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### Databases In Law Firms - An Overview

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Abstract:

*It is probably true that all the information being generated by today's society cannot be mastered except by electronic methods. (Bolter 1986:164)*

To say that computers have now gained a foothold in the law office would be a gross understatement. The purpose of this paper is to provide a fresh and comprehensive catalogue of the ways in which computer databases are used in UK law firms. In essence, it is an attempt to draw on both survey evidence (Chambers, 1991) and available literature to put together the pieces of a jigsaw puzzle to see the overall picture. However, it must be admitted that sometimes the subject-matter defies attempts at neat compartmentalisation. In this paper an examination of the ways in which this technology is being applied in law firms now will be followed by a discussion of trends in law office computerisation.

#### Current Use In Law Firms

In examining the use of database technology in law firms, a fundamental distinction is that between operational uses on the one hand and administrative uses on the other. Operational uses involve the application of technology by fee-earners to legal tasks such as research and casework management. Administrative uses involve the application of technology either by a fee-earner or by support staff to such essentially non-legal tasks as public relations and marketing, client accounts, time recording and general office management.

#### Operational uses

##### *Research*

Traditionally, legal research facilities have centred on the paper-based law library, the precedent bank and collections of press cuttings. Database technology provides important additional electronic research facilities to the lawyer. Such research systems can be divided into external systems and in-house systems.

**External research systems:** Most external research facilities are, at present, commercial services. However, we are approaching the time when public sector databases will be made available for these purposes as well.

It has been estimated that, world-wide, there are over a hundred commercial legal research services available to the practitioner (Nichols, 1991:1). The contents of these databases may include statutes, statutory instruments, case reports and journals either in full-text form or as summaries.<sup>1</sup> Examples of full-text services include Lexis and Context System's Justis database -both using text retrieval technology. Examples of databases containing summaries of legal material include Lawtel (Shone, 1988) and the new electronic version of Sweet and Maxwell's Current Law. Lawtel is a closed user group service offered on British Telecom's Prestel viewdata system. Current Law uses a hybrid management system - a combination of a text retrieval and document imaging technology.

The first three of these are on-line database services and are normally accessed via a telephone line or a dedicated computer data line. Context also produce parts of its Justis database in CD-ROM form with the on-line version operating as an ancillary updating facility. At present a number of CD-ROMS covering such areas as CELEX (the official legal database of the European Community) recent Weekly Law Reports and UK Statutory Instruments since 1987 are available in this form (Nunn-Price 1992). The newest of the research services mentioned, the electronic version of Current Law, is only available on CD-ROM. In addition to services offering access to primary legal materials and journals in electronic form, collections of precedents are available to the law firm in electronic form. Longmans, for example, offer a range of precedents on disk, including commercial law, company law, conveyancing, county court procedure, matrimonial matters, trusts and wills.

The number of database services dedicated to law is only a small fraction of the total number of such services on offer. Non-law database services of potential use to law firms include news services such as the Financial Times' World Reporter, and Meade Data's Nexis, (sister of Lexis), financial services such as the Stock Exchange Automated Quotes system, and general information services such as British Telecom's Prestel system.

How extensive is the use of commercial legal research services in law firms? The Law Society survey suggests that about 200 law firms (2.1%) were using such services in 1989 with a projected rise to around 600 firms (6.3%) by 1992.

In the near future, law firms will be able to obtain direct, on-line access to databases that are now being set up by such public bodies as Companies House, the Land Registry, local authority land charges registries and court offices. Already there have been experiments involving small numbers of firms which have been given on-line access to local authority land charges registries (Law Society's Gazette, 1988; Law Society's Guardian Gazette, 1988) and several sets of barristers' chambers have participated in a pilot project whereby they were given a direct link to computerised Crown Court listing systems (MacErlean, 1992).

**In-house research systems:** Quite apart from the desirability of obtaining access to external databases, it should be remembered that a great deal of valuable know-how is generated within the law firm itself. The storage and retrieval of this type of information may be greatly assisted by the development of an in-house research database system (sometimes referred to as a know-how database system). At its simplest, such an in-house system may be no more than a relational database operating as, for example, an electronic catalogue of internally generated or inspired materials such as newsletters, 'home-grown' precedents, standard form letters and opinions by both counsel and the firm's own experts. This type of indexing system may also be useful for storing bibliographic details and the whereabouts of published works in the firm's paper-based library such as textbooks, journals and series of case reports (Barr, 1989).

A rather more ambitious method of dealing with this type of information is to store whole documents electronically in, say, a text retrieval system (Hancock, 1985). The result of this approach to managing in-house information might be characterised as a 'do-it-yourself' Lexis-style database system. There are obvious advantages in setting up such a full-text research database (London, 1952). The risk of research time and resources being wasted on redrafting an existing precedent

unnecessarily is significantly reduced. Important opinions and precedents can be found quickly and easily without any need to dig around in the back of filing cabinets or spend hours sorting through dead files. Quality assurance and control mechanisms can be enhanced by ensuring that, for example, the best in-house precedents are selected and standardised for use in later cases.

Historically, one of the main disadvantages of installing such a system has been the cost of buying and operating the technology. The leap forward in the speed, power and now storage capacity of microcomputers, coupled with a rapid fall in prices has, however, created a new situation. Even the cost of capturing the bulk of the information to be included in the system becomes negligible when the firm's own documents are created in electronic form using word processors. An in-house research database need no longer be exclusively a tool for fee-earners in the larger, richer firms. There is now an option to set up similar, albeit more modest, systems in smaller practices (Charlton, 1989).

There are no accurate figures on how many law firms are using in-house research systems. The Law Society survey is silent on this subject. However, a search of available literature indicates that a number of the larger City firms such as Allen and Overy (Day, 1989), Cameron Markby Hewitt (London, 1992), Clifford Chance (MacLeod, 1990), Freshfields (Thomas, 1992) and Lovell White Durrant (Nowak, 1987) have invested heavily in this type of in-house technology.

### *Casework management databases*

Another major way in which database technology impacts directly on the work of the fee-earner is the casework management system. Such systems may be used for general casework management, for providing more intensive support in particular areas of casework, or for handling documentary evidence during the litigation process.

**General casework management systems:** A simple relational database system provides a highly effective method of building and handling an electronic 'card-index' of casework information including basic client details, type of matter, responsible fee-earner, location of file and the date of opening (and closing) the file. Such a database has a variety of different uses. It provides a powerful conflicts database for checking whether the acceptance of instructions to act for a prospective client is likely to lead to a conflict of interest with a present or past client. Another use of such a database is to prepare break-downs of the relative proportion of each type of matter and the overall caseload undertaken by each fee-earner. Furthermore, it is possible to extract from such a database detailed profiles of any subset of the firm's caseload. For example, it might be thought useful to obtain a list of all on-going conveyancing clients who are individuals rather than companies, whose files have been opened this year and who are buying rather than selling a home in a particular geographical area (Barr, 1989). Finally, such a database, set up in conjunction with an electronic diary facility, may help eradicate the risk of missed appointments, limitation periods and court hearings. Where, say, there is a planned absence due to holidays, or an unplanned absence due to ill health, a list of cases likely to need attention during that absence can be extracted easily and rapidly.

Current technology has not yet enabled practitioners to take the ultimate step in computerised case management - the development of electronic case files. This remains one of the biggest obstacles to the possibility of achieving the 'paperless law office'. Outgoing letters and other documents such as contracts, wills, deeds, and pleadings will often already exist in electronic form as a by-product of having been created on word processors. Incoming letters and documents, of course, are most likely to arrive at the firm in paper form. One way of turning the incoming mail into an electronic form which can be stored in, for example, a text retrieval system involves the use of expensive and notoriously fallible optical character recognition (OCR) technology. This technology enables a computer to 'read' the contents of documents and turn them into processable electronic files.

Eventually, no doubt, OCR technology will become cheap and reliable enough to enable incoming paper-work to be captured electronically in an accurate and cost-effective way. Alternatively, the

more widespread use of electronic mail for the transmission of letters and other documents between firm and firm, firm and counsel and firm and court office will simply remove this problematic information capture stage from the process (Overend, 1991). Documents coming into the law firm by electronic mail already arrive as processable electronic files and can therefore be entered directly into a suitable text retrieval system.

It must be borne in mind, however, that text retrieval systems have one major drawback when used for this purpose. They store the contents of documents but have no capability to remember the form in which the contents appeared - their memory is not 'photographic'.

Another approach to tackling the problem of paper-based incoming mail is the use of document image processing. Such technology provides a means by which not only the contents but also the appearance of a paper-based document can be captured and stored electronically. Image processing may, in any event, provide a more cost-effective method of augmenting electronic case files with incoming as well as outgoing letters and other documents, albeit in non-processable form. However, if this removes a technological hurdle, there are still important evidential issues to address before legal practitioners feel comfortable with the idea of copying and then shredding all but the most important of incoming documents. For example, they need to be confident that the courts will treat an electronic copy as the equivalent of its paper-based original.

As to the extent of use of this technology in law firms, the Law Society survey (Chambers, 1991) indicates that about 200 law firms (2%) were using general casework management systems in 1989 with an anticipated rise to approximately 800 firms (8%) by 1992.

**Casework support systems:** In addition to the use of database technology for general casework management, software houses have developed and marketed a variety of packages designed to provide comprehensive and integrated support for all a law firm's work of a particular type (Hancock and Randle, 1985). Such support systems have been developed, for example, for conveyancing, debt collection, investment business, matrimonial matters, personal injury claims and will-preparation. In fact, these packages are often hybrids comprising not only database components, but also word processing, electronic mail and even expert system facilities. Typical features include sets of 'agendas' tailor-made for different sorts of cases (e.g. conveyances of freeholds as against leaseholds), banks of precedents and standard-form letters, pre-prepared databases of relevant information (e.g. Land Registry addresses and fees, stamp duty tables etc.) and electronic diaries with reminders which warn when the next step in a particular case needs to be taken. Some of these packages are flexible enough to allow 'customisation' by enabling a firm to develop its own agendas and to add its own precedents and standard-form letters to the existing precedent bank.

Support packages are capable of providing a complete casework management environment, standardising the quality of output, reducing the risks of mistakes being made and deadlines forgotten. Such systems may even lower casework management costs where, for example, they enable a more junior fee-earner with the support of such technology to manage a caseload as competently as a more senior fee-earner without that support. Certainly these systems are capable of providing sophisticated supervision and monitoring which allow progress reports to be generated showing lists of work in progress, unanswered letters, imminent completions, diary entries and reminders and costing notes. For a firm with large, institutional clients, a single report can be prepared in respect of all matters being dealt with, allowing both the practice and the client to obtain an overview of that client's portfolio. However, there are also disadvantages to the use of support systems. One of the biggest difficulties is that casework files generated using one support package are often not readily transferable to a rival system. In essence, law firms become tied to one supplier for software maintenance and upgrades. Thus, the firm is unable to benefit further from a highly competitive market. Furthermore, there may be cause for concern over the fact that some of the suppliers marketing such packages have experienced financial difficulties and a few have collapsed.

How many firms are using casework support systems? The Law Society survey (Chambers, 1991) indicates that some 750 law firms (7.7%) were using conveyancing support systems in 1989, projected to rise to about 1,600 firms (16.5%) by 1992. The second most popular type of package was that for handling investment business cases. About 650 firms (6.6%) were using them in 1989, with an anticipated rise to something like 11150 firms (11.6%) by 1992. Third place went to debt collection packages with 550 firms (5.5%) using them in 1989 and a total of some 1,200 firms (12%) planning to use them by 1992.

**Litigation support systems:** Litigation support systems are databases designed for use in contentious matters, and are particularly suitable for use in the lead-up to (Smith, 1992), and during, court hearings. In essence, these packages are designed to assist with the management of documentary evidence. At its simplest, a litigation support system may take the form of a relational database which provides the user with an electronic card index of the available paper-based evidence. More powerful systems have been developed to handle whole documents. They make use either of text retrieval or document image processing as the predominant technology. Of course, to use these packages law firms need to convert the full text of the documentary evidence into electronic form (Christian, 1990; Mounteer, 1991).

Litigation support packages first appeared in the USA in the early 1980s. Just such a system was used with dramatic effect in this country by the Serious Fraud Office in a complicated fraud case called *Adelaja*. Some 6,000 documents and 500 photographs were captured using document imaging technology. The system was used extensively during the trial and it is claimed that jurors were able to access documents that were referred to during the hearing in as little as two seconds. This compares with the average of three minutes that would be needed to find the paper-based document in a bundle. As a result, it was estimated that the length of the trial was shortened by up to three months without introducing any unfairness to the defendants (Tantam, 1989). The remarkable potential that such packages possess for speeding up the trial process has not gone unnoticed by the senior judiciary (Wilson, 1992). The main disadvantages of such systems are the acquisition costs and the time taken to capture the information. Certainly, a relational database system need not be expensive and the time taken to input the modest amounts of information needed for indexing will not be long. However, in the case of systems designed to hold whole documents, the cost of the hardware and software, coupled with the amount of time and effort that is needed to capture paper-based evidence in electronic form will ensure that intensive use of such systems is likely to be restricted to the bigger and more complicated trials until, for example, the courts themselves are equipped with these facilities and make them available for use by the parties.

Despite some of these problems, use of litigation support systems seems set to grow rapidly. The Law Society survey indicates that about 100 law firms (1.3%) were using litigation support systems in 1989 with an anticipated rise to some 750 firms (7.6%) by 1992.

## **Administrative uses**

### ***Marketing Systems***

Changes in the underlying ethos of the legal professions, coupled with the new freedom granted to law firms to advertise and market their services, have made modern firms much more conscious of their public image. Desk-top publishing and graphics packages have an obvious role to play in this arena but so also does database technology.

A simple but vital marketing task is to keep in touch with past and present clients (Brockbank, 1990). For this purpose, a relational database system may be used to build and maintain a contacts database containing such basic yet vital information as client name, address, phone number and case type. This database may also be an ideal place to store intelligence information about clients such as

business interests, financial situation, domestic circumstances and other useful details. Such information can then be used in a number of important ways. In the wake of significant changes in the law or the tax system, personalised briefing letters can be targeted at all past and present clients likely to be effected by the changes. By this means, the firm can offer a cost-effective and continuing updating service which may well be perceived by clients as an invaluable additional benefit to be obtained from the firm. The information can be used to distribute selectively a regular newsletter containing information and analysis on particular areas of the law. A third possible use is as a distribution list for personal communications such as Christmas cards. The development of a contacts database is likely to produce clear and obvious benefits to the law firm in terms both of enhancement of goodwill and the generation of new work.

If projections for the extent of use by 1992 are accurate, the application of database technology for promotional purposes is in the process of a meteoric rise. The Law Society survey indicates that about 700 firms (7%) used the technology for these purposes in 1989 and projects that this would triple to some 2,100 firms (21.5%) by 1992.

### ***Accounts and time recording systems***

First generation computerised client accounting systems began as no more than electronic ledgers permitting the user to input information and then to extract it in much the same way as with paper-based equivalents. Two significant differences were that the information could be stored far more compactly and retrieved much more rapidly (Hancock and Randle, 1986). Since then, accounting packages have developed considerably. It will be remembered that the essence of a relational database system is that information within the system can be sorted and selected by reference to virtually any field or group of fields. As a result of applying this technology, standard features now enable a range of powerful functions to be performed. Packages can be set up to generate bills automatically for all, or any class of clients whenever the fees and/or disbursements incurred reach a certain limit. Bad payers can be spotted for debt collection purposes and fee-earners whose client earnings are below average or who are regularly slow at billing can readily be identified.

Indeed, modern accounting packages have now evolved into sophisticated practice management and development tools. They are capable of being used not only for all the tasks discussed above, but also for monitoring, supervision and analysis. Profitability figures can be extracted and projected by reference to a range of criteria including class of matter, type of client, identity of department or individual fee-earner. This information can be used to assess work performance and to set productivity targets for fee-earners. In conjunction with the information in a client contacts database it has become possible to extract the information needed by partners in order to engage in strategic planning. Long-term decisions can be made on when and how to steer the firm towards more profitable areas of work and types of client and away from the less profitable areas and types (Hancock, 1985). Finally, many accounting packages can be linked up directly to electronic time recording systems and casework support systems.

On the subject of time-recording, paper-based systems require fee-earners to complete time sheets on which they record their identity and enter, in respect of each client, the amount of time spent on each activity - interviews, phone calls letter writing, document drafting etc. This task seems to be viewed by fee-earners in general as one of the most tedious of chores. The computerised counterparts of such systems enable the information to be captured in electronic form using such labour-saving devices as hand-held barcode readers. The information can then be fed directly into the client accounting system. The main advantage of electronic time recording systems is that they speed up the time recording task itself and make for quicker and more accurate billing of clients (Thomas, 1992).

Computerised accounting and time recording systems are by far the most commonly used database

systems in law firms. The Law Society survey (Chambers, 1991) indicates that about 3,800 law firms (39.2%) were making use of computerised accounting systems in 1989 projected to rise to some 5,500 firms (56.4%) by 1992. Furthermore approximately 1,700 firms (17.5%) were using electronic time-recording systems in 1989 and it is anticipated that this would rise to 3,300 firms (34.5%) by 1992.

### *General office management systems*

Both the operational and the administrative applications of database technology examined above have been specifically designed - or at least specially adapted - for use in the law office. In some ways, of course, the law firm is a unique environment. However, in other ways it is much the same as any other office-based enterprise (London, 1992). For this reason, a range of standard applications of relational database technology are to be found in firms, particularly in the larger firms. Examples of such database applications include personnel information systems, payroll packages, systems for monitoring and controlling access to office equipment such as computers and photocopiers and stock control systems for managing supplies of office equipment, stationery and catering materials.

## **Current And Future Trends**

### **Current trends**

Clearly, a number of database applications are well established in law firms. However, the Law Society survey presents a rather patchy picture. Factors that seem to explain this uneven distribution of take-up include the size of the law firm, its geographical location and the type of database application in point. There is clear evidence that larger firms are more likely to have computerised, and, more intensively than smaller firms. This Law Society finding is borne out both by the Jackson Committee report (1991:6) and by some of the available literature (Chalton, 1989). Possible explanations for the greater prevalence of database technology in larger firms may include the fact that these firms have a greater fund of capital to draw on, that they exist in a more competitive environment, that they have more fee-earners and other staff to service and keep track of and that they attract, or wish to attract, a higher proportion of computerised, corporate clients.

The geographical location of the law firm is also a relevant criterion according to the Law Society survey. The use of database technology appears to be much more widespread amongst London-based firms than in provincial firms. This is again confirmed by the Jackson Committee report (1991). A simple explanation for this phenomenon may be that a high proportion of large firms are located in London. Just under a third (32%) of all the law firms listed in The Top 1000 Law Firms are to be found in the capital (Chambers, 1991).

Finally, the Law Society findings indicate that law firms are much more likely to have computerised administrative tasks such as client accounts and marketing than operational tasks such as research and casework management. This may be explained by a number of factors. Administrative systems for the law office are either identical to, or close relatives of, systems developed for other office environments. There is, therefore a greater range of suppliers offering such systems and more competition which keeps prices down. As administrative systems have been around for much longer than operational systems, they are more fully developed, more widely accepted and more readily understood by legal practitioners than the latter class of database applications. A third factor has to do with the perspectives of partners and their managers on the role of databases within the law firm. If such systems are perceived as simply another wave of 'hi tech' office equipment like photocopiers and fax machines, then they will more naturally be seen as appropriate for fulfilling routine office functions such as card-indexing, book-keeping, payroll and stock control. The notion that database systems are capable of making an important and direct contribution to the work of the fee-earners themselves may demand a significant leap in imagination.

## Future trends

Some major developmental trends are readily identifiable. These include expansion, integration and portability. As to expansion, it seems clear from the Law Society survey and other indicators that database technology will continue to colonise more and more firms. Increased power and storage capacity, better and more useable software and falling prices will result in smaller firms treading the path that many of the larger firms have already trodden. Wider dissemination will be matched by greater intensification of use within each firm. Many administrative tasks are, or can be, computerised easily and cost-effectively. We will soon witness rapid growth in the application of the technology to operational tasks such as research and casework management.

A strong tendency is developing towards the integration of information of different types and in different database systems both within the firm and more widely. Up until now, database systems have tended to be used to store numbers, text and images of text. We are now entering the 'multimedia' era. The most advanced database technology available permits the storage of information in the form of sound, graphics, photographs, or even video images (The Times, 31 July 1992:2&27). The general impact of multimedia technology on the way in which database systems are used by law firms is difficult to gauge at this point. However, we can speculate that the ability to store and manipulate evidence that is in audio and/or in video form in conjunction with all the documentary evidence will greatly enhance the value and usefulness of litigation support systems.

What of the integration of existing systems within the firm? In the past, individual departments often acquired their own database systems, which were then located and operated within those departments. It was frequently the case that little thought was given to making sure that these systems were compatible with any existing systems within the firm. This piecemeal approach to systems acquisition has led to unnecessary duplication of hardware, inaccessible information and general inefficiency. Now, by contrast, there is a marked trend towards the development of integrated, firm-wide systems designed to free up the flow of information around the office. The goal is to provide the possibility of ready access to any database within the firm by any member of staff, from any terminal (or microcomputer) on any desk.

Moves towards systems integration within the firm will be matched by increased compatibility and integration between the firm's own systems and external systems such as commercial research services and the public sector databases. Of course the inconsistent formats and operating procedures for all the different in-house and external database systems may potentially create nightmare situation for the user. However, research is currently be undertaken on one possible solution. This involves interposing a standardised hypertext-style interface between the user and the system. The benefit of this approach, if successful, is that the user only needs to be familiar with the formats and operating procedures of a single system.

Finally, what of portability? By the end of the decade many fee-earners will need to make extensive use of information held on a range of different in-house and external databases in connection with research and casework management as well as for administrative tasks. They will access this information from their own computers. These machines will be small, lightweight but powerful computers with both a massive 'on-board' storage capacity and a radio link via an office-based communications centre to the relevant databases. Some information will be held within the computer itself and updated periodically via the link. Some information will be down-loaded from the centre for a particular purpose, and then discarded. Some information will be accessed directly from a remote database. These machines will also have both a word processing and an electronic mail capability. Fee-earners will have all the information and all the facilities necessary to work effectively at any time of day from any location - in counsel's chambers, at a client's premises, at home, on the move or even in the office! Portability will mean far greater flexibility and mobility for

practising solicitors, and will radically change the nature of working as a fee-earner in a law firm.

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## Notes

1. Lexis for example is huge. Quite apart from all the American, Commonwealth and European legal materials that it holds, it contains something of the order of 70,000 post-1945 English case reports.