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Commercial Application of CD-ROM Technology within the Legal Profession in New Mexico, USA

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Abstract: In the United States, CD-ROM hardware and software for personal computers are the fastest growing segment of the computer market. With the offering of law-related CD-ROM products, the American legal profession is beginning to use CD-ROM as an important means of conducting legal research. In 1990 New Mexico (USA) became the test market for one of the earliest law-related CD-ROM products, Law on Disc, published by the Michie Company, a major legal publisher. As of the beginning of 1994, New Mexico's Law on Disc has become the legal research tool of choice for 3040% of the practising lawyers in New Mexico. The commercial success of this CD-ROM product is due in large part to its ease of use, price, and speed. Although law students at the University of New Mexico Law School are very proficient in their use of on-line legal research services (Lexis and Westlaw), most are completely ignorant of CD-ROM and law-related products, including Law on Disc.

Introduction

CD-ROM hardware and software are the fastest growing segments of the computer industry in the United States. In 1986 only 9,000 personal computers in the United States had CD-ROM drives. By the end of 1993, the number had risen to almost 7 million and is expected to increase to 15 million by the end of 1995. A CD-ROM (compact disc, read only memory) has the capacity to store huge amounts of data. With current technology, one compact disc, which measures a mere 12 cm in diameter, can hold 650 mb of data, which is the equivalent of about 100-150 volumes of law books or 275,000 pages of printed text. The data storage capacity of a CD-ROM means that most lawyers could fit their law libraries on six or fewer discs. In the process, they could save on the cost of shelving books and on filing updates into looseleaf services.

CD-ROM also has important implications in legal education. Assuming that CD-ROM will be the primary source through which the lawyers of the future perform legal research, then it is important that law schools include CD-ROM training in the legal research curriculum. This requires law schools to have CD-ROM readers and titles in their collection. Most American law schools have already completed their transition to on-line electronic research and provide computer research laboratories for students.

Up to now, however, few American law schools have CD-ROM readers and titles available for student use on a broad basis. Instead, most American law students prefer to use the Lexis or Westlaw on-line services because these are free and readily available. Each American law student who

requests a personal identification/user number on Lexis and on Westlaw is issued one. Students who have their own personal computers can access Lexis or Westlaw from home via a modem over a phone line. The phone connection is toll free to the student. For students, on-line research has become the easiest form of legal research.

The legal research world is quite different for practising lawyers. Because the on-line charges for Lexis and Westlaw are so high, only the largest firms tend to use these on-line services on a regular basis. Small firms and sole practitioners tend not to use on-line research services. Quite quickly, practitioners are turning to law-related CD-ROM titles to provide them with more and more of their access to legal materials.

CD-ROM will also play an important role in legal education as a teaching tool. If personal computer and CD-ROM ownership became universal among law students, CD-ROM could easily replace conventional law school texts. In addition, CD-ROM already provides multimedia and interactive learning materials, which can and should be applied in legal education.

The focus of this paper, however, is on the commercial application and success of law-related cd-roms in New Mexico. New Mexico was the test market for the first commercial application of CD-ROM technology to traditional legal materials. By all accounts, the effort has been a success. Within ten years, I predict, CD-ROM will be the legal research tool of choice for 80-90% of the lawyers in New Mexico. The two factors that will encourage application of CD-ROM technology will be its low cost and high efficiency. All things considered, CD-ROM will always be cheaper than books or on-line research. In addition, CD-ROM is currently much faster than book or on-line research. The speed of CD-ROM legal research will increase as CD-ROM readers become faster. Even so, the current hardware and software, which is quite affordable, complete legal searches within a second.

CD-ROM Technical Background

By 1983 Phillips and Sony had jointly developed compact discs for playing recorded music. Compact discs can now be used for storage of data. These are known as cd-roms, which stand for compact disc/read only memory. Standard compact discs are thin circular pieces of plastic with a hole in the middle. On its underside, a compact disc has a metal film on which binary data is stored by a series of pits and lands whose change in reflectivity is read by focusing a laser on the track. The size of the pit is .5 to 2.0 microns, about the size of a bacterium. The non reflection or reflection of the light from the laser, is read as binary information by a light sensitive lens that transmits these signals to a processor. In the manufacturing process, the metal film is covered in a protective coating of plastic. This plastic coating and the non-magnetic form of the medium, account for its durability. The pits and lands begin on the innermost ring and spiral outward. If the track was unwound, it would be about three miles long. CD-ROMS are mass produced through stamping or can be produced singly through a CD-ROM writer that burns on the pits and lands.

CD-ROM readers are now readily available for computers and when combined with the appropriate computer hardware can produce text, video images, and sound. Although CD-ROM readers are about one fifth the speed of magnetic hard drives, fairly standard CD-ROM drives (NEC, Phillips, Panasonic, Mitsumi, and Sony) can seek and find data in 280 milliseconds (about 1/4th of a second) and transmit data at the rate of 300 kb per second. This means that text appears to be available almost instantaneously. Through the use of a small computer system interface (SCSI) up to seven CD-ROM drives can be interconnected and searched simultaneously. CD-ROM jukeboxes are also available and can house up to 240 discs.

New Mexico's Experience with CD-ROM

New Mexico is a state within the United States and has a population in the region of 1.5 million. New Mexico has about 4,000 lawyers who are engaged in the active practice of law. Of these, about

80% spend the bulk of their time concerned with matters directly affected by the statutory and case law of New Mexico. Most lawyers in New Mexico view the New Mexico Statutes and the New Mexico Reports as essential parts of a practitioner's law library.

The Michie Company, now a wholly owned subsidiary of Mead Data Central (the parent company of LEXIS/NEXIS), publishes the New Mexico Statutes Annotated under an exclusive contract with the New Mexico Compilation Commission (a legislatively created commission that compiles annual session laws into the New Mexico Statutes). The New Mexico Statutes are an 18-volume set that contains all current New Mexico statutory laws, all of the procedural rules of all the state courts, legislative history notes, and thousands of annotations to New Mexico cases and to secondary authority.

In April 1990, the Michie Company introduced as a pilot project a CD-ROM product known as 'Law on Disc'. The Law on Disc contained the New Mexico Statutes Annotated on a single CD-ROM disc. Initial responses from lawyers and judges who used the product indicated that New Mexico cases should be added to the disc for the product to be attractive. In August 1990, Michie Company offered this product state wide and it contained the state statutes and cases (from 1945). Michie's Law on Disc was the first commercially available CD-ROM that used Folio software, developed by Folio Corporation. This software, known commercially as Folio Views (latest version), is widely used on many other law-related CD-ROM products supplied by other publishers.

The Law on Disc product has undergone rapid change in response to feedback from users of the product. Law on Disc now contains, in addition to the annotated statutes and state case law, all federal cases involving New Mexico law, all of the local rules of all state and federal courts within New Mexico, uniform jury instructions, Attorney General opinions, and uncompiled session laws since 1848.

Law on Disc is now the legal research tool of choice for 30-40% of the private lawyers in New Mexico. Amongst private lawyers, the rate of use is highest among sole practitioners and small firms (less than 10 members). Rate of use at the major law firms (30-70 members) is considerably less. All the state courts now have Law on Disc. Several trial judges use Law on Disc from the bench so they can check statutory and case references immediately. Among public lawyers, those who work for the New Mexico Attorney General's Office, the various district attorneys (criminal prosecutors), and public defenders (defense counsel for the indigent charged with crimes) all have Law on Disc. For public attorneys in larger offices, actual use is far less than 100% because practical access may be limited. None of the larger offices have computer networks. As a result, lawyers wanting to use the product must go to the office's law library to conduct CD-ROM research.

Features of Law on Disc

Much of the commercial success of Law on Disc is attributable to its many helpful features. Its Folio software is quite remarkable. Folio software divides material into two basic categories: infobases and folios. An infobase is a large aggregation of material. For example, the New Mexico Statutes are one infobase while cases are another. Each infobase is subdivided into folios. A folio is a semantic unit of text that is the rough equivalent of a paragraph. For statutory material, a folio is equal to each subsection of a specific statute. Each case is also divided into nine field groups (judge who wrote opinion, case citation, date of publication, case name, case number, text of case, counsel, court, and other judges). These fields enable the researcher to find all the opinions of a particular judge, to find cases handled by particular lawyers, or to search only those cases in which a certain person has been a named party.

Key word searches are the primary method for most research. The Folio software searches each folio within the infobase for the designated words, their order (if specified), and their proximity. Folio uses a hypertext feature that allows the researcher to immediately view any material cited within the

folio if that item is in one of the infobases. Thus, if a case cites another case, the researcher can immediately go to the cited case by highlighting the particular token (a black triangle) that precedes the cited case. When the researcher views this additional source, it comes up on the screen as an additional viewing window. The researcher can then continue linking to other material. Having found all the desired material, the researcher can access all of this information in one of three ways: 1) move backwards closing each source in reverse order; 2) cycle through the windows in forward or reverse order while keeping them all open; or 3) use a "goto" command to select the number of the desired window. Practitioners have found that the hypertext features of the software increase the speed of their research when compared to actual books.

The software also permits easy printing of items and transfer of text to other files. Practitioners especially like the ease of transfer of text because it can speed up the writing of briefs, memos, pleadings, motions, jury instructions, and client letters. Text can be transferred to disk by issuing a save command and indicating the drive and file where the text is to go.

Hardware Requirements

Law on Disc requires a CD-ROM drive, a computer with MS-DOS 3.0 or higher, and minimum RAM of 612 kb. Much of the session software remains on the disc itself. As a result, only 50 kb of space is needed on the hard drive for the software. To encourage use, Michie Company provides subscribers with free use of a CD-ROM drive for 30 days.

Licensing

Subscription to Law on Disc is for a single user. Only one person may use the product at one time. If more than one user wants to use Law on Disc at the same time, then an additional annual fee is charged. Therefore, groups that network a single Law on Disc must pay additional license fees if they want multiple simultaneous use.

Other States

After starting with New Mexico, Michie Company has developed Law on Disc products for 21 other states and continues to expand.

Recent Product Developments

Just recently, Michie Company has introduced a Windows version of Law on Disc. This new version also permits full text word searches. The earlier versions searched words only within each folio (equivalent to a paragraph of text). Law on Disc now also offers, at an additional cost, a LEXIS LINK, which permits the user to connect immediately to LEXIS to update searches executed on Law on Disc. Because Michie sends its subscribers updated discs every three months, practitioners wanted a means to update their research.

Michie has been considering a multimedia tutorial disc, partly because on-site training is expensive for them. The company has delayed development of this project because it has found that few lawyers have sound cards and speakers on their computers.

Michie has just released a new national product known as 'Forms on Disc'. The disc contains thousands of forms to be used in federal practice in the United States. In addition, Michie has developed a product known as 'Transcripts on Disc'. For a fee, Michie will transfer the judicial transcript of a case onto CD-ROM and make the data accessible through Folio Views software.

Competition

CD-ROM products - West Publishing Company, the largest legal publisher in the United States, has recently offered New Mexico Reports on CD-ROM. The disc contains New Mexico cases and attorney general opinions. The disc does not include the New Mexico Statutes. The only advantage that this product offers over Law on Disc is its use of West's copyrighted key number digest system. West developed this system at the beginning of the 20th century and has organized its national, regional, and state digests around the key number system. Some practitioners rely heavily on the digest system to do their research and, therefore, might prefer West's New Mexico Reports on CD-ROM because of this feature. New Mexico Reports on CD-ROM, like other West CD-ROM products, uses the highly regarded Premise software.

On-Line products - Lexis/Nexis and Westlaw are the only two viable on-line legal research services available in New Mexico. Both services have comparable databases in New Mexico law. Both have all of the cases, statutes, and attorney general opinions. They also have huge libraries of other areas of law and include databases of non-legal material. The level of practitioner use of these on-line services in New Mexico is quite low, probably not more than 5-10% on a regular basis. Practitioners tend to find these on-line services too expensive. As a result, they use them only infrequently and are not comfortable with their use. Of the on-line market in New Mexico, Westlaw has the much larger share.

By way of comparison, the hypertext features in Michie's Law on Disc are superior to those available on Lexis or Westlaw. In addition, the search time is much faster with CD-ROM. Because the amount of time of use of CD-ROM does not affect the charge, practitioners feel freer to use the product and become more proficient with it. Finally, the transfers of data to a file is much faster and easier, although Lexis and Westlaw have recently improved their session software to make downloading easier. For example, Westlaw's most recent update of its Windows version allows direct on-line research and text transfer in and out of Wordperfect for Windows.

Other Law-Related Applications in New Mexico

A New Mexico legal services company is offering CD-ROM archiving of voluminous documents in cases involving complex litigation. One such case involves a toxic waste site and will involve 100,000 documents. Through CD-ROM and Folio Views software, the documents would be easily searchable. At this point, the parties to the litigation are considering whether to split the cost of archiving.

Other Law-Related CD-ROM Products

The best directory of law-related CD-ROM is the *Directory of Law-Related CD-ROMS 1994* by Arlene L. Eis (Infosources Publishing, Teaneck, New Jersey, USA). It contains over 400 listings, which represent a doubling of the number of products from 1993. The directory includes foreign law products available in the United States. In addition, the directory contains price information and gives an idea of the cost of various products. On the inexpensive side is the United States Code, the 1993 version of which is offered for \$35. On the expensive side is a multiple disc set of Matthew Bender's Search Master Federal Practice Library, which costs \$16,630 per year. Many of the products provided by Matthew Bender offer linking software with Westlaw; this software permits search updating on the Westlaw on-line service.

My discussions with various people in the industry have led me to conclude that the bankruptcy and tax titles are among the best sellers in the United States. This is consistent with my own contact with tax lawyers and accountants in New Mexico, who use tax law CD-ROM products at a relatively high rate.

Colleagues in Australia and Hong Kong have told me that professional and academic use of law-related CD-ROM products is developing slowly there for a variety of reasons. These reasons include

lack of good products, expense of maintaining a dual set of materials (paper and CD-ROM), cost of setting up hardware systems, and resistance to change by members of the profession.

In the United States, non-law libraries appear to be using CD-ROM on a substantial basis. The New York Public Library, for example, currently has 18 different CD-ROM products (many of them multi-disc) available to the public on readers in its Science, Industry, and Business Library.

CD-ROM and Legal Education

Because a single CD-ROM can store so much information, its applications in legal education are nearly endless. With a few discs, each student could have a law library equal to the average practitioner. Because of its hypertext, multi-media, and interactive capabilities, CD-ROM provides the potential for developing exciting courseware that is richer than that currently available on floppy discs.

Of immediate concern, however, is the instruction of students in legal research using CD-ROM. Most American law schools have few CD-ROM readers and few titles available to students. Instead, most American law students regularly use the Lexis and Westlaw on-line research services. Law libraries in the United States have been slow to acquire CD-ROM readers and titles because the organizations that accredit law schools (the American Bar Association and the Association of American Law Schools) do not count CD-ROM titles as volumes in a law library's collection. As a result, CD-ROM titles do not count at all in determining whether a law library meets minimum standards for a collection. This is ironic because textual information on CD-ROM is generally easier to find than in conventional books.

At the University of New Mexico School of Law, most students are quite proficient in the use of either Lexis or Westlaw. This proficiency comes from ease of access and the free training that the on-line services provide to students. The law library has two computer research rooms, each containing ten terminals. In addition, students with a computer and a modem can access either service from home at no charge for on-line use or for the phone service. By way of contrast, the law library has only two CD-ROM readers - one contains an index of legal periodicals and the other, Law on Disc. No other readers or titles are available. Students regularly use the index to legal periodicals, but they rarely use Law on Disc. Local lawyers, in contrast, use the law library's Law on Disc almost continuously.

In our law clinic, a program in which students represent clients with legal problems, we have, in addition to a small book library, one Lexis terminal, one Westlaw terminal, and one CD-ROM reader with three CD-ROM titles. Even after students receive CD-ROM training, they almost never use the CD-ROM reader because they are accustomed to using one of the on-line services. Except for myself, none of the teaching staff knows how to use the CD-ROM reader or how to use the titles available on it. Therefore, students are not encouraged to use the product.

Some members of our teaching and library staff recognize the present and future importance of CD-ROM in legal research. We have proposed the acquisition and installation of a networked CD-ROM reader to be housed in the library and to be accessible throughout the building. Assuming the funding comes through, we hope to have the system operating by the end of 1994.

Once CD-ROM readers and titles are readily available in a law school, then the next task is to teach the students how to use them. Such a task is not a difficult one because the session software for most CD-ROM titles is actually easier to learn than Lexis or Westlaw. Most of it is very similar from product to product because of the widespread use of Polio Views software. Once the Windows version of Folio Views is widely available, then ease of use will increase even further.

A substantial inhibitor to student use of CD-ROM will be the general ignorance of the teaching staff.

Many of our teaching staff are unfamiliar with on-line research and are unlikely to ever learn how to use CD-ROM. This leaves the task of teaching CD-ROM with the library staff, who have previously shown an ability to remain current with developing legal research tools. Our library staff person teaching a course in advanced legal research has a specific unit on the use of CD-ROM for legal research. Unfortunately, advanced legal research is an elective course that only a small percentage of our students take. Clearly, the task is to integrate legal research on CD-ROM into our basic legal research curriculum.