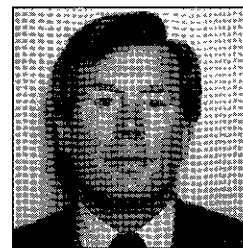


## Canberra Rules - by Email

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Capital Monitor



When the Editor asked me to write an article about what Capital Monitor is doing using email and the Internet for our services, it was a challenge. Law librarians would be at least as sceptical of "adformation" or "infovertisement" articles as the rest of the community, so how could I write an article which would be valuable, without being a puff? This article, therefore, will use a description of our system to address issues which will, inevitably, affect all law librarians

### *Overview*

As many law librarians know, Capital Monitor provides news and information services, based mainly on Canberra information and tailored to the subscriber's individual information needs. Because each subscriber wants just information relevant to *them*, we have to rely on the content of the material which we supply to attract our subscribers, who, in turn, have to need that information enough to be prepared to pay for their personal news services. Our subscribers need their information delivered even though the rest of the media is breathlessly chattering about the flavour of the hour. That leads to a consideration of the different economics between conventional media and Capital Monitor.

Conventional media, even the *Australian Financial Review*, seek to provide just enough information about enough different subjects to attract enough of their target reader/watcher market to permit that media organisation to charge heaps from its advertisers. That permits them (the national media) to keep both Mr Murdoch *and* Mr Packer in the style to which they have become accustomed. Capital Monitor provides a subscriber with whatever has happened about the desired subject, which usually means material which is utterly boring and terribly legal to anyone else.

That difference between them, the rest of the media, and us, leads to very careful consideration of the economics of what we do, and also, of marketing issues like: who else might be prepared to pay to know about this policy information?

Obviously, we have been delivering paper copies of the material. The system we have now developed:

- distributes relevant documents to subscribers, as either attachments to email or as downloadable documents from the subscriber's Monitor Page; and

- provides the facility for subscribers to search and download any material (assuming that they are allowed access to that particular service) no matter where they are or when they are searching

The subscriber needs, basically:

- a computer, printer, modem and telephone line
- email, Web browser and Acrobat Reader software, and
- an Internet Service Provider account

### ***Why Have We Gone Electronic?***

#### **Gathering Information**

The cost to Capital Monitor of gathering our information varies, but given the trend towards the electronic publication of the source (mainly Commonwealth Government) information, we have to look towards the not-too-distant day when 90% of it will be available in electronic form only. A year ago, the percentage of Commonwealth information available to the public via electronic media (Internet or dial-up) was almost 0. SCALE and some Customs material were, I think, the major exceptions.

Today probably 40-50% of new Government information is available via the Internet. The shift to electronic publishing (or, to be more precise, electronic access) by Government Departments and agencies tends to be jerky, to put it politely.

As an example, the electronic publication of Hansard was approached in the best spirit of public consultation, calling for comments in early 1996. The reality, however, was a sudden announcement in late June that the paper *Daily Hansard had been eliminated* as far as the public was concerned, and we would all have to use the Internet. (It was another couple of months before the AGPS realised that there was still enough demand to justify a subscription service for the paper version.)

By this time next year at least 70% of all Government information seems likely to be accessible via the Internet, as the Public Service jolts towards the Brave New World. It can be anticipated confidently that soon, if not before, financial constraints will start to reduce the availability of Government information in paper form. The Office of Government Information and Technology (OGIT) is trying to get a handle on some of the public policy implications of all this, as well as the technical aspects, but it looks as if both the financial and the technical horses have bolted and all of this is happening somewhat piecemeal.

As readers may have guessed, the Federal Register of Legislative Instruments (FRLI) is a quite different case. At this stage, the relevant Bill is stuck in the Senate. Unless it is amended, what we will get will be an electronic system offering documents as images (with all the increased file sizes and the technical disadvantages associated with that), plus an index of indeterminate depth and precision. It is to be hoped that the markedly improved quality of Government

photocopiers and faxes supplying the instruments to the Attorney-General's Department, combined with modern systems' capacity to provide both text and images in secure electronic form, will encourage the Parliament to save us from this now-dated technical solution.

There is a cost in having to go and find new electronic information, as the Government agencies fast come to believe that if they just stick it on their Web site, that will meet their obligations to the public. Finding such information necessitates Web-crawling, which requires regular search routines and that irreplaceable resource - time. On the other hand, paper publication by Government agencies has sometimes been hit-and-miss and, when paper material has eventually been tracked down, there has often been a delay in providing a copy. Overall, Capital Monitor believes that, in this regard, the new arrangements will be an improvement

Change of this kind and on this scale requires electronic collection capabilities within our systems (and probably yours) now. (Think about that for a few minutes.)

#### **Assessing Information**

Once information has been gathered, it must be assessed for its relevance and its significance.

Assessment has been done entirely by humans within Capital Monitor, until now. While humans can be very good at pattern recognition, they tend to get tired, particularly after reading 200(+) pages of Hansard, up to 90 pages of Government Gazette information, an average of ten or twelve tabled reports ranging from 30 to 300 pages each, up to 200 press statements and speeches, plus Bills, Regulations and other legislative instruments, *every day* while Parliament sits. The aforesaid humans sometimes miss things among all that (The alternative - many pairs of eyes reading different things - makes it difficult to correlate or assess the importance of any one piece of information in real-time.)

On the other hand, computer-based systems are not very good at assessing how important something really is - both content and context are relevant. A simple technique like ascribing higher scores because a particular word or term is used many times is not always a true indication of how earth-shattering the statement is, while more complex, artificial intelligence processes need frequent tweaking by their human masters to keep up with something as dynamic as political semantics. Nevertheless, computers are very good and quite indefatigable at finding each and every use of a desired word or term, *if all the material is available in electronic form*

Those two considerations led Capital Monitor to move towards artificial intelligence, while retaining a strong human oversight, in designing our new information assessment systems. These considerations may also be relevant to some larger law libraries

## Delivery Systems

With our current paper-based delivery system, there are copying, handling and delivery costs for Capital Monitor and collection and handling costs for our subscribers (plus the costs of some sort of indexing system for finding the material later, by either or both Capital Monitor and our subscribers, about which more later).

In the not-too-distant future, Capital Monitor would obviously have had to add the cost and additional administrative burden of collecting Government electronic information, then having to convert it to paper so that it could go out in paper form, if we were to retain our paper-based delivery system.

An additional, hidden cost of paper delivery is delay - paper delivery can be effected usually only daily, and then up to 24 hours late. Any attempts to circumvent those delays will cost, in the form of faxes, special handling procedures, and so on.

Capital Monitor also faces the costs associated with converting the material received on paper into electronic form (Scanning, Sherlock!). We hope that this latter cost will become less as electronic publishing, by both Government and lobby groups, becomes the norm.

Assuming that one has the documents in electronic form, an electronic delivery system involves the costs associated with establishing and maintaining email systems. As most subscribers have email anyway, there is no great additional expense for them, although for Capital Monitor the cost of an ISDN link is still significant.

The subscriber/recipient still has exactly the same tasks of distributing and filing (or throwing away!) our material when it is received, whether it is provided in paper or electronic form, with the proviso that electronic distribution within their organisation should be quicker than the circulated paper folder. We have heard horror stories from some law libraries with regard to electronic distribution of material - lawyers telling the library that they must not use internal email as it clutters up the system, etc. Hopefully, lawyers coming out of law schools today are better equipped to manage information, but it certainly seems that there may be a role for law libraries here - teaching lawyers what most of us would call basic information management techniques.

One other aspect of electronic delivery from Capital Monitor - the arrival of electronic material at the subscriber's terminal throughout the day, instead of in one great mass of paper with the morning mail - is really a matter of mental attitude. For some it is a boon, for others it is disconcerting.

Of greater significance is the fact that email delivery permits Capital Monitor, for little more than administrative costs, to deliver material *directly* to the email addresses of individual lawyers in the practice, whether they are at their desks or visiting a client in Walgett. Thus, the tax partner can get all tax material, not only without bothering the library, but also wherever he/she is and no matter what time it is. While no one is yet likely to ask "Why have a library?", law librarians might do well to prepare a few well-rehearsed answers for the future.

For the benefit of those readers for whom the mention of email conjures up the idea of tatty little electronic notes in ASCII format, please be aware that the external attachments to email should look just like a fax of the original source document - graphics, signatures, letterhead and all - with the additional benefits of being able to be handled electronically, cut and pasted, searched electronically, etc. Luddites (which is all of us at the beginning of any technological revolution) may prefer just to print the document initially, but think of trying a visual search of the latest NNIT Timeline to see if there has been any mention of the Ngarinyin people.

The initial processing time at Capital Monitor still makes it quicker to fax a one page paper document to one subscriber than to prepare and email it. Furthermore, email transmission delays seem to be quite erratic. As a final uncertainty factor, how soon the subscriber sees the email depends on how assiduous they are in checking for their email. Nevertheless, for sending large numbers of large documents to large numbers of subscribers, email is much quicker than fax, and does not have the somewhat artificial cut-off times associated with couriers, AUSDOC or mail that the delivery of paper documents does.

#### **Document Formats**

What common format should we adopt for all the email attachments? If we used Microsoft Word 6 for Windows from our IBM machines, all the Apple Mac and UNIX users would scream. Furthermore, Word documents often contain sub-programs, which are just great for attaching viruses. (Have you seen the warnings that some anti-viral programs flash on your screen when you attempt to download a Word file from a remote site?)

We found that the Portable Document Format (PDF) developed by Adobe gave a "flat" file (no viruses) which was visually identical with the source document (*wysiwyg*), could be searched electronically and cut and pasted and, best of all, occupies only about 80% of the file length of the equivalent Word document. It was also in sufficiently wide usage for us to adopt it, with the Adobe Acrobat Reader program being available to our subscribers from the Internet at no cost if they did not have a full Acrobat suite on their computers already.

When the subscriber clicks on the .pdf attachment at the end of the email, Acrobat Reader spawns automatically and opens the file on-screen, looking just like a fax and permitting those who still clutch their paper security blankets to print it.

When installed in conjunction with Microsoft Word, the full Adobe Acrobat suite permits files to be printed, on disk, from Word 6 format to PDF. (We understand that the reverse process should be available in the next Adobe upgrade.) In all cases, the PDF file can be cut and pasted to put chunks of it into the word-processor files, which should permit lawyers to write terribly authoritative letters and submissions without driving themselves or their secretaries to distraction by re-keying slabs of text from reports.

PDF format seems to be gaining acceptance within the Commonwealth Public Service as an acceptable way of publishing on the Internet. While nothing will ever wean the public servants away from Hyper-Text Mark-up Language (HTML)

as a way of putting pretty documents on their Departmental Web site to show the Minister how gee-whiz everything is, HTML is almost useless for any outside organisation which needs to use (work with) the document. We are therefore seeing dual HTML and PDF versions of documents being offered by the Public Service at least as often as we are seeing Word documents (and enjoying not having to be warned severely by our anti-viral programs)

In the absence of any other reasonably general format for documents to be transferred between incompatible computer systems, we would recommend that all law libraries consider adopting PDF format for documents to go outside the firm.

We also faced the question of the structure of the email message itself. Given a choice between MIME and UUENCODE, we chose MIME as it is the more widely used for attachments. That left a decision about whether to make the attachments internal or external. We could see no earthly reason for putting the attachments inside the covering email message, particularly as it would mean that features like graphics, "sticky labels" and logos would be suppressed. Furthermore, receiving external attachments would facilitate handling by the recipient.

### **Indexing and Retrieval**

The final factors which Capital Monitor looked at were the costs of indexing and retrieving the information

Previously we had an index, using a simple computer-based system, which relied on human intelligence to decide what indexing terms to use. It was almost a full-time job for one person inputting the 50,000 to 60,000 records each year. Obviously, there was scope for human error.

Overall, the system worked well, but it meant that at the end of a search, all one had to show for a database search was a list of file references. That was usually acceptable to Capital Monitor if the material was to hand, although Press Gallery space constraints (as a news service, we live in Parliament House) meant that we could keep only about 12 months material on-site. File references were next to useless for external access for subscribers unless, as with something like Hansard, being able to identify just the reference would permit them to access their own copies of the source documents.

Obviously, if *all* our material was in electronic form, it could be indexed, in full text, automatically, as part of the handling processes. Electronic storage of the documents furthermore, would permit their downloading, in full, at the end of a search. Thus, development of our own Web site, with the necessary software, would permit our subscribers to both conduct their own searches and download, at minimal cost, the electronic copy of the document so found, *no matter where the subscriber was, or what time or day it was.*

There are drawbacks. Instead of scope for human error, we have scope for *computer* "error". Searching for full-text indexed material sounds wonderful, but it also means that the searcher has to know what they are really looking for. (At this point, tell your friends your very best story about what some lawyer asked you to find . . . . .)

Nevertheless, given such a powerful search facility, one wonders why law libraries would bother to retain any but the most important of our material, once they had arranged its processing and distribution to their clients, ie the lawyers in the firm?

### ***What The New System Does***

As some astute readers might have guessed, Capital Monitor now has an electronic system for the handling of our news and information services.

#### **Email**

Material is despatched to subscribers continuously, as it comes to hand. It is transmitted as external attachments to email.

#### **Databases**

As soon as the material has been despatched to subscribers, it is transferred to the Capital Monitor Web site (*capmon.com* (NB no ".au")) database collections. There it is automatically indexed within 15 minutes, after which it is available for searching and downloading (assuming that the searcher knows that it has been released and has access to our site).

#### **Monitor Page**

In addition to being emailed to subscribers, the title of the document is placed on each subscriber's "Monitor Page", which they access via our Web site. The personal Monitor Page is like having a personal electronic newspaper, with a record of the titles of all documents which Capital Monitor has forwarded to them recently. Because these titles are associated with the document's Uniform Resource Locator (URL), the subscriber, by clicking on the title, can download the document from the Web site (as opposed to opening the email attachment) (The significance of *that* will be discussed later.) The Monitor Page thus provides the subscriber with a quick overview of their service.

#### **Databases and the *capmon.com* Web Site**

In developing our Web site, we soon realised that, by using different databases (or collections), we could make our subscribers' lives a little less miserable than they might otherwise have been.

There is a General Collection into which we stuff most things - press statements, speeches, Gazettes, reports. Where possible, these are full text, although copyright and lack of an electronic copy preclude that with some documents, particularly reports; in those cases, we include the cover and contents pages so that searchers should get a reasonable idea of whether the document is relevant.

We knew that there are some kinds of documents which lend themselves to their own collections because our subscribers would (should?) know exactly what they are looking for before they start the search - Bills, Tax Rulings, etc - as in "Get me the Bill which says . . . . ., I need it for a meeting in . . . . . minutes."

With full indexation, our High, Federal and Industrial Relations Court and National Native Title Tribunal collections make a logical extension to the public

policy and legislation development orientation of the other collections (see Wik, High Court et al).

Hansards are an obvious separate collection too, although to make them useful, both for distribution of relevant extracts to subscribers as well as for general search purposes, we have to break them into their component parts, eg a debate on a particular Bill in the House on a particular date, or a particular Question Without Notice.

The databases can be searched individually, although the default setting searches everything. The usual range of Boolean search operators - AND, OR, NEAR, etc - is available.

The search terms (the words you key in) are augmented by Capital Monitor's definition of the topics. Thus, if you tell the system to search for superannuation, it will look for everything which we have taught it is related to superannuation - ETPs, ADFs, etc, etc, etc. (Users can restrain the system's enthusiasm by putting "" around the individual search terms, in which case it searches for that particular word or term.)

### **Additional Services**

Subscribers can access Capital Monitor's newsletters, our Parliamentary Directory and its associated CV's, etc, via our Web site. "Why?" did I hear you ask? "Why would I want to read something on a screen when I could get it in printed form?"

They are on the Web site mainly because they are actually dynamic documents, being progressively updated, and a more up-to-date answer can usually be obtained by checking the electronic copy than reading the paper version held on the subscriber's shelves.

Publications can be ordered and there are searchable NSW and Victorian collections which, we believe, will become the bases of equivalent information services. A link is provided to The Knowledge Basket in New Zealand.

There also appeared to be a need for some subscribers to be able to monitor what the media are covering. Although full newsfeed services are fairly widely available, they are very expensive. Under an agreement with AAP, our subscribers, for a very low additional monthly fee, can have access to two AAP newsfeeds, the main feed and a special, Asia-oriented feed called "AsiaPulse".

Subscribers can set their own particular search terms or "agents" for the AAP newsfeeds. Although this continuous monitoring facility can be used with great care (because the cost works out as \$1 per story downloaded), to provide for instant warning of any mention of a particular issue, eg a client's name, subscribing to the additional AAP service also seems to be popular as a means of gaining access to about six to nine months of fully indexed media stories for searching purposes.

In addition to such additional services, we found that our Web site was an essential part of our document delivery service.



## Handling Large Documents

The different capabilities of the various Internet Service Providers (ISPs) mean that some, like Ozemail, are unable to cope with large documents, typically >1 Mbyte, if emailed. While this constraint will almost certainly disappear as the world moves forward and, in theory, 1 Mbyte should accommodate a 140 - 160 page document, it becomes a considerable problem when one considers that a poor quality fax of 20 pages can easily scan into a 1 Mbyte document.

Furthermore, although simply *tout le monde* these days rushes around saying "My modem is bigger than your modem", the reality is that, due mainly to poor quality telephone lines, unless one has an ISDN link most documents cannot be downloaded at more than 2 Kbyte/sec. Now 2 Kbyte/sec means that a document received in electronic form by Capital Monitor can be pulled into the subscriber's system at about a page every two seconds, ie many times faster than fax.

Downloading even a 1 Mbyte, 140 page document should therefore take just over eight minutes. However, the poor quality 20 page fax which scanned into a 1 Mbyte file, referred to above, would also take about eight minutes, not much faster than fax. We draw strength from Telstra promises that their particular Brave New World of high capacity cable is just around the corner, but we do not hold our breath.

The solution to the problem of very large documents lay in the development of the Monitor Page facility on the Capital Monitor web site. As mentioned, each subscriber has their own Monitor Page which lists the titles of all material posted to the page for them. All material which has been emailed to them by our system is listed, as is anything which is sent to just their Monitor Page.

Downloading documents from the Monitor Page avoids the email size constraints, as well as allowing the busy law librarian to choose when to tie up the computer for a few minutes. All that is needed is a short email from Capital Monitor to say that the material has been placed on the subscriber's Monitor Page.

## Site Licences

Our previous paper-based services delivered most material to subscribers on the morning after release. Apart from copyright material, Capital Monitor had no objection to subscribers re-using any of that paper material almost immediately.

Clearly however, material delivered in real-time, particularly in electronic form, and even more particularly if it only got into that form because Capital Monitor sweated blood and money to find, convert, assess and forward it, is a somewhat different matter. There would have been such a significant improvement over the previous paper-based service that someone else could take our service and re-sell it at a much lower cost than the cost to Capital Monitor of providing it in the first place.

For those reasons, we are introducing a site licence arrangement whereby subscribers, in taking the service, agree not to forward the material to anyone outside their geographical site (organisation) until the following day, ie when they would previously have received the paper information.

Obviously, changes to those arrangements can be negotiated. For example, the compliance manager of a large life office may wish to be able to broadcast much of the superannuation material to scores of company officials across Australia, with necessary commentary and corporate instructions, as soon as it is received. A special site licence can be agreed for that kind of requirement.

### ***Implications of the New System For Law Libraries***

As we have found at Capital Monitor, it is very hard and frustrating work changing from a paper-based to an electronic system. Nothing works as well as is claimed, or in quite the way one visualised it happening. For law libraries, dealing with lawyers who range from the technically astute to unreconstructed curmudgeons, within an environment of a practice's bureaucracy, the challenges are considerable.

#### **Layout and Facilities**

Some librarians have found that simple things, like the location of their Internet/email terminal, can be a major problem. Installed in the Library Manager's office maybe last year when the Internet was a mysterious and awe-inspiring new thing which required supervision by senior management, the terminal is now in the wrong place.

At least the solution to that problem is obvious, even if it takes a while to achieve - get Internet access for all the library staff and make sure that email goes to the right place(s). Bank robbers rob banks because that is where the money is; law librarians need immediate access to the Internet because that is where the information is.

Similarly, that spare 386 computer that had been kicking around and was allocated to the Library for the purpose simply won't cut the mustard. What is it all worth? A halfway-decent Pentium, with a good modem and some software will cost about \$3,500 - \$4,000 and last for about three to four years. Throw in the Internet access and email costs and you are probably going to double that figure over the period. That comes to less than \$2,500 a year per terminal. If it improves the productivity of a library by more than that, then it is clearly worth getting adequate equipment.

"But most of our lawyers still want it in paper, as well" is the cry. Give it to them in paper. It will be only a few months before they are so used to handling electronic documents, and those not just from Capital Monitor, that they won't bother to read the day old pack of paper that you circulate. It will be like the internal memoranda from the Managing Partner - if they wait for the paper, they will be out of the hunt.

"Our printer can't cope!" Should we fax the material to you, instead? And what, pray, is your fax machine doing? Is it not printing the incoming document, but v-e-r-r-y slowly? Why not add the cost of a decent library printer - say \$2,500 - to the sums above and amortise that over four years, too. On the other hand, librarians with guts could stick with their ropey old printer to slow down the distribution of the paper copy. Add a really awful photocopier and you would have almost all the lawyers reading their email versions within six weeks! (One trouble with printing from emailed documents is that you usually get much better print quality than you get from a fax - sometimes better than the original!)

### **The Practice's Information Technology Manager**

In the few short months that Capital Monitor has been working feverishly both to develop our new system and to help our subscribers get their systems up to speed, we have come across many kinds of IT specialists who work for the various law firms

In general, such is the pace of change that, although even if quite competent on systems architecture, when it comes to individual software programs and their practical uses, relying on the IT manager is almost like the blind leading the blind. An intelligent librarian or lawyer who wants to use a program to achieve a particular result, is far more likely to be able to get it to operate than an IT technician who is interested in only its technical characteristics. Within a few years, we shall all be IT managers

Then there was the practice which had been bamboozled into adopting the policy that no external file could be imported into their system unless it had been passed to the IT staff for anti-viral checking! While both a very clean way to avoid any possibility of virus problems and a nice make-work measure as far as the IT staff were concerned, the policy was a practical nonsense and merely reflected the IT staff's lack of technical expertise. They should have installed adequate anti-viral shields on any computer that accessed the outside world, and backed that up with internal anti-viral checks and procedures.

### **Coping With Curmudgeons and Whiz-Kids**

Which is going to still be around in five years time, the "let me have it in paper form" lawyer, or the "email it to me, I'll pick it up when I get to the client's Brisbane office" lawyer? What the law librarian has to do is survive and outlive the curmudgeons.

A partner in one major firm said recently that almost all their senior lawyers have had to use their "technology" (as they call it) because they are out of the loop if they wait for paper memos from the Managing Partner; the decision has already been made on whom to accept as a Partner. It is not a big step from using the "technology" for internal politics to using it to earn a living! Doubtless all the major firms are going through this right now

On the other hand, law libraries ignore the needs of the whiz-kids at their peril. Once the technologically-aware lawyers get used to having to do their own thing, why will they go back to using the library? If they know that they can collect their material or access databases from anywhere in the world, what added-value does the law library provide?

### **New Horizons**

What about the medium or even the small practices? They either never had a library or could not afford to keep it going. Modern technology offers not only the option of their accessing much of the information hitherto the preserve of only the major firms, but it also offers law librarians the facility of contracting out their personal expertise.

Like the peripatetic whiz-kid lawyer visiting far-flung clients, the strolling law librarian, armed only with a contract and his or her range of assorted userids and passwords to access a range of services, should be able to flit like a butterfly between client suburban law practices, bringing all the benefits of knowledge, but using the client practices' facilities.

All these scenarios offer challenges and opportunities to law librarians, and they are not going to go away. They involve considerable change to the way we have all been doing things. In the forthcoming Information Age, what value are you going to add?