Issues in Commercial Document Delivery

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ABSTRACT
Fifteen years ago, document delivery was a cottage industry looking for its niche in the information marketplace. It has grown exponentially as publishers, clients, and vendors grapple with the future of article-based information delivery. The history of document delivery is discussed from a business perspective, and the author examines the most important factors in choosing the best document vendor. Assisted and frustrated by rapid advances in technology, document delivery has matured. The industry has seen large corporations acquire individually owned enterprises, infusing capital and supporting growth to keep pace with client demands. From the perspective of a document delivery pioneer, a number of key issues are examined. Fundamental in the new order is intellectual property. Today's vendor must negotiate with primary publishers, reproduction rights organizations (CCC, CANCOPY, etc.), and authors in an attempt to work within the new and evolving copyright paradigm. Scanning and imaging technology, photocopying, hardware, software, and cost analyses are among the other factors evaluated for their influence on document delivery.

HISTORY OF DOCUMENT DELIVERY
In 1980, I founded Dynamic Services, a document delivery company later known as Dynamic Information Corp. One of the service's stated goals was to provide documents for less than $5.00 and with less than a two-hour turnaround. I knew it would not be possible immediately but was certain that it could be achieved during the ensuing few years.
Dynamic's original price was $2.50 per document plus copyright. We believed that volume and new technology would allow for lower prices.

Technology was running wild. We purchased a new and wonderful 300-baud modem that allowed us to download orders from Dialog's DIALORDER before the much beleaguered topic of downloading hit the information industry press. Our first fax machine was still three years in the future and would cost nearly $4,000. We started by using computers (Heath H-89s) purchased as do-it-yourself kits from the then-thriving Heathkit corporation.

I was a graduate student in natural products organic chemistry when I started Dynamic Information. While working on my thesis project, I needed a document and was told that interlibrary loan (ILL) would be able to obtain it in three to six months. It was a mission-critical document, without which my research would have been unavoidably delayed. However, it was unacceptable to extend my stay in graduate school by six months while I waited for six to ten pages of paper. What could I do? I picked up the telephone and, after some hunting, was able to chat with the chemist who authored the paper in Bombay. He was delighted that a colleague should be so interested in his research.

After some negotiation, good old North American capitalism persuaded the gentleman to trade a copy of his article for two bottles of California wine (as I recall, one was a Beringer Cabernet and the other a Mondavi Chardonnay). Fax would have been great, but in those days, neither the Stanford Chemistry department nor the university in India owned a telefacsimile machine. We resorted to courier. The document was in my hands less than five days after I had left the library, disheartened at the prospect of interlibrary loan. The wine was sent via airmail to India.

If I could get such an obscure document in days, how hard could it be to start a company and change the face of this industry? As any young graduate student cum entrepreneur knows, the appropriate response can only be "No problem. Just give me a minute or two."

Sixteen years ago, there were no more than ten significant document delivery competitors in this undeveloped market. While aggressive, the handful of companies were also busy with marketing, market education, technology, and business development. Dynamic Information grew as a full-service document supplier, as did Information Store and Information on Demand. ISI grew with a large in-house collection, and UMI grew with an in-house collection, an artifact of their international microfiche business. Major national libraries, such as CISTI and The British Library, filled documents from their in-house collections. Customers were libraries, researchers, students, and those ubiquitous end-users. Document delivery was paper-based. In retrospect, the world was more or less predictable and challenges clearly stated.
Today, more than fifteen years later, the business has changed. Technology has become a force to be reckoned with. Document delivery has come of age and has grown beyond a cottage industry—it is starting to mature. With its rites of passage come competitors from all walks of life, from the far corners of the information industry and far beyond.

Big companies have acquired small ones. EBSCO Industries, Inc. purchased Dynamic Information Corp. from the author of this article and continues to grow and develop it under the name EBSCOdex. UMI purchased The Information Store from Georgia Finnegan. Robert Maxwell had previously purchased Information on Demand from Sue Rugge and later Article Express acquired it following the demise of the Maxwell empire. Article Express having been jointly founded by Dialog Information Services (now Knight-Ridder Information Services) and Engineering Index, was brought totally under Knight-Ridder's ownership. Individual founder/owners have been routinely bought out by large corporations.

A handful of document suppliers that were founded in the 1980s continue to grow and mature. Scores of new document delivery ventures began in the 1990s; however, at several points, more firms were closing than being established. Many firms were established out of the simple belief that "they too can sell documents." After all, how hard can it be? Even academic, public, and corporate libraries started document delivery organizations seeking to make money on their collections.

**HOW HARD CAN IT BE?**

New entrepreneurs usually approach document delivery with the attitude that it is simple. They are certain of success through the application of their special expertise—they will create the document delivery organization to triumph over all others. Society and the marketplace allow new entrepreneurs to enter on the strength of their individual beliefs and convictions. Some will succeed and dominate. Others will not; they will find the business to be much more complicated than expected. This parade of companies into and out of the marketplace makes product analysis by the consumer very difficult.

Companies with a longer history have repeatedly battled the hard realities—issues such as copyright, labor costs, and source library relationships, to name a few. Technology has continued to spiral forward, giving us tools hardly imagined in the early 1980s. Technology has also caused the capital costs in document delivery to soar equally rapidly. Demand has grown dramatically, and document delivery has become one of the buzz words of the 1990s.

Albeit in a different format, the problems and challenges of today's document delivery companies are remarkably the same as those of fifteen years ago.
DEMANDS OF THE CLIENT: HAVE THEY CHANGED?

While the magnitude of each client demand and its relative importance has changed with time, three basic demands have remained unchanged.

1. I want that document NOW.
2. I want that document for FREE.
3. I want PERFECTION in customer service.

We would all like to purchase from a store that delivers in real-time, that has clerks who mold themselves to our every wish, and best of all, that doesn’t charge. It is the “holy grail” of the consumer. Most of us realize that it is impossible to find the grail. We are seeking the company that helps us the most.

The Heisenberg Uncertainty Principle is fundamental in science. It states that, in the process of viewing an event, we cannot avoid having a measurable effect on it—we change it. Analogously, as consumers of documents, we impose our deadlines and constraints. We thereby alter the price the vendor must charge and change the parameters affecting delivery. Before we look in depth at the issues in document supply and what they mean to the consumer, let us address the basics.

WHAT IS DOCUMENT DELIVERY?

In its simplest form, document delivery is the transfer of a photocopy to an end-user. But today, it can also refer to the routing of an image to the e-mail account of the end-user. In the real world, document delivery is complicated. It involves citation verification, source location, publisher relations, copyright clearance, customer service, and numerous other concerns.

New technology is an important factor. It is now insufficient for a document supplier to use mail as its only delivery method. Faxing, scanning, image transfer, and MIME attachments are regularly requested by clients. In addition to implementation and maintenance, new technology demands significant research and development by the vendor.

Traditional interlibrary loan started with the submission of a document request and was followed by a waiting period defined entirely by the source (supplying) library. Today’s document delivery client imposes strict turnaround, price, copyright, order method, transmission method, and other related restrictions on the supplier. Such restrictions greatly increase the level of difficulty for the supplier.

While most of the larger and better equipped document suppliers have automated many of their operations, document delivery remains labor intensive. To fully understand document delivery, both technology and human processes must be analyzed.
Document Delivery—the Process

**END-USER REQUEST**  
- made by e-mail, fax, telephone, or mail  
- facilitated by the patron reference interview conducted by the library

The process begins when a patron contacts an intermediary to obtain a document. Today, this step is sometimes bypassed when the end-user places the request directly with the vendor. While the patron traditionally talked with the librarian or perhaps submitted an “ILL slip,” the patron of today frequently uses e-mail or the company intranet.

As anyone involved in document delivery knows only too well, problems often arise when the patron conveys either incorrect or incomplete information. Depending upon the subject area, document delivery companies receive between 2 and 10 percent of their requests with problems. The patron might list the publication title as *Journal of Washington State University* when Washington State is actually the author affiliation. The requested article might be a hybrid of two citations found next to each other in a list. Abbreviations cause horrendous problems when patrons take it upon themselves to expand the letters into complete words. Biol Ind becomes *Biology and Industry* when it should have been *Biologia et Industria*. The document vendor is sent on a frivolous chase only to find that the article requested is not in the cited journal. The librarian of times past often spotted inconsistencies and errors in the patron’s citations.

Technology now eliminates much of the human scrutiny. Nevertheless, it remains the job of the document vendor to unravel citation problems and locate the desired document.

**INTERMEDIARY REQUEST**  
- made by e-mail, ARIEL, fax, electronic order box, telephone, or mail  
- facilitated by a reference interview handled by the document vendor

The vendor interfaces with the librarian or other intermediary who is placing the request on behalf of the end-user. This step can be of great assistance to the document supplier, since the intermediary is often an information professional. However, it is still the source of occasional transcription and other errors, further compounding the problems for a vendor.

In today’s world of intranets, e-mail, and automated WWW order forms, problems can be introduced by computer systems that have character limits on request templates or that allow for entry of only some of the data fields. Each element missing from a request increases the likelihood that the vendor will need to do costly and time-consuming citation verification or again contact the intermediary and possibly the end-user.
While often downplayed, the reference function is at the core of the unique expertise of the document vendor. Many companies have automated a large part of this task. Fifteen years ago, reference departments consisted of a well-trained group of information professionals who used books, microfiche, microfilm, the telephone, and a limited number of online resources to find locations from which to retrieve copies of requested documents. Library catalogs were largely still in print or on microfiche. The availability of the union list of California academic libraries, on a fiche product known as CALLS, was a landmark development. Over time, the larger suppliers developed elaborate in-house programs and technology to automate a high percentage of the reference process. Speed of lookup, as well as accuracy, have been dramatically increased, and turnaround for the client decreased.

The reference department of today contains both information and systems professionals. It places a high emphasis on information obtained from library and bibliographic catalogs, which come in a variety of formats including print, fiche and, most importantly, electronic data. The department must be able to accept these data on almost any media, including via the World Wide Web and FTP through the internet. Outside bibliographic utilities such as OCLC, WLN, and RLIN are important resources.

While a high percentage of requests is automatically sourced, a finite number still needs special attention. Just as automation brings new resources to the vendor, it also gives the end-user the ability to find citations from the most obscure publications. For the full-service document delivery vendor, it is necessary to maintain a highly skilled group of professionals who are experts at tracking down documents. Transcripts of meetings, corporate gray literature, audiotapes, computer programs, and FOIA documents are just a few sources requiring special handling. Following examination by the reference department, some requests need additional information from the client, either factual data or an amendment to the price or time limits.
Verification is necessary when a citation is incorrect or incomplete. This might be obvious when the request is received, or it might become obvious later in the process of filling the request.

Citation verification, like reference, is a cross between sleuthing and information science. The vendor is charged with deciphering what the requester "really meant." The skilled document delivery professional often finds clues from the tiniest bits of data. If the cited journal title is for a new publication, but volume 234 is being requested, something must be wrong—perhaps the journal title has been incorrectly stated.

Many resources are utilized in the verification process. Tools include printed works such as New Serial Titles. They also include databases such as INSPEC and BIOSIS and more obscure techniques including telephone calls to authors and corporate sources. The number of resources is only limited by the skill, experience, and creativity of the information professional.

In the process of citation verification, issues arise that sometimes require the vendor to contact the client. Perhaps it is necessary to tell the patron that the full paper was never published and that only the abstract is available. The vendor could continue by contacting the author directly; however, the client would likely need to authorize an additional charge.

- runner sources (e.g., libraries)
- electronic sources (e.g., primary publisher servers)
- request transmission to the source location
- second and third sources if the document is unavailable at the first source
- client price & time limits
- delivery method

Document vendors spend considerable time evaluating and choosing among sources for the requests they handle. Today, this involves a significant commitment to technology. Holdings data are often mounted on in-house servers providing access to the entire staff. Special connections are made to the outside world where data on many collections are available.

Staying abreast of all of the sources is an arduous task. The vendor still needs to access paper collections, usually found in prestigious academic and public institutions around the world. However they now need to connect to publisher servers, full-text online sources, and documents resident on the World Wide Web.

Documents are obtained from worldwide locations of all types:
• public and academic library collections (e.g., Boston Public Library, Stanford University)
• relationships with document fulfillment groups in other libraries (e.g., Linda Hall, The British Library)
• specialty document vendors—commercial, public, and government (e.g., UMI, ISI, Los Angeles Public Library, EPO, NTIS, JICST)
• associations (e.g., SAE, AIAA)
• primary publishers (e.g., Reed-Elsevier, Doubleday)
• authors
• electronic consortia (e.g., ADONIS)

A large number of relationships must be established in order for the vendor to maintain access to a broad range of source locations. Such relationships require interpersonal skills as well as business acumen. Today, they also require programming, hardware, and sometimes elaborate bookkeeping systems. Depending on the source, the vendor must also develop the systems and technology to transfer the documents from the source to the vendor or sometimes directly to the client.

In an academic or public library, the document supplier usually places an employee as a “runner.” The runner receives requests, usually electronically, checks for availability, and makes a copy to forward to the vendor or client. Even ten years ago, Dynamic Information had runners in diverse locations, from Stanford University locally, to the Beijing National Library internationally. Orchestration of many runner locations is very demanding and has significant attendant costs.

Relationships can be creative and positive for both parties—they can range from simple to very complex. After ten years of negotiating, I was able to design a contract with UC Berkeley providing for unlimited access to its library and even office space on the campus. While the long-term benefits to the company can be great, the short-term costs, including negotiations and deal making, may be high.

Traditionally, runners mailed copied documents directly to the client or shipped them to a central location using an overnight courier, either a commercial carrier like Federal Express or a bank courier. Today, document scanning is becoming common and companies like CISTI, EBSCOdoc, KR Sourceone, and others, are taking advantage of this technology at one or all of their source locations. Materials are scanned, followed by transfer of the image to the company for ultimate delivery to the client. Direct source-to-client delivery is used in some document delivery operations.

The full-service document delivery vendor is responsible for using as many sources as are necessary to satisfy the client’s request. While the vendor tries to locate the desired material at the first location, it is frequently necessary to look to additional sources. Many of the larger suppliers have devised elaborate programs—part artificial intelligence—
which assist the vendor's reference staff in efficiently routing the request to the best location first. While costly, such programs greatly reduce turnaround by increasing precision at the first location.

Keeping the client aware of progress is vital when the original time or price limits cannot be met. The request might be canceled, it might be escalated to a rush, or the price and time limits might be amended.

**QUALITY CONTROL**

- during source location
- during citation verification
- paper/photocopy image quality
- electronic/scan image quality
- maintenance of client time/turnaround limits
- maintenance of client price limits

No operation, whether public or private, for-profit or non-profit, can survive without attention to quality control. In document delivery, there are quality issues that follow the document through the entire process.

- percent retrieval of the correct document at the first source tried
- percent retrieval of the correct citation following verification
- control on quality of the image (paper or electronic) delivered to the client
- success rate at staying within the client's preset limits
- client satisfaction with the customer service department and status process

Quality control should begin when an order is placed. If information is inadequate or incomplete, it is often least expensive to query the client for additional detail. However, it is a fine line, a judgment call, that dictates when a vendor should do added request verification versus calling the client. Also, price and efficiency are both concerns—added verification increases the price of the document but will reduce turnaround.

A good reference department is critical. The document vendor must ensure prompt location of a source. Many of the large and successful vendors are now able to boast that most incoming requests are sourced and routed within hours or minutes of arrival. The first source must be the one most likely to have the material available and on the shelf. Going to additional sources greatly increases turnaround. Some vendors charge the client more as the number of sources tried increases. Most charge more when a second or third, and more expensive, tier of sources is utilized. Using the U.S. Library of Congress or Linda Hall and making telephone calls to authors are examples that usually imply a higher price for the client. When there is an unavoidable delay or a price increase, the client needs to be notified.
While quality control dictates precision in the sourcing process, it must be acknowledged that some requests are extremely difficult. Perhaps the desired article is in a supplement to a very old publication acquired by very few libraries and rarely listed in their holdings. The vendor will need to try several possible locations.

Verification is a cost center for the vendor and usually implies an added cost for the client. Most vendors handle some verification for free as part of their basic service. Transposed page or volume/issue numbers can normally be ferreted out by the runner or reference staff. Some vendors will do minimal database verification at no charge. Good verification is an art. With a better citation, the vendor will need to try fewer locations. The quality of the staff doing the verification is in direct proportion to the money spent and charged back to the client. Document delivery citations sometimes come to the vendor with extremely little information. All clues are important. For example, most online searchers have never worried about which databases permit searching on page numbers. For document verification, to be able to search on page number is sometimes vital—perhaps the requester has omitted the article title and there is a common author name.

Just ask anyone with a history in document delivery how often patrons submit sketchy citations. Dynamic Information once received a request critical to litigation in an intellectual property lawsuit. The citation contained only a brief subject with a volume and page number. It was time consuming and expensive, but Dynamic located the document which proved to be instrumental in winning the case.

The product of most document requests is either a piece of paper or an electronic image. When paper, the desired product must be clean, legible, straight on the page, complete, and inclusive of the bibliographic citation. When the document is routed from the source (usually a library) to the vendor before going on to the client, there is usually a quality control department. Some vendors proof each page, and the citation is confirmed. Preceding this in-house scrutiny, most successful vendors have implemented quality control procedures with their runners. Every mistake costs the vendor dearly in time, out-of-pocket expense, and reputation.

In today's electronic world, quality control is equally important. When the vendor scans the document, the same concerns apply. People are involved in the process and errors must be controlled. New technologies bring great advances in speed and service; however, they also create new issues that the vendor must learn to deal with.

The client wants rapid delivery of the correct document. However, with the number of transactions, it is inevitable that there will be an occasional error. Document delivery quality control remains an important differentiating feature between suppliers.
Today a few vendors deliver some electronic and/or scanned documents directly from the source to the client. This presents new challenges. The vendors are grappling with these issues and are finding ways to scrutinize images on the fly and design electronic safeguards. Document delivery is evolving rapidly.

When a vendor makes an error, it affects turnaround time and sometimes the cost to the client. Quality control, as monitored by the client, usually begins with a rating of price and calculation of turnaround time. “Did the vendor adhere to our price and time limits?” Likewise, when shopping for a supplier, clients eliminate vendors who cannot stay within time and price limits. Within the acceptable pool, the vendor with the best price and turnaround statistics is most often selected.

Throughout the fulfillment process, the vendor must keep the client apprised of the order’s progress. I remember years of educating new employees with the statement: “The client comes to us to buy information. What they want is the document—fast and cheap!” However, if there is a delay or price change, the client values this information almost as highly as the document itself. Sometimes all we can do is explain to the client that the requested document was never published in the desired language. Information is what we sell—we must pride ourselves on speed, accuracy, and completeness. The communication of information to the client is called “request status.” It is often the decisive factor in differentiating between two document suppliers.

**TRANSFER**

**DOCUMENT TO CLIENT**

- e-mail, fax, mail, scan and transfer, overnight courier, ARIEL
- might first have to transmit the document to the vendor (from the runner) and then on to the client
- must adhere to client price and time limits
- reliability

While inextricably linked to customer service and quality control, there are special concerns which surround delivery of the document to the client. Some of these concerns are similar to those involved in transferring the document from the source to the vendor. Others are unique.

Whatever method is used, it must stay within the client’s time and price limits and be reliable. Traditionally, documents were mailed from the vendor to the client. Today’s clients also request documents by fax, e-mail, courier, scan, transfer, and ARIEL. In addition to supporting capital investment and understanding the technology, the vendor must be willing to learn and understand the client’s particular situation. The vendor must now contend with corporate intranets, firewalls, and proprietary e-mail systems. When transmitting a document electronically from a source to a central office, the vendor chooses a method on the basis of technology,
simplicity, and cost. However, if a client needs to receive scanned images as MIME attachments to e-mail, only those vendors who can meet this demand will remain in the running for that client's business.

Clients are more and more frequently choosing only among vendors who can mesh their technology with the clients' in-house systems. Over time, most vendors will offer most formats. For now, there will be significant disparities.

CUSTOMER SERVICE & STATUS

- at all points in the process
- conveys delays and price increments
- handles problems that require citation verification
- work with clients to understand their proprietary technology
- work with clients to resolve problems
- assist the marketing department with education of the client about available services

Customer service is mentioned throughout this article because it is an integral part at all stages of the document delivery process. Document delivery results in a tangible product. However, it is better viewed as a service with the ultimate product, the document, being an artifact of hard work, intellectual processes, and technology. As in any service organization, communication with the client is vital. It is neither simple nor cheap for the vendor to maintain an ongoing dialogue.

Customer service is one of the most difficult skills to impart to employees. It requires clear communication, friendliness, knowledge, accuracy and, of course, diplomacy. The customer service agent is frequently a new client's first contact with the vendor, supplying both education and information. At the same time, the agent is an arm of the marketing department. For example, when a client is told that an article is only available in Russian, the customer service agent is perfectly situated to advertise the translation services offered by the vendor.

Although the vendor tries to eliminate errors whenever possible, when they do occur, it is most often the customer service agent who must discuss the problem with the client and make amends. While it is not an easy process, it differentiates the average from the superior vendor. I remember an occasion when a skilled diplomat took a call from a client upset that Dynamic had accidentally supplied the wrong paper in a series of publications by a prestigious author. The customer service agent had the correct document delivered by courier the next day. In addition, by the end of the call, the agent informed the client that there were other publications in the series. A week later, the client called to order the other twenty-three items.
Respecting the client is important. Even small details, such as the document identification number, can make or break the vendor-client relationship. While easier for the vendor to use an internal number, it is more than just polite for the vendor to refer to the order by the client's number during conversations. It is part of good service.

Customer service becomes more complex as technology advances. While it might have been simple for an agent to discuss items delivered by mail, it is much more involved to explain to the client how the document was sent by MIME attachment to their e-mail. The agent must understand the technological environment at the vendor site as well as at the client's site. Of course, all of this is in addition to "The customer is always right."

**INVOICING & BILLING**

- follows delivery of any product
- must interface with customer service
- clearly presents the vendor's pricing algorithm to the client
- important in today's world of client in-house charge backs

No document delivery transaction is complete without the invoice. While no one is anxious to part with their hard-earned money, the invoice is critically important to the client. Many clients use the invoice to charge back to their end-users. Most clients also use the bill to monitor budget expenditures on document delivery. Every client uses the invoice to "check up" on the vendor and to evaluate their true pricing. Invoices must have several features:

- adequate detail to identify the client's request;
- clear pricing with a total for each document;
- clear explanation of each and every add-on charge;
- clear cost accounting that shows price by client charge code;
- the ability for subtotaling by department, user, project, code, etc.; and
- instructions on who to call regarding any problems.

While not essential, it is becoming very common for the vendor to include statistics for the client on the average/median price per document, price per type of document, turnaround, and other calculations to assist the client in better evaluating the service. These calculations save the client a great deal of time and can also accent the vendor's strong points. The wise client will use common sense and augment these statistics with some of their own data to make the best-informed evaluation.

The client should also remember that the invoicing process, especially as it gets more and more elaborate, is a nontrivial cost for the vendor. However, it is a cost that has become part of doing business.
As alluded to above, research and development is both the hallmark of the successful forward-thinking vendor and the bane of each vendor's financial success. Document delivery is a rapidly growing industry. Unfortunately, the volume of orders received by most vendors is not yet high enough to easily defray the costs of R&D.

Today's most successful document suppliers have invested heavily in the development of complex in-house systems to automate their operations, from order receipt to production of the invoice. Customer service agents use computers to call up orders and discuss details with clients. Costs spiral upward as vendors must acquire larger and larger pieces of hardware and software to handle data entry, databases, telecommunications, and graphics technology.

Because clients are constrained by their in-house MIS departments and available technology, they are forced to request electronic delivery in various formats. They frequently have no flexibility and are limited by firewalls and other in-house restrictions. There is little standardization in electronic transmission of scanned images. For the vendor, this implies considerable R&D as well as investment in technology. Maintaining multiple platforms with their associated customer service issues is unavoidable.

Many document vendors are involved in research and development on these new technologies, involving both software and hardware. However, today's successful vendor must also address the attendant issues of copyright and publisher relations. Negotiations and relationships with copyright owners require significant additional investments of time and money.

While impossible to be everything to every client, document vendors are rallying to new challenges. Nevertheless, the expense of R&D must be amortized over a large enough number of requests to keep costs low. Clients demand that electronic delivery be cheap because the incremental cost of each transmission is so low. Therefore, the costs of R&D are a major drain on the cash flow of today's document delivery vendor. Note the number of individually owned document delivery companies that have been acquired by large corporations with large capital reserves.

**COPYRIGHT**
- set by the owner of the intellectual property
- often dependent on the delivery method
- reproduction rights organizations (RROs)
the Copyright Clearance Center (CCC) and CANCOPY
• bilateral publisher negotiations

We have all heard discussions about Fair Use, CONTU guidelines, CCC, CANCOPY, RROs, and other aspects of the payment for, and protection of, intellectual property. This article will not delve into what is right and what is wrong. Nor will it delve into who is right and who is wrong. At this point, there are a variety of contradictory (but valid) opinions on these issues. Publishers, academics, authors, end-users, and intermediaries continue to have many lively arguments on the subject. New law, more discussions, legal test cases, and time will undoubtedly settle these disputes. In the interim, it is clear that copyright will be an important concern for all document vendors.

It is necessary for the document delivery company to spend a large amount of time to keep up with the law. Protracted discussions with primary publishers and Reproduction Rights Organizations, like the Copyright Clearance Center in the United States or CANCOPY in Canada, are unavoidable.

Today, each and every document that is delivered must first be scrutinized for copyright due the owner of the intellectual property. Prices range from free to hundreds of dollars per document. Over the past few years, copyright prices have soared, with average increases of anywhere from 5 to 20 percent per year. Increases on some publications have been several hundred percent.

Some document vendors find it better to negotiate copyright directly with the publisher, sometimes arriving at a preferential rate. While a few publishers continue to forbid copying at any price, most publishers are exploring their options and wish to find the price that will maximize their profit. Recently, individuals and groups of authors (such as the Author's Guild) are also trying to secure copyright payment when they have not previously assigned their rights to the publisher. Many battles have yet to be fought. Interestingly, with the many negotiated agreements and nuances in the price of copyright, some document delivery customers are now shopping for vendors based on the price they are able to charge for copyright.

These complex issues will not be resolved quickly. It will remain costly for the document vendor to stay abreast of copyright issues and to negotiate with publishers. Charges for downloading of images from publisher servers will only add to the confusion.

DOCUMENT DELIVERY—MORE ISSUES

The most important concerns of the client remain those that affect cost, turnaround, and customer service. This article has discussed processes and factors that impinge on these criteria. While not intending to
be comprehensive, the remainder of this article will focus in detail on some of the issues of document delivery which fall into five general categories: (1) general cost considerations, (2) technology and its impact, (3) turnaround, (4) price limits and other client-imposed restrictions, and (5) copyright and publisher-related considerations. Many of these important issues are seldom discussed and are poorly understood by the librarian and rarely understood by the end-user. It is hoped that a better understanding will make it easier to be an informed purchaser of document delivery services—i.e., to get a good price and high quality.

A Call to the Customer Service Department—a Necessary Curse?

Customer service is a mission-critical function in the document sale. Let's examine a call to a vendor to inquire about the whereabouts of a document ordered a week ago. The length of the call could easily be six minutes (often more), including greetings, specific request details, and a discussion of the resolution. If the customer service agent is paid $12 per hour, the cost to the vendor with overhead (including workstation, department manager, and other equipment) can conservatively be estimated at $24 per hour. The call probably came in on an 800 number. Following the call, work will be required to right the situation. Let's estimate ten minutes at $10 per hour with overhead bringing the follow-up labor to $20 per hour.

Agent Labor during telephone call: $24/hr. x (6/60) hr. = $2.40
Cost for 6 minute 800 telephone call: $0.09/min. x 6 min. = $0.54
Follow-up labor to right the problem: $20/hr. x (6/60) hr. = $2.00
MINIMUM Total Cost = $4.94

This is the minimum cost to the vendor based on conservative time estimates. Frequently there are additional costs that might include another copy of the document, extra postage, or added courier fees. The client asked a simple question and the vendor spent $5. What does this mean? It means that the vendor lost money on that request. More importantly, it means that the wise vendor must minimize the number of such calls. This is only possible by attention to quality service. Note that every time a vendor picks up the telephone and talks with a client about a request, that request is a loss.

The Client Requests Delivery of Scanned Documents in TIFF 4B Format

If the vendor is not already delivering scans in the requested format, a minimum of five days of programming time would be needed. The cost for a programmer could be estimated conservatively with overhead at $85,000 per year. Testing, maintenance, and communications with the client would require another five days of customer service and programming labor. The cost for staff performing these functions could be estimated with overhead at $40,000 per year.
Cost for the programmers time: $85,000 x (5x8)/2080 = $1,635
Cost for testing and maintenance: $40,000 x (5x8)/2080 = $ 792
Total Cost: $2,427

If the vendor wishes to make this change for one client, it would cost $2,427. The client would have to be very large to make this a no-loss proposition. If the costs are considered in terms of numbers of requests, the vendor would need to provide approximately 25,000 documents per year or 2,000 documents per month before the incremental cost of the new delivery mechanism would be reduced to less than ten cents per document. It is important to understand that this is still a large sacrifice against marginal profits (a client of this size would already receive a substantial discount).

What about the Pharmaceutical Client Who Needs an Average per Document Cost of $7.50 or Less?

Copyright makes it impossible for the commercial vendor to meet this demand. In the past several years, average copyright has increased substantially. Although copyright varies by publisher and individual work, averages are consistent by field. Average copyrights are lowest in the humanities and highest in the pharmaceutical and hard sciences, ranging from below one dollar to more than six dollars. From 1978 to 1996, average copyright increased steadily from less than fifty cents to nearly $3.00 per article.

While it is a reality that copyright is here to stay, it will be some time before a long-term paradigm will evolve. Authors have started to seek their own copyrights. Publishers are grappling with the question of the correct value of copyright as subscription-based sales are eroded by article-based sales.

Why can't Vendors Reduce Document Prices as Technology Advances and Sales Volumes Increase? Common Lore is that Vendor Costs are Decreasing

It is true that with the advent of scanning technology and electronic transmission, many incremental costs have decreased. However, the fixed costs and capital costs to enter the industry have soared dramatically. Until document sales increase by orders of magnitude, the burden on the vendor will remain daunting.

In addition to the costs of new technology, there are other significant costs that are frequently overlooked by the consumer:

- over the past several years, the costs of photocopying in libraries have steadily increased from an average of $.05 per page ($ .40 per average eight-page document) to over $0.15 per page ($1.20 per average eight-page document);
- for vendors who copy from an in-house collection, the past few years have seen a doubling in the cost of paper;
- labor costs have increased.
As is frequently the case in nonprofessional service businesses, the profit margin in document delivery is low. Any increase in the price of a raw material, including labor, has a direct and profound effect on the profit margin and/or the price of the final product.

**Why Can’t the Vendor Deliver All Documents as Electronic Images?**

Since many publishers are starting to make their publications available in electronic format and since scanning technology has advanced to the point where it is no longer prohibitively expensive, some clients expect the document vendor to deliver everything electronically. However:

- the number of publications currently available in electronic format is a tiny percentage of the total;
- for the vendor to scan all paper documents, a large effort is required, with high attendant capital and labor costs;
- telecommunications costs are only now dropping sufficiently to make their value competitive with wholesale shipping of paper documents by post or via courier.

Clients are rarely equipped to receive a significant number of documents in electronic scanned format. The most common obstacles are large amounts of storage, high bandwidth, software, and hardware to handle the received documents at the client site.

Certainly, many full service document vendors are moving toward the day when complete electronic transmission will be a reality. Some specialized vendors, using a limited number of sources, are already trying to ship all documents electronically (including fax). With time, new standards will definitely supplant the old.

**Why can’t the Document Vendor Reduce the Price when They Deliver Documents Electronically when the Cost of Delivery on the Internet is Negligible if not Zero?**

Of course, the incremental transmission costs are nearly zero. However, when the costs of the entire process, including hardware, software development, the labor to scan, the staff to do quality control, and the labor to oversee the electronic transmission are considered, there are few savings, if any. Costs to the vendor will remain at these levels until the number of documents delivered electronically increases significantly.

**I want Perfection; I will Never Tolerate a Document with a Missing Page**

As consumers, we all want perfection. Document delivery is a labor-intensive business. A great many steps are involved in the production of each document; therefore, the number of individual tasks performed per week is extremely high. Some errors will occur. If the vendor were to continue to improve to the point of zero errors, the costs would increase exponentially. Tolerance of a minimum number of errors is required. However, in comparing competitors, the number of errors per thousand documents is a meaningful parameter.
Why did the Vendor Go All the Way to TU Delft Instead of Getting the Document at the Denver Public Library where I Know that They had the Document?

Document vendors strive for efficiency. Each has a stable of sources that it uses regularly and additional sources that are called on when needed. To keep costs down, vendors rely most heavily on sources that are best adapted to their particular systems. Unquestionably, quality document vendors can fill requests more quickly and cheaply than could the client.

Since it is not possible for a document supplier to treat each document as a special case, unless correspondingly high prices were charged, there will be instances when the closest source is not the vendor's standard source for a particular title.

Why didn't the Vendor call the Author; his Telephone Number is Listed in Several Directories, and it would have been much Faster?

The vendor must balance turnaround and price. Within the boundaries of the client's price and time limits, only certain procedures may be feasible. If the price limit is adequate or if the request is made as a rush order (with attendant higher prices), all reputable vendors can put a large number of additional resources to bear on the process.

The client must choose between competitors. Such decisions are frequently influenced by the success of the vendor at obtaining the more difficult and obscure documents. Reputable full-service vendors strive to control costs and find new and creative ways to employ the most powerful techniques to quickly access documents. Changes in telecommunications costs are starting to make it more economical to make telephone calls than to write and post letters. In addition, document vendors are learning to make good use of communications through the Internet.

Why can't the Vendor Deliver Everything in Less than Two Hours when Many Articles are Available in Real Time on the WWW?

The answer to this question is a combination of several of the previously discussed issues. Technologically, rapid delivery is possible; however, costs are still prohibitive and the equipment at the client site is often insufficient.

Relatively few documents, especially from commercial publishers, are available on the World Wide Web. Moreover, only a tiny fraction of the available documents are complete, including all photos, charts, and graphs.

CONCLUSION

Most people would like documents supplied in real-time by a friendly staff and for free, but one must realize that there are many issues that
make document delivery more difficult than is readily apparent. Do not stop searching for the perfect (or at least the best possible) document supplier. It is only through selection by the consumer and competition between vendors that quality will increase.

The aim of this article is to heighten understanding of document delivery, from a historical and operational perspective. A more in-depth understanding of the real problems and issues faced by document vendors will make it easier for the client to deal with, negotiate with, and evaluate a vendor. As consumers, we must also recognize that the demands which we place on document suppliers seriously impact the price, turnaround, and level of customer service that can be offered.

In order to maximize efficiency in dealing with a vendor, the consumer should:

- ask probing questions to better analyze the vendor;
- ascertain whether the explanations offered to support a price or service limit are realistic;
- evaluate the technological capabilities of the vendor; and
- try to understand problems when they occur. You will be able to differentiate problems which are beyond the vendor’s control from those which are the result of poor internal vendor operations.

Is document delivery such an odd business? Not necessarily. It is the aim of this article to show that the document delivery industry is young and just starting to grow beyond its adolescence. All industries experience similar problems—it is a part of maturing.

What does all of this mean for the client who must navigate the document delivery marketplace? It means that there will be continued rapid growth. Attendant to this growth will be problems. Technology, persistence, and the promise of a profitable industry will spur improvement. Fifteen years ago, researchers waited weeks for documents—today, days and hours are a reality. Publishers, authors, traditional document vendors, clients, producers of technology, and others will undoubtedly continue to spar with each other. I am certain that, ten years from now, we will look back on a very complex, but interesting, story.