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The Effect of CD-ROM on Equivalent Online Databases

Norman Nunn-Price

Context Ltd.

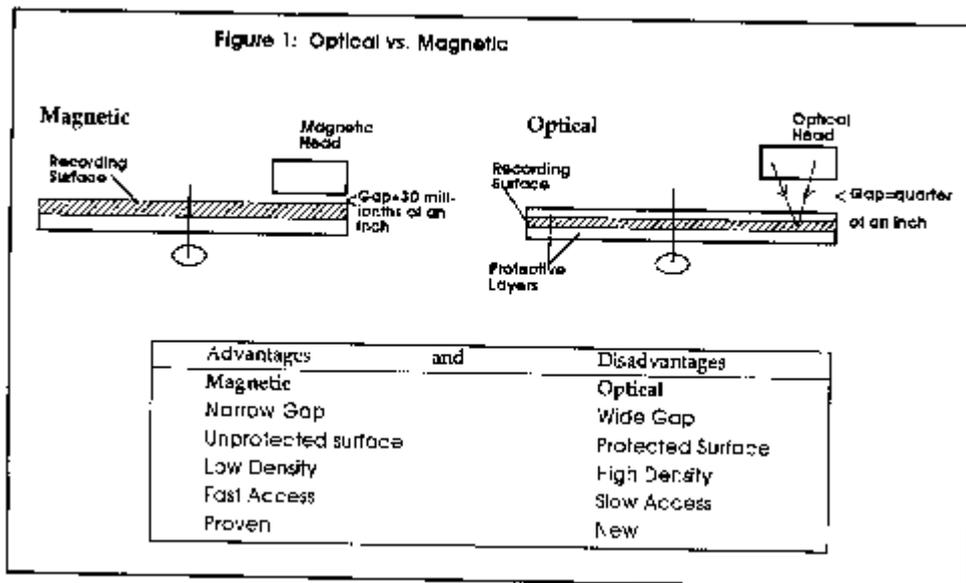Keywords: CD-ROM; legal databases; information retrieval; user interface; on-line services

Abstract: After a brief description of CD-ROM technology the paper describes the introduction of CD-ROM databases into the legal market and then considers the responses of users and the effect on them and on the usage of online services providing equivalent databases.

1. lntroduction

I have had some 20 years experience of designing and building online legal databases and supplying them to the legal profession so I feel I can speak with some authority on how these systems have been received and used by practising lawyers. It is fair to say that the take up of this technology is still restricted to a comparatively small percentage of the profession though the awareness of the availability of legal databases online is now widespread. It is still regarded as an expensive business to be involved in, suitable only for those with large purses. This is unfair but that is how it is. Certainly online systems have improved considerably in terms of reliability, coverage, user friendliness and cost effectiveness in the past 10 years. But resistance within the profession is still there.

2. CD-ROM Technology

Some years ago I became aware of CD-ROM technology and have kept an eye on its development. As with any technology it has strengths and weaknesses, advantages and disadvantages. It is useful at this point to look briefly at the technology and compare optical disks with the more familiar

Figure 1: Optical vs. Magnetic

Advantages	and	Disadvantages
Magnetic		Optical
Narrow Gap		Wide Gap
Unprotected surface		Protected Surface
Low Density		High Density
Fast Access		Slow Access
Proven		New

magnetic disks.

Figure 1 shows that an optical disk has wider tolerance than its magnetic cousin. The disk itself has a protected surface and the data burnt on to it is impervious to interference whether magnetic or physical. The capacity is vastly more 600Mb on an optical disk compared with 1Mb on a magnetic disk of the same physical size i.e. one which can be inserted in a P.C. But of course once burnt on the data cannot be changed. Access at present is slower but this is improving all the time. However it is new technology compared with the more familiar floppy disk. But I would point out that this technology has been developed by the music and entertainment industry which has spent enormous sums of money in designing, developing and manufacturing robust devices and systems. For once the computer industry has taken advantage of someone else's research and development. The vital step which the computer industry has taken is to agree an international standard for the recording of data on optical disk. This has been the key to the success of CDROM and shows what could be done in other areas if only the industry would agree on common standards.

A further advantage of the compact disk is that it can be used with a desk top personal computer. This marriage of the P.C. and the large local database has great potential. At last the lawyer can have substantial sources of legal information available in searchable form on his or her desk. That's one point. A further advantage is the capability of the P.C. to store a tailor made user interface which can use graphics and present information in a manner which the user likes.

3. The initial venture

Talk is one thing - doing is another. My company decided to take the plunge and produce a CD-ROM for the legal profession. The chosen database was CELEX Sector 3 which is the official legislative database of the European Communities. This is not an obvious choice since it is difficult, complex data which changes frequently. But we had that data, we understood its nature and structure and above all had customers who used it. So we went ahead and produced the first version in 8 weeks flat. I would not recommend that to anyone but the momentum generated got us into the market place. One key decision was to sell this first disk and not to test the market with free samples. We needed true answers which only come from customers who have paid hard cash for a service they really need. In the event we sold enough copies to prove that there was a market and that people needed the product.

The feedback from the users was constructive and encouraging so we listened and built on that experience. We improved the user interface and extended the range of the data. The CELEX disk is now in its 5th edition and contains the entire range of the official legal database of the European Communities amounting to over 450Mb of data on a single CD-ROM. The sales of this disk have

grown steadily over the 3 years it has been on offer. For example we now have as customers 25 Polytechnics and 15 Universities in the UK plus 10 Universities abroad. One factor in this expansion has been the existence of our online service, using the same software as the CD, for the provision of update materials. The CD-ROM is produced every three months from March 1992 with each disk as a complete replacement to the earlier disk, while the online service is updated every week. This combination works well and seems acceptable to users. Both services use the same underlying retrieval software.

4. Further experience

Of course one single specialised CD-ROM is not enough so we have added to our range. While there were no great technical problems to solve the worries of U.K. publishers and copyright had to be resolved. This took time. It was only in January 1991 that we were able to go ahead with our two U.K. legal disks:-

- Statutory Instruments from HMSO was produced in March with an update in June and November.
- Weekly Law Reports was produced in April.

These are different products to CELEX with different users though there are links between them, especially between SI-CD and CELEX. Thus the range of legal CD's has been extended to basic British Law.

In addition we decided to augment our European Law CD's - firstly by producing CELEX in German on CD and also in French and secondly by a joint venture with a Dutch partner EPMS to produce SCAD on CD.

The SCAD disk is a bibliographic database compiled by the European Commission and covering the legal source documents of the community and the world wide literature concerning it. There are a number of different languages used and searching is possible in 5 languages English, French, German, Italian and Dutch. Thus it is a genuine multilingual disk. It has a different interface to our other three disks and uses different software.

5. The User Interface

The JUSTIS interface has been crucial to the success of our CD's. It has been developed with the product, again by learning from the users and listening to them. Our first version used graphics extensively and produced a line of three dimensional "buttons" which told the user which function key to press. It was very pretty and used colour to good effect. However there are inconsistencies in the graphics provided by different machines so different versions had to be provided. The interface was successively simplified and the graphics reduced to a bare minimum. Again the early version was developed with the novice user in mind but this led to moans from the more skilled users. Another requirement was to be able to move from one CD to another. Thus by a process of development we have arrived at our 5th version which can be used with the CELEX, Statutory Instruments and Weekly Law Reports disks.

The interface is designed so that all the information the user needs at the time is displayed on the screen. There are three types of screen display:-

1. The Query Screen
2. The Titles Screen
3. The Document Screen

Each screen display has a row of function keys shown in a line of boxes at the top of the screen, below that is the working area for queries, lists of titles or the text of a document, and at the bottom of the screen a line giving the user hints on what to do next plus a reminder of exactly what data is currently being processed. The layout is clear and has been well understood and accepted by our users.

6. Effect on users

The psychological effect on users has been profound. There is great benefit to the user in having the complete system available on his or her desk. The user is relaxed and in control. The freedom from time constraints, from modems and British Telecom gives the user confidence. The user is now free to develop searches without additional cost and in particular is able to browse at length in the database. This leads to greater skill in searching and a vastly improved knowledge of a database. This is most apparent in the CELEX database which is complex and difficult to understand. But users spend time on it and get to know and understand it. Since all the separate institutions which make up the European Community contribute to CELEX it therefore shows how these institutions interact then knowledge of the CELEX database provides a good introduction to how the European Community functions. Users seem willing to spend 1/2 - 11/2 hours on the CD in a way that they would never do online.

7. Effect on online service

The first effect is that the users are much more skilled in searching so when they go online they make fewer mistakes. Furthermore if they have done their initial searching on the CD they know exactly what they are looking for. Their searches tend to be precise and quick. Thus they are beginning to use online service for up to date checking of developments. On JUSTIS Online there is a separate group of CD-ROM update databases so a user may search a 6 month database rather than a 30 year database. Thus online usage is effective and efficient as a result of CD-ROM usage.

Of course this means a loss of usage and a loss of revenue for the online service. So online services must concentrate on up to date databases which support the CD-ROMs and realise that revenue has to come from a large number of short, precise, online sessions rather than heavy time consuming searches in large databases. This combination of searching archival data on the CD-ROM together with rapid, precise searching of the latest information online is attractive to users as long as it is easy to move from one to the other. This is true for JUSTIS because both online and CD-ROM use the same retrieval software.

8. Effect on Print

This is not yet clear. Books and journals will continue to be popular. The computer is an excellent finding machine but a poor reading machine. People like print on paper so I think print will benefit from the existence of complete indexes on CD-ROM so that bound volumes of back materials can be used effectively. Again looseleaf publications could be treated by CD-ROM technology. Keeping these publications up to date is a burden on library staff and is not well done. A combination of print and CD-ROM is a likely course e.g. Current Law Yearbooks by Sweet and Maxwell now published with a CD-ROM version may be a pointer to the future.

9. Future Trends

In the music industry CD's have brought about the demise of the long playing records. Databases on CDROM's are unlikely to have quite such a devastating effect on online services but there is no

doubt that online services will need to look to their laurels in order to maintain their place in the market. The range of CDROM's available will continue to grow and their usage to accelerate for the foreseeable future.

Author
Norman Nunn-Price
Database Director
Context Limited
Tranley House
Tranley Mews
Fleet Road
London NW3 2QW
Tel: 071 2677055