

## Savvy searching

### Online vs print articles

As I was preparing for this column, I saw an intense discussion evolving on SERIALST among librarians arguing for and against cancelling print subscriptions and replacing them with online subscriptions. While I understand the reasons for being cautious about cancelling print subscriptions in favour of online-only subscriptions, the advantages of the online versions of articles from the savvy searchers' and end-users' perspectives are overwhelming. Let me count the ways that make the online versions of full-text articles far superior to the print format.

### Full-text searching

The most obvious advantage is the ability to search the full-text of millions of articles. While it is impressive to have bound volumes of thousands of journals sitting on the shelves in a library, waiting for patrons to browse them and find relevant articles by thumbing through issues, this approach cannot compete with the power and efficiency of searching every word in the articles published in those journals.

Abstracting and indexing databases have been helpful in the process of identifying relevant articles on a topic, but they have many deficiencies. Very often not only important articles are overlooked by the abstracting/indexing services, but also entire issues and even volumes. Even when every item from a journal is consistently covered, the abstracts may not include an important concept, product or company name described in the article. Controlled vocabulary searching is a noble practice, but the thesauri and lists of subject headings may not include the most current terms, or the indexer may not be aware of them. Searching the full text of the back issues of journals can produce articles which discussed a principle or symptom of a disease years before it became a legitimate descriptor. Passing mention of a drug, let alone a once-esoteric treatment in medical journals, may not have warranted its inclusion even in the abstract, but a full-text search retrieves the information in no time.

### Timeliness

There can be significant delays between the time an article is published and its surrogate abstracting/indexing record becomes available. Many abstracting/indexing databases have a six-to-nine month delay in processing the primary documents. The online versions of some journals make the text of the most current articles searchable several weeks before the print version is published. This is the case, for example, with the *Journal of the American Society for Information Science & Technology*. The "Annual Review" series makes searchable the forthcoming issue of these most cited works several months before the publication of the print version. The preprint collections of hundreds of thousands of articles provide similar advantage, even though they may not represent the final, edited version of the works.

### Illustrations

Very often the HTML versions of an articles include more illustrations than the print edition could accommodate. There are also many colour illustrations which enhance the visualisation of the information presented and are simply not possible in a monochrome scholarly journal. There can be tables in an interactive spreadsheet format which offers the re-sorting of the tables by various columns, offering another angle to the data. Increasingly the illustrations are stored in the online version in two or three formats, allowing the enlargement of an image which would be too large for the print version, or even zooming in on part of a picture for more detail. Often there are also additional appendices which could not make it to the print version for space reasons, such as the survey questions used in a research project.

### Hot links

The inclusion of references to other articles and Web sites has been the backbone of scholarly and professional publishing, and they take on a new meaning in the online versions of articles. Instead of typing long references to Web sites, the user needs only to click on such a reference to open the site immediately, often in a new window which allows "flip-flopping" between the citing article and the cited site. References to articles may take the user to related articles full-text (if the library has a subscription to the online edition of the journal, or the author located a self-archived or

other freely available version), or at least to an annotated bibliographic citation in an abstracting/indexing database to which the library has a subscription, or to a free version of such a database, such as ERIC or PubMed. Linking to a full-text version of a cited article may have its own hot links to full-text articles, which makes it easy to scan related articles and trace the development of a theory.

A totally new and simply awesome feature of many online journals, including those which have been digitized by HighWire Press, is the forward linking to articles which cite the article being read. The exceptionally intelligent and powerful software of HighWire Press also offers the options of receiving an alert when new articles cite the article being read, responding to the article instantly, reading others' responses to the article, finding related articles in the same journals, or other serials in the collections, or bibliographic records of related articles in Medline, or searching Medline for other article(s) by the same author(s).

Such cross-referencing and hot-linking offer new models for navigating the literature in a highly efficient manner. Unfortunately, this column is not published in the online version of *Online Information Review*, so I cannot provide a hot link to an example; but if you would like to see an example of the enriched type of online article, go to <<http://bmj.com/cgi/content/full/324/7337/557>> to experiment with the variety of extra features added to the article. You do not need to have a subscription to the *British Medical Journal* (*BMJ*), as it is freely available to anyone (see Figure 1).

## Growing online collections

There have been online accessible formats of full-text articles for a long time, but they were diluted versions of the original print versions which omitted the charts, graphs and tables, and had no hot links. Recently, the best commercial aggregators added some of the enhancement options described above.

There are now increasing chances to find highly enhanced versions of printed articles even for free. Beyond the well-known journals published digitally by HighWire Press, Ingenta and Catchword, other publishers also offer such enhanced versions, although not in a predictable manner, and not necessarily with all the enhancements. Emerald/MCB University Press offers the online version of at least two journals every week with substantial retrospectivity, and HighWire Press has many journals which are free without any limitation such as the *BMJ*, or with a moratorium of a couple of months. Catchword offers free access to the full run of some journals, such as the excellent *Learned Publishing*. Even such traditionally restrictive publishers as Elsevier have started to offer free sample issues of many of its journals. Information Today has randomly selected articles and reviews available online from every issue of all of its journals, offering some of the above described features.

No wonder savvy searchers determine whether there is an online version of an article for a fee before placing an order for a print version, or a free version even if the print version is readily available in the library. Authors and publishers are also much in favour of making available their

Figure 1 [bmj.com](http://bmj.com)

The screenshot shows the bmj.com website interface. At the top left is the 'bmj.com' logo. Below it are navigation links: Home, Help, Search/Archive, Feedback, and Table of Contents. The main content area displays the article title 'The quality of health information on the internet' and its abstract. On the right side, there is a vertical list of utility links including 'PDF of this article', 'Email this article to a friend', 'Respond to this article', 'Read responses to this article', 'Related editorials in BMJ', 'Other related articles in BMJ', 'PubMed citation', 'Related articles in PubMed', 'Download to Citation Manager', 'Search Medline for articles by: Parcell, G. P. Delamoths, J.', 'Alert me when New articles cite this article', and 'Collections under which this article appears World Wide Web'. The article text discusses the quality of health information on the internet, mentioning a 1997 study by Gagliardi and Jadad and a 2002 study by G Eysenbach.

articles online for a fee or for free, because studies have shown that online accessibility of articles dramatically increases their citation, increasing the journal's impact factor and the author's prestige. Steve Lawrence of the NEC Research Institute has analysed nearly 120,000 computer science conference papers and found that while the mean number of citations to print-only papers was 2.74, the mean number of citations to online articles was 7.03, a 157 per cent increase (Lawrence, n.d.) Not

accidentally, his paper, which was published in *Nature*, is also available online.

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## Reference

- Lawrence, S. (nd), "Free online availability substantially increases a paper's impact", available at: [www.nature.com/nature/debates/e-access/Articles/lawrence.html](http://www.nature.com/nature/debates/e-access/Articles/lawrence.html) (accessed 10 June 2002).