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Emerging trends in fee-based information delivery

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by

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ABSTRACT

Fee-based information services in libraries face many
challenges in continuing to offer value-added, cost-
effective services to customers in the opening decade of
the new millennium. Some of the challenges are similar to
those faced by other library units, but others are unique.
Many of the changes are connected to the proliferation of
electronic resources and to the do-it-yourself attitude of
potential customers. Other changes include shifts in
client expectations; myriad types of information services;
intellectual property issues; publishers' access and
distribution models; new information products; innovative
partnerships; global customers; and changing patterns of
information delivery.

EMERGING TRENDS IN FEE-BASED INFORMATION DELIVERY

<u>Introduction: Fee-Based Services: Challenges and
Opportunities</u> (Tammy)

<u>Competing in the Web Environment</u>

The Web Environment

Driven by exploding Web-based information products in a volatile marketplace, fee-based information services are reassessing their opportunities, risks, and market strategies. These cost recovery operations have long operated as "one stop shopping" centers for clients' information needs. Committed to providing high quality,

value-added information, fee-based services are now challenged by the easy accessibility of free or low-cost resources on the Internet. Fee-based information services once enjoyed the advantage of access to collections, databases, and indexes that publishers sold primarily to libraries through costly subscription fees. As publishers increasingly focus on end-users, this distribution model has dramatically changed. Players in the information industry now aggregate content and electronically distribute access across a broad spectrum of interfaces, multiple platforms, and evolving gateways. They merge companies weekly while offering new products, pricing, and licensing options on a daily basis.

Adding complexity to this scenario is the electronic revolution's continual leap in converging technologies. This runs the gamut from sophisticated network applications to feature-rich graphical interfaces that allow a person using Netscape in Colorado to operate a robot in Switzerland. The next generation of hypertext programming language already promises major enhancements. Internet applications such as Web portals, intelligent

agents, and push technology also create improvements in customizing and finding relevant data on the Web.

These innovations are good news for library users and casual information consumers who believe that electronic full-text is the norm, and that everything they need is available on the Web. Traditional library online catalogs are easily accessible outside library walls via Web searches. Many of these catalogs provide a variety of Web request options. Government documents, difficult to locate using print indices, are now available on the Web with a great deal of full-text coverage.

Companies that once relied on outsourcing to fee-based information services now have competitive "pay per view" options that lower the cost of purchasing information. Desktop delivery, competitive pricing, and the proliferating array of Web resources challenge fee-based information services, and indeed compete with the services that they have so long provided their clients. At the same time, fee-based services, by their very natures entrepreneurial and adaptable, are taking the bull by the horns and finding new ways to solidify their niche in the information economy.

How are fee-based information services holding ground? Established fee-based services appear to be weathering the electronic environment well. While the internal and external environment has changed, these services have long grown used to economic upturns and downturns and have learned to be resourceful, bottom line driven, and flexible. They are keenly aware that providing value in the Internet age means changing with the changing needs of their users.

These changes are reflected by a number of emerging trends. Managers of fee-based services listed some of these trends at the 1997 International Fee-based Information services Conference: *

- using the Internet for marketing and research
- doing more of the "hard-to-find" category of research and document delivery
- creating new business products and partnerships
- developing new delivery models

Electronic Resources

Although publishers and information utilities such as Dialog and Lexis-Nexis have experimented over the past two decades with various full-text document access, the development of the Internet in the late 1990's marked a radical change in the way customers expected electronic documents. ASCII text, stripped of any graphics from the original piece, is no longer an acceptable substitute for the printed article. Customers now expect crisp PDF images of the original document, complete with photographs, tables, and charts.

Publishers began experimenting with a number of different methods for providing electronic access to their publications. Some documents are freely accessible on the Internet. For example, some universities and associations mount PDF versions of documents such as working papers and technical reports. Some publishers offer free access to articles from selected journals, often on a trial "teaser" basis, intending to implement charges once users become dependent on easy electronic access to their favorite

journals. Other publishers, such as the New York Times, have Web sites from which users can obtain full-text article copies after having keyed in their credit card numbers.

At present, most electronic documents also have print equivalents. Providers simply find it more convenient to distribute them electronically. However, there is a clear trend towards publications that are only available in an electronic format. The number of e-journals burgeons each year, as do the number of government publications, association papers, university reports, and other documents. This revolutionary change in the way information is created and disseminated has a tremendous impact on the way information providers meet their customers' needs.

These challenges are numerous. Copyright issues in an electronic environment are of major concern and are covered elsewhere in this article. Bibliographic control presents another dilemma. How does one cite electronic sources correctly? What happens when the electronic address changes? What happens when a publisher removes an electronic document from its Web site? How can one obtain

access to materials which were once relatively easy to obtain in paper, even at a cost, but which are now in closed electronic files? Dissertations from Virginia Polytechnic Institute (VPI) are an example of this difficulty. Until a few years ago, these titles were available through VPI's interlibrary loan office or from University Microforms International (UMI). However, in the late 1990's VPI required all dissertations to be submitted electronically. In a positive move, VPI created an electronic site that mounted all these dissertations. However, students can request that their dissertations remain inaccessible to anyone outside the institution.

Questions about timeliness, coverage, and archiving of electronic journals arise. How soon after the printed issue is distributed will the electronic version appear? Some appear simultaneously, or even a few days earlier, but many lag for weeks or months. Is the entire journal issue included in the electronic version, or are editorials, book reviews, letter, or advertisements missing? Are there any plans to provide electronic access to back issues? Will electronic versions of the issues always be available, or will the publisher suddenly yank

articles older than, say, five years? Licensing
agreements often emphasize access to material, rather than
ownership of it in the way that institutions are used to
thinking about their print subscriptions.

   Access issues arise, especially for an academic fee-
based service serving non-primary clientele. Licensing
agreements for electronic products signed between
institutions or consortia and publishers generally address
access by the institutions' primary clientele, the
students, staff, and faculty. Provision of access to
these products by or for a third party are generally
prohibited. At best, this means that fee-based service
staff must copy from the print journal rather than
download from the electronic version, or log into
Compendex on Dialog rather than use the locally mounted
version of the same database. At worst, the fee-based
service may be denied the only local access possible to a
title; for example, if the library cancels a print
subscription in favor of an electronic one, but the
license for the electronic subscription does not permit
the fee-based service to print from the electronic
version. Fee-based service managers should make their

concerns known to the library administrators who review and approve electronic licensing agreements. Publishers' standard agreements are often negotiable; it might be possible to revise a license to include access by the fee-based service, perhaps with an agreement to track usage and/or to pay copyright fees. This issue becomes more complicated when licensing reviews or negotiations take place in the University Counsel's office or at a consortial headquarters office.

Many journal publishers sell electronic access to one or more titles on a subscription basis, usually to individual institutions, sometimes to individuals, and with growing frequency to consortia of institutions, such as the Committee on Institutional Cooperation (CIC) Libraries, a group representing the Big Ten Universities.

Using the Internet

Along with the rest of the business world, fee-based information services have quickly developed their own Web sites to advertise their services and fee schedules. Clients click on buttons for document delivery or research, fill out Web request forms, and send orders. FYI, the fee-based information service at the County of Los Angeles Public Library, has one of the most comprehensive sites [www.colapublib.org/fyi], where users can view sample products and send requests. Some fee-based information services also provide links on their home pages to other business partners or related organizations that may be of interest to their clients.

Unfortunately many fee-based sites are buried among university and library Web pages. Trying to identify these sites may be a frustrating exercise in "world wide waiting." Recently Burwell published an online version of the Burwell Directory of Information Brokers with hot links to fee-based services, and brokers [www.burwellinc.com].* In soliciting participation, Burwell offered these links to fee-based services for an

additional cost ($25-50). This site offers Web surfers
and sophisticated information researchers the ability to
go to a single location to identify information brokers,
consultants, and fee-based services.

Another strategy for fee-based information services
is to co-market their products and services with other
information providers and brokers, filling gaps in
information delivery. For instance, a service could
follow the model of Northern Light. Recently Northern
Light [www.northernlight.com] created a partnership with
the mega bookstore, Barnes & Noble, to offer searches of
Northern Light's Special Collection via Barnes & Noble's
Web site. Enhancing and broadening a fee-based
information service's presence on the Web could also be
accomplished by using ideas of successful Web ventures,
like Amazon.com, that offer book reviews and a wide range
of related information for book buyers.

In addition to marketing on the Web, managers of fee-
based information services offer a variety of Web-based
consulting, training, and research. It is not unusual for
clients to call these centers asking for help locating
information on the Web. Some fee-based services will do

company consulting and training in how to search the Web

for business-related information. Others will use the

Internet for competitive intelligence and easy-to-access

business information, to locate authors, or to find

unpublished papers. In addition to tracking Web sites to

keep up with changes and new offerings, information

specialists are in an excellent position to analyze and

evaluate them for relevancy, comprehensiveness, coverage,

whether full-text is available, or if it is a scholarly

publication. This work could be a full-time job given the

fact that 1.5 million new pages are added daily.*

Information specialists will most likely be selective,

targeting specific industries, clients, or categories,

such as financial data.

Specializing in the "Hard to Find"

Many managers of fee-based information services

report that there is a definite shift in the type of

business they receive. Their clients locate easily

accessible information (e.g., articles from Business Week,

current company information, recent government studies, or

legislation), and turn to fee-based services for the more difficult-to-locate documents, and for research that is not straightforward or from sources not available on the Web. The requests fall into the following categories:

- document delivery for non-electronic material
- historical research on prior use or technology
- filling document requests from incomplete or incorrect citations
- acting as the last resort to locate material that company librarians have been unable to verify or locate

One advantage fee-based information services hold over the Internet is the ability to locate non-electronic print materials. Many full-text journals are only available on the Internet from 1990 forward and many sites charge expensive electronic subscription fees. Archival electronic collections such as JSTOR [www.jstor.org] are growing, but they still represent a small percentage of the print world. While the Web may fill the need for current full-text information, companies continue to turn

to libraries and fee-based information services for unique materials and for complex research.

When companies need research on prior technology or historical uses for chemicals, for example, the data is often buried in research collections, older government documents, or early technical reports. Often these scientific and technical materials are difficult to identify and locate. Serial titles may have changed since the original article or conference proceedings were published, then changed to another sponsoring organization. Fee-based information services have long developed expertise in tracking down titles that appear as various iterations of a document's life.

Fee-based information services also continue to have access to large library networks and memberships, such the Association of Research Libraries (ARL). Most fee-based services are members of the Fee-based Information Service Centers in Academic Libraries (FISCAL), discussion group of the American Library Association's Association of College and Research Libraries (ACRL). These collegial relationships offer multiple avenues for locating unique source material, research collections, and archives.

New Products and Partnerships

    The Web has seriously changed user expectations. There is a growing dependence on the Internet for quick, free, and immediate information. Managers of fee-based information services are especially aware of how this affects their revenue stream, and are adjusting to their clients' changing needs. To ensure they continue to recover costs, managers of these services look for and develop new revenue sources, new products, and new partnerships. Often self-funding and managed with auxiliary accounts instead of general funds, fee-based services broker different types of alliances and projects to increase revenue. For example, the Virginia Technical Information Service (VTIC) offers Internet training and consulting on a fee basis. FYI continually develops new types of business arrangements, such as offering special wholesale programs for libraries and government agencies. FYI is also highly creative in brokering partnerships, such as one with the University of Washington's Research Express Service and the Plutonium Center. The University

of Colorado Technical Research Center (CTRC) offers
specialized end-user document delivery services to other
in-state libraries who wish to offer expedited document
delivery in place of interlibrary loan. CTRC is also
undertaking a unique project to provide replacement pages
to Colorado State University for books damaged in the 1997
flood.

Potential partnerships also operate in the field of
distance education. A growing business for universities
and businesses, distance education providers negotiate or
outsource document delivery and research agreements with
fee-based information services. These programs offer
degree and continuing education credits virtually
worldwide. For users in geographically isolated areas
without easy access to local libraries, fee-based
information services can serve as virtual libraries,
providing document delivery and research via the Internet.

The Information Specialist as Intermediary

It is not uncommon to hear Internet searchers complain that tracking down everything takes too much effort. In fact one industry watcher recently noted that:

> . . . no-fee (free) research via the Web is a massive time sink. Users, starting at the hypnotically pulsing "working" bar on their browsers, are finding it simply takes too long to aggregate content, free though it may be, from the myriad of sites one is forced to visit in order to do a complete search. (cite)

The very reason that fee-based information services succeed in the information environment is the value they offer for cutting through the time sink. Susan Feldman of Datasearch defines information professionals as having the following skills: *

- problem analysis: "We know the right questions to ask, and how to ask them."
- word skills
- knowledge of resources

- information collecting skills

- interpersonal skills

- assessing information for quality, utility, and
  accuracy

- presenting information so that it is understandable
  and accessible

Information specialists working in and managing fee-based information services are particularly conscious of the value-added offerings that they provide. These managers have practiced for years strategies now being touted by library leaders: to be agile, flexible, and add value. These professionals combine unique skills in librarianship, management, and business knowledge to meet client information needs. Value added is expressed in multiple ways in fee-based information services, including:

- personalization and customization
- filtering through options and capturing relevant
  search results

- applying knowledge of content: traditional sources, online information and where to find it in on the Web

- understanding user's information needs and industry's information standards

- speed and convenience

Customization

Information specialists provide a range of customized and personalized services to clients. Rush requests, special handling of orders, and special billing are common to most fee-based information services. Many businesses appreciate the ability to talk in person to an information specialist who they know will understand their request and accommodate rush deadlines and special handling. It may be that a rush document must be faxed to a company's researcher in the field, or that the results of rush literature search to verify the purity of a drug must be sent via email within the hour. Repeat clients like knowing that their particular requests will be handled according to their requirements. For instance, a user may

request that a fee-based service fill only on-campus orders and send the others back with locations of other suppliers. Clients also still need the occasional manual search—looking up definitions in early edition handbooks, or locating the first recorded uses for a specific product or chemical.

To Web or not to Web

The impact of the Internet is undeniable. As Barbara Quint notes: "Online has broken through. Web online, that is. For all intents and purposes, when we say online these days, we mean the Internet and its Web. No other online reality exists." (Quint, p.3) While the anarchy of the Internet is beginning to settle down, end-users are still forced to accept lack of precision as a trade-off for free access. As Tim Miller notes:

In spite of the tens of millions of dollars of technology that is being hosed into search engines, a search for anything other than the most unique proper noun or Web site address still forces the user to

cull through dozens of irrelevant or inaccurate Web
pages offered by sluggish Web sites over slushy
communications lines. (Miller, p. 1)

For information specialists, the decision to search
the Web comes into play at different points in the process
depending on the topic, costs, and the depth and breadth
of results being requested. Information specialists make
judgments regarding keywords, databases, scope of a
literature search in ways that end users on the Web may
hit or miss. Understanding databases, structures,
limitations, and coverage are not always apparent on
Internet files. In deciding whether to "Web or not to
Web" information specialists are weighing their knowledge
of content, search interfaces, and the validity of search
results. They continue to build expertise to determine
where to go for what. Publications such as Finding
Business Research on the Web (footnote) assist them in
their search for efficient means of extracting data from
the millions of bits on the Internet. The information
specialist decides:

- What kinds of research are best suited for the Web

- When to use other "online" and traditional library sources

- When to use the Web as a last resort

Other factors include whether the sites (1) are free; (2) require registration but do not cost; (3) are inexpensive but imprecise; or (4) are expensive sites targeted to professional researchers. (cite: Finding business research) Quint views searching the Internet as a must for the information specialist, and notes: "To sell a finished search these days you have to handle the Web component, possibly tap the traditionals, and then compose a final document that distills the wisdom of both." (p.) The end product would be a literature search sent in electronic format containing links to relevant sites and articles on the Web in addition to abstracts and full-text articles from sources such as Dialog.

Reliability

To be effective researchers and document suppliers, information specialists in fee-based services must also keep up with changes in the industries that their clients work in. These are value-added skills that staff in fee-based services sharpen as they work for clients and search relevant databases and the Internet.

Finding content expeditiously on Web is compounded by the question of the quality of data retrieved. For the end user, authenticity of authors and the reliability or validity of the information that is found on the Web may not be evident. With the increasing ease of publishing on the Web, it becomes doubly important to verify the credentials of publishing entities, editorial oversight, and the currency of data provided. The information specialist as intermediary evaluates these factors when searching on the net. This skill is extremely important for protecting potential liability when conducting intellectual property research, such as for patents and trademarks. It is also paramount for product development when researching related technology, processes, compounds, and other industry developments. Companies invest millions of dollars in research, so the success of a new

product may weigh heavily on the thoroughness and accuracy of the information provided by fee-based services.

Speed and Convenience

Information industry CEOs and industry analysts predict unprecedented changes in new product developments that will improve precision on the Web, lead to greater efficiencies, and drive down costs. (footnote). They have a heightened understanding of the need to cut through the "time sink." For fee-based information services, industry changes and new information products may be good news and reflect the demand for higher quality information retrieval. As one CEO acknowledged:

In 1999, users will determine the precise information they need, then move on to the questions of where to get it . . . finding the one source that provides his slice of information, customized to their specifications, and delivered through the distribution channel of their choice. Some organizations will also force a choice between high

value-added fee-based services and lower-value-added
free Internet services. Smart companies will chose
the source that offers the most reliable data on
which to base strategic decisions. They can't afford
to be penny-wise and pound-foolish. (Giesekes 48)

Fee-based information services have long operated as
these "high value-added" providers. Information
specialists in these services have always offered "pay-
per-drink" and "just-in-time" models. They tailor
research and document delivery to accommodate a client's
specifications, spending as little or as much as a client
is willing to pay for needed information.

Quotes about the amount of time wasted waiting for
responses on the Web abound in the news. A recent article
in Information Today quotes the CEO of NewsEdge:

In a perhaps only slightly padded estimate, McLagan
says that the average professional will spend about
$427 worth of his or her time a month Web-surfing to
obtain information that would cost about $31 from an
organized information service like NewsEdge. (cite)

It may not be cost effective to waste $427 per month
of a company researcher's time when that person's focus
could be better spent testing new products. Until more
electronic full-text is available, and better search
interfaces, clients will increasingly weigh the value of
their time against the cost of a customized solution
offered by a fee-based service.

In the end, the Internet may not offer the economies of
scale that fee-based information service can in terms of
convenience, reliability, and speed.

Licenses, Copyright and Confidentiality

The diffusion of products that are Web accessible is
creating challenges to traditional licensing models. At
the same time publishing in electronic format create
copyright barriers between publishers and libraries.
Complicating the scene is fee-based information services'
guiding principle to comply with copyright guidelines as
they may apply to the commercial sector, and the need to

safeguard the confidentiality of their clients and clients' requests.

Subscription site licenses in libraries are particularly under scrutiny. Publishers and vendors wish to extract monetary gains for providing access across a campus network, but specify "permitted uses" and "authorized users." Libraries typically offer as much open access to resources, both print and electronic as possible. While electronic copyright is still under legislative debate, libraries are being seriously challenged to find ways to allow appropriate use while limiting unauthorized users. To track down violations of these agreements would generate a screenplay for a Hollywood movie.

Fee-based information services pay close attention to licensing agreements negotiated by the parent organization or consortia purchases. Some services interpret these very strictly and do not even use their libraries subscribed databases on the Web as a reference or verification tool. Others limit use only to reference and verification, and will not supply print or electronic copy of search results or full-text documents. Below is an

example of typical language in a site wide subscription license:

Because of the easily reproducible nature of electronic publications, _____ publisher explicitly prohibits interlibrary loan of articles or components of _____ database in any electronic or digital form. It will however, be permissible for your institution to print out occasional articles for interlibrary loan under CONTU guidelines, providing the printing is done at your location, at your expense, and only a limited number of such articles will be made and distributed in this way.

Moderate downloading, printing, or saving of material for personal, **non-commercial [Yem: was bold used in the original, or is this your emphasis?]** use is permissible, only to the extent consistent with the fair use doctrine. No commercial use (printing to resell or redistribute to non-paying or non-authorized users) of any articles is permitted

without express written permission of _____

publisher.

In this example transmission of articles
electronically is not permitted, so the library's fee-
based services would not be able to print a full-text
article to "resell or redistribute." Commercial use is
strictly prohibited without permission of the publisher.
As with copyright interpretation, while fee-based services
are not by their nature "commercial" entities and are
generally not for profit, they nonetheless serve the for-
profit sector. As we have seen in the Texaco copyright
case, fair use for commercial purposes is very narrowly
defined. To be on the safe side most fee-based
information services pay copyright royalties or ask their
clients to do so to avoid any infringement of copyright.

In the electronic environment staff in fee-based
services must educate themselves about their parent
institutions' licensing agreements and about the sections
that speak to copyright, interlibrary loan, and commercial
use. They must also be wary of documents retrieved from
Web sites where the copyright integrity of the work may be

questioned. Electronic format leads to cutting and pasting so that the potential for changing original documents increases greatly.

Another concern for fee-based information services is the safeguarding of a client's identity and the confidentiality of their requests to avoid having that information fall into the hands of competitors. Sending electronic files must be done appropriately. If clients want to pay for services using credit cards, fee-based services will have to ensure security and encryption methods.

Technology, Standards, and Global Markets

We must all shape our businesses to reflect the perspectives and information needs of global customers. It's widely accepted today that the Internet has been the great equalizer, giving information providers the opportunity to extend their products throughout organizations, and in doing so making electronic information a key component in the business process. (Andrews 49)

Clearly virtual library access via the Internet and exploding information products on the Web will create a larger potential external client base for fee-based information services that make their presence known on the Web. Fee-based information services are already accustomed to serving clients from across the U.S. and Canada, and frequently from countries around the world. Teaming up with information suppliers in Europe, Asia, and South America via the Web would be a logical step. Even without this targeted effort, the ease for users world wide to send Web requests will lead to an increase in global clientele. One can easily imagine that ease of interconnectivity and interactability combined with 24 hour a day access will bring new users across continents and oceans with increasing frequency.

Technical standards in software and hardware development also challenge managers of fee-based information services. This is especially true in academic libraries where they are frequently also heads of multiple departments, including interlibrary loan and circulation. These are areas where international standards for delivery

of content are causing unprecedented changes in product

development by both major utilities and commercial vendors

of library systems. One prime example is the promise or

potential promise of the Z39.50 standard. This standard

defines messaging data elements and protocols so that

search and retrieval of data can occur across multiple

vendor interfaces. As library consortia attempt to

implement this standard with products from utilities, such

as OCLC, and integrated library systems, it becomes

apparent that many layers of complexity stand between the

seamless transfer of data.

There are implications for academic library fee-based

services whose institutions participate in these consortia

union catalogs. If the union catalogs operate as promised

with the ability to search multiple catalogs, place holds

or request books and articles from within the consortia,

this functionality may benefit the fee-based services.

The consortia would have to agree that the fee-based

service could also be a registered library patron and

place requests.

In order for fee-based information services to

continue to compete, they will need to keep pace with new

hardware and software while staying abreast of new online products. The next generation of technology includes:

- more powerful desktop machines, capable of acting as servers in client server modes

- network computers for supporting intranets, extranets, and remote storage

- larger and faster bandwidth

- new telecommunication infrastructure using cable, satellites, and wireless technology

- new generation software applications—search software, search engines, and Web scripting

- advances in data compression for increased storage and transmission of large amounts of data

- new storage and delivery devices (Collier, p.)

The task is seemingly endless; however, knowledge and foresight will assist fee-based service managers as they head into the next decade.

Models for Information Delivery

Information Delivery Choices

    Businesspeople need information quickly. They work in fast-paced, competitive environments and require just-in-time services from all of their suppliers, including the ones providing information services. Many of them require information or documents within a few hours or by the next day. Even if some items are not needed immediately, clients still expect fast service, much faster than might be obtained through traditional channels. And because the business environment is so competitive, customers are fickle. After as few as one or two mistakes or delays in order fulfillment and they will look elsewhere for another information provider who is just a little faster or a little more accurate. With the field crowded with information suppliers of every description, providers must strive to supply timely, accurate, and cost-effective service to keep current customers and to attract new ones.

People needing document delivery services face a dizzying array of suppliers. Although most of them probably do not engage in formal analysis, their needs fall into one of several categories, based on a combination of their time constraints, cost constraints, and expertise or interest in ferreting out information on their own. First, some people prefer to outsource all their requests to one organization and let the staff there determine what can be filled locally and what needs to be obtained from outside the local collection. Other people handle some of their information needs, and outsource only part of it. They may outsource to only one organization, or may prefer to outsource to several based on various criteria, e.g., rush requests to one organization and certain subject requests to another. Some businesspeople's document needs are so narrowly focused in one specialized subject area that one organization (e.g., the American Chemical Society's Chemical Abstracts Service Document Detective Service) fulfills nearly all their needs. Other people prefer to verify that a particular item is available or to determine its final cost in advance, and thus enjoy ordering from suppliers such as

CARL UnCover that provide this information from a Web site.

There are also many different types of document delivery providers besides fee-based information services: commercial firms such as CARL UnCover; associations such as the Society of Automotive Engineers (SAE); national libraries; information brokers; publishers; and government agencies. Some of these providers supply information from internal sources only; others expand services to information outside their own organizations. Some operate in the for-profit sector, but others do not. Some are one-person operations, while others are divisions of multi-national corporations. Fee-based services in academic or public libraries "compete" with these organizations in the sense that potential customers might choose one or more of these other types of service providers to meet their information needs.

Electronic Document Delivery Technology

The traditional method for providing document delivery is to photocopy an article and arrange for

delivery of the physical piece by regular postal service or by an express courier. For many customers, these delivery methods are still satisfactory. In some cases, it is also mandatory. Clients from law firms, for example, often require a copy only one generation removed from the original. Faxed copies or electronically delivered copies do not meet their special requirements. Often these clients' requests include the instructions that a copy of the cover or title page on which the library stamped the date it received the issue be included. At one of the authors' services, a client from a law firm obtained the publisher's permission for the fee-based service to make two cover-to-cover color photocopies of an entire journal issue needed as evidence in court. It is interestingly to note that this issue was printed entirely in black and white!

Faxing articles has been another delivery method for the past ten years. Faxing articles is still associated with rush service and is generally charged at a higher rate. Some commercial services (e.g., CARL UnCover) fax as a standard practice, thus avoiding packing and shipping operations, but sometimes encountering quality problems.

As noted above, some clients do not want fax copies for at least some orders. In the case of articles with detailed graphs, photographs, tight margins, non-Roman characters, and/or scientific equations, fax transmission often degrades clarity past the point of usability. One of the authors' services approached several high-volume clients recently to ask if they would prefer automatic faxing of all article requests at standard prices. The clients responded unanimously in the negative. While the occasional fax, when requested, was necessary to meet tight deadlines, the clients preferred the higher resolution of a shipped photocopy. Several of them also shared a fax machine with others at their company and cited potential problems with managing a greatly increased influx of articles on a machine located in a different office or on another floor.

Today there are more options for delivering document copies. One option is Ariel, a system that allows document scanning and delivery over the Internet to another Ariel workstation. At the moment, this system works primarily from one Ariel workstation to another and as such is confined to mainstream interlibrary loan

operations. While most fee-based services count clients in large corporate or academic libraries among their customers, the volume is generally not large enough to justify purchasing and maintaining an Ariel workstation. Some fee-based services occasionally use their institutions' Interlibrary Loan department's Ariel machine to transmit articles.

The latest technology involves providing scanned electronic images of the original document. CARL UnCover is a leader in the commercial document delivery field for providing scanned article copies delivered either by fax within 24 hours or electronically within minutes. The technology, which allows nearly instantaneous access, depends on the article already having been scanned. Users searching the CARL database can tell when an article is available in electronic format, and then select either an electronic or faxed copy. To deliver the electronic copy, CARL emails users with instructions on how to access their articles. CARL has implemented safeguards to comply with copyright law: only the person who requested an article can view or print it; various messages regarding acceptable use of the article must be acknowledged before

the article file can be opened; only one copy can be printed; and the scanned article is only available for the requestor's retrieval for a short period of time. CARL retains each scanned article in its database so that it is available the next time a customer orders it

Fee-based services do not have customer bases as large as CARL's to make long-term storage of articles economical, nor would it be feasible or cost-effective to spend the time required to obtain publishers' or authors' permission for such storage and transmission. However, fee-based services can investigate the technology, which would allow one-time scanning of an article and short-term storage for access by the requestor for a single view and print. This storage and access need not even be on a local server. For example, both Pitney Bowes and UPS offer delivery services using Tumbleweed Software's Posta software [www.posta.com]. Fee-based services staff scan one or more articles intended for a single client into a file and send the file to Posta. The Posta software then notifies the end-user that the file can be accessed from the Pitney Bowes or UPS server. The file is password protected and only available for a short period of time,

such as a week. Users can view or print the file, but not change it or forward it elsewhere. The fee-based service pays a small fee for each file, but this fee is often less than the cost of shipping articles by conventional means.

This example of relatively new delivery technology will probably be "old hat" in a few years. In this era of change at a dizzying rate, today's cutting edge technology will be tomorrow's standard. Like their counterparts in business, fee-based service managers constantly seek new and improved ways to meet their customers' needs quickly and cost-effectively.

Management Issues **[or can Tammy use some/all of this in the conclusion????]**

The field is crowded with information providers. The basic product, the document or the information search, is the same at all these types of organizations. What distinguishes between them is often one of those intangible features that are so hard to define: the attitude of the person answering the phone; the neatness of the photocopy; the consistent accuracy of order

fulfillment; the cheerful and helpful resolution of those extremely rare errors; and the flexibility of the staff to accommodate special requests. These intangibles boil down to the commitment and dedication of the people providing the service.

   To maintain and improve a fee-based service's position in the competitive world of information delivery, the manager continually strives to preserve both the speed and quality which are the two vital components for the continued growth and existence of any information service, while simultaneously trying to stay ahead of the curve by developing the new services, products, and partnerships that meet customers' needs.

Future Directions   [conclusion]

Tammy