Exploring Vertical Search Engines

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In the vast online world, there are myriad choices about where and how to search for information. In general, sites, including search engines, can be classified as horizontal or vertical.

Horizontal search engines do not limit their sources by subject or file type and provide the broadest result list possible; examples are Google, Bing or Yahoo. Some horizontal search engines go beyond that scope by collecting results from other search engines and providing a result list comprised of de-duplicated, relevant records; an example is Dogpile (*www.dogpile.com*). This process is called aggregating data, and these search engines are a type of aggregator.

This column focuses on vertical, e.g., specialized, search engines. Specialization is commonly denoted by subject. Vertical search engines are not new. Expedia launched in 1996 as a vertical, travel-specific, search engine. Search engines are an evolving technology. Across 20 years, Expedia became a full-service site offering services similar to a travel agent instead of simply functioning as a search engine, and aggregated travel sites (e.g., Kayak) appeared.

You probably use vertical search engines already. Let's look at several from Google, not as an endorsement but because of market share.

Google Maps (GM) *(http://maps.google.com)* searches for a location from a keyword or longitude/latitude coordinates. Geographic data displays on a map and allows additional queries against it. You can search for directions from one place to another via car, foot, bicycle and public transportation and view traffic on many roads. You can search for nearby restaurants, theaters, hotels, etc. GM is highly customizable with a bit of research into capabilities and technique.

Google Images (GI) *(http://images.google.com)* searches for images and image files. Searches can be entered as keywords or images. To search using an image, drag and drop the image, paste in the URL for the image or upload the image. In an image search, the results are, well, images. Choosing a result provides the source site, size and format. Just because you located an image does not mean that it can be used without permission or compensation. Click the gear icon to the right of the search box and choose advanced search to search for specific parameters, including usage rights.

Google News (GN) *(http://news.google.com)* searches news sources from around the world. The default search is for the U.S., but the country can easily be changed using the dropdown box directly below the search box.

The two vertical Googles of most use in veterinary practice are probably Google Books and Google Scholar because they can provide on-demand, mobile, online access to literature.

Google Books (GB) *(http://books.google.com)* searches millions of books from libraries and publishers all over the world. Results are images of the pages or part of the pages where the search term appears. Copyright permissions determine how much of the book can be freely viewed.

Google Scholar (GS) *(http://scholar.google.com)* searches websites for scholarly literature focusing on articles, although it can include other publication types. It tries to bring together versions of the same item, e.g., an article, into one entry in the results. Each entry has a link to full-text if GS can find it. The full-text links could be to the publisher website, a university institutional repository or elsewhere.

In library terms, a GS search provides good recall but poor precision. Basically, you can often locate something you already know about (recall), but you don't find everything that could be available when you search (precision). This makes GS a good place to search a topic, especially if it is not the only place you search, but don't rely on it for a comprehensive search. It also makes GS a great place to locate freely available full-text of articles.

There are important differences between Google, GB and GS searches. They yield different results because of what they search. Google searches only information available free to the public, e.g., article abstracts but not necessarily the full-text of articles. GS has agreements with some publishers allowing it to search full-text articles at the publisher's websites. GB searches scanned images of book pages. This means that GS and GB can identify articles and books although full-text access may not be free.

Cautions:
- Being included is not an indicator of quality.
- There is no source list for what is being searched.
- The same search does not always garner the same result.
- Results include dirty data, meaning there is no quality control for correct or incorrect information.
- A single item may be described in several entries.
- Results are limited to 1,000 and displayed based on Google relevancy ranking.

In October's issue, we'll look at online evidence-based veterinary medicine resources. **TV**

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