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The New York Times
Information Bank: A User's Perspective

The New York Times Information Bank, developed by the *New York Times*, is a computerized, interactive information storage and retrieval system designed to provide easy and efficient access to more than sixty different current events publications. The Information Bank has been developed with the end user specifically in mind; every effort has been made to bridge the gap between the world of automated information systems and the student, business executive, government official or other information seeker. The kind of information the system offers, covering a wide variety of current events topics that address a large and diverse audience, demands that the Information Bank be an easy-to-operate tool, readily available to the end user.

The New York Times Information Bank has been under active development since mid-1966, although it had been extensively discussed prior to that time. In January 1968, the *Times Index* began computer-assisted production. While all the indexing and abstracting of the *New York Times* continues to be done by human indexers, many of the time-consuming clerical and production functions were taken over by the computer.[1] With the *New York Times* in machine-readable form, the next step was to develop a method for the computer to tap this vast information resource selectively. Systems design was a cooperative effort of the *Times* while formal systems analysis and programming were performed by IBM's Federal Systems Division.

In January 1973, the first Information Bank installation was operating in the Hillman Library of the University of Pittsburgh. An active marketing program soon began, and the Information Bank presently has more than seventy subscribers in the United States, Canada and Mexico.

At this writing, the Information Bank's six-year data base consists of almost one million items drawn from more than sixty different sources. Virtually 100 percent of the information content of the *New York Times* is included, as well as selected articles from other newspapers and journals published in the United States and abroad, such as the *Washington Post*, the *Los Angeles Times*, the *Wall Street Journal, Business Week, Time, Newsweek,* and the *London Sunday Times*. The data base consists of 54.8 percent U.S. newspapers, 23 percent special-interest journals, 13.1 percent overseas publications, and 9.1 percent U.S. general-interest magazines. It is updated daily, with approximately 20,000 items coming on-line monthly. Most material is current to within six weeks of publication, while *New York Times* material is available four working days after publication.

A typical Information Bank installation consists of a cathode ray tube (CRT) computer terminal (used for querying the data base), an attached hard-copy printer, a telephone data set or acoustic coupler and, optionally, a microfiche (or microfilm) reader/printer. The search is developed interactively via the CRT, copies are made of the relevant journal abstracts retrieved, and full texts of desired articles are viewed or printed from fiche or film.

A basic Information Bank inquiry can be accomplished in four steps:

1. *Term entry* This is the point where the operator enters the research question in the form of search terms. There are four basic term types: personal name, organization name, geographic location, and subject. (To aid the searcher with subject terms, the Information Bank provides a two-volume printed thesaurus of descriptors, an on-line thesaurus and a subject authority list.)
2. *Modification* At this step the searcher may impose any number of bibliographic or content modifications on the search to obtain greater output relevance. The searcher may limit his response by date, journal, illustration, type of material, news, paper section or page, etc.
3. *Logic* In this final step the searcher combines the files he/she has selected using the full complement of Boolean connectives: *and, or, not.*
4. *Abstract viewing* The searcher may now review the output. An average Information Bank search (to be discussed in greater detail later in this paper) takes approximately fourteen minutes.

The wide range of current subscribers attests to the Information Bank's flexibility and diversity of application. Many public libraries and universities

are actively using the Information Bank—including Free Library of Philadelphia, Connecticut State Library, Kansas City Public Library, Adelphi University, and the University of California at Berkeley and at Los Angeles—and represent one segment of the user population. They utilize the Information Bank primarily for reference needs: to provide current facts as well as in-depth analyses and surveys of current events, topics of current concern, etc. The largest group of subscribers is the corporate, including such organizations as Coca-Cola, B.F. Goodrich, American Express, Exxon, Hill and Knowlton, Chase Manhattan Bank and General Foods. These subscribers use the Information Bank to keep up with state and federal legislation that affects them and their industry, to monitor thier competitors, to review foreign affairs as they interact with their own interests, and to aid them in personnel development and labor concerns. A number of government agencies are finding the Information Bank to be a valuable research tool; installations can be found at the State Department, the Library of Congress, the Central Intelligence Agency, the National Bureau of Standards, and both houses of Congress. Their applications directly relate to the information interests of the department supporting the installation.

As the title of this paper suggests, my discussion of the New York Times Information Bank is going to come from its subscribers' points of view. Often, more can be learned about an on-line information system by understanding the operational methods of present users than by an extended discussion of the system's capabilities. I intend to "walk around to the other side of the desk," and share some of the problems, concerns and general impressions I have received from our large and diverse group of subscribers. I have no experimental results to present, only the impressions I have received over the past two and one-half years, first as a subscriber, then as an Information Bank customer service representative, and now as a marketing representative. Simply, my comments will fall into three areas: those relating to the day-to-day operation of the system, to its cost considerations, and to its management concerns.

FACTORS AFFECTING DAILY OPERATIONAL CONCERNS

Learning to live with an automated information system can be a joy forever or a perennial problem, depending on the amount of planning that precedes an installation and daily sustains it. One of the first questions that our subscribers face is: Where should we put our CRT? There is a very definite relationship between hardware placement and resource utilization. Much time, money and effort go into the design of a new library; as professionals who analyze work flow and develop proper space utilization to suit the needs of a library and its patrons, library architects are in demand.

Why then, are these principles largely overlooked when a CRT is being installed? A number of subscribers place their terminals in a given area because, for example, an empty table is there, that space is not presently used, or they do not want to rearrange existing equipment. Since placement is so important, these should not be the major decisive factors. One should rather ask: Who is going to use the system the most? The answer should help to determine placement. Is the public relations department going to be the heaviest user? Should they have the terminal? Can we put the terminal by the reference desk in the library, or must it be in a special "data services" area? Should the unit be visible, or should it be hidden?

The major portion of our corporate subscribers have installed the Information Bank in their corporate information centers, or in business libraries. Half as many have placed the terminal in the public relations department or the public relations library, and a small group have placed the system in their marketing divisions. The system usually has been the responsibility of the business, public relations or marketing librarian or researcher. There are some exceptions to this: one terminal has been installed in a personnel department, two others in technical information centers, one in a company president's office, and another in a room by itself. Low usage levels indicate that these latter locations have hampered system access. Incorrect placement puts constraints on the user and thereby prevents full utilization.

All of our public library, college and university subscribers have the Information Bank in their main, or central, library buildings. They are evenly divided concerning terminal placement: an equal number of systems are installed at the reference desk as are installed in a special area devoted to the system. Two subscribers have the system in the telephone reference area, one in the periodicals area, and one in the special law library.

The reason for placing the terminal at the reference desk is obvious: the Information Bank is an excellent reference tool. The majority of our library subscribers turn to the Information Bank many times each day; with the bank at the desk, it is readily available to supply the information required to answer questions. Usually the system is used when either it is the only source that will supply the information, or when the time required for a manual search is so great as to be prohibitive. The bank is used to provide, for example, book and theater reviews, analyses of topics of current interest, information on state and federal legislators, information on the environment, and information on the economy. The bank is not used to answer a "how many" question (How many tons of coal were dug in Kentucky in 1974?), but rather to answer to "tell me about' question (What effect is the coal industry having on Kentucky?). The bank is not used for developing scholarly bibliographies, but for providing topical information.

Some libraries do not put the terminal at the reference desk, but set it

aside in its own area. The reasons for doing this incorporate many of the attitudes taken by the library management toward the Information Bank. Some have established special "data services" centers, apart from the general reference desk, that contain (or will contain) all the automated information systems. Such a center normally demands a full-time staff, and becomes an additional link in the reference chain that can either strengthen or weaken the reference services offered. Some subscribers choose to keep the system away from the reference desk because of the obvious visibility of the terminal and the system. This leads to another concern: Should the terminal be displayed?

Overall, no consensus has been reached. Advocates of open and visible placement say that it stimulates interest in the library and its services, makes it easy for the librarian to run searches quickly, permits easy interaction between searcher and patron to allow for rapid relevance judgments, and generally helps to assure good resource utilization. Opponents maintain that the terminal should not be visible because it inspires "curiosity" searches that are time- and money-consuming, places the hardware in a potentially hazardous position, and prevents the librarian or researcher running the system from adequately covering the reference desk.

As the success of the system depends upon easy access and maximum utilization, these two basic decisions—where the terminal is to be located and whether it should be visible to the patron—are key decisions and should be carefully considered before installation.

Equally important is the allocation of staff for the operation of the system. Should the patron operate the terminal? Does the librarian conduct the entire search, or portions of it? Who should be trained in system operation? Who should not? How many people need to be trained? As I have mentioned before, the Information Bank is designed with the end user in mind. All instructions for operating the system appear on the CRT screen; it is not necessary to digest a thick instruction manual. In addition, the structure of an Information Bank inquiry never varies, so the infrequent user can easily navigate the search process. By using conversational English and avoiding all function keys, the Information Bank is a simple system to master.

Nonetheless, the vast majority of our subscribers designate certain staff members as system operators, and do not have a large flow of users tapping into the system. There are two reasons for this. First, knowledge and familiarity with our controlled vocabulary come with experience and sustained usage. While we have over 400,000 different index terms, and people, company or geographic location searches are easy, efficient subject searching is enhanced by an understanding of the subject vocabulary. While an infrequent user can enter a name or place quite easily, a subject can be more difficult. Second, an infrequent user is a slower system operator than a frequent user; as with all other things, time is money. Although it is possible for the end

user to query the data base, costs are keeping him away. While today's technology has made the Information Bank and its user orientation possible, today's economy is preventing the user from gaining full control of the inquiry process.

Two choices are therefore available: the library can allow the user to use the system once the abstract viewing stage is reached, or it can keep the user away from all aspects of the system operation. Presently, the majority of our subscribers take the latter approach. It is the librarian or researcher who operates the system. While there are exceptions to this (IBM Armonk, Hill and Knowlton, Defense Intelligence Agency, Army War College), they represent a small percentage. One reason for this, in addition to the ones stated above is, that the business executive or government official does not have the time to operate the Information Bank. He/she has researchers on the payroll, and they are utilized. The executive or official wants the information, not the system. Also, library telephone reference services pervent the user from gaining hands-on access, as does placement of the terminal in a separate room or an out-of-the-way area.

The Information Bank suggests that subscribers create a core user group of four or five people who have sole responsibility for system operation. Training by Information Bank representatives can be easily accomplished for a group of this size in a day or two. Such a group is large enough so the system can always be "covered" by someone, yet small enough to allow each operator to spend enough time on the system to gain expertise. In a library, these operators should be drawn from the reference area; in the corporate sphere, they should be drawn from a centrally located information center in order to permit the entire company to call on them. A good supplement to this, as practiced by the State Department, is to have members of each interested department be Information Bank "representatives," and to have them coordinate departmental information needs with the core operator group. Libraries also practice this approach. It is important to establish and strengthen ties between the reference desk (or data services office) and the other library centers to avoid wasting time and money. For example, one librarian, not fully aware of her institution's use of the Information Bank, worked on a question for four hours, and retrieved one item. When it was suggested that the bank be utilized, forty-six citations were retrieved in twénty minutes.

Once the terminal has been placed and an ample number of operators designated, some projections should be made concerning expected system usage levels to insure proper work scheduling. This is a very difficult matter for most of our subscribers. The Information Bank is such a unique resource that they have no prior experiences on which to draw. For this reason, the Information Bank permits new subscribers, for a 30-day period, to use up to

	College and University	Public Library	Corporate	Government
Mean	27.7 hrs.	23.2 hrs.	15.6 hrs.	32.4 hrs.
Median	25	21	15	18
Modal range	25-34	11-15	7-18	7-18
Absolute range	3-66	10-49	0-71	1-102

Table 1. Monthly System Usage Levels

200 hours of system access time while paying for only 12 hours. This "free" start-up period is designed to allow system experimentation and a lot of system practice prior to the beginning of regular service. During this time subscribers should monitor usage carefully to enable them to anticipate future usage levels and plan accordingly. Normally, usage is very high during that first month: as much as ninety-two hours of usage time is not uncommon. The second month witnesses a drop from the previous month's level as subscribers begin paying for all of their time. Then, slowly, the monthly usage level rises as the institution becomes more familiar with the resource. This rise continues until the library reaches its own "natural level." Incorporation of the bank into the daily reference routine, greater search sophistication on the part of the operators, and an increased awareness of the limits of the system all contribute to this "natural level." Table 1 outlines monthly system usage levels for our present subscribers, broken down by type.

Based on a small sample taken from each subscriber type, the following average duration of a single system operation has been drawn: high—23.9 minutes, low—5.8 minutes, median—14.1 minutes, mean—13.3 minutes. These figures have been created by adding the total number of minutes used by thirteen different subscribers over a three-month period and dividing by the number of searches run. Generally, but not absolutely, one could say that these figures represent an average inquiry length; it is possible for subscribers to run more than one search at a time, and to "batch" inquiries. A rough statement may be made, however: a complete Information Bank inquiry can take anywhere from eight to eighteen minutes. Factors (besides operator expertise) affecting the amount of on-line time are: (1) number of times the on-line thesaurus is referenced, (2) number of files accessed, (3) number of citations retrieved, (4) number of prints taken, and (5) number of times the question is restated and rerun.

Some basic conclusions about Information Bank usage may be drawn from these figures and from our billing records. The Information Bank is a resource that is tapped frequently for relatively short periods of time. It is accessed when the question demands, and the system seems to be fulfilling its

goal of providing information efficiently on demand. It is not a resource that is used to compile bibliographies once or twice a week, but a system that provides facts, figures and surveys throughout the day.

As mentioned earlier, what are retrieved from the Information Bank are informative abstracts of relevant articles or journal essays. A factor affecting the day-to-day operation of the system, therefore, is the demand which the system places on microform collections of the full texts. How often is the source article referenced? If the library holds that periodical, what is the additional demand on the collection? If it does not, what is the additional demand on interlibrary loan? Unfortunately, we have no way of monitoring this aspect of system operation. I have been given one set of statistics on this matter, however, by the Connecticut State Library.[2] Over a nine-month period, its Library Line telephone reference service took 624 abstracts prints and 119 full-text prints. They subscribe to the *New York Times* on microfiche, as do 62 percent of our subscribers. The fiche, with its compact size and speed of retrieval, is an ideal complement to the Information Bank. In most cases, the fiche collection is placed next to the terminal, thereby creating a "one-step" information area. Our other subscribers either rely on the microfilm collections they already had, or have made their own arrangements.

COST CONSIDERATIONS

The cost of an Information Bank installation falls into three categories: hardware, communications and access time. The system is compatible with a number of different CRTs, and their monthly rental costs range from $98 to $193. If an organization already has a compatible unit, it may be used at no additional cost. It is necessary to establish a telephone connection between the subscribing institution and New York; this entails telephone line charges and modem rentals. If a WATS band or other bulk telephone facility is available, it may be used. The final cost area is Information Bank access, which is based on a transactional schedule: the institution pays just for the amount of time that it uses. The fee is based on computer connect time, or the time elapsed between sign-on and sign-off. The cost per minute is eighty-three cents if you are accessing the bank at 1200 baud, and ninety cents if access is at 2000 or 2400 baud, with a minimum service level of four hours per month.

Returning to our "average" Information Bank inquiry, we can see that a typical search may cost the subscriber from $6.64 to $14.94 for system access. To determine the full cost, telephone charges, hardware costs and staff time costs must be added. All these additional charges vary greatly from subscriber to subscriber, and no real average total cost per inquiry can be developed. It is up to the subscriber, during the one-month start-up period, to

determine his own individual costs. Overall, a subscribing institution, after obtaining the necessary hardware and telephone facilities, may expect to spend from $12,000 to $15,000 annually for full Information Bank service.

The manner in which this cost is handled varies from subscriber to subscriber. Basically, four funding strategies have emerged. The most direct method is to take the funds directly out of the library or departmental budget. An alternative has been to seek special funding outside of the budget. This is a more difficult way to proceed, because special funds have a way of drying up, leaving existing programs stranded. A third method is to obtain support for the installation from more than one source. A prime example of this approach can be found at the University of California at Berkeley. Realizing the many applications of the system, the library petitioned those departments within the university for whom the Information Bank could have direct application, requesting from each a small amount of funding to enable the library to offer the service. With their support, the Information Bank was placed on campus. The cost for service beyond the level funded by the departments is to be assumed by the library.[3] Similar approaches can be found among corporate subscribers.

A fourth approach is to make the installation self-sustaining, and charge for service. I will not discuss the very large problem of how one charges for information: e.g., by the number of articles retrieved, by the number of prints made, by the total amount of time spent, by the number of inquiries made. Do you charge back the entire cost, or do you assume a portion of it? If the latter, what percentage do you absorb? Suppose an automated search is not specifically requested by the patron, but the librarian chooses to use the tool; do you charge or not? If not, how do you deal with a question designed specifically for the tool, thereby implying (although not demanding) that an automated search be run?

While many of our subscribers are seriously considering or have considered charging for Information Bank service, less than 5 percent of our present subscribers do so. This small percentage attests to the difficulty of the problem. On April 15, 1975, FIND/SVP, a worldwide information network that retails information services to a large number of subscribers, began offering Information Bank service. They intend to charge the patron with the total cost of the search as well as a standard commercial markup. Factors affecting the total price will be the patron's status (Are they subscribers, or is this a one-time request?) as well as the number of abstracts retrieved. In time, a standard charging policy will be developed based on their initial experiences.[4] At this time, however, I have nothing definitive to report on the subject.

These last two funding methods (multiple funding sources and charging for individual searches) reflect a different attitude toward an Information

Bank installation than the first two (the host department absorbing the entire cost or finding special funding) seem to reflect. These two distinct attitudes can be summed up as: (1) the Information Bank is a special service, different from all that has gone before, and (2) it is simply a computerized extension of the existing reference tools. Either the Information Bank is a big event for an institution, a step into the future, or it is merely the application of modern technology to functions and services that have already been provided. It is acknowledged that the computer allows greater service than ever before, but this new service level can be seen as the "average" service level that a progressive information center should expect to maintain in the years ahead.

To view the Information Bank as just another, albeit more modern, library tool is to believe that the support of this tool should come from the library budget or from special library funds. It is an acquisition of the library and its maintenance is the responsibility of the library. In the past the library has been given a budget to provide information service, and future budgets should provide for future information services.

While I agree that the use of the computer for information retrieval does not create a research tool that is a strange new hybrid, the cost of such an application does demand that the tool be viewed in a unique light. Until either system costs come down or library budgets increase, a computerized information storage and retrieval system should be viewed as a special tool, and no single department should be expected to fund it. While the librarian and researcher should view the Information Bank as simply an extension of their present resources, the management should view it as a resource requiring special attention. I personally feel that support drawn from all quarters of the institution is the most stable and therefore the best way for a subscriber to proceed. By sharing the costs, service can be provided to all. Financial commitment to the system by each department helps to insure maximum utilization by each department and, therefore, full information service to each department. Of course if funds exist within the information center's budget, they should be taken advantage of; if not, service should not be denied the organization because of a tight information center budget, especially since the Information Bank is designed for easy use by the whole organization.

MANAGEMENT CONCERNS

A discussion of cost considerations most naturally leads to a discussion of other, more general management concerns. If the information center decides to make the Information Bank "financially visible" to the organization, it must be concerned with the problems of system promotion. To date, our subscribers have taken various avenues of approach to this. Dentsu Advertising held a large press conference for the Japanese press to develop

interest among that firm's clientele. Exxon Corporation held management seminars designed to introduce the Information Bank to the company and reintroduce the business library and all of its services. Basically, the Information Bank was used as a "drawing card" for the executive management. Travelers Insurance Company held similar sessions, and also discovered the public relations value such a new tool has for the library. The success of these meetings can be seen in the increased system utilization they experienced. The Kansas City (Missouri) Public Library has invited a number of library, city and state officials to view the Information Bank and the other projects under active development there. Such "open houses" do much for library public relations.

Some of our subscribers have chosen to go outside of their own organizations for support. Adelphi University is going to hold two "early bird" system demonstrations for prominent Long Island businessmen in an effort to elicit inquiries and therefore financial support. Connecticut State Library had a press conference and reception to introduce the Information Bank to the state, and also to help advertise the state's "Library Line," a statewide information service the bank supports. If financial support is sought outside of the library or information center's budget, or if a budgetary increase is requested for Information Bank service, such system promotion is essential.

For those libraries that are independently absorbing Information Bank costs, system promotion has been avoided. In many cases, just as the system has remained "financially invisible" to the organization, so too has the terminal been "invisible" to the patron. Outside of the library, the university or corporation does not know the Information Bank is available and, when searches are run to serve their information needs, the source of the search is either transparent to the inquirer or is briefly mentioned by citation only. Such management permits the funding of the resource to be carefully controlled by the host department. If the inquirer does not know the resource is available, he/she cannot request it specifically. In this way the researcher or librarian can determine the best resource to use in answering the question. The advantage of this method is that system usage can be expanded or contracted to conform to the amount of funding available; the disadvantage is that many information needs may go unserved if the inquirer does not know that a tool exists that will meet his/her needs. Unfortunately this disadvantage—underutilization—is a problem that perennially haunts libraries. Underutilization can be alleviated by an effective public relations or advertising campaign, and the Information Bank can be of great help in this area.

Another management concern which directly relates to cost consideration is: Should a subscription to the Information Bank be entered into independently, or is a consortium of users a better approach? Consortia do

offer some savings, and such an option should be carefully considered prior to signing a contract. One of the major cost benefits of consortium participation is to be attained in the area of system access charges. Insofar as the monthly minimum use requirement is concerned, this requirement can be distributed among the members of the consortium. For example, with a minimum monthly use requirement of four hours of system use, there is a minimum charge of $200 per month for all individual subscribers. If there are ten members in a consortium, they would divide this $200, for a monthly minimum payment of $20 each.

In addition, Information Bank access rates go down with larger volumes of system use during a calendar month. Because individual use by members will be cumulative for the consortium as a whole, the lower rates associated with higher volumes of system use can be applied to each consortium member, for whom these low rates normally would be unattainable. The way in which monthly charges will be figured is as follows:

$$\frac{\text{Connect-time of individual member}}{\text{Total connect-time of consortium}} \quad X \quad \text{total to consortium}$$

Consortium participation will have no effect on the price of terminal and communication equipment except as may be arranged by the members of the consortium among themselves.

There is no doubt then that a consortium is a way to save money. It is also a very simple way to proceed, once the consortium signs the contract; any member may elect to begin Information Bank service at any time with no additional paperwork. It is not necessary for each member to sign an agreement form. We do ask that the Information Bank be notified that an additional terminal will be joining the consortium.

Each participating organization is assigned a separate password and identification code number for access to the Information Bank system. Thus, the proper code number can be entered for each individual search (this applies not only when using the system in person, but also for telephone requests to the "host" operator). In this way, monthly time charges are correctly allocated among group members. Each member's use is "metered" by his code number, and the organization is billed directly only for the time used.

If desired, the Information Bank can set up code numbers with subscribers according to departments or individuals within a member organization so that the subscriber can achieve even tighter control over internal cost allocations for Information Bank usage. Regarding equipment-rental and communications charges, the Information Bank will set up a billing system that

best suits the group needs. Monthly billing can be direct to the "host" organization or divided in equal portions among group members.

For administration purposes, the Information Bank asks that the participants of the consortium select, designate or create a central administrative facility that will handle this billing function. This center will also be responsible for coordination of all Information Bank training, distribution of Information Bank printed materials, and for scheduling and participation in Information Bank activities such as subscriber workshops.

Presently, there are three operating consortia: the Foundation Librarians group in New York; Project Times in Norfolk, Virginia; and the University of California. The first two groups are sharing one terminal each: members from the Foundation Librarians visit the host terminal and run their own searches, while the Virginia consortium members call in their requests. The University of California intends to install terminals at a number of their campuses; in this way, several campuses may each incur savings by operating under a University of California umbrella contract. Consortium subscriptions are now under active consideration by the Pittsburgh Regional Library Council, the Michigan Library Consortium, the New England Library Board, and the Westchester Library System. If a library or information center director is considering Information Bank service, some thought should be given to either utilizing an existing consortium or creating one for this purpose.

Important management concerns have been mentioned throughout this discussion, such as system promotion, placement of hardware, charging for service, and concern for demand on the microform collection. I could also elaborate on a number of others: concern for any additional staffing time that may be required, preparation of the staff for automation, measuring and controlling staff reaction to the resource, monitoring system response and effectiveness for cost justification, etc. I have attempted to touch upon those thoughts and concerns that seem to be raised most frequently by our subscribers; I cannot begin to cover all the management decisions that must be made when planning for a computerized information system.

Similarly, there remain many day-to-day decisions and cost considerations that will arise as a subscriber organization becomes more and more familiar with the resource. Knowing the concerns of those presently engaged in operating on-line information systems, however, often helps a prospective user to plan better for this expansion. I have attempted to present the Information Bank not from the marketing point of view—which would tell you what the bank is, how you use it, when you can use it, its many applications within an organization—but from the user's point of view: How should I deal with this new resource? How are others handling it? I hope that by introducing you to the Information Bank's subscribers, much has been shown about the Information Bank itself.

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