

# Information Management in the "Information Age"

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## Technology

We are in the middle of a revolution -- an information revolution. All one has to do to realise this is merely look around. The world is linked by a computer network that just 10 years ago was almost unimaginable. There is e-mail, and of course, World Wide Web access.

The latest statistics show more than 108 million people worldwide have access to the Web. There are some 1.9 million homepages that enable shopping, reading of the daily news and the ability to search for an almost endless amount of information.<sup>1</sup> All this is done from the convenience of a personal computer (PC) on a desktop.

What does this mean for those of us in the business of providing access to information? I would say we have to be prepared for the future, but the future is already here. The full text of journals, serials, newspapers and many other periodicals is increasingly becoming "online" and available in other "electronic" formats and there arises a need to provide easy access. The major players in the "information age" are the same -- libraries, publishers, subscription agents -- and now more than ever, there is a greater need to work together.

I believe there is a distinction between "online" and "electronic" journals. Online journals are a format of electronic journals and are available via the World Wide Web. Electronic journals are available in several other formats such as magnetic tape, diskette, e-mail, fax and CD-ROM. Online journals pose more of a challenge than other formats of electronic journals.

With the advent of electronically published publications, there are apparent changes in the roles information professionals play in *production, distribution and archiving*. Whether electronic, online or paper, the serial is still published and circulated. But how does an "electronic" or "online" serial get "circulated?" The creation of a serial by a publisher remains the same -- it is written and edited -- but now there are choices of formats. Many subscription agents have provided bibliographic and ordering information for years for journals that are not only published in print, but in online and electronic formats. In many cases, these types of journals can be ordered in the same method as for print.

The traditional mode of thinking is that a library and subscription agent work together to acquire the numerous journals most libraries need. This can be in the thousands or tens of thousands. With many serials and other publications available both online, electronic and in paper formats, ordering and circulation become more complex. Publishers, agents and libraries

are turning to the World Wide Web to distribute information and are finding solutions that will provide the end user with greater access to the full text of journals available online.

Librarians are becoming overwhelmed by the amount of online journals. Subscription agents and publishers are developing various systems and services that will aid libraries or corporations in gaining access to and payment for online journals.

A primary point of developing an online journals service includes offering a secure subscription management site that benefits both end users and publishers. Publishers will maintain control of the information, subscription information and pricing. Subscribers will need to be able to conveniently access journals in a seamless, quick system which facilitates the authentication and password control process.

Easy access to online journals is the key point most subscription agents and other information providers are addressing with development of their systems. Another concern is password distribution and authentication. Once developed, most systems being developed will take that administration burden off both the publisher and library. Additionally, fast, accurate searching capabilities for table of contents, abstracts and full text is essential.

Clearly, this type of project is massive and requires an enormous amount of communication and cooperation among all parties involved. Agents and publishers will have to ensure that usernames, passwords, Internet Protocol (IP) addresses and other user information match on both ends. Then, there is also the issue of site license agreements and the issue of online "claiming."

Information dissemination in this manner is not only revolutionary, but it is evolutionary as well. As with most information technology available today, systems that provide access to online journals will change to better meet the needs of the end user. Publishers and agents are now working together in ways as never before to bring this concept to reality.

As more publishers begin to offer online serials, subscription agents will continue to develop services to make access to these and traditional subscriptions easier. But the real challenge for agents is maintaining their traditional role as subscription management organisations. Regardless of the format, it is still, as it has always been, the responsibility of the subscription agent to provide serials management information to which an organisation subscribes. What we see as the future today, can very easily change tomorrow. We all have to be prepared for that change.

With online journals, libraries' traditional boundaries will be changing as well to deal with issues and concerns such as archiving. Wim Luijendijk, Vice President and Division General Manager of EBSCO Subscription Services Europe said, "Traditionally, it has been the library's mission, perhaps, because no one else could be counted on to do it."<sup>2</sup> Archiving and retrieval journals available online and electronically is not as simple as print materials. Once archived, access to electronic or online materials is more difficult.

By placing publications or serials of any type online, it becomes the publisher's responsibility to guarantee access to these "electronic" backfiles for which end users have paid. If a subscriber cancels a subscription to an online journal, the publisher should offer them access to back issues up to the point that the subscription existed. This may mean maintaining that customer's password and IP for authentication over a long period of time.

The traditional responsibility of archiving may be changing as subscription agents and publishers are finding some value in archiving for customers. I believe some publishers are finding that providing access to backfiles is a profitable enterprise. They may charge for access to these files from non-subscribers, and it is far easier to control this with online and electronic publications than with print subscriptions. In the world of online technology, access is becoming easier.

Archiving is only a natural function for some subscription agents who also provide document delivery services and full text reference databases. EBSCO Information Services has been archiving for many years, especially full text of articles, for inclusion on our electronic reference databases like EBSCO*host*. We have also been archiving journals of all formats for the document delivery needs of our customers. It would appear that all the players in the "information age" will be performing some of the traditional responsibilities typically held by only one.

### **Outsourcing**

Outsourcing is a prime example of how some traditional roles are changing. In looking at document delivery, there is evidence of this. We are seeing more libraries, research institutions and corporations turning to this method of information delivery. The supplier is the keeper of information (sometimes serving as a reference desk), and the library staff develops relationships with these suppliers to acquire documents.

While some see outsourcing as a threat, others see it as a means of letting someone else do the work so they can focus on other aspects of library work, such as interfacing more with users. Patrons will continue to visit libraries for information, but in this scenario the librarian simply contacts their supplier and requests documents. The librarian still remains the true information professional, especially in the eyes of the patron.

### **Partnering**

As I have mentioned previously, we are finding that libraries, publishers and agents are working "together" more than ever. However, libraries are increasingly becoming part of consortiums, and thus, becoming more interconnected among themselves.

In the United Kingdom, The Consortium of University Research Libraries (CURL) was formed as a means of putting member institution patrons in touch with more information. CURL was established in the early 1980s by seven of the largest university libraries in the

United Kingdom and continues to expand. Initially, the members of CURL joined together to share access to each other's catalogue information. Now, the organisation's *mission* is "to promote, maintain and improve library resources for research in universities," and its *purpose* is "to support and facilitate research, for the public benefit, in the higher education institutions of Great Britain and Ireland."<sup>3</sup>

CURL is just one of many library consortiums in the world. Libraries benefit from consortiums in a number of ways. One of the most obvious benefits is that by working together, libraries can find and develop solutions associated with the acquisition, processing, storage and eventually, the distribution of information for research and other purposes. This in turn, helps each institution better meet their objectives of serving their patrons. There is little doubt that consortiums will increase in the near future as technology advances and information becomes more accessible and abundant.

There are other methods by which libraries are pooling resources. For instance, as reported in the December 9, 1996, edition of *Library Hotline*, Peking University Library will electronically deliver research materials in the West, under an agreement with the University of Pittsburgh. Full text documents will be transmitted over the Internet.

It is this idea of resource sharing that is growing among and between libraries. A particular area of expertise in which each library or institution specialises is made accessible to others. Information is shared from one institution to the other, and the end user benefits.

This idea of information "sharing" also spurs the creation of new technologies. For example, online databases designed for research that provide abstracts and full text are prevalent, and Web sites that contain interactive research and learning are on the rise. All this comes at a "shared" cost between the member institutions, which is also extremely advantageous.

As we look around, we see that the broad spectrum of information delivery is becoming increasingly "electronic." That is to say more organisations are turning to the World Wide Web for their information management and access needs. The Web has provided the best tool yet for fast, convenient access of information over the broad spectrum of information creators and end users alike.

Investments in technology are vital as the Web grows and the world literally becomes a global village. Mass amounts of information can be delivered around the world in seconds, and any topic can be researched by simply pointing and clicking from any PC anywhere in the world.

Working relationships between libraries, publishers and subscription agents go back for more than 100 years. Subscription agents have generally been regarded as a liaison between publishers and libraries, providing services for both. Centralising many subscription orders and the amount of invoices and providing follow-up services, such as claiming, have traditionally been the primary responsibilities of the agents.

Over the last 20 years, automation has taken over. Services offered by subscription agents have increased. Libraries have adapted many daily tasks, such as cataloguing, circulation, and acquisitions, to be handled by some type of electronic system. Publishers are also exploring the online/electronic publishing realm.

Libraries can send orders and claims online and receive electronic invoices, saving both the agent and the library time and reducing errors. Ultimately, the subscription agent is responsible for becoming compatible with the library. This involves a close working relationship between the agent and library, and the library's integrated library system (ILS) supplier.

The role of a library and that of a subscription agent are surprisingly similar. A library supplies information to their patrons, while a subscription agent provides information to the library. Technology has changed the way libraries and subscription agents operate and has also changed the expectations of each partner.<sup>4</sup>

No longer is the service provided by the agent just about securing delivery of periodicals and other serials. Agents must achieve understanding of how a library's computer system is arranged, and the library must understand how the agent's electronic system works. Success is now measured in how well critical data is managed and how this data results in securing periodicals for the customer.

It is the ability to work together to address common problems and create solutions that sets the information delivery industry and library profession apart from others. The common goal is the same whether it is a publisher, library or subscription agent -- to deliver information on a regular basis. Whenever problems arise, in most cases a direct line of communication already exists and problems can be resolved quickly.

Claiming, for instance, is difficult without a relationship between a publisher and subscription agent. The library contacts the subscription agent in the case of a claim and the subscription agent, in turn, contacts the publisher. Because of established relationships, claims can be resolved quickly which, in the end, benefits the library. Technology has increased the efficiency by which this occurs.

Subscription agents' roles will continue to develop and will be more than that of a "middle man." As agents continue to find more ways to expand their services, the partnerships they have fostered between libraries and publishers are even more important. This is because direct communication is essential in addressing concerns, developing technology and in finding innovative solutions to problems.

## **Integration**

In the not so distant future, there will come a time when libraries will be totally "integrated." Integration in the library community will consist of combining several of the most popular

formats of information delivery, available from the library. Doing this will offer library patrons quick, easy access to the information they need -- whether print or electronic.

This may mean working with only one supplier, or several. There are only a few suppliers that can offer totally integrated services. For a vendor to offer totally integrated services, they must be able to provide libraries with online search and retrieval of abstracts and full text articles from several different databases; they must provide subscription services for serials published in any format; and they must provide quick, efficient document delivery services.

Total integration of library services must happen if libraries are to remain as the one place for people to use for their information gathering and research needs. Some "electronic libraries" are available on the World Wide Web, and are primarily available as part of academic institution libraries. They give patrons access to most library services 24 hours a day, seven days a week. Suppliers assist the library with providing this type of service.

Library services of all types are available on the Web. While this may mean the loss of library patrons "walking in" for their information needs, the library remains the principal information provider. If part of an academic institution, library patrons are using only that library's information and reference material.

Convenience for patrons is one of the benefits of integrating services. The services can be accessed from walls of residence rooms or other remote sites. Ease of access is also quite compelling -- meaning that patrons can access the library's many different resources using either their IP address, student number or some other type of identification.

As mentioned earlier, the key to combining these many different services rests with the suppliers. Only they can offer the abstracting, indexing and subscription services required for integration. Preferably, finding one supplier capable of all this will be more efficient with consolidation of invoices and support services, such as claiming and technical support.

Suppliers can assist with collection development and collection management, indexing and abstracting services and document delivery requirements. Where all this meshes is critical for the successes that a library has in providing services to its patrons.

### **Traditional Boundaries No Longer So Traditional**

The traditional boundaries by which libraries, subscription agents and publishers are conducting information delivery services have changed. Formats are changing, newer access methods are being developed and services are expanding and increasing. What we call "traditional" is no longer so traditional.

Technology has advanced so that most people cannot keep up with the changes. Computer systems and software become out of date in a matter of months. Online technology enables the world to better keep up with advancements, by offering more resources to learn about

upgrades, enhancements and technical information.

Information management is more complex than ever, but is still evolving. The conventional methods of library management functions, such as archiving, collection development and cataloguing, have changed. These functions are more than just the library's responsibility, and the agents and publishers are more involved than in the past.

The World Wide Web has provided the information industry and libraries with the best tool yet for fast access to information and information management. The end result is that the library and patron are supplied with accurate data and information.

To keep up with changes, investments in technology, resources and strategies are required. From the library to the publisher, we are responsible for this. It is evident that partnering is more important than ever.

Technology must be developed with the end user in mind. Otherwise, it becomes useless. More information resources are available than ever before. There are subject-specific databases available via the Web, that allow for searching from various databases. Document delivery tables of contents are immediately available with a wide range of publications.

New strategies, such as consortiums and networked systems, are necessary to address new concerns associated with the recent flood of information. Synergy is required, and synergy can only come from a combined effort -- teamwork among all parties interested in improving the flow and management of information.

The Information Age has done much to change the way we look at our industry and the library profession and the way in which we deliver information. Changing times call for a changing mind set. While the World Wide Web has provided us with the best tool yet for fast access of information, its limitless capabilities must be taken advantage of.

Our responsibility as information providers cannot be overlooked. From ancient times, libraries have provided society with a means of recording and storing the stories and great discoveries over the ages. What a responsibility for the age in which we live.

No matter what the setting, the Web must thoroughly be utilised to manage the vast amount of information. By working together, libraries, publishers and subscription agents can meet their goal of information delivery regardless of format.

## **References**

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