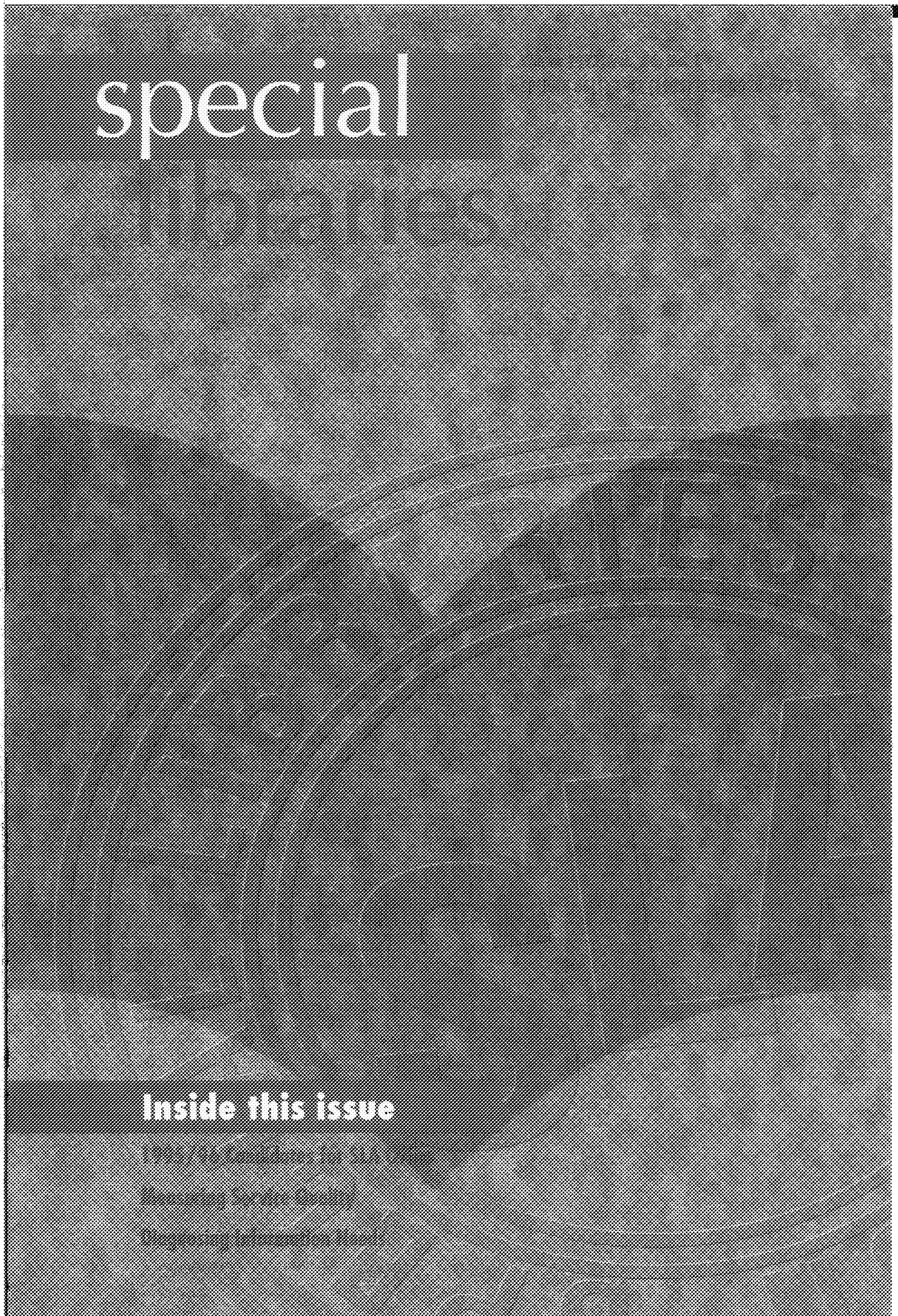

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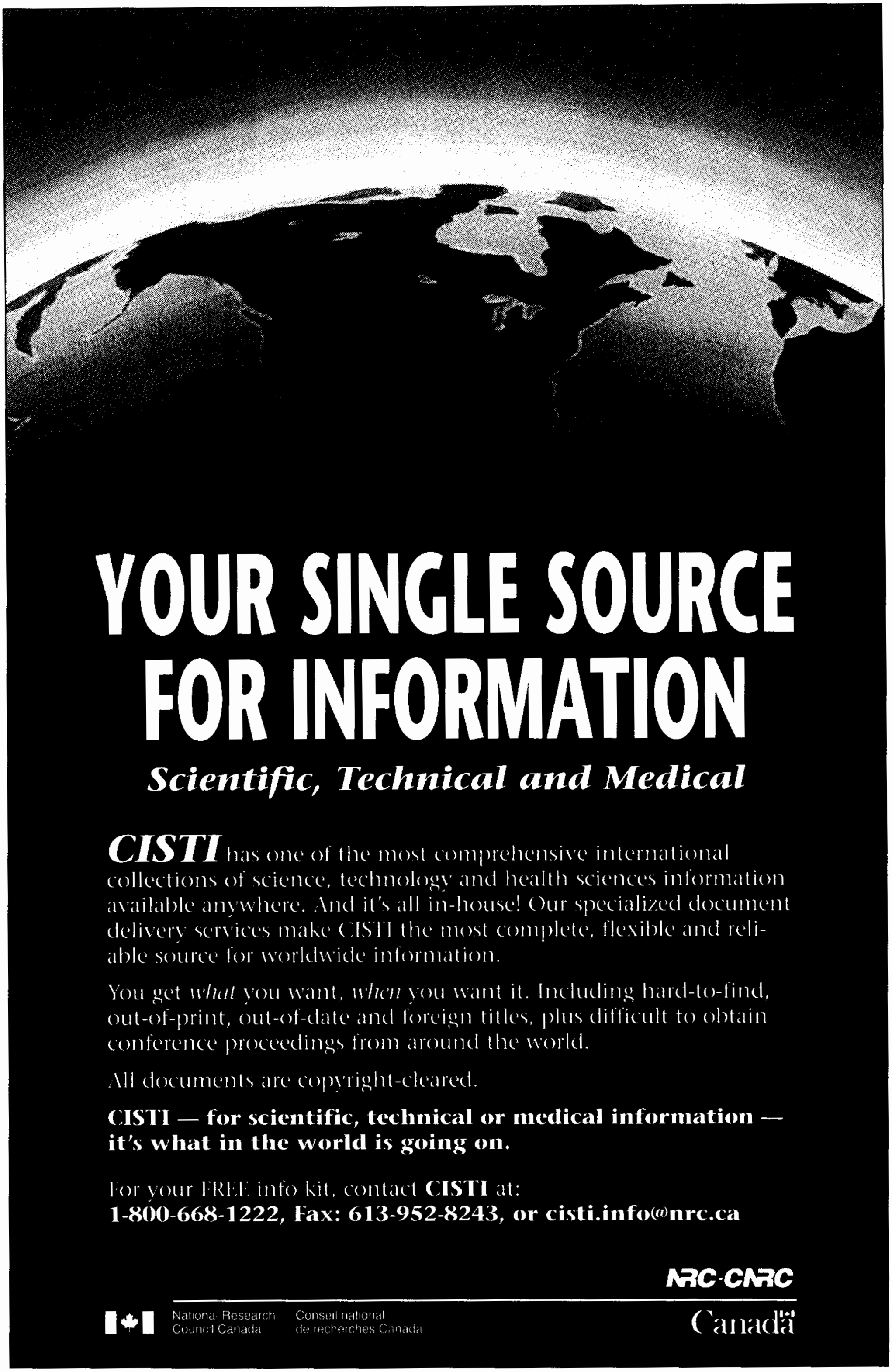
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Toward Better Information Service: Diagnosing Information Needs

by Robert Grover and Janet Carabell

This paper explores the nature of diagnosis and examines concepts learned from an exploratory study of accomplished diagnosticians in the health professions. The role of any professional is that of diagnosing needs, prescribing or recommending a remedy which meets those needs, implementing that remedy, and evaluating the outcome of this interaction. Diagnosis enables the information professional to understand the client's information needs in order to customize information packages and services to address those needs. Techniques for conducting an effective diagnosis are described.

• Ce document explore la nature du diagnostic et examine les concepts appris lors d'une étude exploratoire par des diagnostiqueurs accomplis dans le domaine des professions liées à la santé. Le rôle de tout professionnel est de diagnostiquer les besoins, de prescrire ou de recommander un remède qui satisfasse ces besoins, de mettre ce remède en application et d'évaluer le résultat de cette interaction. Le diagnostic permet au professionnel de l'information de comprendre les besoins d'information du client afin de procurer des progiciels et services personnalisés qui s'adresseront à ces besoins. Les techniques pour effectuer un diagnostic correct sont détaillées.

• Este artículo investiga la naturaleza del diagnóstico y examina los conceptos aprendidos en un estudio exploratorio de especialistas experimentados en el diagnóstico en las profesiones de salud. La función de cualquier profesional es la de diagnosticar las necesidades, recetando o recomendando un remedio que las satisfaga, haciendo efectivo dicho remedio y evaluando los resultados de esta interacción. El diagnóstico permite que el profesional de información comprenda las necesidades de información del cliente para poder personalizar paquetes y servicios de información que respondan a dichas necesidades. Se describen técnicas para realizar un diagnóstico efectivo.

Our swift progression into the information age presents information professionals with the daunting task of managing an abundance of diverse resources and clientele. As information needs become more complex and information sources become more elaborate, new approaches must be found to ensure the ongoing provision of customized information services. The use of systematic diagnostic skills improves the match between the client and the appropriate information sources and systems. When attempting to meet individual needs, librarians and other information professionals can diagnose to better match the client with the appropriate information sources and systems. Applying diagnostic methods to information services will enhance outcomes and further promote the vital role of the information professional within an organization.

Diagnosis includes techniques usually employed in the "reference interview" and also techniques which probe the unique needs of specific clientele. Identifying clients' distinct requirements enables the professional to tailor services to the user, resulting in a repeat clientele of satisfied customers who value such specialized attention.

This paper explores the nature of diagnosis and examines concepts learned from an exploratory study of accomplished diagnosticians in the health professions.

Through this study the authors hoped to gain insight into the nature of diagnosis in order to understand how diagnosis techniques apply to the work of information professionals and learn how to extend the reference interview into an encounter which will enable better customized information service.

Diagnosis—What All Professionals Do

Information professionals, like professionals of any kind, possess knowledge which enables them to offer a professional service. The role of any professional is that of diagnosing needs, prescribing or recommending a remedy which meets those needs, implementing that remedy, and evaluating the outcome of this interaction.[1,2] This process is accomplished at two levels—with individuals and with groups. (See Table 1 below). Whether applying this process to an individual or group, a critical component is the diagnosis of individual needs, preferences, and cognitive style. For a more complete description of this process, the reader is urged to read Grover.[3]

Diagnosis and the Reference Interview

The professional literature in library and information studies identifies the interdependency of the professional/client relationship that exists when attempting to satisfy information needs. The viewpoint often implied, however, is that it is the client's responsibility to diagnose and to identify needs correctly during a reference interview. Kuhlthau notes that the library profession has successfully created information systems which enable the effective storage and retrieval of information; however, the profession has promoted values which favor information packages. Kuhlthau (1993) describes this value system as follows:

> This bibliographic paradigm of collecting and classifying texts and devising search strategies for their retrieval has promoted a view of information use from the system's perspective. Information retrieval has concentrated on what matches the system's representation of texts rather than responding to users' problems and process of information gathering. (p. 1)

Perhaps reacting from this perspective, information professionals may become frustrated when their clients are unable to articulate their needs, yet clients should not be expected to know what to ask. This is analogous to the physician's expectation that a patient will not know the cure for his/her medical problem, but rather that the patient will help to provide valuable clues that lead the physician to an appropriate remedy.

Furthermore, Kuhlthau (1993, p. 3) notes that information professionals often view information "as a thing or product to be given out, the right answer and the right source, rather than for learning and changing constructs." This viewpoint removes the certainty that the information provided to a client is the relevant or "right" information. When an individual is involved in the process of learning or

Table 1

Cycle for Service Design	
FOR INDIVIDUALS	FOR GROUPS
Diagnosis	Analysis
Prescription	Recommendation
Treatment	Implementation
Evaluation	Evaluation

becoming informed, Kuhlthau asserts, "What is relevant at the beginning of a search may later turn out to be irrelevant, and vice versa." (p. 3) Consequently, the information search process should be considered dynamic, personal, singular, and uncertain. Thus, proper diagnosis views the information need within the context of the client's whole environment, rather than isolating the need from the context of the client's intended information use.

Recent information science research acknowledges the uniqueness of each user, the complexity of the information search process, and the importance of examining clients' situations individually and holistically.

Dervin and Dewdney's situation-gaps-uses model[4] suggests that the information professional must discern the situation in which the information need exists, the gap of missing knowledge, and the context of the information use in order to accurately assess needs.

White[5] distinguishes between the traditional and holistic approaches to reference processes with two models. Her Question-Oriented Model assumes that intermediaries formulate search strategies based upon the user's initial question. The Needs-Oriented Model, on the other hand, assumes that intermediaries must help users clarify questions.

Kuhlthau's Information Search Process model[6,7] acknowledges the user's sense of inadequacy in defining needs and identifies varying cognitive and affective stages that occur during the search process. Kuhlthau asserts that "user uncertainty may be anticipated by systems and intermediaries in order to improve information provision in the early formative (search) stages."[8]

These models suggest a proactive diagnostic role. Ten health care professionals, including two physicians, one social worker, one psychologist, two dentists, two optometrists, and two nurses, responded to a series of predetermined questions during individual interviews. A list of the questions is included in the appendix on page 8. All participants were asked about the nature of diagnosis, how they complete a diagnosis, how they learned the process, how they evaluate the diagnosis, and how they continue to improve their diagnostic skills. Answers were recorded on audio tape, then transcribed and analyzed for similarities and differences. A discussion of interview results and the nature of diagnosis follows.

Diagnosis is a Creative, Problem-Solving Process

Findings from the study reveal that there is no one correct method for diagnosis—the systematic methodologies employed are determined on an individual basis, defined by the client's unique problem, contexts, and desired outcomes. Diagnosis evolves as the professional and client work together to define and treat the problem. A psychologist explained diagnosis in these words:

> The diagnosis is a working hypothesis, it's not a final determination of what the problem is... The diagnosis' ability to get you a treatment that works for the client is probably the best test of its effectiveness . . . It's a flexible, open-ended process. It isn't fixed. You don't come up with a diagnosis and say "that's it." It's an ongoing information gathering kind of thing, and you gather a lot of information during the treatment process, as well as during the evaluation process.

Study participants were in agreement that the foundation for diagnosis is a knowledge base. A dentist explained:

> You gather information based on science. After you get all of this information as you go through school, you pool everything together and . . . it's through a culmination of all that knowledge that you start to learn differential diagnosis. I think it is just years of schooling and years of practice that puts it all into effect.

Although diagnosis has a scientific base, the professionals we interviewed spoke of the creative nature of diagnosis. Knowledge, skill, and intuition merge to form an artistic diagnostic tool. As a physician pointed out, one must have the knowledge base first, but as she termed it, there is a "leap of understanding" that occurs based on the knowledge the diagnostician has and that is triggered by the observations and results of the diagnostic interview.

A nurse acknowledged the importance of a knowledge base and data-gathering, especially through the use of sophisticated technology, and then added, "Yet those of us who have been in nursing a long time know there is an art. By that I mean you seize the moment, if you will, and sort of intuitively respond to what is going on."

Diagnosis is Client-Centered

Understanding the client's view of the presented problem is essential to the diagnostic process. When asked about the client's role in diagnosis, a dentist said that it is "absolutely critical . . . I think the essential thing is just listening to the patient. I think that's the key."

Diagnosis begins with a data-gathering interview. Through discussion with the client, the professional gains a sense of how the problem began, how the client perceives the problem, how the problem impacts the client's life, and what type of solution the client seeks. During this process, it is important for the professional to develop rapport with the client, to keep an open mind, and to avoid the tendency to predict answers and outcomes. Here, the professional's role is to approach the problem from the client's perspective, evaluating and clarifying the problem and its context as the client articulates it. An optometrist stressed that "you have to look at the person and figure out where they are in their lives. You have to have them open-minded when they're discussing their problems, and you in return have to be very open-minded in talking to them about it." A dentist remarked that when listening to client input, "The hardest thing to do is to kind of just stick your hands behind your back and say: 'Okay, talk to me. Tell me about what's going on.'"

Verbal accounts and non-verbal demeanor are carefully observed for discrepancies and clues. The psychologist we interviewed said that in diagnosis, "You look for nonverbal behavior a lot because it will communicate as much as spoken language or written language many times." He also stressed the importance of approaching the problem from the client's perspective, stating that:

> A diagnosis . . . is a process of collecting information in a number of areas. You want to know about the relationships between the individual and other people, and you want to know the context in which the individual is interacting, and so you try to collect data in all those areas.

Diagnosis is a Holistic Process

Diagnosis is a recursive process and the client interview is one element of the data-gathering process. The interview serves as the basis from which other inquiries and prescriptions are suggested. An internist said that ". . . as you talk you can listen to their symptoms and that can help guide to where you go next, what you do next."

Diagnosis cannot be taught as a recipe. While there is a scientific basis for diagnosis which the diagnostician must master, it is learned effectively through experience, mostly because it is a holistic, creative process. It is so holistic, in fact, that experienced practitioners have difficulty separating the diagnostic process into parts. The process is interactive, where the presented problem and possible solutions are continuously discussed and reevaluated. The social worker said:

> It (diagnosis) isn't just a one shot deal because getting a diagnosis is all part of the treatment. It isn't just pulling stuff out for your use; it's using that (data) as you go for the benefit of the client.

In summarizing the participants' comments, the following generalizations on the nature of diagnosis can be made:

1. Diagnosis is a systematic process used for examining problems.
2. The foundation for diagnosis is a knowledge base.
3. Diagnosis is determined on an individual basis.
4. Proper diagnosis views problems from the client's perspective.
5. Diagnoses must be continually evaluated.
6. Diagnosis is holistic, combining theory, skill, and intuition.
7. Diagnosis, because of its complexity, is an art.

Elements of Diagnosis

The above generalizations, combined with the findings from the professional literature, provide a framework for conducting a diagnosis. Strategies can be employed to help new professionals learn diagnosis and to help experienced practitioners improve their techniques. Different approaches to the diagnostic process will vary according to the information professional's role and the type of client served.

A successful diagnosis is accomplished (1) by establishing a comfortable client-professional relationship, (2) by determining the context for the information need, (3) by determining the information use preferences of the user, (4) by ascertaining limitations the user may have, and (5) by continuously evaluating the effectiveness of the diagnosis in identifying and addressing the information needs of the client. The elements of diagnosis as applied to information work are noted in Table 2 on page 6 and briefly explained below. For an in-depth discussion concerning the processes and elements of diagnosis, see Grover and Carabell.

Establishing a Comfortable Relationship

An effective diagnosis begins with a comfortable client professional relationship. Developing rapport from the outset helps the client relax and encourages open communication. This can be easily accomplished by presenting an amiable demeanor, engaging the client in easy conversation, and truly listening to the client's concerns. While learning scores of names can be difficult, addressing people by name tells them that we care about them as individuals.

Demonstrating positive nonverbal communication is also important in establishing a favorable setting, as is providing as much privacy and individual attention as possible. In a busy environment, stepping away from the "crowd" creates some privacy and sets the stage for positive interaction.

Although many interviews are conducted informally (in book stacks, over the telephone, between meetings), some interviews are conducted in the professional's office. In these instances, care should be taken to create a comfortable, inviting ambiance. Furniture, plants and arrangements should convey an openness that encourages the client to relax and communicate easily.

Determining the Context

After establishing a rapport and a comfortable environment in which to conduct a diagnosis, the client's information needs must be established. Here, the professional's role is to ascertain how the client perceives the problem and how s/he is impacted by it. Understanding the client's intended uses of the information and expected outcomes helps to provide a customized information package. While a client's basic information needs may be familiar if the professional has worked with the client before, it is important to remember that each new problem creates new demands and new criteria.

Improving one's questioning techniques can be fruitful in discerning information needs. Open-ended questions elicit a more detailed response, allowing the client to describe the situation in his/her own terms. Examples of open-ended questions are "How may I help you?," "What kind of information do you need?," and "How will this information be put to use?"

Dervin and Dewdney[24] recommend using neutral questions as a more productive type of open question, explaining that open questions can elicit responses that are irrelevant to the interview, while neutral questions may guide the interviewer to better understand the client's point of view. The intent is to understand how the user will "make sense" of the information.

Using Dervin and Dewdney's model, the professional tries to determine (1) the situation in which the client is operating, (2) the gaps in information needed in the situation, and (3) the client's expected uses of the information. "In all cases, the neutral questions are open in form and structured in content terms that invite the user to talk about specific elements—situations, gaps, uses."[25]

The following (on page 7) are examples of neutral questions:

Table 2

Elements of a Diagnosis	
DIAGNOSTIC PROCESS	ELEMENTS OF THE PROCESS
Establish a comfortable relationship with the client	Put the client at ease: • Use positive nonverbal communication • *Show interest in the client* • Listen to the client's concerns • Create an engaging physical environment
Determine the context for the information needed	Ask open, neutral, and closed questions to determine: • *How the client perceives the information need* • What knowledge the client seeks to gain • How the client intends to use the information • Where the client is in the search process • *Outcomes expected by the client*
Determine the information preferences of the client	• *Preferred format* • Special requirements • Learning style • Information seeking style
Ascertain the client's limitations	• Time • Cost • Availability
Evaluate appropriateness of the information located	Elicit client feedback on: • Congruity between client and information professional of perceived need • Relevance of prescribed information to context • Expectations for information that remain unfulfilled

To assess the situation:

• Tell me how this problem arose?

• What are you trying to do in this situation?

• What happened that stopped you?

To assess the gaps:

• What would you like to know about X?

• What seems to be missing in your understanding of X?

• What are you trying to understand?

To assess the uses:

• How are you planning to use this information?

• If you could have exactly the help you wanted, what would it be?

• How will this help you? What will it help you do?[26]

Using a combination of neutral and closed questions is a means to be more systematic in the diagnostic process. Neutral questions help the professional avoid the pitfall of making premature judgments about a client's needs based on the professional's experience, biases, or history with that client. Closed questions will further refine the professional's understanding of the client's information need.

Another element of the diagnosis is to examine, if possible, the environment or "culture" in which the client operates to better understand the client's setting and work habits. If the client is gathering data for others, those people should be consulted as well. Examining previous projects the client has worked on may further clarify individual styles and preferences.

Determining Preferences of the User

Each client has unique preferences for using information. Determined by learning or cognitive style, an individual may prefer a particular format for information, e.g., oral, written, or pictorial; or abstracts rather than full-text. Individual preferences may also dictate when the person would like to have the information, if they prefer to search for the information themselves, or if they would like the information delivered to them. Discussing what information is not desired and what information has already been found will further narrow search parameters. Many clients are not accustomed to thoroughly discussing their information needs with others or are unable to accurately define their needs. One role of the information specialist, through diagnosis, is to work with the client to identify and understand such preferences in order to properly diagnose needs.

Determining the Client's Limitations

In addition to the individual preferences of the client, he or she may have other limitations that will impact the information specialist's work. These may include the availability of the needed information, the time frame for completion of the project, and, of course, the cost. These variables should be determined during the diagnostic interview.

Evaluating the Diagnosis

During the diagnostic process, the professional must continually assess the presented information need in terms of the client. While directing questions, the professional formulates strategies and frequently evaluates the accuracy of his or her understanding of the client's needs. While this evaluation can be as simple as asking, "How are we doing?", evaluation should include careful analysis of nonverbal communication as well.

When conducting a diagnosis, it is important to remember that client interviews are just one source of information. Data collected through observation, testing, and continual evaluation of the prescribed treatments are integral components of the process. Diagnosis is recursive and new approaches are explored as the focus changes and evolves.

Conclusion

Improving diagnostic techniques leads to more complex and holistic approaches to information services. While the reference interview, in traditional practice, isolates expressed user needs in an effort to match the client with existing information packages, diagnosis considers how the individual interacts with the system and recognizes the importance of the client's whole context to an information need. In a search for information that begins with a careful diagnosis of need, the information professional takes on a partnership role with the client in order to arrive at a best match as perceived by the client. By doing so, information professionals are better able to accurately assess needs and sustain their roles as vital links in an organization's information infrastructure.

APPENDIX

Diagnosis Interviews

1. What is diagnosis in your field?

2. How did you learn diagnosis?
   a. Did you have courses? What kind?
   b. Did you read? What sources were most helpful?
   c. To what did extent did you learn diagnosis in an intern situation?
   d. How do you continue to improve your diagnostic skills?

3. How do you view the client's role in diagnosis? How open are you to client questions and input? How important are clients' questions to the diagnostic process?

4. How do you do a diagnosis?
   a. How should questions be asked?
   b. What kinds of questions should be asked?
   c. What is the importance of nonverbal cues in diagnosis?
   d. What nonverbal cues do you look for?

5. How are you able to encourage clients to interact/open up with you? In other words, how do you help people be more forthcoming?

6. What other kinds of data gathering, e.g., tests, do you use?

7. What additional aspects of diagnosis are important? Why?

8. What is the relative importance of each?
   a. Verbal questioning
   b. Nonverbal communication
   c. Tests, etc.
   d. Other

9. How do you evaluate the effectiveness of the diagnosis?

10. What else would you like to say about diagnosis, i.e., what did I not ask that I should have?

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Why Corporate Librarians Must Reengineer the Library for the New Information Age

by Sylvia E. A. Piggott

• *Nous entrons dans une ère d'information où la technologie de validation permettra de livrer l'information sous forme d'un service sans coutures ni bordures qui pourra être utilisé par les clients locaux ou éloignés. Ce document examine pourquoi les bibliothèques en général, et la bibliothèque d'une société en particulier, doivent mettre en application un nouveau génie logiciel afin de prendre la place qui leur revient dans l'ère nouvelle.*

• *Estamos en los umbrales de una época de información cuando la tecnología habilitante permitirá que la información se entregue como un servicio sin costura ni límite que será utilizado inmediatamente por clientes locales y remotos. Este artículo explica porque las bibliotecas en general y la biblioteca corporativa en particular deben rediseñarse para tomar su posición legítima en la nueva época.*

We are entering an information age in which enabling technology will allow information to be delivered as a seamless, borderless service to be used immediately by local or remote customers. This paper looks at why libraries in general, and the corporate library in particular, must reengineer to take their rightful place in the new age.

Introduction

We are entering an era where businesses and professions are reengineering and restructuring as a consequence of the exponential leap in information technology. This reengineering and restructuring, some believe, will lead to vast improvements in customer-valued productivity, optimization of businesses, and competitiveness. The corporate world expects products to be delivered faster, using more flexible manufacturing and distribution processes with the ability to get products anywhere, 24 hours per day. In this kind of environment, information professionals, especially in the corporate world, must also be looking for ways to optimize their services by reengineering and restructuring. Corporate library managers, to keep in sync with this kind of performance, must reengineer their libraries or information centers to deliver information using the most cost-effective electronic tools and products available in the industry. In addition, the library or information center must seek to exist as a borderless service, a place where information can be sought wherever it exists and used immediately by local or remote customers. Business information professionals must make the adjustment as, except in rare cases, only real time information will be valued as a competitive tool.

These are some of the fundamental realities that are reshaping the global information industry in particular and the business environment in general. This change has been largely due to the vast improvements in the technology which drives information access and delivery.

The Superhighway and Other Developments

One of the major change agents which will have a profound effect on the way libraries reengineer to meet the challenges of the information age is the information superhighway. It dominates both the popular news media and the intellectual media, and promises new ways of communicating, new delivery systems, and new ways of doing business.

In preparation for this new era, many regions are laying fiber optic cabling which will satisfy the need for high speed delivery of information services to the home, office (both conventional and unconventional), government, and private institutions. The pioneers in the use of this technology are already delivering major services remotely via fiber optics or other communication methods. For example, online virtual reality training and interactive learning systems using multimedia are already delivering training to remote sites of multinational and national corporations. It is reasonable to expect that library and information services will be delivered in a similar way.

In Montreal, PQ, Canada, Virtual Prototypes Inc., in partnership with the ADGA Group and Hydro Quebec, has launched a $26 million INTERFACE project to develop leading-edge training technology that will provide online training at the exact time and place it is needed to support the individual and the company. The corporate library must be structured to deliver information services in a similar way. If librarians fail to move in sync with these developments or fail to input to and impact these systems, they will find themselves at a serious disadvantage in the marketplace as these developments have a real impact on the future of their business and profession.

Another external force affecting the development of the information superhighway is the "personal digital assistants" (PDAs) which allow users to tap into information from anywhere at any time. PDAs generally combine hand-writing and drawing recognition, free-form database management, communications, some artificial intelligence, and voice recognition. Future PDAs will manage e-mail addresses and fax and phone numbers so that users can merely tap on the screen, triggering the device to send a message with very little intervention on the part of the user.

It is estimated that by the year 2000, half of the computers sold will be PDAs. Rather than replacing desktop computers, they will complement them, creating virtual offices by giving mobile users remote access to files and databases. Computer technology companies such as Apple, Toshiba, and Compaq, to name a few, are investing in the development of this equipment. This being the case, it is imperative that the information professionals ensure that some of these databases hold information generally provided by the library.

Information Providers

How are information providers reacting to the information superhighway? Many mergers involving billions of dollars as well as strategic business alliances are taking place in the information industry, underlining the seriousness of the players in this field. These players believe that vast new markets for information products and services will be opened. For example, Sony, Microsoft, and Phillips have collaborated in developing multimedia CDs that can be played in audio players as well as on computer CD-ROM drives (*Wall Street Journal* 10/17/94; p. B5), and Rogers Cable has made a $2.0 billion offer to take over McLean Hunter's cable and publishing assets—the deal is still awaiting approval of regulatory bodies. Furthermore, Time Warner and TCI, the two biggest U.S. cable operators, have teamed with the Japanese video game maker SEGA to create the SEGA channel; and U S WEST, a Baby Bell telephone company, purchased 25% of Time Warner's entertainment division.

The convergence of hardware, software, and networking technologies are making the information superhighway possible. However, one of the critical success factors in making the information superhighway work for all concerned is interoperability—that is, the ability to move data smoothly along the highway despite the operating system which is sending or receiving the information. Competition for a piece of the pie will lead to the development of information networks which are unable to connect with each other because of different standards. First of all, committing to standards has never been easy in the industry. Now, in this competitive environment, each player wants to be the first to bring his product to market, with little regard for standards. However, if there are several standards used on the information networks, consumers will demand interoperability, much as they did in the case of many of the proprietary office automation software. An open system encompassing domestic and world standards will be necessary.

The Internet began in 1969 as ARPANET, a network developed by the Advanced Research Projects Agency (ARPA) of the U.S. Department of Defense to aid in the sharing of information and resources among researchers. By 1983 ARPANET evolved into the Internet, the first information superhighway, with added networks and gateways, and it has grown exponentially since then. Now, in addition to being the United States' national research network, the Internet also provides information access to libraries worldwide, to specialized interest groups, and to certain selected private industries and companies. It will play a key role in this new information age. Currently, many corporate libraries are using the business sources on the Internet on a daily basis, such as the EDGAR (American Securities and Exchange Commission filings of America's largest corporations) database and Canadian and U.S. Federal Government information. Several commercial online databases such as DIALOG, America Online, and CompuServe, are also available via the Internet. At the same time, however, the Internet backbone is changing and is opening up the network to a new class of users. Soon, the Internet will bring information into the same devices people use to view videos or to make phone calls. The thousands of Internet data servers and news groups, offering virtual community and free information ranging from government statistics to images of industry performances, will be available from the office or living room through the same user interface used to conduct a video conference or order a pizza.

Network Management

As organizations become increasingly dependent on information transfer enabled by advanced technologies, network management will become more important organization-wide. Products that work to industry standards are critical to the management of networks; information products which libraries use should be developed to meet these standards. Information professionals must ensure that they manage relationships with vendors who are developing the technology which impacts their services. In this way, they will be able to provide input into the standards they require to perform their responsibilities effectively. Information professionals wishing to take responsibility for library automation should also develop some expertise in the network management area in order to ensure that automated library services are maintained at an optimum level.

At this time, with the exception of some high-tech companies, most corporations do not have the necessary electronic connections to allow information to be provided in an easy, cost-effective way to all staff. Once this is rectified, the limits to the information that can be provided are virtually boundless. When the appropriate technology is in place, information services can be supported from one central location, and an organization can then move to a fully centralized information system where staff can acquire information of all kinds, both internally and externally produced. When all the pieces are in place, the trained information professional's main value will be in selecting, evaluating, and acquiring information required to do business and providing the training necessary to access and filter the information to achieve precision retrieval in a fast, accurate, and effective manner. This approach gives the organization the best of both worlds—decentralized access with centralized acquisition and management.

Information professionals in corporations lacking the necessary technology must at least know that the technology exists as well as how it can be used to improve the access and distribution of information.

User Friendliness

It is said that about 45% of VCR owners in North America cannot program their machines to make a delayed recording. This being the case, how can they be expected to derive a full range of benefits from the information superhighway? To achieve full benefits, user/computer interfaces will have to be much friendlier in the very near future than they are today. Doug Trent of IBM coined the phrase "Human-Centric," meaning that information technologies must be designed from the perspective of the people who will use them. "Human-Centric" systems are not yet commonplace. We will achieve human-centric standards when machines can understand our communications nearly as well as our colleagues do.

Although technology is advancing rapidly, it would be terribly shortsighted and naive to expect that simply dropping better technology into the hands of workers can provide them with the in-depth and intuitive value which the trained information professional brings to the job. This is especially true for now and the foreseeable future since there are no agreed upon standards for accessing the information or delivering it, and because the information is scattered across several systems in a variety of media. Another obstacle is that not all of the information required is available in machine readable form. In addition, the vast majority of information consumers are lacking education that emphasizes technological training; therefore, they must be brought up-to-date either by their employers or though their own initiatives.

Middleware or interfaces will have to be developed which will make visible and easily navigable the hypertext links implicit in the web of systems from which information of all kinds will be gleaned. A good example of middleware accomplishing this task is Mosaic, developed for the National Center for Supercomputing Applications in Illinois. Internet in a Box developed by Spry, Inc. in Seattle, WA, is another effective middleware. Corporate libraries and corporations in general will have to be structured and equipped to exploit these tools as access to such information is going to be a highly sought after commodity. Everyone will have access to the information but those with the experience in how to access and distribute it speedily and cost-effectively will profit from the information.

Success Rate of Reengineering

Research into reengineering projects in more than 100 companies in the United States and detailed analysis of 20 of these projects have revealed how difficult redesigns are to plan and implement, and how often they fail to achieve real business-unit impact. Two reasons for this are: (1) the process to be redesigned is not broadly defined in terms of cost or customer value and, (2) the redesign does not penetrate to the company's core, thereby changing roles and responsibilities, measurement and incentives, organizational structure, information technology, shared values, and skills. In other words, the culture must change to accept the new processes in order to achieve the benefits of reengineering. Research validates this belief, as it has been found that only about 15% of reengineering attempts are successful.

When corporate information professionals start to reengineer the library, they must not be discouraged by the slow rate of success experienced, as a major paradigm shift will be taking place. Everything that the library does will be examined against some very strict and current business and professional measures. The important thing is to learn along the way and conscientiously improve the reengineering process. In the first place, information professionals must clearly understand why the shift is necessary and have a good understanding of where the library is heading. In addition, customers must be involved along the way. In order to achieve paradigm breakthroughs, the information professionals must also establish stretch goals—goals that seem impossible today and can only be achieved by challenging current assumptions about the profession and its processes. Information professionals must be prepared to slaughter some sacred cows in the reengineering process. That is, they must eliminate activities which have become endemic in the profession but which add no value to library services or the profession.

Improving Employee Performance

What effect does reengineering and improved technology have on the productivity of the information professional? Information technology companies are constantly improving the technology for information storage, access, and delivery. The PDA, which has the ability to seamlessly tap into several points along the information highway—company product databases, inventory files, order desks, and industry databases—is one wireless response to information access. Field technicians, stockbrokers, and telecommuters in a variety of industries and institutions will use these devices to access information with no intervention from the information professional. With the developments in information technology, it has been said that by the year 2010, face-to-face interaction will be largely unnecessary to carry out a job. The PDA is one piece of equipment which will keep 'flexiplace' and 'flexitime' workers connected to the information required to conduct business. The information professional must be equipped to work in this environment in order to contribute to the strategies, goals, and objectives of the parent organization.

Consider this scenario: bank account manager John Profit is out on the road visiting a client, Mary Cash, who just got a hot tip about what she considers a great investment deal and would like the bank to fund the venture. Profit huddles with Cash over a PDA that is connected wirelessly to the bank's library services. As they talk about the deal, Profit assesses the risk of the investment by querying the various business databases which librarians have evaluated and acquired for this purpose. Colorful graphs show that the risk on this particular deal is minimal; moreover, it is likely to show an above average return on investment within two years. Profit is sold on the idea and approves the loan for Cash within an hour. He prints out a copy of the loan agreement by sending a copy to Cash's fax machine. Before he leaves, Profit requests another meeting with Cash in six weeks. Cash reaches for her own PDA, points its infrared LED at Profit's and in moments they determine a time when both parties are available and confirm it in their PDA calendars. Profit can now call on other business prospects and repeat a similar scenario, doing business successfully, cost-effectively, and quickly.

This scenario will play itself out in many organizations now and in the near future and the corporate library and information center must position itself to provide service in this way.

Mobile Work Force

Another force which is driving the change to reengineer library and information services is the changing work force. Today's work force is increasingly mobile, as most organizations and institutions are implementing the 'flexiplace' and 'flexitime' concept. In addition, they are enabling their customer bases to have access to their services via advanced communication systems. Whether at their desks in the morning or on the road during the day or at night, mobile workers will need ready access to data and the library should be ready and able to meet this challenge through enabling technology. The information professional will be expected to amass relevant, cost-effective information and make it available to these telecommuters via the appropriate network and devices.

Reengineering at the Bank of Montreal's Libraries

Newspaper publishers have been offering online information services for more than 15 years. It has also been at least two decades since other online systems vendors have put thousands of information databases at our fingertips. Users in business environments are faced with a plethora of choices when seeking information. Some services overlap and many are of different frequencies and quality. Even if users wanted to, they could not sort through all of the available information in a lifetime. For this reason, an intelligent filter is required to glean only information that is of interest and relevant. The trained information manager utilizing the available technology can provide this added value.

The Bank of Montreal recognizes that information technology is at a level of development where electronic delivery of information to the desktop can be implemented in a cost-effective way. The bank has, therefore, started to implement virtual libraries within the constraints of its available technology. For the past four years, the bank's Business Information Centres have been selecting, evaluating, and making available information germane to the bank's business via its internal networks. The strategy is to provide information access to users regardless of time or place, thereby enhancing their productivity and business decision-making ability. For example, about 250 users access a real-time service called NewsEDGE, a service developed by Desktop Data in Waltham, MA. NewsEDGE provides access to more than 150 news sources such as newspapers, credit and financial wires, newsletters, and magazines around the world. NewsEDGE places over one million news stories which are at the fingertips of the bank's senior executives, including the CEO, president, and other senior officers.

Research Stations

In order to facilitate access to electronic library products, Research Stations have been installed in some areas of the bank willing to sponsor these facilities. From these stations, end-users perform simple research activities such as querying the CD-ROM services, NewsEDGE, the Internet, or the library's catalogue.

Workstations

In addition to the shared-access Research Stations, some individuals can also access desktop library products from workstations in their offices or from the End-User Workstations set-up in the Business Information Centres.

End-user Online Research

The Business Information Centres are in the process of evaluating selected online services which end-users can access themselves. A service such as DIALOG's outreach service, which was designed specifically to bring information directly to the desks of end-users, is a good prospect. DIALOG will provide user ids in blocks of 25 accompanied by quick reference cards, tutorial guides, subject guides, and flyers for publicity. The system has an easy-to-use menu system designed for the occasional user.

These are some of the ways in which the Business Information Centres have been reengineering to take advantage of available technology and to meet the bank's strategy of user self-sufficiency. However, as the demands on the client/server networks increase, cable transfer speeds at the work group level cannot keep up with the volume and size of information transfer demands. This challenge is slowing the pace with which the Business Information Centres can deliver information to the desktops of staff. Implementation of better delivery systems will require careful planning as well as the commitment of senior and executive management.

It is highly recommended that the plan to implement desktop libraries include more than the requirements of hardware, software, and networking tools. It must also include acceptance from end-users throughout the process. It is not sufficient to ask users if they want to be self-sufficient unless they understand what self-sufficiency means. To ensure their acceptance, the system should be prototyped and demonstrated to them so they can experience what the application will look like early in the process. This methodology will help the library or information center gain user acceptance and feedback and ensure the success of the new system.

Despite the slowdown in the reengineering process and the resulting challenges faced in fully implementing a library system which will result in user self-sufficiency, the organization's technology vision still includes delivery of information to the desktops of all employees and the bank is slowly laying the foundation for this to take place.

The Future

What will the future be like? Many of the players in the information industry are experimenting with prototypes of future high-speed network services. For example, the Interactive Cinema Group at the Massachusetts Institute of Technology Media Laboratory is developing an interactive digital movie system that would allow viewers to download videos to their homes and customize the movie by choosing one of several endings, or even filtering out the sex and violence scenes. In 1992, the National Film Board (NFB) in Canada launched CineRobothéque, a stand-alone video-on-demand service in Montreal, PQ. In over 20 cubicles at the NFB's viewing center, customers can select any of the nearly 800 films stored on laser discs and view them on the television screens there. It is expected that within two years the NFB will use fiber optic networks to deliver this service across Canada.

Electronic subscriptions will be commonplace as the superhighway develops and publishers see it as a viable medium for delivering periodical information. The convergence of the computer, broadcasting, and publishing industries into the multimedia sector has led many pundits to predict the demise of traditional newspapers and magazines. While this may be premature, a number of companies are already exploring alternatives to existing news and magazine formats. For example, *Newsweek* has launched a quarterly interactive CD-ROM video magazine, and online electronic news services are sprouting up everywhere. Knight-Ridder's Info Design Laboratory in Boulder, CO plans to launch an online newspaper which will resemble the old-fashioned newspaper. It will be delivered via a hand-held, keyboard-free computer. Knight-Ridder's vision is that consumers could subscribe to the electronic version or buy it at the newsstand. The difference is that they would receive the electronic version over the wire at night or purchase a memory card about the size of a credit card in the morning, which could be inserted into a hand-held device such as a PDA.

Conclusion

As far as transmitting information is concerned, borders no longer exist and Marshall McLuhan's dream of a global village dependent on information technology has become a reality. Three everyday household technologies—the telephone, the computer, and video—are being combined into one extraordinary medium which will carry the message or the information.

Electronic information highways of the next decade will offer new opportunities for users of information technology as they deliver an astonishing array of new services to offices and homes and change the way people work and play. Advanced networks will let students call up their homework electronically and do it on the screen. It will also let them attend classes without leaving their homes. Like telecommuters in the work force, they will expect to have access to library information without leaving their homes. An early example of this is a thriving, 100% computer-mediated educational program provided via virtual classrooms through the New School for Social Research in New York, NY, called Connected Education. In addition, interactive training programs and distance learning are becoming quite commonplace in the hospitality industry.

However, it is obvious that there is much to be done before the information superhighway replaces much of the job of the trained librarian/information professional. This being the case, librarians who are willing and capable of reacting to the paradigm shift by shifting their focus will thrive as they prepare for the new age of the information superhighway.

Librarians have a tendency to want to be all things to all people, a tendency which dilutes the effect of mission-critical work. The corporate librarian needs to get rid of much of what he or she does, become expert in the tasks that are valued and expand those services that are really mission-critical. It is also imperative that library educators make the shift by adjusting the curriculum to meet this challenge. If we do not make the shift—at least in the corporate environment—we are likely to hear the statement, "Who really needs libraries these days? Hardly anyone."

We are in the age of revolution, not incremental improvement, and special librarians and information professionals have a chance to reinvent the library and quality, value-added library service. Librarians cannot just react to the realities of today's information requirements; they have to influence them. This is obviously no simple task, but it places exciting challenges and opportunities before the information professional.

There is no going back—the world is heading in the direction of advanced technologies. More and more intelligence will be added to networks and transmission facilities. Where we work is becoming less relevant, and will become increasingly governed by the nature of the task at hand. The technologies available are poised to shatter any remaining limitations on flexibility, in the very near future. Information technology is placing complex functions within the reach of ordinary people, making them more and more self-sufficient. However, a vast increase in communication power is required to transmit data through the links that join the information superhighways being developed all over the world. As part of the reengineering process, organizations will have to decide to outlay the cost of acquiring this necessary communication power.

Information professionals with the right qualifications and the right attitudes will have a place in the reengineered information world. Like all major inventions, the information superhighway will profoundly alter society, perhaps in ways we cannot even imagine today. Part of this alternation will be in the way library services are delivered to the individuals in our society. However, no matter who controls the delivery systems into homes, businesses, and institutions, major technical, legal, and economic challenges remain for all involved before the information superhighway becomes as commonplace in our lives as the television or VCR.

So, while information technology providers and consumers are grappling with the development of the instruments of the new information era, information professionals have a small window of opportunity to take ownership of the information profession. Those who are in the process of acquiring professional certification must insist that the educational institution provides them with the skills which are necessary for the new age. Those who are already in the field must equip themselves through continuing education.

Finally, the library profession must be enhanced as a profession rather than simply as a service. If librarians can embrace the reengineering process and utilize it to improve their services, they will demonstrate their worth to the organization to senior management and will heighten the awareness of senior management of the caliber of the organization's information professionals. This may be one way information professionals can demonstrate their potential to sit in the executive board room alongside other professionals such as lawyers and chartered accountants.

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Three Years Experience With Fee-Based Services in a Corporate Library

by Priscilla Ratliff and Thomas J. Weeks

• L'expérience de la bibliothèque d'une société chimique de taille moyenne dans l'introduction et l'opération de services tarifés est analysée. En recouvrant une partie importante de son budget par le biais de la tarification des usagers, la bibliothèque a acquis de la crédibilité grâce à sa gestion axée sur les affaires. Le fait que les usagers « paient » les renseignements est la preuve suprême que la bibliothèque fournit des services de valeur. Depuis les trois années que les services tarifés sont en vigueur, l'utilisation de la bibliothèque a augmenté de 38% et un autre emplacement de la bibliothèque a été ajouté.

• Se examina la experiencia de una biblioteca de una empresa química de tamaño mediano al introducir y operar servicios basados en pagos. Al recuperar gran parte de su presupuesto a través de los pagos de usuarios, la biblioteca ha ganado credibilidad con la gestión de orientación comercial. El hecho de que los usarios "pagan" por la información es prueba esencial que la biblioteca proporciona servicios valiosos. Durante los tres años de operación de los servicios pagados, la tasa de utilización de la biblioteca ha crecido un 38% y la biblioteca ha abierto un sitio adicional.

The experience of a moderate-sized chemical company library with introducing and operating fee-based services is examined. By recovering a substantial portion of its budget through user fees, the library has gained credibility with a business-oriented management. Users "paying" for information is the ultimate proof that the library provides valuable services. During the three years fee-based services have been in effect, library usage has increased 38% and an additional library location has been added.

Background

As many American corporations downsize, corporate libraries are being closed or subjected to cutbacks. This is not surprising since it is difficult to demonstrate that a library is either cost-effective or operating efficiently. In fact, a survey of senior corporate managers by Special Libraries Association showed that two-thirds of managers either didn't respond or didn't know when asked which library services added value to the corporation.[1] Cost-effectiveness is especially difficult to demonstrate when a library depends on an allocation process for its funds. On the other hand, a fee-based operation allows the corporate customer to place a value on a service. The success of a fee-based library is a powerful demonstration to a cost-conscious management that the library is providing valuable services to the corporation. A presentation on taking the AT&T Information Resources Center public was given at the Special Libraries Association Annual Conference several years ago,[2] but little has been published on the long-term operations of fee-based corporate libraries.

For the last three years Ashland Chemical Company has generated financial support for its corporate library through user fees. There were several driving forces behind the decision to try this method of funding:

1. User departments, especially operating groups, wanted to have direct control over their current library expenses.
2. Any allocation system in which all departments in the corporation are required to support the library is inherently "unfair" to non-user departments.
3. Previous allocation systems had been arbitrary or based on historical usage of library services.
4. Establishing priorities for services had been extremely difficult for library staff.
5. Other support departments in the corporation were also directly charging for their services.

Ashland Chemical Company is a distributor of chemicals and plastics as well as a manufacturer of specialty chemical products and petrochemicals. Sales are approximately $2.5 billion and approximately 4,600 employees are located at almost 100 sites throughout North America. Employees of the Research and Development department and the manufacturing divisions are the principal users of library services, but support is provided to all domestic and international operations. A wide area network and dial access via modem provide most employees with searching/reading capability to the library's online catalog. As knowledge of these books, videos, journal holdings, training materials, safety aids, etc. has increased, a substantial increase in service requests from off-site locations is being experienced.

This article details the experience of three years of fee-based services at Ashland Chemical Company. Although not without difficulties, this project has been successful and has generated several unanticipated benefits. Now, the library is run like a small business, and staff are more focused on understanding the customers and providing customer service. Also, business managers and other customers recognize that the library is providing a value-added service and they are willing to pay for this service when they need it.

Budgets and the Fee System

At Ashland Chemical Company, departmental budgets include corporate allocated costs such as space, utilities, equipment depreciation, and support services. These account for about half of the library budget and are covered by management subsidy. The balance of the library budget is generated by user fees. The philosophy behind the fee schedule was to recover the cost of providing the service based on the library budget and to make the fees competitive with the prices that an outside source would charge. The actual fee schedule was developed from an in-depth analysis of the library line item budget to determine which line items directly related to which services, the identification of services that could be directly related to individual requests, and the numerical usage figures that had been kept for a number of years previously. The fees which were developed are charged to the user's departmental budget for the following services: journal circulation, literature and patent searches, monthly current awareness searches (Selective Dissemination of Information; SDI), patent or photocopies provided, translations arranged, and laboratory notebooks issued.

Fees include staff time as well as out of pocket expenses incurred in providing various services. Currently a rate of $95 per hour plus online computer costs is charged for online searching, SDI's, and special projects, which are defined as any service which would take four hours or longer to complete. The occasional non-Ashland customer is charged $125 per hour plus online computer costs.

The library staff consists of four full-time personnel, two exempt and two non-exempt, plus contractors and temporary personnel, which add up to another half-time staff person. All staff, including contractors and temporary personnel, are college graduates. Exempt staff have chemistry degrees; other staff have business or library science degrees.

Table 1 on page 23 shows the percentage increase or decrease in revenue for services in 1992 and 1993 compared with the base year 1991. Actual activity figures for work charged to customers in 1993 are also given. As corporate libraries have very different ways of budgeting their expenses, total dollars are not as meaningful as percentage changes. Since prices were not raised over the three-year period, the increased revenue is a direct indication of the increased volume of services provided. Total revenue increased 38% over the base in two years.

At all times during this period, departments had the option of obtaining library services from outside sources if they so desired or found them to be more cost-effective. There was no management directive that the corporate library should be used.

Journal circulation is the prime revenue generator for the library, comprising 45% of total income. In order to encourage use of this service and discourage individual subscriptions, departments are charged 75% of the library's subscription price for journal circulation. The charge is incurred for the first person in the department that requests circulation. There is no additional charge for additional readers from the same department. If a person from another department requests circulation for the same journal, that department is also charged 75% of the subscription price. Thus, the more departments using the same journal, the greater the library's cost recovery. Obviously, if only one department uses a journal, cost recovery suffers.

There has been no increase in journal circulation revenue even though journal subscription costs have increased substantially every year. This is because departments have carefully reviewed their journal circulation lists. Total journal subscription titles have decreased by over 23%.

Significant increases were seen in patent copies, photocopies, and searches. In the fee schedule, a flat rate is charged and no distinction is made between patents copied from the library collection versus those which are ordered from commercial services. The same is true for photocopies provided.

Following journal circulation, the largest revenue generators are searches and SDI's (current awareness searches). The charges for these include both the hourly staff rate as well as actual online costs. This hourly staff rate

Table 1

Changes in Library Revenue and Activity				
	1991	1992	1993	1993 Activity
Journal Circulation	base	17% decrease	base	320 titles
Searches	base	30% decrease	78% increase	492
SDI's	base	6% decrease	19% increase	636
Patents	base	116% decrease	139% increase	286
Translations	base	23% decrease	13% decrease	18
Photocopies	base	52% increase	111% increase	591
Laboratory Notebooks	base	17% increase	10% decrease	120
TOTAL	base	1% increase	38% increase	

was also developed during the budget analysis mentioned above and has served as a guideline when costing special projects as well.

Translations include actual costs from an outside translating service as well as a service charge. Blank laboratory notebooks are issued to research laboratory staff as requested. They are charged a flat fee which includes the cost of the custom printed notebook as well as some cost recovery for managing the laboratory notebook circulation system.

Advantages of Fee-based Services

The advantages of the fee-based system fall into several categories. First, the librarian's time is used more effectively. For example, prior to charging for photocopies and patent copies, secretaries and clerks would call when their supervisors needed documents copied. After the charge for copies was instituted, library professionals have been able to spend their time on professional activities, as the number of requests from clerical staff has dropped dramatically. Furthermore, journal charges resulted in a significant cutting of circulation lists, thereby ensuring that time is spent purchasing and circulating only relevant journals.

Second, a fee-based system allows priorities to be established. A number of search requests are withdrawn when the fee system is explained. Obviously, the requester does not place a high value on either the information or the librarian's time in this case. Previously, the information specialists had no way to determine relative priority of search requests, and chronological order determined the order in which requests were completed. Now rush search requests are charged double the normal fee. Fees have ensured that only important projects are done. They have also eliminated the problem of library staff working on personal requests. The fee system makes the point that the requested service costs something and someone has to pay for it. Employees are less likely to abuse the company facilities when they know that their name will be associated with the incurred charges.

Another advantage is the creativity in marketing library products and services, which is encouraged by a cost recovery goal. Many different marketing ideas have been used to increase library usage. These include: (a) holding information fairs with many outside vendors of information showcasing their products and online services, (b) targeting low usage departments to determine their needs, (c) becoming part of division sales training programs, (d) placing articles on success stories and services in division and company newsletters, (e) hosting visits of international trade representatives, (f) providing an online catalog of books and videos on the company wide area network, (g) educating users in the use of library systems, (h) holding open house events with refreshments, (i) sponsoring online training seminars, and (j) giving presentations at division sales meetings in conjunction with testimonials from satisfied salespersons who have used the library's services. All of these techniques have served to increase library visibility and revenue generation. Many other ideas have been reported in the literature.[5]

Perhaps the biggest advantage of all, however, is the respect gained by the library group and the individual staff members. In any profit-making company, sales dollars are the measure of success. The librarian or information professional is proud that a customer will pay for his or her expertise. The business manager respects that the library must also sell its services and, with a 38% increase in sales, is obviously doing well.

Disadvantages of Fee-Based Services

The transition from a "free" service or entitlement to a cost recovery operation is not a smooth one. Income in the first year was about 25% below the previous year's budget, so expenditures were curtailed significantly. There were several reasons for the drop in usage.

Some user groups' costs went up dramatically because of the changed system. User departments did not understand the services for which they were being charged. This was especially true for the journal circulation charge. In their attempt to control library expenses, some managers unilaterally decided to drop journal circulation for their groups. Gradually, journal usage increased again, as individuals asserted their need for information. Since journals were placed on the shelves after circulation, several individuals decided to drop circulation and get them "free." This worked only as long as other departments continued to support the journal.

Rumors started that the library was charging for "everything," and as a result, some employees were afraid to use the library at all for fear of being charged. This was especially true for employees of other support departments.

Some library staff were not comfortable with charging for services. They wanted to give good customer service but did not want to discuss costs with users or do the paperwork to generate the departmental charge. Staff had to be given training similar to the management support and encouragement given to professional sellers. This continues to be an issue with new library staff.

User fees are a barrier. In some instances, employees have not used the library when they should have. For example, some decided to do their own literature searches. Training was provided in search techniques, but invariably the users returned after making a large dent in their departmental budgets and with a new respect for the librarian or information specialist.

The hardest change was in the attitudes of the customers and librarians. Customers were very annoyed to be charged for something that had been "free" (and continues to be "free" in their local public and university libraries). Their managers, however, were pleased to have control over expenditures, so this annoyance was short-lived. Library staff were very concerned about the consequences of poor business, and this worry continued throughout the year. This has dissipated as confidence in their ability to generate business and focus on customer needs has increased.

One difficulty that others may experience in implementing a fee-based system is the need to have both quantitative activity information and compatible accounting systems. The challenge is to minimize staff time spent in accounting and record keeping. The Ashland Chemical library had automated its record keeping using generic relational database management software prior to considering cost recovery fees. Fortunately, it was relatively easy to adapt this software to generate reports listing people, departments, and appropriate charges. The corporate accounting department then distributes these charges as directed by the department being charged.

An additional disadvantage is that the charge for searches or SDI's will occasionally deter a new customer from using the service. Free demonstrations are given, and the customer is given an estimate for specific questions before proceeding with the search. Often searches are done in a series of steps and the customer advised of the costs as the search proceeds. The customer thus determines when he or she has reached the maximum cost-benefit.

Cost-Benefit of Libraries

An argument has been made that a cost-benefit analysis of many staff organizations, including a library, cannot be done. Rather, the librarian should focus on operating a cost-effective organization while achieving enough visibility to maintain a perception that value is added.[3] With an allocation system, cost-benefit is hard to prove, except with a negative. For example, the years and dollars of research wasted because of a missed patent or journal citation are not the appropriate evidence to use at a senior management budget review. Failing to charge for services, however, encourages the belief that libraries are only marginally cost-effective to the corporation.

A recent study has shown the willingness to pay for information is lower for chemical companies compared with a utility or a government agency. Likewise, the value attached to research cost avoidance or finding the information via alternative means is lower for chemical companies than a utility or government agency.[4] Perhaps it is not surprising that profit-driven organizations find it harder to attach a value to library services. Part of this may be because a library is a "third tier" resource, and thus is not visible to senior management. A "third tier" resource provides support to other staff groups (law, planning, research and development, etc.) which present projects, conclusions, and recommendations to senior management. In cases where support is provided to operating groups such as sales, marketing, and manufacturing, it is at the practitioner level. In either case, senior management, the ultimate allocator of funds, is unaware that the library or information professional was a key resource in achieving the end result.

Three Years Later

Table 1 on page 23 shows that the activity and income of the library have increased. Space has also increased, as there is now a second physical library location at Ashland's multi-building facility. The main library is in the Technical Center and is relatively isolated; the second location is on a main corridor which connects two administrative buildings and contains business-related information. It has resulted in substantially increased visibility for the library.

Focusing on the customer, along with heavy use of total quality management techniques, has resulted in positive changes in the library's operation. For example, nonlibrary activities have been discontinued or transferred to other departments. Use of a credit card account and taking over acquisitions from the accounting and purchasing departments, respectively, have streamlined paperwork. Visibility with customers and library traffic have been increased by techniques as simple as providing a site for a used paperback book exchange to the more complex, such as sending video and audio training tapes to dozens of off-site locations. An analysis of corporate dollars spent on subscriptions showed that less than half were ordered through the library. Consolidation of all ordering is now in process.

The challenge of cost recovery remains. It is not yet clear if the current cost recovery system can fully recover all direct and indirect costs. Nevertheless, the long-term outlook of the library is excellent. Managers have control over their expenses, visibility continues to increase, the information specialists are more involved in corporate operations, and the library is viewed as paying its way.

During this time, library users have become much more diverse. Five years ago, two-thirds of the library's activities were research and technology related. These activities included patent searches, literature searches, technology reviews, and technical journal subscriptions. Currently, the corporate Technical Center is still the library's largest customer, but it now generates only 25% of the library's cost recovery income. The top seven customers, divisions, and staff groups generate 75% of income; this leaves a large number of small users who generate a substantial amount of income. At one time, the library had no relationship with the largest operating division of Ashland Chemical; today this division regularly uses a variety of library services both at headquarters and in field offices across the United States. This wide usage of the library shows that its services are imbedded in the fabric of the corporation, and helps to ensure continued support for it.

Many of the changes noted in this article resulted from the increased marketing efforts of the library staff and could be brought about without directly charging for services. However, cost recovery through fee-based services gives a library operation an opportunity to demonstrate to corporate management in a very businesslike and understandable way how it adds value to the organization. Nothing shows value better than a customer willing to purchase a service.

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Graphical User Interfaces and Library Systems: End-user Reactions

by Margaret J. Zorn and Lucy Marshall

• L'interface pour utilisateur de graphiques (GUI) a un impact sur le logiciel d'application de la bibliothèque. Malgré cette tendance, il n'a pas été documenté si les utilisateurs sont satisfaits de la GUI. La bibliothèque de recherches pharmaceutiques de Parke-Davis a entrepris une étude pour déterminer le degré de satisfaction des utilisateurs quant au nouveau Dynix Marquis, basé sur la GUI, par comparaison avec le Catalogue auquel le public peut accéder (OPAC) en liaison directe, Dynix Classic basé sur le texte. L'étude comprenait un sondage pour évaluer la satisfaction des utilisateurs et un examen de l'utilisation globale. Les résultats de l'étude montrent que les utilisateurs finaux préféraient l'OPAC basé sur la GUI à l'OPAC basé sur le texte. Les rapports d'utilisation ont appuyé les résultats du sondage par une augmentation significative de l'utilisation après le transfert.

• La interfaz gráfica de usuario (graphical user interface o GUI) está afectando la programación de aplicaciones de biblioteca. A pesar de esta tendencia, no se ha documentado la satisfacción del usario con la GUI. La Biblioteca de Investigación de Parke-Davis Pharmaceutical emprendió un estudio para determinar la satisfacción de los usuarios con el nuevo Dynix Marquis basado en GUI en comparación con el Catálogo de Acceso Público en Línea (Online Public Access Catalog o OPAC) Dynix Classic basado en texto. El estudio incluyó una encuesta para evaluar la satisfacción de los usuarios así como un análisis de utilización global. Los resultados de la encuesta indican que los usuarios finales prefieren el OPAC basado en GIU más que el OPAC basado en texto. Los informes de utilización confirmaron los resultados de la encuesta, mostrando incrementos importantes en los niveles de utilización después de la migración.

The graphical user interface (GUI) is impacting library application software. Despite this trend, user satisfaction with the GUI has not been documented. The Parke-Davis Pharmaceutical Research Library undertook a study to determine user satisfaction with the new GUI-based Dynix Marquis, as compared with the text-based Dynix Classic Online Public Access Catalog (OPAC). The study included a survey assessing user satisfaction and a review of overall usage. Survey findings show that the GUI-based OPAC was preferred by end-users over the text-based OPAC. Usage reports supported the survey findings with significantly increased usage after migration.

Introduction

The graphical user interface (GUI) is becoming the standard for business application software. According to Microsoft Corporation, over 40 million units of the Microsoft Windows operating system have been sold, fostering industry-wide growth of GUI software products on the market.[1] Estimates of Windows-compatible software growth in 1993 range from 52.7% to 260%.[2,3] Sales of third-party Windows-compatible applications almost doubled in 1992, compared to the 12% growth of software applications overall. Macintosh's System 7, another GUI operating system, claimed 15.1% of the software market in 1992.[4] These statistics, plus other industry trends, indicate that the GUI is by far the fastest growing computer desktop configuration. Release of improved versions of OS/2 and Windows NT, as well as Windows Lite and Windows 4.0 (a.k.a. Chicago or Windows 95), only point to a continuation and expansion of the use of GUIs in more mainstream and low-end computing applications.

How, then, are library systems vendors, library management, and library end-users responding to this growing trend? Currently, integrated library automation systems, online searching systems, and CD-ROM database systems are still heavily entrenched in the text-based or DOS environment. Most library systems vendors must continue to appeal to and satisfy the lowest common computing denominator, which is the text-based or DOS applications. Therefore, development and enhancement of those types of systems continues to flourish. As noted by Breeding, "In the realm of library-specific software . . . the movement toward graphical interfaces so far seems somewhat slower than that for general computing applications . . ."[5] There are, however, the beginnings of a push from most major vendors toward development and release of GUI (Windows and Macintosh) versions of previously text-based or DOS library applications software. A number of library vendors have released production versions of GUI-based applications. Notably, CD Plus, SilverPlatter, and Dynix Marquis all have substantial investment in the GUI as applied to library computer applications.

Despite the undeniable trend towards the GUI coupled with promises of easier training, improved productivity, and more satisfied users, user response to this change, in both the computing world as a whole and the library environment, remains largely undocumented. Libraries make software decisions that will affect all library users, often thousands of people. Additionally, special libraries, as part of larger entities, are more likely to encounter GUIs as part of the organizational computing environment, and feel pressure to migrate to library applications that provide a GUI. It is therefore extremely important to find out if GUIs live up to the promises of advertisements, vendors, and current trends. This article focuses on the user satisfaction of the recently-implemented GUI-based Dynix Marquis Online Public Access Catalog (OPAC) at the Parke-Davis Pharmaceutical Research Library in Ann Arbor, MI. User satisfaction was determined with a survey comparing user satisfaction with the Dynix Classic OPAC, which uses a traditional text-based interface, to the Dynix Marquis OPAC. Additionally, usage statistics of the two OPACs were compared.

Literature Review

Studies measuring end-user satisfaction with various vendor versions of the OPAC in libraries are well documented in the literature. Seymour provides a comprehensive overview of methodologies used in these studies, and is a starting point for anyone seeking insight into end-user satisfaction with OPACs.[6] Much less has been written, however, concerning end-user satisfaction with a second or third generation system or a new OPAC interface. A body of literature exists which discusses the migration process to a new library automation system, but very little has been published covering user satisfaction with new systems. Scharf and Ward conducted a survey to assess end-user satisfaction with the OPAC after migration from a CLSI to a NOTIS system at the University of Central Florida.[7] This study compared user satisfaction with both OPACs while running dual systems during the migration process, and found that user satisfaction with the NOTIS (LUIS) OPAC was significantly higher than with the previous CLSI OPAC.

Although the Scharf and Ward study provided some insight into comparative user satisfaction with OPACs, the basic interface of both the CLSI and NOTIS OPACs was text-based. No study exists in the literature comparing end-user satisfaction with text-based or DOS library systems with that of newer GUI-based systems.

Even in the computing world beyond libraries, there are few studies documenting user satisfaction with the GUI. Dickstein discusses moving a corporation to Windows because it "improves client productivity and reduces support requirements," and then focuses on the implementation from a support standpoint rather than a user satisfaction perspective.[8] Other articles discuss reengineering and moving to more GUIs, but also focus on success as measured by a speedy and inexpensive transition. Watt's in-depth article reviews satisfaction with software products, including GUI products, but does not attempt to compare GUI products with similar DOS products, or to group GUI products as a category.[9] The results tend to represent satisfaction with a particular company or product rather than one interface over another.

Background

The computing environment at Parke-Davis is typical of many large corporations. The majority of users are connected to a corporate network and use IBM-compatible computers running DOS/Windows. About one-third of the users run Macintosh computers with System 7, and UNIX machines are also used for specific needs. Whenever possible, native versions of application software are used. Most employees have some exposure to the GUI, and many use it daily for electronic mail and word processing.

The Parke-Davis Pharmaceutical Research Library offers a variety of computer- and network-based end-user services. Access to several commercial databases, mostly on CD-ROM, is available, as is an online catalog listing all materials located in or available from the library. Until late 1993, all of the end-user products available through the library were text-based or DOS applications, with the exception of the Current Contents on Diskette database, which is offered in both DOS and Macintosh versions. Although each product offered to end-users by the library is carefully evaluated for ease of use, the question continually reemerges: are end-users using these products correctly, effectively, and to the extent that they could be used to satisfy end-user information needs? The implementation of GUI-based products is of strong interest to the Research Library, provided they truly are viewed by end-users as easier to use.

A decision was made in August 1992 to migrate to a new integrated library automation system. The Research Library had been using the Dynix system since 1987, a traditional, text-based system residing on a mini-computer using either dumb terminals or personal computers running emulation software for staff and end-user access. The Parke-Davis network implementation of the Dynix OPAC caused users to have difficulty connecting, and system response time was consistently slow. The Research Library chose the Dynix Marquis product as its next generation automation system, a newly developed client/server product with OS/2, Windows, and Macintosh native client versions. The Dynix Marquis system was seen by the Research Library as both an opportunity to provide end-users with state-of-the-art access to its collection, and to examine how such a system and user interface would function and be received by both library staff and end-users.

Conversion to the Marquis system took place in October 1993, with the OPAC available to all end-users connected to the network in both Windows and Macintosh versions. As part of the migration, the Research Library was committed to gathering user feedback on satisfaction with the new system. The library wanted to know: 1) did users find the GUI easier to use; 2) were users experiencing less system problems and better response time with the Marquis OPAC; 3) were users, on the whole, more satisfied with the Marquis system than with the Dynix system; and 4) would use of the OPAC increase after migration to the Marquis system? In addition, library staff were particularly interested in user reactions to the GUI as applied to all library systems. High end-user satisfaction with the Marquis OPAC, based on the survey and usage statistics, would give the library a strong indication of what could be expected if other Research Library systems, such as CD-ROM database searching, were migrated to GUI versions.

Methodology

Network users of the Dynix OPAC were tracked from April 1993 through September 1993 by an in-house system that reported network user name, login, logout, and elapsed time. From the total, 87 individual end-users were identified for surveying from this time period. The group was selected because it was felt that these users could potentially compare their experiences with the two systems, and having used the Dynix OPAC was a prerequisite for making a comparison.

A two-page survey was sent out in January 1994, initially through the company's electronic mail system. Follow-up surveys were sent in paper form through interdepartmental mail to all those who did not respond within the first two weeks. The survey questions were designed to gather feedback from users of both the Dynix and the Marquis OPACs, asking the respondents to evaluate their experiences on the two separate systems. The same questions were asked in reference to each system, and covered user friendliness, system performance, and overall user satisfaction. In addition, a section asked the user to directly compare the two systems on several points, including system performance, ease-of-use, training required, and user interface. Two general questions covering familiarity with computers in general and GUIs were also included.

Total network usage of both the Dynix OPAC and the Marquis OPAC were tracked by the in-house tracking system mentioned above. This system provided a direct comparison between the number of users, the number of searches performed, and the total time spent searching for each OPAC. The months tracked were different, since the two systems never ran simultaneously, but the amount of time tracked for each system was the same.

Since the sample used in the survey was quite small and not randomly selected, advanced statistical analysis on results was not performed.

Survey Findings

Of the 87 surveys sent out, 23 (26.5%) were received as a result of the initial electronic mailing. Twenty-six (29.8%) additional responses were received from the follow-up paper mailing, for a 56% overall response rate. Of those responses, 30 (34% overall) were usable, meaning that the respondents had used both systems and remembered enough about each to make a comparison. The majority of the unusable responses indicated that the user either did not remember using the Dynix system or had not yet had the opportunity to use the Marquis system.

The first section of the survey asked users to categorize their familiarity with computers in general and with GUIs as advanced, intermediate, or beginner. Thirty-one percent considered their familiarity with computers to be advanced, 55% intermediate, and 14% felt they were beginners. Seventeen percent stated their familiarity with GUIs was advanced, 62% intermediate, and 24% identified themselves as beginners.

The next section of the survey asked identical questions grouped by system. First, users were asked how frequently they used each system. Seventy-three percent of those who

Figure 1

used the Dynix system indicated that they used it more than once a month, compared to 79% who used the Marquis system more than once a month. In both cases, respondents seemed to be regular users of the OPAC. The next question dealt with technical difficulties experienced with the systems, including error messages, logon difficulty, and printing problems. Twenty-five problems were noted for the Dynix system in this category, compared to only five problems for the Marquis system. When asked about overall satisfaction with each system, 89% were either satisfied or extremely satisfied with the Marquis system, while only 66% were satisfied or extremely satisfied with the Dynix system. Ten percent of users were either somewhat satisfied or unsatisfied with Marquis, while 34% were somewhat satisfied or unsatisfied with Dynix. See Figure 1 on page 31 for a graph of the overall user satisfaction statistics.

The last section of the survey asked respondents to indicate their level of agreement with a series of statements that clearly favored one system over the other in a direct comparison, ranging from strongly disagreeing to strongly agreeing. When asked if the Marquis system is faster than the Dynix system, 68% either agreed or strongly agreed, 32% somewhat agreed, and no one strongly disagreed. When asked if it is easier to move through screens in Marquis, 80% either agreed or strongly agreed, and only 20% somewhat agreed or strongly disagreed. The next question asked if results were more easily found in the Dynix system. No respondents strongly agreed, 24% agreed, and 76% either somewhat agreed or strongly disagreed. When asked if the Marquis system is more user-friendly than the Dynix system, 84% either agreed or strongly agreed, while only 16% somewhat agreed or strongly disagreed. When asked about the amount of training required to use each system, 34% strongly agreed or agreed that Dynix requires less training, and 67% somewhat agreed or strongly disagreed. The final question asked whether the user prefers the GUI of Marquis to the Dynix interface. Forty-six percent strongly agreed that the Marquis system was preferred, 29% agreed, 17% somewhat agreed, and 8% strongly disagreed. The complete results are shown as Table 1 on page 32.

Users were grouped by self-assigned GUI familiarity rating and responses to selected

Table 1

User Responses to Questions Directly Comparing Dynix to Marquis

	Strongly Disagree	Somewhat Agree	Agree	Strongly Agree
Marquis is quicker than Dynix	0 (0%)	7 (32%)	11 (50%)	4 (18%)
It is easier to move through screens in Marquis than in Dynix	3 (12%)	2 (8%)	14 (56%)	6 (24%)
Results are more easily found in Dynix than in Marquis	7 (33%)	9 (43%)	5 (24%)	0 (0%)
Marquis is more user-friendly than Dynix	3 (12%)	1 (4%)	14 (56%)	7 (28%)
Dynix requires less training than Marquis	6 (29%)	8 (38%)	6 (29%)	1 (5%)
I prefer the graphical interface of Marquis to the Dynix interface	2 (8%)	4 (17%)	7 (29%)	11 (46%)

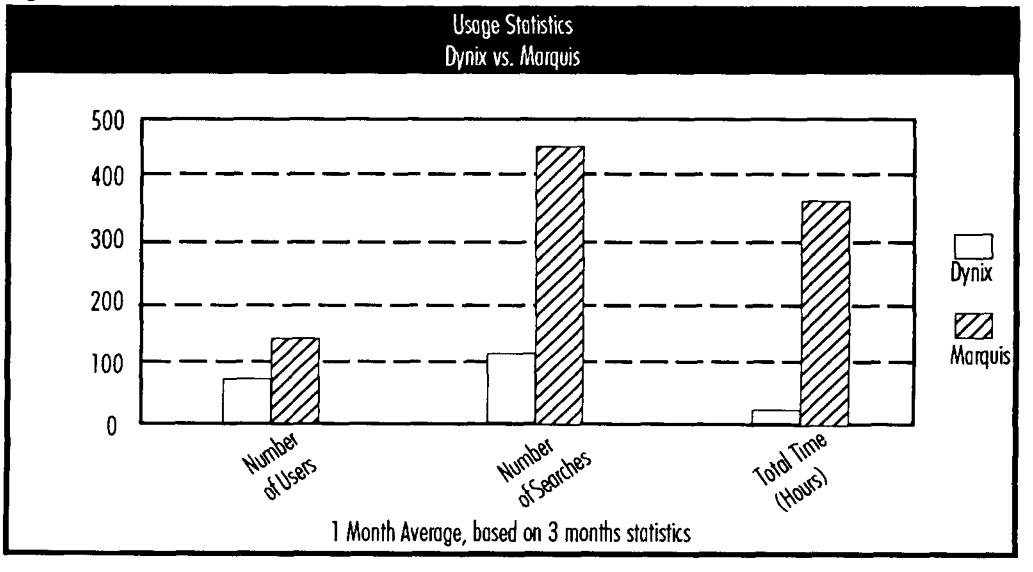
survey questions and the results were tabulated for each group. When asked whether Marquis was more user-friendly than Dynix, 94% of the intermediate/advanced group of GUI users either strongly agreed or agreed, compared to 50% of the beginning GUI users. Six percent of the intermediate/advanced GUI users either somewhat agreed or disagreed that Marquis was more user-friendly than Dynix, while 50% of beginner GUI users strongly disagreed. When asked if the Marquis GUI is preferred to the Dynix text-based interface, 75% of the intermediate/advanced group agreed or strongly agreed. The beginning GUI users strongly agreed or agreed 80% of the time that they preferred the GUI of Marquis to the Dynix interface. Twenty-five percent of the intermediate/advanced group either somewhat agreed or strongly disagreed with this statement, while 20% of the beginning group strongly disagreed.

In addition to the survey, usage for each system was tracked for three months using network user ids. Dynix usage was reviewed for May, June, and July 1993. Marquis usage was tracked for January, February, and March 1994. The three-month average number of users jumped from 64 to 315 following the migration to Marquis. The average number of searches also increased, from 118 to 482. Additionally, the total average monthly time (averaged over three months) spent in each system changed. Dynix averaged 15.4 hours a month, while Marquis averaged 136.5 hours a month. The compiled results of the usage statistics are shown as Figure 2 below.

Discussion

The survey findings indicate a very strong preference for the Marquis OPAC and its GUI. It was not surprising that end-users encountered significantly fewer technical problems with the Marquis system. As mentioned in the background section, there were known problems with network use of the Dynix OPAC in the Parke-Davis environment. It was surprising, however, that on every other question the Marquis system also was preferred. Over one-third of respondents were extremely satisfied with the Marquis system, compared to only seven percent who were extremely satisfied with the Dynix system. Some allegiance to the familiar Dynix system had been expected. In

Figure 2



addition, on the series of questions directly comparing the two systems, the majority of users strongly agreed or agreed with those statements favoring the Marquis system, while on the statements favoring the Dynix OPAC, the majority of respondents either somewhat agreed or strongly disagreed. As for the GUI of Marquis, almost half of the respondents strongly agreed that they prefer the GUI of Marquis to the Dynix interface.

As mentioned above, results were also calculated according to user familiarity with GUIs. It was thought that users who felt less familiar with GUIs might be more likely to be unsatisfied with the Marquis system. The results here were mixed, with no strong indication that those respondents who felt they were less experienced with GUIs preferred the text-based Dynix system, or even that they preferred the Marquis system to a lesser degree. Although 50% of beginning GUI users strongly disagreed that Marquis was more user-friendly than Dynix, 80% of those same respondents strongly agreed or agreed that they prefer the GUI of Marquis to the Dynix interface. It is the authors' conclusion that the Marquis system and its interface is preferred by end-users at Parke-Davis regardless of previous user experience with GUIs.

The most surprising result of this study is the tremendous increase in overall end-user usage of the Research Library's OPAC since migration to the Marquis system. The three-month average of hourly use shows an increase of 886%. The information accessed by both systems, of course, is the same. This significant increase in usage suggests that users prefer the Marquis system interface and, consequently, Marquis. It may also indicate that problems with the network connection to the Dynix OPAC were greater than previously realized. Many users may have become frustrated and stopped using the networked Dynix OPAC. Increased satisfaction with the Marquis system seems to be leading to more thorough secondary research by employees, a possible topic for further research.

Conclusion

Although this user satisfaction study began by questioning whether or not a GUI contributed to overall user satisfaction, it is the authors' conclusion that GUIs are preferred to text-based or DOS interfaces. Users find the GUI easier to use, feel that it requires less training, are able to find results more easily, use the OPAC more, and are significantly more satisfied with systems that use a GUI. Overall, it has been determined that within the Parke-Davis Pharmaceutical Research Division, a GUI is preferred over text-based or DOS interfaces. In the future, the Parke-Davis Pharmaceutical Research Library will pursue GUI versions of library application software whenever they are available.

Several points of caution should be emphasized. This study was limited in size and scope, focusing on one GUI product in a special library setting. Although there was no strong correlation in this study between previous experience with GUIs and satisfaction with a GUI-based system, this same result may not be repeated in an organization where end-users have little experience with or exposure to systems and software with GUIs. Before choosing or migrating to a library system that uses a GUI, libraries should review the organizational computing environment to gauge potential end-user impact. Institutions without a GUI infrastructure may find less enthusiasm towards systems with a GUI.

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Measuring Service Quality in Special Libraries: Lessons From Service Marketing

by Marilyn Domas White and Eileen G. Abels

As part of a project to develop an instrument for measuring service quality in special libraries, this article reviews the service marketing literature for models and data-gathering instruments measuring service quality, emphasizing the instruments SERVQUAL and SERVPERF. SERVQUAL, developed in 1988, measures service quality on the basis of expectations and performance; SERVPERF, a modification of SERVQUAL devised in 1992, is based on performance alone. This article assesses their applicability to special libraries and information centers.

•Dans le cadre d'un projet visant à développer un instrument pour mesurer la qualité du service dans les bibliothèques spécialisées, cet article examine la documentation sur le marketing du service pour les modèles et instruments servant à la collecte des données, et plus particulièrement les instruments SERVQUAL et SERVPERF. SERVQUAL, élaboré en 1988, mesure la qualité du service sur la base des espérances et de la performance; SERVPERF, modification de SERVQUAL effectuée en 1992, n'est basé que sur la performance. Cet article évalue leur applicabilité aux librairies spécialisées et centres d'informations.

•Como parte de un proyecto para desarrollar un instrumento para medir la calidad de servicio en las bibliotecas especiales, este artículo examina la literatura de mercadeo de servicios buscando modelos y instrumentos de recopilación de datos para medir la calidad de servicio, poniendo el énfasis en los instrumentos SERVQUAL y SERVPERF. SERVQUAL, desarrollado en 1988, mide la calidad de servicio a base de las expectativas y el rendimiento; SERVPERF, una modificación de SERVQUAL diseñada en 1992, está basada en el rendimiento solamente. Este artículo evalúa su aplicabilidad a las bibliotecas especiales y los centros de información.

Introduction

The diverse avenues to information that are rapidly emerging challenge the role and very survival of special libraries. Information-seekers who once turned to their corporate or agency library for help may now be prompted to use electronic or commercial document delivery services, to purchase individualized access rights in the forms of database subscriptions or purchased books, or to accept abbreviated abstracts instead of retrieving full-text articles. Not only are libraries competing for customers within this changing information delivery marketplace, they are re-examining their management, their manner of justifying budget, and their very existence. To compete effectively and survive, special libraries may profit by using the managerial and marketing tools and approaches developed in business, such as total quality management (TQM).[1] TQM emphasizes providing quality services as perceived from the customer's point of view, not the management point of view. Heavily used in Japan, TQM has been adopted in manufacturing and service industries in the United States over the last 20 years. Where quality considerations have long been a concern of information professionals, TQM has not been widely applied in libraries.[2]

A major stumbling block to implementing TQM in special libraries is the lack of an adequate, transferable instrument for assessing service quality from a customer's point of view. Lyon has issued a call for standardized instruments oriented to specialized reference services.[3] Most questionnaires are developed for a specific study with no attempts to devise a more generic instrument. It is especially important that such an instrument provide adequate feedback to allow libraries to determine the criteria that library users value about information services. Specific feedback allows libraries to modify services to meet the customers' criteria. Developing an instrument is costly and perhaps unnecessary if instruments already exist which are appropriate for, or can be adapted for, special libraries.

This paper surveys the marketing literature to identify models and instruments that have been used in service industries to measure service quality and assesses their applicability to special libraries. It marks the first stage of a project funded by the Special Libraries Association to develop an instrument for assessing service quality in special libraries. Research in a range of service industries has pointed to numerous common factors characterizing all types of service industries. As service organizations, special libraries and information centers can benefit from models and techniques developed and widely used in service industries. The instrument finally suggested in the project may provide a basis for comparing special library performance with the performance of other service industries and will help individual libraries to implement TQM and thus become more competitive.

Characteristics of Services

Services differ from goods in several ways that make judging service quality difficult. A good is a tangible object. A service is a performance or an act and thus is intangible. Within product lines, goods have great consistency and are often produced to meet certain standards or guidelines. Dependent on the interaction between client and service provider, services, even of the same type, are subject to greater variation than goods. With goods, production is separate from consumption. The customer is present only at the final stage. With services, the production and consumption stages are often inseparable. As a result, the client is often present throughout the service encounter. Services, then, are characterized by intangibility, heterogeneity, and inseparability of production and consumption.[4]

Information services are perhaps among the most difficult to measure in terms of both customer satisfaction and service quality because of the perceptual overlap between information as a commodity and information as a process. Whitehall, for example, says his literature review is "about the quality of a service, not just the quality of information."[5] In the course of performing services, providers in many service sectors often generate a tangible output. An accountant, for example, audits a firm's books and presents the results in a report. An information specialist searches a computerized database and generates a bibliography for a client. In the information related literature, the values assigned to the product are often confounded with the values assigned to the service.[6]

Definitions of Service Quality

Service quality is a judgment about the ability of a service to fulfill its task. Orr defined quality as "how good is the service?"[7] In some cases, the definition is an operational one designed to facilitate continued research. Parasuraman, Zeithmal, and Berry refer to it as "a form of attitude, related but not equivalent to satisfaction, [which] . . . results from a comparison of expectations with perceptions of performance."[8]

The reference to "satisfaction" in the latter definition is important. The relationship between customer satisfaction and service quality is an ongoing question in service marketing.[9] Researchers agree that customer satisfaction refers to a judgment made about a specific transaction. Service quality, on the other hand, is a more generalized, enduring judgment based in part on previous encounters which themselves resulted in satisfaction judgments.[10] It would be possible for a client to have an occasional unsatisfactory encounter with an organization he continues to rate high on service quality. This transaction/long-term judgment distinction is not always clear in the library literature.[11]

Two approaches to measuring service quality have evolved in service marketing over the last 10 to 15 years. The dominant one, referred to as the P-E approach, views service quality as the gap between expectations (E) and performance (P). Critics have raised several questions about this approach, however, and measures based on performance alone have developed recently. Each approach will be addressed along with an instrument that has been developed for use with it.

Measuring Service Quality: Performance-Minus-Expectations Approach

A significant development influencing the study of service quality and the acceptance of the P-E approach is the "gaps model" formulated by Parasuram, Zeithaml, and Berry in 1985.[12] This model is grounded in disconfirmation theory, which is also a prevalent approach to studying customer satisfaction.[13] Disconfirmation theory as applied in service quality posits that, before using a service, a client has certain expectations about it. After the service encounter, he compares those expectations with actual performance and his perception is either confirmed (if they match), negatively disconfirmed (if the perception is lower than the expectation), or positively disconfirmed (if the perception is higher than expectations). The essence of the theory is a comparison between expectations and performance.

The gaps model focuses on several service gaps that affect service quality: between customers' and management's perception of service expectations (Gap 1); between management's perception of customers' expectations and service-quality specifications (Gap 2); between service-quality specifications and actual service delivery (Gap 3); and between actual service delivery and what is communicated to customers about it (Gap 4). The quality gap (Gap 5) can be closed by reducing the four internal gaps found within the management of a service organization.[14] In measuring service quality and applying this model, however, the emphasis has been on the "expected service-perceived service gap" (P-E).

In 1988, to test the gaps model, Parasuraman, Zeithaml, and Berry devised the SERVQUAL instrument for measuring service quality. They revised it slightly in 1991. Since the gaps model was derived from studies in several different service industries, the authors intentionally designed a "generic instrument with good reliability and validity and broad applicability."[15] They envisioned the instrument being used across different types of service institutions, modified slightly as needed. It has become the most widely used instrument for measuring service quality in settings such as banks,[16] car service shops,[17] accounting firms,[18] dry cleaning firms,[19] educational institutions,[20] hospitals,[21] hotels and restaurants,[22] pest control firms,[23] public recreation programs,[24] and travel agencies.[25] No other instrument for measuring service quality has been tested as stringently and comprehensively as SERVQUAL.

In SERVQUAL, the client responds to the same 22 questions twice: first, to establish his expectations of the ideal service; then, to note his perceptions of the actual service provided by a particular firm. Each response is scored on a seven-point Likert scale. Difference scores are computed by subtracting the score for expectations from the perceptions, so scores can range from -6 to +6. The higher the score, the higher the perception of quality.

The 22 items elicit information about service quality in connection with the first five dimensions identified in Table 1 on page 39. The first three dimensions and the asterisked dimensions were considered in the original qualitative research to develop SERVQUAL. In developing the scale, overlaps in the factors or dimensions were eliminated, resulting in the first five dimensions. Courtesy, for example, is included in the Assurance dimension.[26]

SERVQUAL is often used in conjunction with other questions which assess overall service quality or evidence of subsequent action,

Table 1

Dimensions Covered in SERVQUAL	
DIMENSION	DEFINITION
Tangibles	The appearance of physical facilities, equipment, personnel, and communication materials.
Reliability	The ability to perform the promised service dependably and accurately.
Responsiveness	The willingness to help customers and to provide prompt service.
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence.
Empathy	The provision of caring, individualized attention to customers.
Access*	Approachability and ease of contact.
Communication*	Keeping customers informed in language they can understand and listening to them.
Credibility*	Trustworthiness, believability, honesty of the service provider.
Security*	Freedom from danger, risk, or doubt.
Competence*	Possession of the required skills and knowledge to perform the service.
Courtesy*	Politeness, respect, consideration, and friendliness of contact personnel.
Understanding the Customer*	Making the effort to know customers and their needs.

* In the original development of the SERVQUAL instrument, these dimensions were included. After a factor analysis of data, these were subsumed into the first five dimensions.
Source: Zeithaml, Parasuraman, and Berry, 1990, pp. 21-26.

e.g. recommending the service to a friend, willingness to use the service again.

Several criticisms have arisen about the SERVQUAL scale as a result of its widespread use and close scrutiny by other researchers. Some are more important than others, and most have been rebutted or addressed in subsequent articles by Parasuraman and his colleagues.[27] The criticisms have focused on: the scale's theoretical base,[28] the comparison norms for "expectations,"[29] the number and generic nature of the dimensions,[30] the instrument's length,[31] the ease of administration and analysis of data,[32] the need to use both perceptions and expectations data,[33] the validity of difference scores as data,[34] and the basis for inferring that higher scores always indicate higher quality.[35]

In numerous studies, the researchers have reworded items, substituted or inserted new items, and removed items from the scale to make it more appropriate for the service industry being studied.[36] Such modifications are not considered criticisms of SERVQUAL since this kind of use was anticipated and suggested by the original developers. As Parasuraman and his collaborators note, however, criticisms and findings questioning the number and nature of the dimensions may arise from modifying the scale so much that its integrity is undermined.[37]

Researchers have rarely disputed the validity of the individual 22 items or statements used in the revised scale, considering them well-supported by the scale development and revision procedures and through use in subsequent studies. As a result, the actual SERVQUAL items serve as the basis for other instruments.

Measuring Service Quality: Performance-Based Approach

Several of the criticisms of SERVQUAL can be remedied without rejecting the perception of service quality as a gap between performance and expectations or the P-E approach. Brown and others, for example, tested an alternative to difference scores.[38] Addressing definitional problems with the term "expectations," Parasuraman and his cohorts have since clarified expectations as "normative," not prescriptive. The expectations represent the qualities an excellent service organization *would* have, not what it *should* have.[39] Word changes in the 1991 revision establish that orientation more clearly.

But other criticisms of SERVQUAL are interrelated and originate in its definition of service quality as a performance/expectations gap. Once this theoretical approach is accepted, and assuming the validity of the dimensions, the instrument must measure both expectations and performance through a range of items, resulting in a long instrument. Various researchers have discovered that performance scores alone have a greater predictive value for overall assessments of service quality and thus question the need for both measures.[40] As a result, within the last few years, several authors have developed measures based on performance alone.

The movement to a performance-based measure is not strictly a pragmatic response to difficulties with the SERVQUAL instrument. Proponents of the performance-based methods contend that multi-attribute attitude theory, especially the "adequacy-importance" model, is more appropriate than the gaps model and disconfirmation theory if the intent is to predict actual behavior or behavioral intent. The basic premise of multi-attribute attitude theory is that clients form attitudes about service or product quality on the basis of service or product attributes. This theory better explains relationships between service quality, customer satisfaction, and purchase or use intentions.[41]

SERVPERF is an instrument used to generate a performance-based measure of service quality. It was developed by Cronin in 1992 in a study of four service sectors (banking, pest-control, dry cleaning, and fast food).[42] Operationally, SERVPERF in its final form omits the expectation items section of SERVQUAL.[43] SERVPERF consists of the 22 items questioning customers' perceptions of service, worded exactly as in SERVQUAL. It may include questions to assess the importance of the items' dimensions and several questions about overall service quality, satisfaction, and purchase intention.[44] As in SERVQUAL, the questions can be modified and additional items included. SERVPERF is shorter and does not require the use of difference scores for analysis.

A literature review indicates no use of SERVPERF by other researchers. Its relatively recent appearance may mean that such use simply has not been reported.

Applicability of Service Marketing Scales to Special Libraries

Libraries and information services can benefit significantly by stressing their commonalties rather than their differences with other segments of the service industry. Numerous typologies of services have been devised to see similarities and differences across sectors of the service industry. Based on Lovelock's typology of services, special libraries and information centers offer intangible services directed at people's minds. They often have a membership relationship with their clients and usually provide services in discrete transactions. The services themselves are highly customized, and staff exercise considerable judgment in meeting individual needs. The extent of demand probably fluctuates only narrowly over time, and, in most cases, peak demand can usually be met without major delay. The nature of the interaction between the client and special library differ: sometimes the client comes to the library; sometimes the library delivers services to the customer. Services are delivered in person but also through electronic communications or mail. Services may be provided at a single site or at multiple sites.[45]

The services marketing research is conceptually and methodologically rich. In addition, by moving to that framework, library administrators will be adopting a perspective that is more prevalent within many of their parent institutions.

Aside from these general factors, several others were considered in determining the potential appropriateness of service quality instruments in the service marketing area to special libraries:

1. The complexity of the instrument.
2. The ease of administration and analysis of results.
3. Its orientation to overall performance quality or to quality of specific services.
4. Its usefulness for predicting overall variance.
5. Its usefulness for providing diagnostic information.
6. Its usefulness for providing a basis for comparisons across a range of types of libraries and other service organizations.

Of the two instruments described in this paper, SERVPERF is less complex, shorter, easier to administer, and better in predicting overall variance. SERVQUAL, on the other hand, is attractive because it is more comprehensive. It provides better diagnostic information, and, if desired, the performance data alone can be used to explain overall variance. Because it has been used more widely, SERVQUAL also allows for greater comparability with other service organizations.

Both instruments are oriented to overall performance quality, not to the quality of specific services; they are generic instruments. Both draw on the same items, whose wording would have to be modified slightly to fit library settings.

The dimensions covered by both are the same and seem appropriate for libraries. One medical library study of online services has already accepted the SERVQUAL dimensions.[46] In a related study, Danuta Nitecki is testing the applicability of SERVQUAL to several services in an academic library.[47] It seems reasonable to base the project instrument on one of these two. Their strengths outweigh their deficiencies, and the rigor with which at least SERVQUAL has been developed can be matched only with considerable effort. Both are flexible instruments and can be adapted as necessary for special libraries.

An important unknown which prevents outright adoption of one of these instruments aside from minor word changes is the extent to which the dimensions covered by SERVPERF and SERVQUAL adequately reflect the range of values library clients attach to information services. If they do not, some items may have to be added. A major task in the next stage of the project, preliminary to the addition of any new items, is a more thorough comparison of values presented in the library literature related to library service, values attached to services in the service marketing literature, and the dimensions covered in the development of SERVQUAL and SERVPERF. This analysis will be supplemented by focus group meetings with special library clients and a computer-mediated discussion with special librarians.

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On the Scene

1995/96 Candidates for SLA Office

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SLA Chapter Activities: *Eastern Canada Chapter:* Hospitality Committee for 1995 SLA Annual Conference (1994-95); mentor to new librarians (1991-); Union List Committee (1982-85, 1993-94); Chair, Consultation Committee (1989-); representative to Positive Action Committee (1989-94); Chair, Nominating Committee (1989-90); Long Range Planning Committee (1988-90); President (1986-87); Chair, Program Committee (1985-86); Associate Editor, Bulletin (1982-86).

SLA Division Activities: Coordinator and moderator, Financial Institutions Roundtable program at Annual Conference (1991); presented paper on "Delivering Information to the Desktop in a Corporate Library" at Annual Conference (1993); *Library Management Division*: Chair, 1995 SLA Annual Conference Program; *Business & Finance Division:* member; *Information Technology Division:* member; *Science-Technology Division:* member.

SLA Association-level Activities: Director (1991-94); Board of Directors Proctor, Publications Committee (1993-94); Board of Directors Proctor, Telecommunications, Transportation, Publishing, and Chemistry Divisions (1992-94); Secretary, Board of Directors (1992-93); Association Office Operations Committee (1992-93); Chair, Strategic Planning Committee (1992-93); Committee on Committees (1991-93); Proctor, Public Relations Committee (1991-93); Career Advisory Service counselor (1991-93); International Relations Committee (1991-92); Public Relations Committee (1989-91); Chair and member, Nominating Committee (1987-88); evaluate articles for SLA *Bulletin*; liaison between PREPS and Board of Directors.

Other Professional Memberships: Canadian Information Processing Society; American Society for Information Science; Association for Systems Management; American Management Association International; Canadian Library Association (Quebec representative on Council, 1984-85); President, Quebec Library Association (1983-84); Association pour l'avancement des sciences et techniques de la documentation.

Publications: Co-author of SLA's Public Relations' five-year plan; Co-author of the SLA Public Relations Committee "Five-year Action Plan"; published the brochures "Public Speaking/ Making Presentations Tips and Tricks" and "Professional Image," an annotated bibliography; Co-author of "Synopsis of the Inter-Association Task Force Report on Image," *Special Libraries* 82(2): 134-137 (Fall 1991); authored "The Virtual Library... Almost There" *Special Libraries* (84)4: 206-212 (Fall 1993); "Reengineering the Library for the 2nd era of the Information Technology," *Proceedings of the Canadian Association for Information Science* (May 1994); "Why corporate librarians must reengineer the library for the new information age," *Special Libraries* (Winter 1995); published reviews on library automation and information technology topics; regular contributor to Chapter *Bulletin*.

Other Professional Activities: Chair, Advisory Board of Concordia University Library Studies Programme; member, Curriculum Committee for Self Study Report for Accreditation, McGill University Graduate School of Library and Information Studies; consultant in library automation; mentor to minority librarians and McGill graduates from the Library & Information Studies Programme; Statistics Canada Library Consultative Group (1990-); Statistics Canada Taskforce on Library Usage of Statistics Canada Products (1991-); several speaking engagements to professional librarians on "The Virtual Library" and "Reengineering the Library and the Library Profession."

Teaching Experience: Invited speaker to Special Libraries class, McGill University; regular panelist at McGill University Graduate School of Library and Information Studies for Introduction program for incoming MLIS students; lecturer in Library Automation class, McGill University; invited speaker to Business Literature class, McGill University; co-taught Information Retrieval course at McGill University, Graduate School of Library & Information Studies; Adjunct Professor for Library Automation I & II, Concordia University, Library Studies Programme (1992-).

For Chapter Cabinet Chair-Elect

G. Lynn Tinsley

• **G. Lynn Tinsley** is Head of the Engineering & Science Library at Carnegie Mellon University in Pittsburgh, PA.

Past Employment: Computer Science/Robotics Librarian, Carnegie Mellon University (1985-87); Graduate Student Staff Assistant, Engineering/Transportation Library, The University of Michigan (1983-85).

Education: B.S., Eastern Michigan University (1979); A.M.L.S., The University of Michigan (1985).

SLA Member Since: 1983.

SLA Chapter Activities: *Pittsburgh Chapter:* President (1994-95); President-Elect (1993-94); Student Coordinator (1992-93); Consultation Officer (1990-92); Secretary (1989-90).

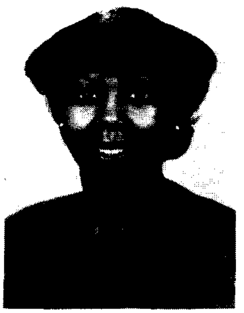
SLA Division Activities: *Engineering Division:* Past Chair (1992-93); Chair (1991-92); Chair-Elect (1990-91); Public Relations; Government Relations; Student Liaison; Publications Coordinator; Nominating Committee.

SLA Association-level Activities: President's Visioning Committee (1992-94).

Awards/Honors: Total Quality Management Trainer Recognition Award, Carnegie Mellon University (1994); Engineering Division, Certificate of Appreciation (1993).

Publications (recent): "Engineering & Technology Section," *Magazines for Libraries,* William A. Katz, ed. 8th ed., Bowker: 1994; "The Carnegie Mellon University Library Information System (LIS): Applications Within the Software Engineering Institute (SEI) Online Environment," *Special Libraries* (84)1: 18-24 (Winter 1993), co-authored with Karola M. Yourison; "What's New in Sci-Tech Databases for 1991," paper presented at Online '91 CD-ROM Conference, San Francisco, CA, November 1991; in *Online '91 CD-ROM Conference: proceedings of the conference in San Francisco, California. November 10-13,1991.* Weston, CT: ONLINE, Inc., 1991, pp. 179-182; "Professional Involvement—How to Get Active!," talk presented at the ACRL Western Pennsylvania Chapter Leadership Forum, Pittsburgh, PA (April 1991).

Other Professional Activities: Faculty Senate, Carnegie Mellon University, Treasurer (1993-95); member, Pittsburgh Regional Library Center and the Oakland Library Consortium; Friends of the Sparta Institute, Sparta, Greece: Founding Committee Member (1992-93), Center for the development of the human environment cultural exchange for students of architecture in Sparta, Greece; participated in cultural exchange at the Institut d'Informatique et de Mathematiques Appliquees de Grenoble with Francoise Renzetti, Grenoble, France (1987); hosted Francoise Renzetti, Head Librarian, Institut d'Informatique et de Mathematiques Appliquees de Grenoble, Grenoble, France, in Pittsburgh, PA (1986).



STEPHANIE D. TOLSON

• STEPHANIE D. TOLSON has been Director, Library Services, at St. Louis Community College at Florissant Valley, in St. Louis, MO since March 1992.

Past Employment: Coordinator, Cataloging Services, St. Louis Community College District (1988-92); Senior Administrative Analyst, McDonnell Douglas Information Systems Library (1987-1988); Supervisor, McDonnell Douglas, Information Systems Library (1985-87); Specialist—Market Planning, McDonnell Douglas Automation Company Library (1981-85); Director, Library Services, Electronic Keyboarding, Inc. (1980-81); Librarian, Peoples' Gas Light & Coke Company (1978-80); Librarian, PROCON, Inc. (1977-78).

Education: B.A. (Economics and Business Administration), Park College, Parkville, MO (1974); M.L.S., Emporia Kansas State University, Emporia, KS (1975).

SLA Member Since: 1979.

SLA Chapter Activities: *St. Louis Metropolitan Area Chapter*: Nominating Committee (1993-94); Chair, Affirmative Action Committee (1991-); Chair, Nominating Committee (1990-91); Chair, Consultation Committee (1986-87); Chair, Program Committee (1985-86); Past President (1985-86); President (1984-85); President-Elect (1983-84); Chair, Long Range Planning Committee (1982-84); Treasurer, (1981-82).

SLA Division Activities: *Library Management Division:* Chair, Professional Development Committee (1989-90); Chair, Continuing Education Committee (1988-89).

SLA Association-level Activities: Annual Conference Program Planning Committee (1992-94); Chair and member, Cataloging Committee (1991-92, 1989-90); Scholarship Committee (1985-87); Chair and member, Positive Action Committee (1987-89, 1985-87); Standards Committee (1982-85).

Other Professional Memberships: American Library Association; Missouri Library Association; National Association of Negro Business & Professional Womens Clubs.

Publications: "Integrated Library automation—a dream come true at McDonnell Douglas," *Show-Me Libraries* (August 1987); "Organizing a planning retreat," *SpeciaList* (November 1987).

For Division Cabinet Chair-Elect

DOROTHY MCGARRY

• DOROTHY MCGARRY is a Librarian at the University of California Los Angeles Science & Engineering Library in Los Angeles, CA.

Past Employment: Head, Cataloging Division, UCLA Physical Sciences and Technology Libraries (1976-93); also Project Manager/Cataloging Coordinator for a Title IIC-funded Map Cataloging Project, UCLA (1991-92); Catalog Librarian, PSTL (1971-76); also Acting Head, UCLA Geology-Geophysics Library (1976).

Education: A.B. (Anthropology), UCLA (1949); M.L.S., UCLA (1971).

SLA Member Since: 1971.

SLA Chapter Activities (selected): *Southern California Chapter:* President (1994-95); President-Elect (1993-94); Treasurer (1991-93); Newsletter Editor (1986-88).

SLA Division Activities (selected): *Geography & Map Division:* Representative to the Anglo-American Cataloguing Committee for Cartographic Materials (1988-); *Physics-Astronomy-Mathematics Division:* Chair (1982-83); Chair-Elect (1981-82); Bulletin Editor (1989-90); Chair, Membership Committee (1979-81, 1987-89); *Science-Technology Division:* Past-Chair (1992-93); Chair (1991-92); Chair-Elect (1990-91); Chair, Nominating Committee (1993-94); *Information Technology Division:* member; *Library Management Division:* member.

SLA Association-level Activities: SLA Delegate to IFLA (1993-97); International Relations Committee (1989-93); ex-officio member, International Relations Committee (1993-); Chair, Committee on Cataloging [and its predecessor, the Cataloging and Access Committee] (1983-89); SLA Representative to the CIP Advisory Group (1983-88); SLA Representative to the ALA RTSD CCS Committee on Cataloging: Description and Access (1986-88; 1992-93).

Other Professional Memberships (selected): American Association for the Advancement of Science (1978-); American Library Association, various divisions and roundtables (1971-); American Mathematical Society (1979-); American Society for Information Science (1974-); Australian Library and Information Association (1994-); California Library Association and various sections (1974-); Geoscience

Information Society (1979-); IFLA personal member (1984-); International Society for Knowledge Organization (1991-); Library Association (1990-); North American Serials Interest Group (1986-); gave various talks, reports at conferences, moderated a number of sessions at meetings, also participated in IFLA seminars on universal bibliographic control in Rio de Janeiro (1993), Bucharest (1993), and Vilnius (1994).

Awards/Honors: SLA Fellow (1994); SLA John Cotton Dana Award (1991); American Society for Information Science, Los Angeles Chapter, Outstanding Member Award (1990 and 1994); SLA Southern California Chapter, Continuous Service Award (1988); Beta Phi Mu, International Library Science Honor Society (1971).

Publications: Eight publications, one final research report, and two columns, including: "Objectivity in Evaluating Subject Heading Assignment," *Cataloging & Classification Quarterly* 16(2): 5-40. 1993, with Elaine Svenonius; "Displays of Bibliographic Records in Call Number Order: Functions of the Displays and Data Elements Needed," *Cognitive Paradigms in Knowledge Organisation, Second International ISKO Conference, Madras, 26-28 August 1992.* Bangalore, Sarada Ranganathan Endowment for Library Science, 1992; "More on Improved Browsable Displays for Online Subject Access," *Information Technology and Libraries* (10)3: 185-191 (September 1991), with Elaine Svenonius.

Other Professional Activities (selected): American Association for the Advancement of Science, member Electorate Nominating Committee of the Section on Information, Computing, and Communication (1993-95); American Geological Institute Vocabulary Task Force for the GeoRef Thesaurus, 4th-7th editions; American Library Association, Association for Library Collections & Technical Services, Cataloging and Classification Section, Member-at-Large, Executive Committee (1993-96); ALA ALCTS CCS Subject Analysis Committee (1993-95); ALA ALCTS CCS Margaret Mann Citation Committee (1992-93); ALA Resources and Technical Services Division CCS Policy and Research Committee (1988-92); ALA RTSD, CCS Committee on Cataloging: Description and Access Chair (1985-86), member (1982-86); American Mathematical Society Library Committee (1989-); American Society for Information Science, Los Angeles Chapter, Membership Retention (1984, 1991-); Secretary (1987-88); *Cataloging & Classification Quarterly* Editorial Board (1991-); Geoscience Information Society Ad Hoc Committee on International Initiatives, Chair (1991-92); Ad Hoc Committee for the Union List and Geologic Field Trip Guidebooks, Co-Chair (1987-); IFLA Section on Classification and Indexing (1987-95); Chair (1989-93); Secretary (1993-95); IFLA Division of Bibliographic Control Study Group on Functional Requirements of Bibliographic Records (1992-).

WILDA B. NEWMAN

• WILDA B. NEWMAN is the Information Resources Manager for the Administrative Services Department, Johns Hopkins University, Applied Physics Laboratory in Laurel, MD.

Past Employment: Johns Hopkins University, Applied Physics Laboratory, Administrative Services Department, Assistant for Records and Management Procedures (1983-85); Librarian (1982-83); Johns Hopkins University, Applied Physics Laboratory, The R. E. Gibson Library, Section Supervisor, Technical Services, (1980-82); Section Supervisor, Library Acquisitions (1972-80); Library Assistant, Interlibrary Loans (1967-72); Library Aid, Translations (1965-67).

Education: B.S. (Business and Management), University of Maryland (1982); M.S.L.S., Catholic University of America (1986); also attended University of Tennessee and East Tennessee State University.

SLA Member Since: 1969.

SLA Chapter Activities: *Washington, D. C. Chapter:* Membership Committee (1983-84); Coordinator, Annual Conference Information Booth (1980); *Baltimore Chapter*: Chapter Speaker, "International Relations and the Special Libraries Association" (1993).

SLA Division Activities: *Science-Technology Division:* Nominating Committee (1992-94); Auditor (1992-94); Chair (1991-92); Past-Chair (1990-91); *Sci-Tech News* Advertising Manager (1990-91); Chair (1989-90); Chair-Elect (1988-89); Treasurer (1986-88); Networking Liaison (1985-86); Student Relations Committee (1983-85); Chair, Membership Committee (1982-83); Chair, Awards Committee (1980-81); Chair, Hospitality Committee (1979-80); Teller (1978-79).

SLA Association-level Activities: International Relations Committee (1991-94); Chair, International Relations Committee (1991-92); International Federation of Library Associations and Institutions (IFLA) Representative and Member of the Standing Committee on Information Technology (1993-97, 1989-93).

Publications (selected): Several articles in Chapter and Division publications and in *Special Libraries,* 1970 to present; *Top Secret/Trade Secret: Accessing and Safeguarding Restricted Information,* with Ellis Mount, Neal-Schuman (1985); Chapters for three books, including "The Use of Consultants to Strengthen Information Systems and Computing Resources," in *Using Consultants in Libraries and Information Centers: A Management Handbook,* edited by E.D. Garten, Greenwood Press (1992); and "Information Specialist as Change Agent at Research and Development Laboratory, in *Opening New Doors: Alternative Careers* *for Special Librarians,* edited by E. Mount, Special Libraries Association (1993); "SLA Focuses on Total Quality: A Vision for the Future," with Richard Hulser, in Library HiTech News (1993).

Other Professional Activities: International Federation of Library Associations and Institutions (IFLA), Co-Chair, "Workshop on Retrospective Catalog Conversion," National Library of Science and Technology of the USSR, Moscow, Russia (August 1991); American Society for Information Science (ASIS); National Organization for Women (NOW); League of Women Voters.

For Director

BRUCE A. HUBBARD

• **BRUCE A. HUBBARD** is a Librarian at DTI Market Service, part of the Danish Technological Institute, in Taastrup, Denmark.

Past Employment: Librarian, Danish Technical Information Service [(1984-1992)—The company merged with DTI in 1993)]; Chief Librarian, Brown & Caldwell Consulting Engineers (1978-84); Librarian, Hempel's Marine Paints A/S (1975-1978).

Education: B.A. (Classics), University of Oregon (Honors College) (1971); M.L.S., University of Michigan (1974); M.A. (Latin), University of Michigan (1974).

SLA Member Since: 1977.

SLA Chapter Activities: *San Francisco Bay Region Chapter:* Program Committee (1982-83); Hospitality Committee (1981-82); Chair, Consultation Committee (1981-1983); *European Chapter:* National Representative for Denmark (1993-1996); Director (1993-1996).

SLA Association-level Activities: International Relations Committee (1994-96).

Publications: "Business Information from Databases—A European Perspective" (Joint author), in *Proceedings of the 12th International Online Information Meeting:* London, 1988; "Deadheads et Netheads" (an article about Internet and the Grateful Dead), *Wave* 4:1 (1994).

Other Professional Activities: Director, Danish Association for Information and Documentation (1985-1991); Editorial Advisor for Denmark, *Who's Who in the European Information World 1994*; Adjunct Instructor, Royal Danish School of Librarianship (1988-90).

SHARON CLINE MCKAY

• SHARON CLINE MCKAY has been Marketing Manager for the Horizon client/server system, Ameritech Library Services, Special Library Division, Provo, UT since 1993.

Past Employment: Vice President Marketing, CASPR, Inc. (1992-93); Director of Library Automation, EBSCO Subscription Services (1988-92); Sales Representative, EBSCO Subscription Services, Northwest U.S./Pacific Islands office (1987-88); Library Automation Consultant [independent] (1985-87); Online Services Coordinator/Product Manager, CLASS (1980-85); Head of Acquisitions/Reference Assistant, University of California Library (1967-80).

Education: B.A. Administrative Studies, University of California, Riverside (1977); M.S.L.S., School of Library and Information Management, University of Southern California, Los Angeles (1980).

SLA Member Since: 1985.

SLA Chapter Activities: *San Andreas Chapter:* Treasurer (1991-93); Strategic Planning Committee (1992-93); Chair, Advertising/Publications Committee (1987-88); member, Program Committee (1986-87); *San Francisco Bay Region Chapter:* member (1980-93); *Rocky Mountain Chapter:* member (1993-).

SLA Division Activities: *Information Technology Division*: Chair, Awards Committee (1994-); Chair, Membership Committee (1992-94); Past Chair (1991-92); Chair (1990-91); Chair-Elect (1989-90); Secretary (1980-82).

Other Professional Memberships: American Library Association; member of various ALA committees and active in the Library and Information Technology Association (LITA) and the Association for Library Collections and Technical Services (ALCTS) since 1977.

Awards/Honors: San Andreas Chapter Service Award (1993); Phi Beta Mu.

Publications: Various articles on technology in journals for librarians and information professionals; column on library technology in *At Your Service...*, published by EBSCO Subscription Services (1988-92); editor of *Views*, published by Ameritech Library Services (1993-); numerous Chapter and Division bulletin articles.

Other Professional Activities: Adjunct associate professor for the Division of Library & Information Science, San Jose State University (1982-87); Organizing/Reviewing Committee, Integrated Online Library Systems conference (IOLS), New York, NY (1993, 1994, 1995); frequent speaker and moderator at SLA Chapter meetings, SLA Annual Conference, and other library and information technology conferences and meetings.

ELLEN MIMNAUGH

• ELLEN MIMNAUGH is Product Manager, Online Services at Chemical Abstracts Services (CAS). She was previously a member of the North American Sales team. She has also acted as an intrapreneur with the CAS Search Service. She joined CAS in 1988.

Past Employment: Consultant, Information Consulting, Inc. (1975-88); Assistant Librarian, McDonnell Douglas Aircraft Co. (1967-70); Information Scientist, National Lead [NL Industries (1967)]; Information Chemist, Shell Chemical Co. (1962-67).

Education: A.B. (Chemistry), Rosemont College (1962); M.S., Columbia University School of Library Science (1966).

SLA Member Since: 1966.

SLA Chapter Activities: *Central Ohio Chapter:* Co-Chair, Great Lakes Regional Conference II (1990-92); Long Range Planning (1988-90); President (1987-88); President-Elect (1986-87); Treasurer (1983-85). *New Jersey Chapter:* Bulletin Editor (1977-78), member (1975-76). *Princeton-Trenton Chapter:* member (1975-78); *Los Angeles Chapter:* member (1968-70); *New York Chapter:* member (1966-67).

SLA Division Activities: *Information Technology Division:* Chair (1992-93); Chair-Elect (1991-92); Chair, Nominating Committee (1993-94); Chair, Long Range Planning Committee (1990-91); Program Planner (1989-90); Chair, Technical Services Section (1988-89); Chair-Elect, Technical Services Section (1987-88); Chair, Membership (1984-87). *Library Management Division:* Nominating Committee (1993-95); Treasurer (1988-90); Chair, Consultants Section (1985-86). *Chemistry Division:* Bulletin Business Manager (1993-95). *Business & Finance Division:* member. *Pharmaceutical Division:* member.

SLA Association-level Activities: Visioning Committee (1992-94); Nominating Committee (1989).

Other Professional Memberships: American Chemical Society Division of Chemical Information; Central Ohio ASIS; Franklin County Library Association; Central Ohio SLA Representative, OCLIS [Ohio Council of Library and Information Sources (1988)]; Advisory Board, Ohio Dominican College Department of Library Science (1988-90).

Publications: "Association Insights: Planning a Regional Conference," *Special Libraries* (Winter 1995); *Filing Rules for Small Chemical Libraries*, Allenhurst, NJ: Information Consulting, Inc., 1978; *Thesaurus of Air Pollution Terms*, Bound Brook, NJ: Research-Cottrell, 1976; published book and software reviews and proprietary technical reports.

Julia C. Peterson

• Julia C. Peterson has been Director, Cargill Information Center and Corporate Archives, Cargill, Inc., in Minneapolis, MN since 1977.

Past Employment: Business Reference Librarian, Caterpillar Tractor Co. (1973-76).

Education: B.A. (Art History), University of Missouri (1971); M.L.S., University of Missouri (1972); a variety of business courses.

SLA Member Since: 1972.

SLA Chapter Activities: *Minnesota Chapter*: Public Relations Chair (1987-88); Employment Chair (1983-86).

SLA Division Activities: *Food, Agriculture & Nutrition Division:* Chair (1985-86). *Library Management Division:* Secretary (1989-91); Chair, LMD/Dialog Leadership Grant Program (1993-95).

SLA Association-level Activities: Professional Development Committee (1992-1995); Conference Planning Committee (1992); Public Relations Committee (1987-90).

Other Professional Memberships: American Library Association LAMA; Conference Board Information Advisory Council; International Association of Agricultural Librarians and Information Specialists; United States Agricultural Information Network; Associates of the National Agricultural Library; John Cotton Dana Award-Judging Committee; Alumnae Advisory Council, Graduate School of Library and Information Science, University of Missouri; Task Force on the Future of Academic Library in Minnesota.

Awards/Honors: SLA John Cotton Dana Award (1994); Cargill Community Volunteer Award (1994); Food, Agriculture & Nutrition Division Distinguished Member Award (1993); Minnesota Chapter Quality in Action Award (1993); ALA John Cotton Dana Award for Library Public Relations (1988, 1990).

Publications: *Agricultural Information Resource Centers: A World Directory 1990*; Associate Editor, *Journal of Agriculture & Food Information.*

Other Professional Activities: President, United States Agricultural Information Network; Executive Board, Board of Directors of the Associates of the National Agricultural Library; Cargill Technical Affairs Committee; Cargill Political Action Steering Committee; Past President, Cargill Women's Council; Cargill/ALA Family Literacy Steering Committee.

IFLA 1994: Libraries and Social Development

by Dorothy McGarry

Nearly 1,500 people from approximately 80 countries attended the 60th IFLA general conference August 21-27, 1994. Held in Havana, Cuba, it was IFLA's first conference in Latin America. More than 50 workshops and 185 contributed paper sessions provided opportunities for librarians from around the world to meet and exchange information.

About 430 Cuban librarians and more than 100 U.S. librarians actively participated in the conference. Many of the U.S. delegates and a number of delegates from other countries traveled to Havana through Miami, FL via charter flights which take less than an hour between those two cities. Others chose to travel to Cuba through Canada or Mexico. Many brought gifts of books and/or medicines to Cuba. One day the charter flight from Miami had a bomb threat. Most of the delegates who were on the airplane that day chose to take the flight to Havana the next day; others chose not to take the trip. While the conference was going on, U.S. President Clinton spoke about reducing the number of charter flights to Cuba and other restrictions, which added to the concerns of some of the delegates about the effects of such actions on Cuba and about their own return transportation to Miami.

Overall, the conference facilities were very good, and simultaneous translation was provided for many of the sessions. In addition, a number of Cuban English language students served as translators in some of the small meeting sessions and provided excellent assistance and information to delegates throughout the conference. Prior to the conference, the Cuban organizers set up a listserv to provide information on the program and about Havana's hotels, museums, embassies, etc. At the conference the organizers provided electronic mail access to all delegates who wanted it.

Marta Terry, director of the Cuban National Library and IFLA second vice-president, Robert Wedgeworth, IFLA President, and Cuban Minister of Culture Armando Hart Davalos spoke at the opening session. Cuban poet Cintio Vitier delivered the keynote address. Vitier has published books of poetry and several anthologies, and has produced extensive work as a critic and essayist.

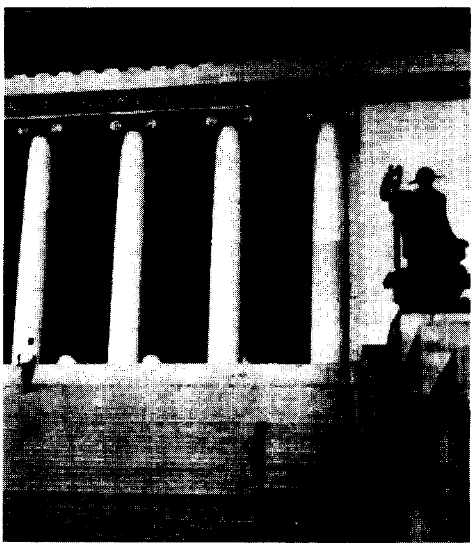
Progress reports on the five IFLA Core Programmes were provided at an Open Forum. The five programmes are Advancement of Librarianship; Preservation and Conservation; Universal Availability of Publications (UAP); Universal Bibliographic Control and International MARC (UBCIM); and Universal Dataflow and Telecommunications. A summary of two of these programmes follows:

- The UAP Programme has begun work on the implementation of a voucher scheme to simplify payment for international lending and has produced guidelines on the use of telefacsimile in interlending. A survey of the use of ISBNs was recently completed, and indicated that ISBNs are used as an additional tool rather than a vital one in interlending. The UAP Office has also looked at copyright in transmitted electronic documents.
- The UBCIM Programme has undertaken several projects in cooperation with the Division of Bibliographic Control: revision of *Names of Persons*; preparation for publication of *Guidelines for*

Subject Authority and Reference Entries; and involvement with an International Conference on National Bibliographic Services, to be held in 1997 in Copenhagen, Denmark. The programme officer also works with the Permanent UNIMARC Committee and has participated in workshops and seminars on UBC and UNIMARC.

Receptions are an enjoyable part of each IFLA conference, and the 1994 conference receptions in Havana were excellent. The first reception, hosted by the Government of Cuba, was a cultural gala at the National Theater of Cuba, featuring a performance by the Danza Contemporanea de Cuba. The reception held by ASCUBI (the Cuban Association of Librarians) at the Jose Marti National Library included performances, dance music, and a fair/ bazaar which offered arts and crafts and other souvenirs for sale. The Government of the City of Havana held a reception at the National Library of Science and Technology, which featured Cuban dancers and music. Group visits to many types of libraries were available, and the IFLA attendees could make arrangements for individual visits also.

The delegates had the opportunity to meet many Cuban librarians during the week, and to find out about their accomplishments as well



Attendees enjoyed Cuban dance and music at the National Library of Science and Technology.

as the needs of the libraries. Many serials have been dropped from Cuban libraries since 1990, and many reference books are old, although the librarians try to provide good service within the limitations under which they work.

One of the many interesting and worthwhile aspects of an IFLA meeting is that many papers are given by members of the host country and the neighboring areas. Also, attempts are made to provide speakers from various countries, so that each conference provides great opportunities for learning, meeting new colleagues, and renewing old acquaintances.

An international paper company provided one million sheets of paper for the conference, and the paper handling was excellent. Papers received by the IFLA Headquarters deadline were printed in booklets and papers received after the deadline were available quickly and efficiently at the conference center. In addition to the hard copies of papers, attendees could purchase a disk containing all the papers in the pre-printed booklets as well as the papers that were added until the last day of the conference. Videotapes of highlights of the conference, individual speeches, and the closing ceremony were also available for sale. The IFLA exhibition was held in a building separate from the conference building, and buses were provided to take delegates back and forth. About 70 exhibitors from Cuba and other countries staffed booths and displayed their products. Product presentations, book signings, and showings of Cuban films took place at the exhibition center. Another eight to 10 booths were in the conference building itself.

A pre-session seminar, "Libraries for literacy in socially and geographically isolated communities," was held in Matanzas, Cuba, August 15-19, 1994. Resolutions from the seminar encouraged IFLA to give priority to the establishment of a programme to promote literacy, linked to and supported by all relevant groups within IFLA; that the IFLA Section of Public Libraries and the Section of School Libraries work together on school and public library relationships; that IFLA urge its national association members and institution members to work with their national United Nations Educational, Scientific, and Cultural

Organization (UNESCO) Commissions to ensure that the next UNESCO Programme, Budget, and MTP include a firm commitment to the revival and preservation of the oral tradition; cooperation in the production and distribution of relevant reading materials in countries that have common languages and/or a common culture experience; the production, distribution, and promotion of materials in different formats for groups with special needs. A resolution to UNESCO was that it more actively inform library associations and institutions about published results of research into literacy questions and reading promotion, and make these publications easily available to public libraries that need them.

Subtopics for the conference included: Libraries, family and society; Library policies for social and cultural development; New library technologies and social development; Library research and training for social development; Library cooperation; Library services for disadvantaged persons; and Libraries and conservation of the environment.

A number of librarians from the United States and Puerto Rico signed a statement which was drafted during the conference by several of the U.S. delegates, urging a reevaluation of U.S. policy towards Cuba, leading towards a normalization of relations and an ending of the U.S. economic blockade. After the conference, the statement was sent to several library journals, U.S. President Clinton, members of the U.S. Department of State, and major newspapers, among others.

An article on the IFLA conference in the October 1994 *American Libraries* pictures two SLA members, Martha McPhail, who is shown on Revolution Square in downtown Havana, and Monica Ertel, who is shown delivering a package of medical supplies to a Cuban librarian at the Biblioteca Nacional Jose Marti. SLA member Wilda Newman is mentioned in the article for planning collaboration with Maria Santos of the University of Havana to send materials to the university library and the National Science and Technology Library, working through SLA committees. Peggy Sullivan, in her report in the same issue, mentions attendance at the conference by SLA Executive Director David Bender "... who continues to play a major role in IFLA's Round Table on the Management of Library Associations. . ."

Bender and several SLA representatives to IFLA provided reports of the conference in time for this publication. The complete reports on the activities mentioned below and copies of Bender's speech are available, as well as many of the papers presented at the open sessions of the sections and roundtables and as contributed papers. Please contact me by e-mail at Internet: ecz5ctt@mvs.oac.ucla.edu or at the University of California, Los Angeles, Science & Engineering Library, 405 Hilgard Ave., Los Angeles, CA 90024-1598; (310)825-3438; fax (310)206-3908 for copies or for further information.

Bender reported that his major conference activities centered around the following:

- Chairing the Roundtable for the Management of Library Associations and the Executive Committee Meeting of the Roundtable. The work of the committee focused on the Istanbul Open Program Meeting for 1995, the Model Library Association Project, the Development of Library Association Activities in Eastern Europe, and a directory of library associations and codes of ethics.
- Chairing a half-day workshop on the Management of Library Associations, and presenting a paper on "Management of Professional Associations." The content of the workshop is reflective of a set of guidelines prepared by the Roundtable and published by UNESCO.
- Chairing the Open Meeting of the Roundtable on "Membership Services." Three speakers provided insights on issues ranging from professional development and union activities to public image and professional identity.
- Bender also held a number of discussions with Latin American colleagues,

as well as with other members of the international information community.

- He also met with IFLA's Secretary General, Leo Voogt, to share a number of comments about global transfer of information and SLA's 2nd International Conference on Special Librarianship in the Year 2000.

Jean Shaw Adelman reported on the Section of Art Libraries, which she said had "eye-opening and successful meetings in Havana." She reported that:

- Work continued on the second edition of Ian Sinclair's multilingual *Glossary for Art Libraries* and on development of a new edition of a directory of art libraries worldwide.
- Colleagues at the library of the National Museum of Fine Arts organized a special tour of the library. The associate director of the museum led the group through all of the permanent exhibit galleries for a synoptic review of Cuban art and a glimpse of the impressive collection of Greek vases and Egyptian antiquities.
- The program session consisted of four papers on "Library Collections of Latin America and Caribbean Art Materials Inside and Outside the Region."
- The Section's day-long workshop on "Libraries as a Bridge between Artist and Society" was held in the auditorium of the National Museum of Fine Arts. Papers were presented by speakers from the Museum of Fine Arts, Houston, TX; the Russian State Library, Moscow, Russia; the University of Wales College of Cardiff; Syracuse University, Syracuse, NY; South African National Gallery, Cape Town, South Africa; San Diego State University, San Diego, CA; and the National Museum of Fine Arts, Havana, Cuba.
- Adelman concludes: "In addition to the structured IFLA programs, members of the section made an effort to visit the National University of Arts, other museums, and Cuban artists as well, so we all came away having had a very rich and rewarding experience and an appreciation of the energy in both the library and art world in Cuba."

I reported on the Section on Classification and Indexing, of which I am secretary.

- Topics at the open program included papers on classification and indexing in Cuba, the process of constructing a thesaurus and automatic indexing of photographs in the National Library of Brazil, and the sociological aspects of classification.
- A report on the section's activities was presented by Section Chair Donna Duncan at the Open Forum of the Division of Bibliographic Control.
- The division held an all-day workshop as a follow-up to the Seminar on Universal Bibliographic Control which was held in Rio de Janeiro, Brazil in March 1993. Donna Duncan and Dorothy McGarry, the two section officers, had participated in that seminar.
- The Working Group on Principles Underlying Subject Heading Languages discussed a draft document including a statement of the principles which had been developed previously as well as examples from a number of subject heading systems. More examples from other systems will be collected and a revised draft distributed early in 1995. A worldwide review will be held following further revision.
- The section is cooperating with the Section on Information Technology in a joint Working Group to develop a UNIMARC classification format.
- The papers from the section's satellite meeting, "Subject Indexing: Principles and Practices in the 90's" held in Lisbon, Portugal in August 1993 will be published in early 1995.
- Plans for the 1995 Istanbul, Turkey meeting include papers on classification and indexing in Turkey, problems in work on adaptations and expansions of classification systems in Iran and the Arabic coun-

tries, and on the Principles document mentioned above. Plans for the 1996 Beijing, China IFLA meeting will include a paper on classification and indexing in China.

Una M. Gourlay reported on the Section on Document Delivery and Interlending.

- The topic of the open program was "Regional Cooperation in Interlending and Document Delivery in the Caribbean and Latin America."
- The workshop topic was "Document Delivery via Internet," including talks on recent developments in document delivery by Internet in North America, some ongoing technical work on protocols and standards, and some of the technological, sociological, and economic barriers which must be removed before Internet is truly a global network.
- A report on activities of the Core Programme on the Universal Availability of Publications was provided.
- A project on "Guidelines for packaging materials for interlending" has been undertaken by some members of the Standing Committee. A report is due in 1995.
- A two-year project was undertaken to find methods of establishing international document delivery systems between industrialized and developing countries. This will involve establishing electronic network links as well as supporting negotiations with some main European documentation centers and libraries to obtain favorable bulk treaties for developing countries. The project will begin in 1995.
- The Standing Committee expects to plan a project on principles and practices in charging for interlending and document delivery and will investigate a joint project with other sections on the development and use of union catalogs in parts of the world where this information is still lacking.
- Planning for the 1995 IFLA conference included participation in a combined program on access and service and a workshop on involvement of the library user in document delivery and interlending.

IFLA delegates took advantage of many networking opportunities at the 1994 Conference.

Martha McPhail reported on the Section on Education and Training.

- An open forum on "Aspects of LIS Degree Equivalencies" provided information on efforts by European and Anglo-American programs to assess curricula equivalencies of other nations' library and information science programs. Audience members contributed accounts of other nations' practices.
- The Standing Committee of the section decided to examine and revise the IFLA standards for Library and Information Science (LIS) education which were written in 1976.
- An interesting workshop was held with local Cuban LIS educators, whose dedication, skills, and achievements were impressive. Although lacking essential equipment and supplies, the LIS programs enroll several hundred students who will be educated and trained as librarians and staff.
- McPhail said the opportunity to meet, interact, and exchange ideas with Cuban colleagues was a highlight for members of the section.
- The 1995 IFLA conference in Istanbul will feature a section workshop on "Teaching Research Methodology," and the theme of its open forum will be "Internationalizing and Integrating New Topics into the LIS Curriculum."

Wilda Newman reported on the Section on Information Technology.

- A brochure that she prepared was adopted and will be distributed in English in 1995. She will also coordinate translation of the brochure into the other IFLA languages.
- Among the section's projects is the creation of a multilingual system database, to include vendors with systems that handle more than one script. Monica Ertel reported to the Standing Committee on this database. Newman is working on a project on "Standards for Graphical User Interfaces for Multiscript Library Systems," a feasibility study on the development of standards for GUIs for information retrieval and online public access systems employing universal prompt symbols, independent of any language or script. Another section project is a proposal for development of an inventory of multimedia software suitable for libraries and museums.
- The Standing Committee established an ad hoc planning committee for a seminar on developments in the area of multiscript and multilingual systems. Ertel is a member of this planning committee. The seminar, which may be held in 1996, will be a follow-up to the August 1993 "Multilingual and Multiscript Automation" seminar held in Madrid, Spain.
- The Standing Committee heard and discussed reports on activities of the Universal Bibliographic Control and International MARC Programme, the Universal Dataflow and Telecommunications Programme, the Universal Availability of Publications Programme, the Preservation and Conservation Programme, and the Advancement of Librarianship in the Third World Programme.
- The Section plans to make more use of the Internet for distribution of its newsletter, possibly combining it with the *UDT Newsletter*.
- Planning for the Istanbul conference includes potential cosponsorship with other sections in several areas. Some potential topics are the future of the scientific journal, electronic journals, multiscript systems, and a continuation of Internet programs.

Nancy Anderson, chair of the Section of Science and Technology Libraries, chair of the Special Libraries Division, and a member of the Professional Board, reported on activities of the section:

- Much of the discussion of the Standing Committee meetings focused on the 1995 and 1996 conference programs. The theme chosen for the Istanbul conference open session is "The Players in the Archiving of Electronic Journals," an offshoot of the Guest Lecture Series, "The Future of the Scientific Journal," which the Standing Committee is also helping to plan. A workshop with the International Association of Technological University Libraries will also be explored. The theme chosen for the 1996 Beijing conference open session is "Networking and Documentation of Electronic Journals," and the workshop theme is "Grey Literature."
- The Standing Committee project on "World Survey of Availability of Theses in Science and Technology" produced an electronic file which will be given to IFLA to put up on the IFLA gopher.
- A "Feasibility Study of the Use of Satellite Communication Channels for Electronic Data Transfer" is being pursued.
- The project on "Electronic Deposition of Full-Text Grey Literature Documents" was approved for funding. It is being planned to create an electronic depository of full-text grey literature.
- A new project has been approved for funding on "Survey of the Content and Structure of the Information of WWW/ Gopher Services of the IATUL and IFLA Section of Science and Technology Libraries." The initial phase will be reported on in Istanbul.

- The informational brochure has been revised, with English-, Russian- and Spanish-language versions distributed in Havana.
- The theme of the open session in Havana was "Social Barriers to Access of Sci-Tech Information." Some barriers include information literacy, linguistic obstructions, social barriers such as the lack of a research culture, poor reading habits, a low level of education and a poor information dissemination infrastructure. The papers given included "Information Literacy as a Barrier," by Barbara J. Ford; "Linguistic Obstructions to Scientific Information in High Technology Areas," by Jagdish C. Agrawal and Saud Al-Mathami, and "Scientific Information can be an Under-Used Commodity: The Mexican Case," by Jesus Lau.
- The workshop, on "Telecommunication Options for the '90s," was cosponsored with the Universal Dataflow and Telecommunications Core Program, the Section on Information Technology, and the Section of Social Science Libraries. The morning sessions concentrated on Internet basics and the afternoon session emphasized communication options.

Stanley Kalkus, who serves on the Standing Committee of the Section of Social Science Libraries, was the only member of the Standing Committee attending IFLA in Havana. He reported that:

- Preparations for the Istanbul Conference are well underway. An open session and a half-day workshop on CD-ROM will be held.
- A Standing Committee meeting was planned to be held in Prague, the Czech Republic, October 30-31. In conjunction with that meeting, a seminar on International Aspects of Social Science Libraries was to be held at the Czech National Library.
- In Havana, the section cosponsored a session on "New Communications Options in Use: Focus on Social Sciences" and a workshop on "Your Financial Justification of Your Strategic Plan."

Barbara Parry reported on the Section on Statistics.

- Progress reports on three current projects were presented. These include a directory of national agencies responsible for gathering library statistics, a study of publication pricing trends in countries around the world, and identification of a standard list of recommended statistical indicators for electronic resources/services in libraries. The first two projects are expected to be completed by the next IFLA Conference, while work on the third will continue.
- The topic of the open program was "Statistics in Latin America," where Modesto Zaldivar Collazo spoke on "Statistics in Information Institutions in Cuba." A presentation was also made on library statistics in Latin America and the Caribbean, based on UNESCO information.
- Preliminary program planning for the 1995 Istanbul conference focused on performance indicators, measures, and standards. The Standing Committee hopes to sponsor a session bringing together work underway within IFLA as well as in the International Organization for Standardization and the European Union.

In addition to these meetings, a number of other papers were presented on topics such as: library cooperation; the public library and reading by the masses; social change: its effects on librarians' ability to acquire materials; school libraries in cooperation with other libraries; conservation and preservation; government programs and publications on women; library buildings in Latin America; map collections for social development; supporting blind people in education and employment; developments in communication and document delivery from audiovisual to multimedia; preservation and access for rare books in Latin American libraries; and medical library developments in Latin America. Almost 40 poster sessions were presented, many by Cuban librarians.

Attendance at many of the meetings was small, and a number of Standing Committee members did not attend, making progress in some work difficult. Many meetings had excellent papers. Overall, IFLA 1994 was a successful meeting. It provided many opportunities to foster and expand international ties and relationships. It brought IFLA to a part of the world where it had never been, and encouraged valuable interaction with librarians who had never been able to attend an IFLA meeting before.

IFLA 1995

The 61st Council and General Conference, "Libraries of the Future," will take place August 20-26, 1995, in Istanbul, Turkey. Subthemes include: information technology and the restructuring of libraries; cooperative national and international information networks; the future of library materials; libraries and public education; and professional communication.

The official pre-session seminar, "Influencing the Decision Makers," will be held in Ankara, Turkey August 16-19. Workshops and satellite meetings to be held in Istanbul August 17-19 include: History of orientalist society libraries and orientalism; Libraries for the blind; Library buildings and equipment; Medical sciences and Islamic civilization with the emphasis on the role of the library and information; and Multicultural libraries.

The IFLA Council meets biennially to vote on officers and perform other business. Voting will take place in 1995 for president and Executive Board members, as well as for Standing Committee, Coordinating Board, and Professional Board officers. Members of Standing Committees are also elected biennially, prior to the conference. The Standing Committees are the working bodies of IFLA, and an individual can stand for election if nominated by one association or two institutions which belong to his or her section of interest.

Nominations for membership to IFLA Standing Committees are being accepted. Nominees should have a working knowledge of at least one language of the Federation and should have a reasonable expectation of attending meetings of the Standing Committee without cost to IFLA.

SLA is a member of and has vacancies on the following IFLA sections: Cataloguing, Classification and Indexing, Government Libraries, Information and Technology, Library Theory and Research, Science and Technology Libraries, School Libraries, Social Science Libraries, and University Librarians/Other General Research Libraries. One nomination can be made for each section for the 1995-1999 term. Contact Ernie Robinson, SLA Executive Assistant, for nomination forms and rules at (202)234-4700, ext. 616; fax (202)265-9317; Internet sla1@capcon.net. The deadline is January 15, 1995.

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Association Insights: Planning a Regional Conference

by Ellen Mimnaugh

Is there a regional conference in your chapter's future? If there is not, should you be thinking about it? If you are considering a regional conference, how should you go about planning for it? For answers to these questions and more, follow this account of how and why one chapter organized such a conference.

Back in the late 1980s, the Central Ohio Chapter of SLA actively reviewed its Strategic Plan and highlighted several objectives. Members wanted to interact more with other SLA groups. They also wanted to interact more with other organizations within the information community such as the American Society of Information Science, Medical Library Association, American Library Association, and the American Association of Law Librarians. They sought to improve the chapter's public relations. At the same time, they noticed that while some members attended annual conferences regularly, most members were not able to go to the conferences.

After attending a regional meeting of Great Lakes SLA Chapters in 1989 hosted by the Michigan Chapter, the chapter realized that if it hosted a regional meeting, all of the goals set in its strategic plan would be fulfilled. Members knew that planning good chapter meetings was not easy; therefore, planning a successful regional meeting would be more difficult. Good teamwork would be essential.

Could the chapter create a good team? The only way to find out was to make a presentation to members at an organizational meeting and then see if there were enough volunteers to chair and serve on committees. Willing members were needed to head the following committees: Finance, Public Relations, Fund Raising, Registration, Hospitality, Site, Logo, Student Liaison, and Program.

A secretary was also needed to keep track of progress and to remind the volunteers of action items each had committed to complete. Kay Landis of Ashland Chemical Company in Dublin, OH and Ellen Mimnaugh of Chemical Abstracts Service in Columbus, OH agreed to co-chair the event. They were bolstered by the enthusiasm and confidence gained by attending planning sessions hosted by the Michigan Chapter in anticipation of the first Great Lakes Regional Conference. The Central Ohio Chapter responded enthusiastically to sponsoring a regional meeting, and they had no trouble enlisting committee chairs and volunteers to serve on these committees. If the co-chairs had not found energetic volunteers, conference plans would have fizzled on the spot.

Five items required immediate attention. The chapter needed to select a site for the conference, the dates of the conference, a theme, and a logo. They also needed to establish a checking account. Most of these tasks were interdependent, so they were worked on simultaneously. Planning meetings were open to all interested parties from the Great Lakes Chapters. Due to the distances between chapters, these meetings were attended by members of the Central Ohio Chapter only. But input was actively sought from other chapters in the Great Lakes area. Selecting the conference dates was the easiest of these tasks.

The year 1992 was to be a banner year for the city of Columbus, OH. The largest U.S. city named for the explorer Christopher Columbus, Columbus was planning many activities commemorating the 500-year anniversary of the explorer's sailing to the new world. The activities allowed the chapter to offer many post-conference tourist events. An autumn event was ideal because it would not be too close to the SLA Annual Conference and would avoid the rigors of both summer and winter. Once the date of September 30–October 2 was chosen, it was logical to select a theme that would both commemorate Columbus' discovery and be appropriate for the information community. The chapter finally decided on *Exploration '92: Beyond the Horizon*, reminiscent not only of Columbus' historic journey but also of the future of the information profession.

After selecting the theme, attention turned to the logo, which ideally should reflect the theme. A clipper ship contrasted against a setting sun was chosen. It was important to create the logo as quickly as possible so the chapter could print stationery and begin using the logo in all conference promotions.

Choosing a site required a great deal of consideration. A hotel in downtown Columbus was sure to provide good facilities, and attendees would have access to a wide assortment of restaurants and entertainment. But the room costs would be higher than in the suburbs. A downtown site would also mean substantial fees for parking a car. The chapter projected that most attendees, both local and out-of-town, would need parking facilities. Columbus has many motels with good meeting facilities located next to interstate highways, so the hunt was focused on these first. A general plan for the conference programs was needed in order to select a site that could accommodate all the anticipated activities.

As the various qualifications necessary for a conference location were discussed, the chapter held luncheon meetings at each of the proposed sites. These meetings were attended by members of the Planning Committee responsible for site, hospitality, registration and programming. The luncheon meetings provided an opportunity not only to review meeting rooms but also to check the quality of the food and service. (At least one potential site was eliminated on the basis of poor service). The group also had the opportunity to reexamine how difficult it is to find the site, particularly for someone unfamiliar with the city.

As might be expected, the site that was selected provided a good area for registration, a place for a welcoming social hour, rooms for continuing education programs and plenary sessions, break out rooms for individual papers, facilities for a technology fair, and a banquet room. Equipment support for the programs was also provided, from microphones to a dais, telephone lines, and overhead projectors. The site was ideal; the motel was just off the freeway. The rates were 20-25% lower than downtown and parking was free. Now it was time to choose specific dates and negotiate a contract with the motel. The chapter contacted the local Chamber of Commerce and the Columbus Convention Center to learn what other events were scheduled that fall. The group also contacted The Ohio State University athletic office to learn the schedule of OSU's home football games. After all, the event was in Big Ten country; it is not wise to conflict with football even if the meeting was not planned for a Saturday. Anyone planning a conference needs to consider how local events could impact your conference.

The SLA headquarters office in Washington, DC provided some caveats in negotiating the hotel contract. Like most hotels, meeting rooms would be made available at no charge, provided that a certain number of rooms (in this case, 150) were booked in the hotel in the course of the conference. If only 100 rooms were filled, there would be a minimal charge; if only 50 were filled that charge would be higher. In addition , the hotel would provide a suite for the planning committee at no additional cost if 100 rooms were booked; a second suite would be provided if 150 rooms were filled. (The chapter needed at least one suite that would be open to workers from early morning until late night during the conference. The group also needed a place for guest speakers to "get away from it all" if need be).

Now the chapter was ready to sign the contract. In the meantime, the checking account was opened and a post office box was rented. The group could move full steam ahead toward the conference. With a firm date, what was most needed were time lines. Each committee created a time line indicating specific tasks with corresponding deadlines. These were merged into a single time line. When a task of one committee affected the task of another, realistic deadlines were negotiated to reflect the chapter's objectives. From here on, most committees worked independently. It was not necessary for all members of the Planning Committee to meet regularly, but full meetings were held quarterly until the conference was a year away, then monthly, and finally weekly beginning eight weeks before the big event.

A description of the functions of each committee follows, including a greater level of detail as to how each committee operated and interacted with other committees.

Finance

Surely the success of any conference is measured by fiscal accountability. The Finance Committee was responsible for budgeting for the entire conference. The number of attendees was projected, and all calculations were based on the worst-case scenario. That is, for expenses, the committee always projected the highest cost anticipated and for income the lowest anticipated amount. The Finance Committee worked closely with the Fund Raising Committee to maximize income. The committee also worked closely with the Planning Committee as a whole. The actual fees charged for registration were set by the Planning Committee after considerable consultation with the Finance Committee.

At Great Lakes Regional Conference II, Finance and Registration were handled as a joint committee. This eliminated the need for tracking the receipt of money for registration in two places. As an added bonus, when questions or problems arose, this provided a single source of resolution.

The Finance Committee also helped set the chapter's fiscal goals. Making money from the conference was *not* the objective. Instead, interpersonal networking and continuing education were the objectives. But the chapter believed that regional meetings were a good idea. The chapter was undertaking this venture with seed money from the Michigan Chapter. The seed money actually represented a modest profit that had been realized by the first Great Lakes meeting. Accordingly, the chapter set as an objective that it would realize sufficient money to provide seed money to yet another SLA Chapter in the Great Lakes area for a third Great Lakes Regional Conference.

Fund Raising

With the budget set, it was time to raise some money in order to keep registration for the conference as affordable as possible. Subcommittees were established to raise funds from SLA chapters and divisions and from vendors. In all cases, the committee offered to acknowledge the support of donors in the preliminary and final conference programs if funds were received by specified dates. Sponsorship of specific programs or activities was encouraged, and the committee coordinated with the Programming Committee to inform potential sponsors about programs which could be sponsored. Solicitation was timed to maximize sponsorship, six to nine months prior to the actual conference.

Donations were solicited from all Ohio chapters and all chapters bordering the Great Lakes because the chapter expected that attendees would be members of these chapters and speculated that the interaction with Central Ohio Chapter members would be as beneficial to other chapters as it would be them.

Funds were solicited similarly from SLA divisions. While all divisions were approached, follow-up was restricted to larger divisions, particularly those whose interest coincided with the conference programming.

Support from vendors was also solicited. Most of the vendors are the same ones that exhibit at annual conferences, but local book dealers and jobbers as well as local computer equipment suppliers were also contacted.

Lastly, "in kind" donations were sought, mostly from the employers of the Planning Committee members. These donations turned out to be quite substantial. In almost every instance, planners were able to do some of their planning while "on the job." In addition, the services of a commercial artist to create the conference logo were obtained at no charge. The promotional materials and both the preliminary and final programs were also printed at greatly reduced costs through the generosity of one parent organization. Contributions of this sort ultimately resulted in a more substantial profit than was anticipated.

Hospitality

This committee was comprised of members almost exclusively from the greater Columbus area. Although its primary function was to assist attendees in locating restaurants, shopping malls, and other activities, it also worked closely with the Site Committee in selecting menus. In general, its objective was to see that attendees enjoyed their stay in Columbus. The committee gathered information for and put together the registration packet. Committee members worked closely with the Fund Raising Committee to solicit "in kind" donations of note pads, pens, briefcases, etc. They also helped the Public Relations Committee solicit materials on restaurants and other extracurricular activities.

Logo

As mentioned previously, the Logo Committee was formed as soon as the chapter decided to hold a regional meeting. Several variations of logos were submitted to the planners and the field of possibilities was narrowed. Suggestions were made and the logo was redesigned. It was finalized after only two or three rounds and was sent to the Public Relations Committee. This was the first committee to complete its work.

Program

Without strong programming, no meeting will be a success. Planning for a regional meeting is not the same as planning an individual chapter meeting; nor is it the same as planning for an annual conference. In planning an annual conference, great detail is provided by division planners for their members. But annual conferences average 5,000 attendees; the chapter projected only 200 attendees for the Great Lakes Regional Conference. Consequently, planning topics were limited to broad areas which the group hoped would appeal to all SLAers in the Great Lakes area. The topics of focus were management, technology, and business issues.

The chapter decided to offer three days of events. Day One (Wednesday) featured Continuing Education events. Day Two (Thursday) started with a plenary session. After a coffee break, three papers were given concurrently. These sessions were repeated after a five-minute break. At lunch time a technology fair started. The fair continued until late afternoon while three more papers were offered concurrently and then repeated. (It was the committee's hope that by repeating the papers, attendees would be able to choose two out of three papers that interested them. To a degree, this concept alleviated the frustration one often feels at an annual conference when one has to choose between two or more good papers that are being presented simultaneously). The morning of Day Three was structured similarly to the previous morning. In lieu of a banquet, a formal conference luncheon with a feature speaker was offered. Because Columbus is home to many key organizations within the information industry, tours of several of these sites were planned.

It should be noted that from the beginning, programming ideas were sought from all the Great Lakes Chapters of SLA. Because of the distance involved, it was not easy for members of other chapters to attend either programming or planning meetings. Chapter members kept in touch through SLA Annual Conferences and Winter Meetings leading up to this regional event. Many communicated via the Internet; others shared ideas via phone and fax. A program evolved from all these separate communications. Once the committee knew what topics it wanted, suggestions for good speakers were solicited. Input from other chapters and divisions was particularly helpful at this stage.

Without quality programming, no regional meeting will succeed. No matter how well the chapter planned or how conscientious its members were, an event of this magnitude was not likely to come off without unforeseen complications. Therefore, disaster planning was incorporated in the programming. Essentially, this meant that a distinguished chapter member agreed to be a backup speaker in the event that one of presenters canceled at the last minute. In fact, the chapter came very close to using its backup! A speaker from New England became ill and could not make her plane as scheduled. Fortunately, she had a speedy recovery and arrived at the conference only 10 minutes before curtain time.

Perhaps one of the smartest things the chapter did was to assign a member of the Programming Committee to shepherd each guest speaker. The shepherd contacted the speaker six to eight weeks prior to the conference to help coordinate travel arrangements. This reminded the speaker of the conference and gave the speaker the name and number of a person to contact in case of a problem. The shepherd offered to pick up and return air travelers to the airport. Those traveling by car were given a preliminary program that contained route information from all directions. Once the speaker was on site, the shepherd was available to handle any problems.

To facilitate programming efforts, the Continuing Education, Technology Fair, and Tours Subcommittees were formed. Each of these groups had its own difficulties to deal with.

Continuing Education

This committee was concerned with CE credits, and worked closely with SLA headquarters to see that these were available to attendees. Being optimistic, the subcommittee planned four concurrent all-day sessions. Each was priced separately to recover the cost of holding the seminar. The subcommittee worked with the Association office to schedule some of its CE courses, and also worked with the Pharmaceutical Division to schedule one of its CE courses in conjunction with the meeting. The subcommittee reserved the right to cancel any continuing education program for lack of registration. When pre-registration was reviewed 30 days prior to the conference, the group chose to cancel two courses. It was interesting to note that cost was not a factor when attendees chose which CE course to attend. The most expensive of the sessions was very well attended.

Technology Fair

The Technology Fair is a key element in a regional conference. All of the planners agreed that one of the primary benefits of attending an annual conference was browsing the exhibits to learn what's new in the world of information. Exhibitors were limited to those that had some technology to offer, such as online vendors, OPACs, etc. Exhibitors were not charged for space, but were required to pay any additional charges incurred from phone lines, equipment rental, etc. The subcommittee was not convinced that vendors would be willing to pay for space at a regional meeting. However, this portion of the meeting was highly successful. With that knowledge, the chapter recommends charging for space at future regional meetings. If space is limited, exhibitors can be restricted to invitees only.

The committee anticipated that this event might be of particular interest to other information groups in the Columbus area, and therefore sought and obtained collaboration from CALICO (the Columbus Area Library & Information Council) in planning this activity. This resulted in a high number of Technology Fair only participants.

Tours

These pose another set of unique problems. Not only was it necessary to cooperate with people at various tour sites, but the subcommittee also had to provide transportation to and from these sites. The group decided not to charge for these tours, but limit attendance to pre-registrants only. This limit was imposed in order to hire the right size and number of buses.

Public Relations

The Public Relations Committee had a broader scope than usually associated with public relations. In addition to the press releases promoting the regional meeting, the Public Relations Committee also printed, sorted, and mailed the preliminary program. It obtained a mailing list from SLA headquarters of the all Great Lakes Chapters and members in Kentucky, as well as the mailing lists of selected divisions. The committee was also able to obtain mailing lists for the American Society of Information Science sections in Ohio. In addition to the print version, the program was published on various electronic listservs and bulletin boards as well as in the publications of other Ohio library organizations.

In cooperation with the Programming Committee, room and speaker signs were provided for each event through the Public Relations Committee.

Registration

This is another complex chore that was well managed through the creation of a database. The database had key information regarding the attendees: their names, addresses, phone numbers, chapter and division data, and the events for which they registered. From the database, name tags were generated that indicated whether the attendee was registered for the entire conference, a CE course, a single day, the technology fair only, and/or tour participation. This database enabled the Registration Committee to compile statistics regarding the attendees.

On paper, this sounds much simpler than it actually was. Once the preliminary program was in the mail, the post office box had to be monitored regularly for new registrations, bank deposits had to be made, and entries needed to be made in the database in a timely fashion so the registration progress could be monitored.

Because this task was done well, the committee knew 30 days in advance of the conference that it was not going to achieve its optimistic targets. This knowledge allowed the chapter to tighten its belt by making some hard decisions, notably the cancellation of two continuing education programs. This decision meant that the chapter would not incur costs for air fare, accommodations, and speaker fees that could not be recovered. Late and on-site registration was far greater than had been estimated, but these cost-cutting actions were still appropriate.

In the hopes that other conference planners might not have to face such tough decisions when planning a regional meeting, the chart at the bottom of this page shows the flow of income prior to the conference. (N.B. that 100% is the amount of revenue projected in the chapter's budget as revised 30 days prior to conference).

Site

The Site Committee was an interesting committee because most of its work came at the beginning of planning and again as the conference drew near. Once the site had been selected, the Site Committee had a lull until the programming was in place. At that point, it worked with the Programming Committee to see that equipment, electrical connections, and telecommunications would be available as

Conference Income

Days prior	60	45	30	15	final
Cash contributions	87%	98%	98%	98%	98%
Program Sponsors	114%	114%	114%	114%	114%
Registration	2%	17%	64%	91%	124%
CE Courses	0	0	85%	93%	130%

needed. It is interesting to note that in this case, the motel did not have phone lines into any of the meeting rooms. The committee did such a good job that it convinced the motel management that additional phone lines would help the hotel book future conferences. As a result, the motel installed more lines at no cost to the chapter. Keep this type of friendly coercion in mind when planning a meeting.

The Site Committee members were also very active during the conference trying to avert disasters of any kind. Because the needs of the speakers had been well anticipated, there were only minor problems at the time of the conference.

Student Liaison

There are two library programs in Columbus (the Kent State graduate program and Ohio Dominican College undergraduate program), and numerous other library schools within a three- to four-hour drive of Columbus. To attract students at these schools to the conference, the chapter established special pricing to make attendance more affordable for them.

Pricing

There was no Pricing Committee; prices were set by the Planning Committee as a whole. Four months prior to the event, the chapter examined its projected costs and the success of its fund raising efforts, and tried to establish reasonable prices that would allow for belt-tightening if necessary. At the same time, if the chapter far exceeded its expectations, it could afford to be more generous in meal planning and coffee breaks. CE courses were self-sustaining, so each was priced separately. The chapter wanted to encourage full conference participation, so it allowed for one-day registrants, but at a premium price. Special consideration was also given to students, as noted above.

Conclusion

The Great Lakes Regional Conference II was both a financial and intellectual success. The chapter made much more money than it had anticipated, mostly due to last-minute registrants and the popularity of the Technology Fair. But the chapter's success went far beyond monetary rewards. Many of the goals outlined in the chapter's strategic plan were achieved, and the group's intrachapter networking greatly increased. Many attendees were members who have not profited from attending an annual conference. In addition, the chapter now regularly plans to meet with other Great Lakes Chapters at the SLA Annual Conference in a social setting. The group is also trying to schedule interchapter and interassociation programs more often. The chapter looks forward to the next Great Lakes Regional Conference in Chicago, IL, March 22-24, 1995.

This article describes the various committees and the roles that they played in making a regional meeting possible. In almost every case, the objectives set for each committee overlapped with the work of another committee. The meeting was successful because of the teamwork of the Planning Committee. The team which was assembled to organize the regional meeting has an energy which is now devoted to other Association activities. Is all this effort worth the trouble? You bet!

Ellen Mimnaugh is Product Manager, Online Services at Chemical Abstracts Service in Columbus, OH.

THE POWER OF INFORMATION

TRANSFORMING THE WORLD

SPECIAL LIBRARIES ASSOCIATION•86th ANNUAL CONFERENCE
MONTRÉAL•JUNE 10-15, 1995

This year SLA will be host its 86th Annual Conference in wonderful, exciting, and exotic Montréal, where you will experience the unique charm of European traditions that have been blended into Canadian culture. Montréal, with its romantic French culture, is ready to welcome our convention with open arms.

Theme

The theme for SLA's 86th Annual Conference in Montréal, "The Power of Information: Transforming the World," challenges us to explore information's power to change us and the world we live in. Information is available to more people in more places than ever before. The speed at which information can be delivered and exchanged is unprecedented. Empowered information professionals are becoming movers and shakers in this exciting transformation. They are recognized as experts who employ advancing technology to bring information to a global constituency. Conference attendees will share their experiences and discover new ways to manage and disseminate information more effectively in this fast-paced environment. All conference attendees are guaranteed a high quality learning experience—CE courses, workshops, seminars, special speaker presentations, state-of-the-art exhibits, and much, much more. Come, join us in Montréal in 1995 and help us direct the Power of Information.

Montréal...

At the foot of Mount Royal—or "the Mountain," as it is called in Montréal—visitors discover one of the world's most fascinating cities, a unique metropolis where rivers and cultures come together. One of the largest French-speaking cities in the world, it is a wonderful place to live—an island along the mighty St. Lawrence River, built around a mountain and vast green spaces.

Founded in 1642 by French colonists intent on evangelizing the Amerindians, Montréal initially became the fur-trading capital of North America and then Canada's major industrial center. Eventually, it grew into the modern cosmopolitan city we know today. All of this is reflected in its rich architectural heritage. A stroll through Old Montréal provides an opportunity to relive great moments in the city's history, while the Olympic installations, downtown skyscrapers and the 29-kilometer underground city all attest to the vitality of Montréal today.

Centre-ville/Downtown Montréal

The downtown area is both the economic heart of the city as well as one of the most attractive and diversified sections of Montréal. At the foot of its towering skyscrapers, visitors discover some of the city's most beautiful churches, magnificent buildings, outstanding museums and the city's major shopping district: Ste. Catherine, Sherbrooke, Crescent and Saint-Denis streets, Saint-Laurent Blvd. and, of course, the underground city. A stroll through the city's Latin Quarter or Plateau Mont-Royal, near Saint-Denis and Saint-Laurent, will introduce you to a trendier, more bohemian side of the city's personality.

Le Vieux-Montréal et le Vieux-Port/ Old Montréal and the Old Port

Old Montréal forms one of North America's most remarkable architectural locations. It is in this part of the city, along the shores of the St. Lawrence River, that Montréal was founded. Originally known as Ville-Marie, it was protected by stone ramparts until 1801. For many years, Old Montréal remained the heart of the city, where some of its most beautiful churches and stunning public buildings are found. Today, thanks to its superb 17th, 18th, and 19th-century buildings, this neighborhood is one of the city's most valued treasures, and leads to the Old Port, one of the city's most popular places for leisure and recreation.

To Get There

The city is less than a day by car and one or two hours by plane from major North American centers. Direct flights also link the metropolis to a dozen overseas cities.

From Ontario, travellers can take Highways 401 and 417 from Toronto and Ottawa, respectively. Quebec City and Montréal are joined by Highway 40 on the north shore of the St. Lawrence and 20 on the south shore. The road network of the U.S. Northeast is linked to Highway 10 through the Eastern Townships. VIA Rail offers regular service to eastern and western Canada, and Amtrak provides daily rail service to New York. Planes from Canada and the United States land at Dorval Continental Airport, 22 kilometers from downtown; international flights arrive at Mirabel Airport, 55 kilometers from Montréal. Buses and limousines provide shuttle service between the airports, major hotels and downtown.

In-Town Traveling

The Montréal metro (subway) is reputed for safety and modernity. Composed of four lines with 65 stations, and connecting to more than 150 bus routes, this practical and economical transit system can take you anywhere in Montréal . . . fast! The Montréal Urban Community Transit Commission (MUCTU, or in French—STCUM) now offers a special one- or three-day tourist pass: La Carte Touristique. For as little as $5.00 per day or $12.00 for three consecutive days, you can ride the metro and buses as many times as you'd like. In fact, the Palais des Congres convention centre is a short, direct Metro ride from the Queen Elizabeth Hotel!

The Carte Touristique is available from the Infotourist Centre, centrally located in Dorchester Square, close to both the Queen Elizabeth Hotel and the Sheraton Centre, and also at the Old Montréal kiosk, 174 Notre-Dame St. East, close to the Convention Centre. It's economical! It's practical! And it's simple!

Special Note for Non-Canadian Meeting Attendees

Canada has an open border with the United States. Therefore, citizens or legal permanent residents of the United States do not require visas or passports to visit Canada. Passports are recommended, however, because they verify citizenship. Where passports are not available, U.S. citizens should carry identification papers showing their citizenship, such as birth, baptismal, naturalization or voter's certificates plus one identification card containing a photo. Permanent residents of the United States are advised to carry their resident Alien Card (U.S. Form 1-151 or Form 1-551). More information can be obtained from the Canadian Embassy and Consulates.

All persons other than U.S. citizens or legal, permanent residents of the United States traveling to Canada require a valid passport or an acceptable travel document. Some persons require a visa to enter Canada. Visitors should direct their inquires regarding visa applications and valid travel documents to the Canadian Embassy, Canadian High Commission, or Canadian Consulate in their home country before departure.

Conference Highlights

Here are the facts and figures for SLA's 1995 Annual Conference, June 10-15, 1995 in Montréal, PQ, Canada.

General Session Speakers

Special General Session speakers for the 1995 Annual Conference will be Nuala Beck, president and founder of a Toronto-based consulting firm specializing in innovative research for its clients. Providing timely relevant research, Beck's firm is the leader in researching the next new economy—how it evolved, where it is heading, and why it signals the most dramatic economic changes since the Industrial Revolution. SLA is also pleased to present Howard Rheingold, a journalist, editor, and author of *The Virtual Community: Homesteading on the Electronic Frontier*. Rheingold has established himself as an effective translator of the social, economic, and political ramifications of merging technologies. He is a participant-observer in the design of new technologies, a well-regarded critic, and forecaster of technology's impacts, and a speaker who involves his audience in an interactive adventure in group futurism.

SLA Exhibits

SLA's conference exhibits feature the latest and most up-to-date resources available on the market today. More than 400 booths will provide the creative strategies information professionals need to develop and implement the new Power of Information. Among the products and services to be featured in this year's exhibit hall are:

Alerting and search services
CD-ROM
Government information services
Indexing and abstracting services
Information storage and retrieval
Library automation software
Library furnishings and supplies
Optical publishing
Specialized books, periodicals & directories
Subscription agencies
and much more...

Preliminary Selection of Division Conference Sessions:

The Virtual Library
Global Alliances: Partnering for Survival
Electronic Documentation Distribution
Internet: Navigator/Collaborator
Environmental Justice

Selected CE Courses:

Analyzing Costs
The Art of Negotiation
Environmental Education
Internet Access
Library Automation

Preliminary Planning Information

Registration Rates*:

Member "Early Bird" (May 1)	$150.00
Member Full	$190.00
Member One Day	$110.00
Retired and Student	$ 85.00
Nonmember "Early Bird" (May 1)	$245.00
Nonmember Full	$290.00
Nonmember One Day	$140.00

*The above rates are quoted in U.S. dollars.

Special Note: Member rates apply to members of the associations listed below:

American Association of Law Libraries (AALL)
American Society for Information Science (ASIS)
Art Libraries Society of North America (ARLIS/NA)
Canadian Library Association (CLA)
Medical Library Association (MLA)

Hotel Accommodations*:

Co-headquarters Hotels	single	double
Le Meridien	$128	$150
Queen Elizabeth	$129	$149
Centre Sheraton	$123	$138

Additional Properties*:

Hotel Arcade	$ 70	$ 75
Chateau Champlain	$110	$110
Hotel La Citadell	$ 96	$ 96
Days Inn	$ 83	$ 93
Hotel Furama	$ 65	$ 70
Holiday Inn Crowne Plaza	$115	$115
Holiday Inn Centre-ville	$125	$125
Howard Johnson	$ 95	$ 95

* Please note: The above hotel prices are quoted in Canadian dollars.

Transportation Discounts:

SLA and WorldTravel Partners are pleased to provide specially negotiated fares on Air Canada and Delta Air Lines to Montréal. Discounts of 5% off the lowest fares or 10% off the unrestricted fares will be offered to all SLA meeting attendees. Discounts for travel will be available on Continental Airlines when flown in conjunction with Air Canada. Remember: The earlier you make your reservations, the greater your potential savings.

For more information and reservations, call:

WorldTravel Partners: (800)336-0227,
8:30 a.m.-5:30 p.m.

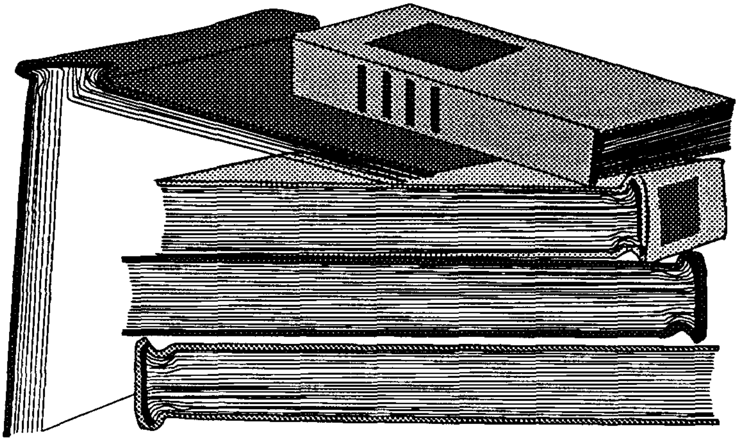
Air Canada: (800)361-7585,
File No.: CV957006

Delta Airlines: (800)241-6760,
File No.: 1072

Plan Now!

Your participation at SLA's 1995 Annual Conference is beneficial to you, your profession, and your organization. Look for the *Preliminary Conference Program* in March. Non-members interested in SLA's Annual Conference should write to Special Libraries Association, Annual Conference, 1700 18th St., NW, Washington, DC 20009-2508 and request a copy of the program.

Book Reviews



Orenstein, Glenn S. and Ruth M. *CompuServe Companion: Finding Newspapers and Magazines Online.* Needham Heights, MA: BiblioData, 1994. 198p. ISBN: 1-879258-10-2.

The *CompuServe Companion* is primarily a directory, arranged by title, of over 3,200 popular magazines, business periodicals, special interest publications, journals and newsletters for specific industries, national and international newspapers and newswires, and research journals which are available in a fulltext format on CompuServe.

The authors carefully explain the various shades of meaning for the term "fulltext," and each main entry includes a symbol that indicates selective or comprehensive inclusion of complete articles for the specific periodical. All GO locations for a title are listed with the periods of time they cover. Update frequency is included for newspapers and newswires, and the lag time between the publication of the hard copy and the availability of its electronic version is indicated when known. The range of the IQuest surcharge is represented by plus signs. Usefulness is further enhanced by cross references to changed titles and notes such as "may be online with 'The' as first word."

Two indexes supplement the title listings. The first classifies the periodicals under one or more of 44 broad subject categories (e.g., Arts/Humanities, Education, Medicine/Health, Science/Biotech, etc.). The second recognizes the regional, national, or worldwide emphasis of many of the publications; it is arranged by state, Canadian province, foreign country, or international region.

Although the *Companion* assumes a basic knowledge of CompuServe, it includes a 35-page section of clearly written important suggestions and tips for the searcher. The focus is on efficiency and cost-effectiveness. The comment "Time is money" appears several times in this section along with cost comparison tables which were current as of February 1994. In addition to chapters discussing cost minimization and good search techniques in general, hints for specific sources are scattered throughout the text to emphasize the importance of the preparation of the search strategy as well as understanding the characteristics of the online system. None of this information is news for the professional searcher, but it calls attention (in a friendly and encouraging manner) to a number of searching fundamentals with which an end-user should be familiar and often is not. Another valuable part of this section is a brief summary of copyright issues that may be another unknown area for many CompuServe customers.

The information professional who uses the source vendors directly may possibly find this book to be a helpful guide for identifying a supplier for a fulltext journal, but Ruth M. Orenstein's *Fulltext Sources Online* (BiblioData, 1994) offers broader coverage in a similar format. The *CompuServe Companion* does contain some titles, such as informational pamphlets, not included in the larger work. However, the book is a useful search tool for the information consumer and should facilitate locating fulltext material via CompuServe by anyone.

Jan Williams, Manager, Scientific Information Resources at Monsanto Company in St. Louis, MO.

Pagell, Ruth A. and Michael Halperin. *International Business Information: How to Find It, How to Use It.* Phoenix, AZ: The Oryx Press, 1994. 371p. ISBN: 0-89774-736.

The modern commercial entity often operates across geopolitical boundaries. Locating information about multinational firms can be a maddening exercise. The business researcher may not even be able to discern what material is valid. Yet, with business increasingly being played on the international stage, it is vital to obtain the best available information. In *International Business Information: How to Find It, How to Use It,* Ruth Pagell and Michael Halperin have produced a tool that tries to address these concerns.

Modeled after Michael Lavin's *Business Information: How to Find It, How to Use It,* this book is, in Pagell and Halperin's words, ". . . a practical guide for the researcher and librarian." The book is divided into five parts and 16 chapters, and includes 10 appendixes. The chapters, often intended to stand alone, contain a total of 157 exhibits and 114 tables. There are also detailed subject and title indexes. After an introduction and chapter describing general international business information sources, the remaining chapters are categorized under company information, marketing, industrial and economic statistics, and international transactions.

Each chapter begins by listing the topics covered and major sources discussed, and concludes with bibliographic references. The authors have analyzed both print and electronic sources. When necessary, they refer to the online or CD-ROM equivalent of printed material. They recommend when and how to use the proper media version. Often, the chapters show the cost of the electronic items, cautioning the reader about possible changes. While one chapter is devoted entirely to electronic retrieval of company information, the other chapters also describe these sources.

More than a bibliography, the book shows the use for each source. By reviewing a selection of international business material, the authors concede that no one library could possibly even want to own everything published about this area. Instead, they analyze key sources, often with the frugal librarian or information broker in mind. They also describe the negative qualities of a publication or electronic source. Problems such as reliability of data and the constantly changing commercial landscape are thoroughly discussed. This book presents the intricate difficulties involved whenever researching international business information.

This is a reference book that belongs in the collection of every business library. Each chapter is precise in its description of the material. The many recommendations are both informative and eminently practical. The definitions are concise, and the illustrations clarify the narrative. It was particularly satisfying to read about the drawbacks and advantages of information sources. *International Business Information* is an incisive and authoritative source about an important topic.

David Feinberg, Business Reference Librarian at the University of Alabama at Tuscaloosa.

The Internet Library: Case Studies of Library Internet Management and Use. **Julie Still, ed. Westport, CT: Mecklermedia Corp., 1994. 185p.** **ISBN: 0-88736-965-0.**

This volume contains a wealth of ideas as to how to make the most of the Internet. For those who have heard about the Internet but haven't used it, and for those who use it simply as a convenient e-mail tool, this book will increase awareness as to how the Internet can be used to increase the range of services the library can provide, increase staff productivity, decrease library expenditures, and change the image of the library in the eyes of customers. Several authors note significant changes in departmental relationships once the Internet was introduced in their institutions.

The ways and methods of Internet implementation are as varied and distinct as the voices of the librarians who relate their tales. The authors tell what they did and why they did it. Readers will especially like the frankness with which Jane Smith discussed what went wrong at Colorado State University and how to avoid making similar errors. Details as to costs, schedules, and milestones made and missed will prove invaluable to those now in the planning stages of introducing the Internet into their institutions.

Among my favorite chapters (as much for the entertaining style as the tale being related) are Thomas Delaney's discussion of how Colorado State University has used student access to the Internet to view reserve material without actually coming into the library, and that of Steven J. Herro, who tells of the Todd Wehr Library's efforts to use PC Gopher and (in the future) become a Gopher site on the Internet. Martin Kalfatovic of the Smithsonian Institution Libraries may surprise readers with his observation that "the technical planning of an ftp site is a fairly simple procedure." Selection of appropriate resources, however, took much more time than originally imagined necessary.

Some of the authors focus on their reasons for exploring the Internet, such as the ability to search other library holdings (gain access to other college OPACs). The Smithsonian Institution initially saw the Internet as a way to transmit its bibliographies electronically, but what it has enabled them to do beyond that is intriguing. Those with limited resources (people, skills, time, and/or technology) talk about what they envision for future use of the Internet in their libraries. The Bodleian BARD makes it effortless for students to connect to all sorts of services on the Internet. In other words, there is something for everyone in this book, no matter the stage of Internet exploration or implementation.

Diverse institutions are represented in this book, from one of the oldest and largest libraries in Europe (Bodleian Library, Oxford University) to a one-person library at Kroll

Associates in New York, NY. A third continent, Australia, is well represented by the Australian Bureau of Agricultural Resource Economics Library and the University of Technology, Sydney. Some libraries received significant assistance from their institutions' computing departments; some received no help at all. The amount of library staff time available to devote to learning the Internet and the computer skills of all involved vary greatly.

The role of the library and its staff introducing the Internet is as much one of creating a vision for how it might be used and gaining the support of administrations as it is enabling the implementation and continued education of library staff, faculty, and students. The appendices to Fishel and Stevens' chapter on teaching the Internet and P. Warren-Wenk's chapter, "Moving Toward Internet Literacy on the University Campus," are excellent course outlines and I wouldn't be surprised to see readers of this book duplicate the syllabi week by week.

Barbara Keiser, Information Resources Management Consultant, New York, NY.

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D. Free distribution by mail (samples, complimentary, other free copies)	400	400
E. Free distribution outsidethe mail	0	0
F. Total distribution *(Sum of 15D and 15E)*	400	400
G. Total distribution *(Sum of 15C and 15E)*	16,799	17,068
H. Copies not distributed:		
1. Office use, left over, spoiled	1,369	1,203
2. Return from news agents	0	0
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Gail L. Repsher, Editor

Index to Advertisers

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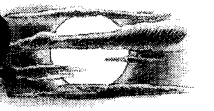
Tomorrow, Fresno 

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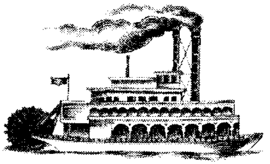
incinnati  Syracuse,

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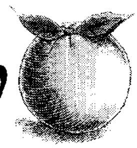
range County  Raleigh,

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