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2004 Virtual Learning Series

Produced by the Professional Development Center
in partnership with *Information Outlook*

Becoming a Great Web Searcher

Presented by
Rita Vine, Workingfaster.com

September 14, 2004

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Suggestions for Making the Most of Your Virtual Learning Experience

Before the seminar
Read the enclosed *Information Outlook* articles and other materials. Take a few moments to reflect on the becoming a great web searcher.

"The New Yahoo! Search." Greg R. Notess. *Online*, 28(4), July/August 2004: 40-42.
http://www.infotoday.com/online/jul04/OnTheNet.shtml

"Search Engine Comparison Chart." Diana Botluk. *LLRX.com*, July 26, 2004.
http://www.llrx.com/features/searchenginechart.htm

"Search Engine Prefixes and Shortcuts." Greg R. Notess. *Online*, 28(3), May/June 2004.
http://www.infotoday.com/online/may04/OnTheNet.shtml

"The Latest Field Trip: An Update on Field Searching in Web Search Engines." Randolph Hock. *Online*, 28(5), September/October 2004: 15-21.

Web Sites
Search Engine Showdown: The Users' Guide to Web Searching
News, analysis, and reviews by Greg R. Notess
http://www.searchengineshowdown.com/

Search Engine Features Chart
http://www.searchengineshowdown.com/features/

SearchEngineWatch.com: The Source for Search Engine Marketing
Tips, reports, and reviews by Danny Sullivan, Chris Sherman, and others
http://searchenginewatch.com/

Tool Kit for the Expert Web Searcher
Developed and maintained by Pat Ensor (LITA/ALA)
http://www.ala.org/ala/lita/litaresources/toolkitforexpert/toolkitexpert.htm

If you are participating in the virtual seminar with a group, consider inviting your colleagues to arrive 30 minutes before the seminar to discuss this question and any related issues they may have. See if any specific questions or concerns come up that can be asked during the seminar.

During the seminar
Keep in mind that there is no such thing as a silly question! Please take the opportunity during Q & A segments to ask questions or make comments about the topic, concepts, examples, or material being covered.

Following the seminar
If you are participating in a group for the seminar, take the opportunity to return to your earlier conversations about becoming a great web searcher.

If you are participating on your own, re-visit your earlier reflection to see if anything new comes up for you.

Thanks for joining us for this seminar!

Sign In Sheet

Planner Name:

Site Location:

Seminar: 1 Becoming a Great Web Searcher

Date: 14-Sep-04

Please fax to the attention of Natasha Jones at 703-647-4901 or email Natasha@sla.org

Name	E-Mail Address	SLA Member (Circle one)
		Yes / No
		Yes / No
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Please mark only one for each question.
Do not mark outside the boxes.

Date: **Name (optional):**

Scale definition:
P-Poor F-Fair G-Good VG-Very Good   E-Excellent

Learning Experience	P	F	G	VG	E
Overall rating program					
Similarity of actual program content to advertised content					
Quality of seminar handouts					
Ease of registration					
Audio quality of virtual seminar					

Presenter: Overall Effectiveness	P	F	G	VG	E
Rita Vine					

	Y	N
Would you participate in another virtual seminar?		
Did the web component add to the value of the virtual seminar?		

What was your overall impression of the program and the virtual seminar format? Additional comments?

Please fax back to 703/647-4901/ ATTENTION: Natasha Jones

THE BUSINESS OF SEARCH ENGINES1

Understanding how Web advertising, partnerships, and the race for market dominance affect search tools and search results

Information Outlook

By Rita Vine Rita Vine is a professional librarian and co-founder of Workingfaster.com (http://www.workingfaster.com), which helps professionals break through the clutter of the Internet and access information that matters. Her article "Real People Don't Do Boolean: How to Teach End Users to Find High-Quality Information on the Internet" appeared in the March 2001 issue of Information Outlook. Rita teaches Web searching to clients across North America and serves on the selection team of the Search Portfolio (http://www.searchportfolio.com), an enterprise product of the 100 top starting points for searching the free Web. A "lite" version of the Search Portfolio, with links to about 10 percent of its resources, is available at http://www.searchportfolio.com/searchlite.html.

Introduction

Now more than ever, users rely on the Internet for information and news. With well over 8 million distinct websites2 and billions of individual Web pages, finding high-quality information is increasingly challenging. Providers of information and services know that their website is a key component of their business and that, in a crowded information marketplace, searchers must be able to find it using search engines.

Search engine advertising has grown tremendously in the past two years, and prospects for continued growth are strong.3 Information providers and marketers know that Web users seek information on the Web prior to making a major purchase or information decision,4 and that users rely heavily on commercial search engines for most of their searches.

Why Is Search So Hot?

Web search now represents a significant portion of Web activity. Google searches average 250 million searches per day, and the total daily number of Web searches is estimated at well over 600 million.5

At least a portion of searching is for products or services that the searcher will eventually purchase. Research has shown that higher-income users spend more time on the Internet and buy more online.6 This marketplace of high-income earners is intensely attractive to marketers and much harder to isolate in traditional media such as TV or magazines.

Technological advances have enabled advertisers to track the success of their Web-based ad placements. The availability of this technology-along with specialized ad-buying programs where

payment is made only if a link is clicked-has enabled advertisers to ensure greater return on investment of their Internet ad purchases in ways not offered by traditional media.

Research has shown that brand advertising works on the Web.7 Initially it was used as an alternative advertising medium by a few early adopters who placed banner ads on search engine pages. Now many more advertisers, including many small businesses, have embarked on advertising purchases after several major players-and probably their competitors-adopted the medium as a main marketing stream.

Advertisers know that they fare better with search engine ads than without them. In a survey conducted during fall 2003 with 20 online advertisers, half said that paid advertising in search engine results listings made visible, sometimes critical differences to their traffic.8 In the advertising industry, where return on investment is often elusive, that kind of claim can make companies race to bid for search engine keywords.

What Business Are Search Engines In?
Searchers believe that search engines are in the search business. They count on free, commercial search tools to help them find the relevant information they want quickly and easily, regardless of type of question, complexity, or language. Search engine companies focus their own marketing initiatives heavily on perpetuating this idea among searchers, asserting that they deliver the most relevant or comprehensive information and ensuring that the searcher returns to conduct additional searches.9

In reality, commercial search engines are in the advertising business. They earn the vast majority of their revenue by delivering context-sensitive advertising using a variety of means, but principally by leasing search keywords to purchasers. Virtually all commercial search engines (Google, Alltheweb, AltaVista, Teoma, MSN, Lycos, and WiseNut-Gigablast is the current exception) and major portals (About.com, Yahoo!) rely on this model for most of their revenue.10 And of those, Google remains the only search engine that still keeps paid results out of its main listings.

The Big Three: Traffic, Relevance and Monetization
Commercial search engines require three key elements to ensure ad placement success. Traffic represents the flow of Web users to a search site. The search site must attract as much traffic as possible in order to maximize the possibility that some of that traffic will turn into a revenue-generating activity. Relevance represents the capacity of the search engine to deliver meaningful results to satisfy the user's keyword query. Relevance is made possible by the creation of mathematical algorithms. When executed, these algorithms define how search results are ranked for presentation to the user. Relevance algorithms vary across different search engines and are regularly tweaked in order to improve the user experience. For example, Google uses PageRank™, a set of algorithms that rank order results by the number of links to those pages.11

To improve Google's relevance and to combat the negative effects on relevance of a robust search engine optimization industry, some tweaking to the PageRank™ algorithm is used in addition to the raw link analysis. For example, some linking pages receive greater weight than others in the algorithm. Other search engines use a variation of link analysis methods and may combine link analysis with other ranking methods, including frequency of occurrence and proximity of words to each other.12

Monetization refers to the act of converting the all-important traffic into revenue for the search engine. Monetization can occur in many different ways. When search engines deliver ads to search results pages, advertisers pay fees to the search engine or their designated ad-feed partner for every ad impression that is delivered. If the searcher clicks on the ad link ("clickthrough"), additional revenue may accrue to the search engine.

The Basics: Keyword Buying

All search engine advertising purchases start with keyword buying. The advertiser purchases-leases, really-one or more keywords or key phrases that the advertiser believes searchers will use when searching for specific products or services. For example, an online video store may purchase the keyword movie or film or actual film titles such as harry potter, or a combination of any of these. Keyword buying enables the ad buyer to display a URL link when the searcher enters one or more of the leased keywords into the search engine. Some contracts may enable the purchaser to pay only for click-through. Contracts typically stipulate a time period, but they may also stipulate the number of impressions that will be delivered. An impression represents a single display of the advertiser's URL or banner on a user's screen.

Paid Search Deliverables

In paid inclusion programs, search engines and their ad-feed partners guarantee that their search engine will list pages from the advertiser's website in its index. However, paid inclusion typically does not guarantee that the advertiser's pages will rank high. At this writing, search engines Inktomi, AlltheWeb, and AltaVista offer paid inclusion programs.

Paid placement programs, by contrast, generally guarantee that a link to the advertiser's URL will be delivered in the search results on a matched keyword or keywords. Location of the delivered link generally governs the fees, so advertisers will pay more to be placed higher up the page in the search results.

Pay-per Options

After the advertiser's link is delivered to the page, additional gradations of monetization are possible based on whether the link is clicked on or otherwise processed by the searcher. Advertisers have a variety of pay-per options, which escalate in price as the deliverable moves closer to an actual sale. Pay-per-impression enables advertisers to pay based on how many users were served their ads. In this model, users do not have to click on the ad for monetization to occur. In a pay-per-click model, advertisers pay agencies and/or media companies based on how many users clicked on an online ad. Pay-per-lead enables advertisers to pay only for each "sales lead" generated. For example, an advertiser might pay for every visitor who clicked on an ad or site and proceeded to complete a form. In pay-per-sale, advertisers pay based on how many sales transactions were generated as a direct result of the ad.

Keyword Bidding

Because so many advertisers want to lease the same keywords, a mechanism of keyword bidding has developed. Keyword bidding is the process of bidding on keywords for specific rankings in search engines. The more you bid, the higher your site will rank in the search engine you have selected. Google uses keyword bidding as a partial determinant of the placement of ads in its right sidebar. In a sponsored links list, higher-bidding advertisers get improved position at the top of the list, although the ranking formula also includes a popularity component.

Contextual Search

As the search engine marketing arena becomes more crowded, advertisers are seeking ways to improve relevancy. Contextual search is a process that drives selected paid search results by user behavior and perceived relevance as opposed to strict keyword matching. Google's AdSense13 program is an example of contextual search: the program places ads on pages of the websites that sign up for the program, and the ad selection is contextually based on what Google believes the page to be about. Overture's ContentMatch14 is a similar program.

How Paid Listings Affect Search Results

With the exception of Google, which separates ads completely from its main search results, all the major search engines have, to a greater or lesser extent, embedded paid listings in their main search results page. Some paid placement results are separated from algorithmically generated results and are accompanied by headers such as "Partner Sites" or "Sponsored Links." Paid

listings may also be embedded in the actual Web search results: practices vary from search engine to search engine.

The presence of paid listings in search results may also vary depending on the searcher's keywords. If a searcher uses keywords that are likely to attract advertisers who lease them, paid listings are more likely to appear in search results. As a rule of thumb, the more commercial the search keywords, the more likely the search is to produce paid listings. A search for the keywords "network printers" is far more likely to produce paid results than a search for the keywords health "canada aboriginal." Keyword searches in technology, entertainment, and publishing topics are particularly prone to paid placements,[15] but the search engine industry is doing its best to extend the reach of paid placement, particularly in the area of local search (e.g., pizza in Toronto, hairdressers in Philadelphia).

Over time, it is arguable that paid listings, particularly paid placements (because they appear most prominently on the results page), can have great impact even on unpaid-for (or "pure") search results. Much like traditional advertising, (where brand awareness and eventually brand allegiance emerges from a combination of advertising and peer adoption), persistent viewing of paid listings inevitably creates greater awareness of those paid listings and their brands. With greater awareness comes the likelihood that those who create Web pages will link to those paid listings simply because they have seen them many times and can remember them. Many excellent but unpromoted search tools never appear on these link lists. Sites that have been part of a search engine marketing campaign are linked simply because they are well known.

As linkage to popular, well-known sites grows, even Google's PageRank,™ which ranks pure search hits by the number of other pages that link to them, has the cumulative effect of preferring what is popular. Advertising is an important factor in creating popularity, and the reach of paid placement extends even to pure search tools like Google that rely on a link analysis algorithm for ranking. As the persistent presence of paid listings creates greater awareness of particular websites, Web page creators link to these popular sites. As a result, the sites' PageRank™ increases, and the sites eventually rise higher in Google's search results. Moreover, as a larger number of popular sites climb higher in search results, many excellent informational resources (that languish in relative obscurity because they lack the funds for paid listings) crawl even further down the list of search results and off the searcher's radar entirely.

The Problem with Meta-search
Many Web searchers use meta-search engines-tools that send a query to several different search tools, retrieve the first several search results from each tool, remove the duplicates, and present the results in a rank-ordered list. Meta-search tools are problematic because they can capture paid listings served up by their search tool partners, but in the aggregation and display process they may strip these results of any indicators that they are paid links.[16]

The Role of the Federal Trade Commission
Many Web users wonder about the capacity of regulatory agencies to mandate the enforced disclosure on websites that some searched-for content is paid for. Since all the major search engines are produced by companies owned and operated in the United States, it is the U.S. Federal Trade Commission (FTC) that attempts to regulate the activities of search properties. The FTC treads a fine line between watchdog and cheerleader, attempting to protect consumers while not unduly restricting company growth and profitability.

Its practices with search engines illustrate its challenge. After becoming aware that search engines were inserting paid results into their main search listings, the FTC sent a warning letter to all the major search engine properties[17] (except Google, because it didn't insert ads into search results), instructing them to disclose the insertion of paid listings or risk being in violation of key sections of the FTC Act.

This letter prompted the search engines to disclose information on how paid listings are included in search results, but just enough to avoid legal action. The resulting disclosure practices meet the FTC's criteria but are strikingly unclear to most Web searchers.18 The onus is clearly on the user to learn about search engine practices.

The Major Players in Web Search
At the end of 2003, the first tier of search engine advertising consisted of two large players-Google and Yahoo! Both companies control huge amounts of traffic to their websites and both control their own monetization mechanisms. Google controls its own paid placement services through its AdWords and AdSense programs, which appear not only on the Google website and major partners like AOL, but on thousands of other websites that serve up Google ads through the AdSense algorithm.19 Yahoo!, by contrast, built its powerhouse capacity principally through acquisitions. In late 2002, it acquired Inktomi, a provider of spidered Web databases and the originator of pay-for-inclusion and pay-for-spidering options. Yahoo!'s recently completed acquisition of paid-placement search tool Overture gave Yahoo! the capacity to compete directly with Google on monetization and further enabled Yahoo! to directly own its monetization properties. Overture already owned search properties FAST Search and Transfer (creator of the Alltheweb search engine) and Altavista, which provided the additional enhanced traffic that Yahoo! required.20

In the area of relevance, Google currently handles more than 75 percent of all Web searches,21 but that number may change when Yahoo! converts its search index from Google to Inktomi. Yahoo! is working to increase relevance of more commercial searches that are shopping and commerce related, indicating that it may seek a different-and possibly more commercial-market niche than Google.22 The third major player in search engine advertising is-or will be-Microsoft. Although it has, at this writing, only the search engine MSN.com, a modest traffic generator, and lacks ownership of monetization properties, this situation is expected to change dramatically in the coming months as Microsoft starts to compete directly with Google and Yahoo! Journalists and analysts covering the Microsoft move into search engine advertising generally agree that Microsoft will capitalize on its dominant position in operating systems and will embed searching into the operating system, quite possibly without the need for a browser.23 During the past year, Microsoft has been building relationships with paid content providers such as the Gale Group24 and LexisNexis25 to build pay-per-view content download options into new versions of Microsoft Office. Designed to enable users to quickly identify and purchase paid content based on a contextual search of currently open applications, it is only reasonable to assume that this contextual search could easily extend to include a Microsoft-owned search property filled with paid listings.

Google's Split Personality:
Search Savior, Ad-monger
In making an ethical issue out of paid listings in search results, Google brilliantly established itself as a trusted search tool, the lone savior of Web searching. Google plays both relevance and monetization sides of Web search in an inspired way. It draws users to its search tool through finely tuned relevance and the promise of pure search results, yet it is one of the largest ad agencies on the Web.26 In addition to its large partners (like AOL), Google serves up ads to thousands of smaller websites through its AdSense program, which compensates host sites when Google's context-sensitive ads are clicked on.

The Future of Search
What would happen to searching if Google either were bought or went public, and when could that happen? In such a rapidly growing and changing search landscape, it is hard to predict. The topic has made headlines in the technology press for several months - which is itself often an indicator that a company and its investors are testing the waters to ensure that the timing is right for a public offering. There have also been rumors - largely unsubstantiated, it appears - of Microsoft being a possible suitor.

Companies go public for two reasons - to enable the principals to maximize their investment (essentially "cashing out" when the going is as good as they think it's going to get) or as a means of raising capital to enable additional growth. There is no particular reason to think that Google is short of cash and with no burning capital investment requirement going unfunded. But with Microsoft clearly planning a major entry into the search marketplace, Google has good reason to be worried, particularly because Microsoft can use its dominant position in the operating system market to fuel its use of search within the operating system. Many of Google's 1,000 or so employees will become instant multimillionaires, even billionaires, if Google launches an initial public offering and if that offering carries anticipated valuations. Moreover, the company has grown so large that the Securities and Exchange Commission may require Google to begin publishing its financial statements even if the company remains private. So why not capitalize on the loss of secrecy, cash out when the going is good, and raise billions of dollars in the process?27

Even if Google maintains its position as the only search engine without paid listings in search results, the search engine landscape will change dramatically in the coming months. As consolidation of Web search between three major players - Microsoft, Yahoo!, and Google - is completed, the next step will be competition for market dominance. The quest for users' eyeballs will become ever greater as the quest for market share increases.

The Quest for Authentic Search Results
Serious searchers need to understand and accept that there is not now and will never be just one starter that will be suitable for finding everything anywhere. Popping a few keywords into Google is easy: research is hard. The increasing commercialization of search will require all serious searchers to have a "search toolbox"-a list of starter sites that they can return to when they don't already know the best starting points for their information search.

There has been considerable interest among searchers in emerging schemes for improving relevance algorithms to enhance the user experience.28 Unless relevance algorithms are radically altered and the pressure of commercial search somehow removed from the information-searching equation (which is hard to imagine), it is likely that serious searchers will be required to depend more on independently produced, quality-filtered link lists, catalogs, and directories of resources.

That is an enormous step away from our current dependence on commercial search tools and represents a sea change for most searchers. Methodically seeking quality information sources from excellent starter sites will be key in the future. Doing so will mitigate the ever-increasing effects of paid search, help searchers feel confident that they have fully explored the Web, and-perhaps most important-provide a clue as to when to stop searching and move on to other fee- and print-based information tools.

End Notes

1. Every effort was made to ensure that information was accurate at the time of writing, but it is possible that some of the information in this article may have changed. The author wishes to thank Sharon Virtue of the optimization firm Virsha.com for her comments.
2. Web Characterization Project, http://wcp.oclc.org. Data drawn from 2002 estimates.
3. The search market represented $1.4 billion in 2002 and was projected to grow to $7.0 billion worldwide by 2007, according to Safa Rashtchy and Jason M. Avilio, Golden Search: Dynamics of the Online Search Market and Scope of Opportunity. US Bancorp Piper Jaffray, March 2003, p. 7.
4. In 2002, 84 percent of all Americans expected to find information online related to news, health, business, and government services. In Counting on the Internet. Pew Internet and American Life Project, December 29, 2002. Available online at

http://www.pewinternet.org/reports/ pdfs/PIP_Expectations.pdf. Last viewed November 30, 2003.

5. Danny Sullivan of Search Engine Watch estimates that eight major search services serve up over 625 million search requests per day. See his "Searches Per Day" at http://searchenginewatch.com/reports/article.php/2156461. Last viewed December 1, 2003.

6. Robin Greenspan, "More money = more surfing." October 14, 2003. http://www.internetnews.com/stats/ article.php/3091091. Last viewed November 30, 2003.

7. See, for example, "Advertising: Attitudes, Preferences and Engagements," In E-Marketer.com, An Elephant in the Room: the Online At-Work Audience. February 2003. http://www.emarketer.com/products/report.php?atwork_feb03. Viewed December 1, 2003.

8. "Web Searches: The Fix Is In." Business Week Online, October 6, 2003. http://www.businessweek.com/magazine/content/03_40/b3852098_mz063.htm. Viewed November 30, 2003.

9. See, for example, Google's statements at http://www.google.com/technology/index.html, Alltheweb.com's at http://www.alltheweb.com/help/ faqs/web_search, and Altavista's at http://www.altavista.com/about. Viewed December 1, 2003.

10. According to analysts at US Bancorp Piper Jaffray, Google generated an estimated $294 million in 2002, Yahoo! $140 million, and MSN $138 million. Safa Rashtchy and Jason M. Avilio, Golden Search: Dynamics of the Online Search Market and the Scope of Opportunity, US Bancorp Piper Jaffray, March 2003, p. 6.

11. "Our Search: Google Technology" at http://www.google.com/technology/index.html. Viewed December 1, 2003.

12. For an overview of ranking mechanisms of the major search engines, see Greg Notess, "Search Engine Features Chart," Search Engine Showdown, http://searchengineshowdown.com/features. Viewed December 1, 2003.

13. https://www.google.com/adsense. Viewed November 26, 2003.

14. http://www.content.overture.com/d/ USm/ac/ba/cm.jhtml. Viewed November 26 2003.

15. For a fuller discussion of the competition for links on the web, see D. M. Pennock, G. W. Flake, S. Lawrence, E. J. Glover, and C. L. Giles. "Winners don't take all: Characterizing the competition for links on the web." Proceedings of the National Academy of Sciences, 99(8): 5207-5211, April 2002. http://www.pnas.org/cgi/content/full/99/8/5207. Viewed December 1, 2003.

16. Angela Gunn, "In Search of Disclosure: Meta-search Sites Compile Results But Don't Always Tell You Who's Paying for Placement." April 17, 2003. http://www.consumerwebwatch.org/news/gunn/metasearch030416.htm. Viewed December 1, 2003.

17. The text of the letter is available at http://www.ftc.gov/os/closings/staff/commercialalertattatch.htm.

18. Leslie Marable, "False Oracles: Consumer Reaction to Learning the Truth About How Search Engines Work." June 30, 2003. http://www.consumerwebwatch.org/ news/searchengines/index.html. Viewed December 1, 2003.

19. See, for example, how context-sensitive ads are served up by Google at sites as diverse as the almanac Infoplease (http://www.infoplease.com) and NationMaster (http://www.nationmaster.com/). Ad delivery will vary in an attempt to deliver ads contextually relevant to the search performed.

20. An excellent online visualization chart of the major U.S. search property relationships is produced by search optimizer Bruce Clay and is available at http://www.bruceclay.com/searchenginerelationshipchart .htm. Viewed December 1. 2003.

21. Danny Sullivan, "comScore Media Metrix Search Engine Ratings." Search Engine Watch, October 28, 2003. http://www.searchenginewatch.com/reports/article.php/2156431. Viewed December 1, 2003.

22. Stephanie Olsen,"Yahoo! takes a leaf out of Google's book." Silicon.com, November 4, 2003. http://www.silicon.com/networks/webwatch/ 0,39024667,39116742,00.htm. Viewed December 1, 2003.
23. Bill Gates provided some clues to the idea of "seamless computing" during remarks made at the 2003 Comdex Conference in Las Vegas. A transcript is available at http:/www.microsoft.com/billgates/speeches/2003/11-16comdex2003.asp. See also Michael Kanellos, "Microsoft Aims for Search On Its Own Terms," Cnet News, November 24, 2003. http://news.com.com/2100-1008_3-5110910.html?tag=nefd_lede. Viewed December 1, 2003.
24. "Gale Group to offer online business information to Microsoft Office 2003 customers." Press release, March 10, 2003. http://www.galegroup.com/servlet/ PressArchiveDetailServlet?articleID=200303_office. Viewed December 1, 2003.
25. "Microsoft Office System to Include LexisNexis Legal Research." Press release, October 21, 2003. http://www.lexisnexis.com/about/releases/0626.asp. Viewed December 1, 2003.
26. As a private company, Google's exact revenues are not known, but could be as high as $1 billion, according to Eric J. Savitz, "Waiting for the Big One." Barron's Online, October 13, 2003. http://online.wsj.com/article_ barrons_email/0,,SB106583046445910900-H9jeoNplaB2m5yvZX6HbKaEm4,00.html. Viewed October 13, 2003.
27. Fred Vogelstein, "Can Google Grow Up?" Fortune148(12) (December 8, 2003) :102-113. http://www.fortune.com/fortune/technology/articles/0,15114,548765,00.html. Viewed December 1, 2003.
28. Paula McKinnon, "It's in the algorithms: a glimpse into the future of mapping the web." Information Highways, 11(1) (November-December 2003): 12-14.

STAYING UP TO DATE IN THE EVER-CHANGING WEB SEARCH WORLD

By Rita Vine Rita Vine is a professional librarian and co-founder of Workingfaster.com (http://www.workingfaster.com), which helps professionals break through the clutter of the Internet and access information that matters. Rita teaches Web searching to clients across North America and serves on the selection team of the Search Portfolio (http://www.searchportfolio.com), an enterprise product of the 100 top starting points for searching the free Web. She contributes to the glut of Web search newsletters with SiteLines: Ideas on Internet Searching, which is available online, by e-mail subscription, and through RSS feed at http://www.workingfaster.com/sitelines.

Refine Your Web-Searching Skills

If google can be a verb, Web search must be a very hot topic. Numerous articles appear in the popular press about search engines, search skills, and "great" Web search sites. These days, it seems that everyone's an expert on Web search.

Web search isn't just hot news, it's big business.1 The Web search advertising marketplace has grown enormously over the past year, and predictions for future growth of major search properties such as MSN Search, Yahoo!, and Google remain strong. Many people working in and around the search business-including marketing consultants, search engine optimizers, technology writers, and librarians-are working hard to distinguish themselves from other experts in the field.

The vehicle of choice for many Web search professionals is an electronic newsletter. Cheap, easy to produce, and deliverable in many formats, subscription newsletters that provide news and views on aspects of Web searching are a proven way to reach potential customers. Most are free, so all the reader needs to do is select and subscribe.

The crowded newsletter marketplace makes newsletter selection challenging. There is no one perfect newsletter or updater service. Busy information professionals must select the best updater services for their specific needs, and find the best and most efficient ways to scan their selected services at the desktop. How, in the maze of choices, do you select the best Web search update tools for your personal and professional needs?

Types of Web Search News Services

There are thousands of free online news and current awareness services. Many are devoted to

the topic of Web search and search engines; others may include information beyond Web search content. Technological advances enable newsletter creators to deliver news content in several different formats. Weblogs (also known as blogs) are probably the most popular option for update services. Blogging software enables a writer to quickly generate and post an information item in chronological order to a specific Web site without knowing much about Web page creation.

Many blogs are configured to optionally deliver the same content in newsfeed format. A newsfeed is a distribution channel of information through a syndicate for publication. A newsfeed (often called an RSS feed2) allows potential users to view some Web site content without actually having to visit the site. The content is coded to display in specialized newsreader software (and many other formats), which permits the reader to update and follow several news services without having to visit several different Web sites.
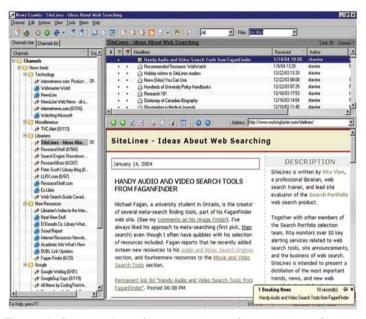

Figure 1. Screen shot of newsreader software: Newz Crawler

E-mail newsletters, wherein an author sends periodic newsletters to a mailing list of subscribers, remain a popular distribution option. Newsletters arrive in your e-mailbox. Like weblogs, some e-mail newsletters may also have RSS feed options: this information will usually appear on the newsletter's Web site.

Some Web-based newsletters are available only on the Web-they may be configured as weblogs or simply as Web pages that the author updates from time to time. The onus is on the reader to revisit the site occasionally to see what's new.

While almost all update services have a public Web presence, subscription options vary. Some have RSS feeds for newsreader software; others have e-mail subscription options; others have neither. Newsfeed format is the best choice for ease of access, as well as simplified printing, downloading, and saving of newsletter content. Fully functional newsreader software enables the user to link to a variety of news channels with a simple URL. Once the channels are linked by the software, one click enables the software to retrieve updated news postings to the channel; mark old postings as read (so you don't end up rereading posts); and make light work of downloading, printing, and saving content.

The example in figure 1 is a screen shot of my own personal newsreader software. I use Newz Crawler (http://www.newzcrawler.com), which holds approximately 50 channels that I currently follow for my work as an Internet trainer and Web site selector. The list of channels is in the left-hand sidebar. It looks much like any computer directory. The list includes links from both RSS feeds and basic Web pages, which can also be linked by the newsreader software. The software enables rapid updating and catch-up, and has features that newsletter writers can use to quickly download, transfer, save, and auto-blog to their own weblogs. The software makes it easy to scroll through headlines at a glance and enables me to focus on the news items of greatest importance to me and ignore the rest.

Keeping your newsletter subscriptions together inside newsreader software saves a great deal of time. Since most information professionals will want to follow several update services, keeping them together for easy access makes sense. If newsreader software is unsuitable or unavailable, a good second option is to use e-mail subscription services. The easiest way to keep e-mail newsletters together is to create a rule in your e-mail reader software so that new updates are transferred automatically to a special e-mail folder.

Top Picks for Staying Up to Date

Because there are so many Web search newsletters and update services, it's best to select writers who spend most or all of their time either searching, teaching about searching, or consulting on searching. These writers are best able to provide value-added analysis to Web search news and not simply restate a press release or company announcement.

Here are some of my favorite Web newsletters and update services; all are free unless otherwise stated.

News for Information Professionals

Librarian Gary Price's ResourceShelf for information professionals (http://www.resourceshelf.com) is one of the best-known update services for information professionals, and the service also has a strong following among journalists. ResourceShelf delivers all the major (and plenty of minor) news on new databases, services, and articles of interest to librarians, and reports them quickly and simply. Because of the sheer quantity of information reported, analysis is minimal, but Price offers a number of helpful comments and remarks on selected items. His "research-is-more-than-Google" bias colors much of his commentary. Information professionals who want a quick take on a broad range of topics (searching, resources, digital libraries, library news, information politics) will enjoy following this service. It is produced in weblog format; readers can also subscribe to a weekly e-mail of highlights or pick up the link to the RSS feed from the Web site.

TVC Alert: Law librarian Genie Tyburski maintains an excellent business and legal search starter site, the Virtual Chase (http://virtual chase.com), for Philadelphia law firm Ballard Spahr Andrews & Ingersoll. TVC Alert is her almost-daily news service, which includes several short news pieces of interest to business and legal searchers. Tyburski is particularly adept at catching the major news items and ignoring the minor ones, and many of the items in TVC Alert will be interesting to any serious searcher. E-mail subscription options can be found at http://www.virtual chase.com/tvcalert; an RSS feed is also available.

LLRX.com is produced and edited by law librarian Sabrina Pacifici and contains contributions by many external writers and researchers. More a law research portal than an update service, the heart of LLRX.com is its links to major legal sources for U.S. researchers. A Web "zine" is a monthly feature of the site, and each issue includes a half-dozen articles broadly related to Web searching, with a focus on legal and government resources. Recent articles have included a guide to U.S. Supreme Court research, Canadian legal sources on the Web, and a guide to the Israeli legal system. Much like TVC Alert, LLRX.com is geared to legal researchers but is

interesting to any serious Web searcher. Browse the site at http://www.llrx.com, subscribe by e-mail, or add the RSS feed to your newsreader software.

The Lowdown on Search Engines

Greg Notess, a librarian at Montana State University, is a well-known writer and speaker on various aspects of Web searching. His Web search showcase site, Search Engine Showdown (http://www.searchengineshowdown.com), is an excellent source of information on the major spidered search engines. The site includes a "Features Chart" of the major engines, ordered by database size, with at-a-glance links to reviews (Notess' own), as well as information on third-party databases that serve up algorithmic and paid search results. Notess also maintains an infrequently updated weblog at Search Engine Showdown with key news about the search engines, plus some independent analysis and test results from his own search notes. Notess is one of the true experts on the search capabilities and behaviors of spidered search engines. Every information professional who relies on search engines (and who doesn't?) should visit the site monthly to check out news and features updates. Those who rely extensively on search engines should add the weblog's RSS feed to their newsreader software.

Search Engine Watch (http://www. searchenginewatch.com/), part of the Internet.com family of brands, provides analysis of the search engine industry and help to site owners trying to improve their ability to be found in search engines. The site was created by Danny Sullivan, an Internet consultant and journalist, and is now co-edited by Web search consultant and writer Chris Sherman. Like LLRX.com, Search Engine Watch is a portal for search engine information, including but not limited to news about search engines and content providers. A monthly "Search Engine Report" consolidates many of the month's news stories, while "SearchDay" delivers daily news and short features.

The site focuses on information about the business side of searching and developments in the search engine optimization industry. Much of the information on the site is free, but value-added extras, like longer articles and access to key optimization tips, are available to paid subscribers. Search Engine Watch provides announcements of important new search engine features, key business deals between the search engines, and other business-related news, although ResourceShelf, TVC Alert, and Search Engine Showdown also pick up many of the same headlines. Although clearly intended for Web search optimizers, this site can also be suitable for Web searchers who use a variety of commercial search tools and need to know more about how content and paid results are delivered.

Everything Google

Google is constantly introducing and testing new features, and implements them on the public site without a lot of warning. Google doesn't sponsor its own weblog or other discussion group,3 so a mini-industry of weblogs by Google-watchers has evolved to ensure that the rest of us are aware of anything Google-related. The news is peppered with plenty of Google-love and Google-bashing (a popular topic in the wake of Google's forthcoming initial public stock offering). Alas, because anyone can be a self-declared expert, and Google is such a popular-make that universal-brand, the commentaries put forward may not always be correct-or even informed. Readers will also be surprised at how many stories simply restate the same information (often from company press releases) with practically no elaboration or analysis-so a healthy dose of skepticism is important when following these sites.

If you really need to Google-watch, Watching Google Like a Hawk (http://wglah.com) is a good consolidator of Google-related weblog content that allows readers to double- and triple-check information among a variety of alleged experts. WGLAH links to Google stories from business and technology magazines, optimization newsletters, and personal weblogs. Editor Frank Hayson, a management consultant, hand-picks the items from news aggregators and updates the site several times a day. At present the only way to access the site is via the Web.

Finding New and Interesting Web Sites

Keepers of Web link pages need quick and reliable sources of new search sites to consider for their link pages. ResourceShelf features new sites, but if you want more sources, a few of the major link portals offer notification services of new sites that have been added to their databases. Librarians Index to the Internet (http://www.lii.org) has a "What's New?" section linked from the main page, and an optional RSS feed at http://lii.org/ntw.rss. Infomine (http://infomine.ucr.edu) offers an e-mail-only update service by subscription at http://infomine.ucr.edu/cgi-bin/ alert_service_editor?screen_name=main. The long-standing Scout Report delivers a small but choice collection of annotated links every Friday at http://scout.wisc.edu/ Reports/ScoutReport/Current/. E-mail subscription options are available on the Web site. Marylaine Block maintains Neat New Stuff I Found on the Web This Week at http://marylaine.com/neatnew.html, which contains a dozen or so annotated entries each week. E-mail subscription options are available at http://marylaine.com/ subscrib.html. The El Dorado County Public Library maintains What's Hot on the Internet This Week, another selective, annotated list of good Web resources, at http://www.eldoradolibrary.org/thisweek.htm. No subscription options are currently available. "New and Noteworthy Sites" is featured in every issue of the Internet Resources Newsletter (http://www.hw.ac.uk/ libWWW/irn/irn.html). This British newsletter is particularly good at linking to resources from outside of North America that, for some reason, many other site announcement services seem to miss. On the downside, some of the linked resources are too commercial for many library link collections.

Finding Current Awareness Services

If you need to go beyond the list of services in this article, NewsisFree (http://www.newsisfree.com) has a good searchable list of RSS feeds on all topics. Arlene Eis of InfoSources Publishing produces the Informed Librarian (http://www.informed librarian.com), a monthly e-mail update with links to more than 100 online journals and news services for librarians. LibDex maintains a list of RSS feeds for almost 100 library-related weblogs at http://www.libdex.com/weblogs.html. Steven Cohen and Blake Carver keep a similar list of about 50 of the most popular library-related RSS feeds at http://www.lisfeeds.com.

References

1 Rita Vine, "The Business of Search Engines: Understanding how Web advertising, partnerships, and the race for market dominance affect search tools and search results." Information Outlook (February 2004).

2 In RSS-A Primer for Publishers & Content Providers, M. Moffat defines RSS as "'Rich Site Summary', 'RDF Site Summary' or 'Really Simple Syndication' depending on who you ask and which version they are speaking about." http://www.eevl.ac.uk/rss_primer/, last visited January 14, 2004.

3 The sole exception is GoogleGuy Says, a thread of posts from a Google employee, reproduced on http://www.mark carey. com/googleguy-says/ from GoogleGuy's posts in the webmaster forums of WebMaster World (http://www.web masterworld.com/).

Becoming a GREAT Web Searcher

Rita Vine, MA, MLS, Workingfaster.com

Special Libraries Association
September 14, 2004

About Rita

- She is the co-founder of Workingfaster.com, which helps professionals break through the clutter of the Internet and access information that matters.
- Rita has been a professional librarian for over 20 years.
- Rita is a sought-after keynote and conference speaker and continues to bring her unique brand of energy, humor and commitment to the topic of web research.

What We'll Cover

- Web search challenges facing librarians
- 5 key ingredients to move from good to great
- Some thoughts on how to build better search skills

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SEARCH Portfolio
Everything You've Been Looking For

Web Search Challenges

- No time to stay up to date

- Search engines are so seductive

- Retain our own professional best practices for information seeking in a free-web environment

Moving from Good to Great

- Know what's "under the hood" of search tools
- Understand web-based business models of free search tools
- Accept the limitations of search engines
- Use selected power features of search engines, when needed
- Know how to evaluate new tools

1. Know what's under the hood

- What is the "record"?

AuditNet

> A useful resource for auditors, accountants, and financial professionals with the heart of the site an *annotated directory* of important Internet sites. There's also an inventory of free audit programs, a directory of fraud resources, sample ethics policies, and more.
>
> http://www.auditnet.org/
> Subject: Accounting
> Created by ew – last updated Apr 29, 2000 – comment on this record

From Librarians Index to the Internet

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Everything You've Been Looking For

1. Know what's under the hood.

- What is the size of the database?
  - Search engines   >300,000,000
  - Librarians Index -- 14,000

1. Know what's under the hood.

- How is it organized?
- How can you search for optimal results?

Librarians Index: http://www.lii.org

No Results Found

Jobs - *see* Jobs Topics Page

pilots jobs | SEARCH LII.ORG | Advanced Search

Search: pilots OR jobs

Improving Your Search Results

Our best advice... Use **fewer** terms, use **broader** terms, and check your **spelling**.

pilots employment | SEARCH LII.ORG | Advanced Search

Results for **pilots employment** 1 of 1

Women in Aviation Resource Center (WIARC)

The site provides over 500 "educational, historical, and networking resources to empower women in all aspects of aviation." In addition, there are numerous general links to information about weather, air museums, publications, employment, and NASA; live transmissions from the Air Traffic Controls of New York's JFK Airport and Chicago's O'Hare Airport; and Hubble Space Telescope's aviation and cyberspace images. The site's author is an aviation historian and writer. Searchable.

http://www.women-in-aviation.com/
Subject: Women in aeronautics
Descriptors: pilot, airplane, flying
Created by jh - last updated Mar 2, 2004 - comment on this record

Aeronautics / Aerospace

AeroWorldNet
> …a decent source for aerospace news and information available on the Internet. **However, I do not trust the currency of the job listings.**

AirJobsDaily
> …a newsletter for aviation and aerospace jobs published by World Air Data, and pretty darn good jobs from what I see. Nonmembers can view all the listings after 7 days, but paying members can review listings as soon as they are posted, and postings are added daily. Members also have the option of storing a resume in the database.

American Institute of Aeronautics and Astronautics (AIAA)
> … loads of good information for you to review in your career or job search. The Industry Info area pulls together much of what you'll need to target employers, plan a career, and find opportunities, but take the time to explore the entire site.

European Space Agency (ESA)
> …headquartered in Paris and operating scientific centers around Europe, ESA's mission is "to shape the development of Europe's space capability and ensure that investment in space continues to deliver benefits to the people of Europe." The combined financial and intellectual resources of the member states allows ESA to undertake programs and activities beyond the means of most individual countries to the benefit of all. Users can learn about space science, the ESA and its programs, and career and research or training opportunities with the agency.

Astronaut Selection Office, NASA
> …interested in becoming an astronaut and working on the new International Space Station? Here's the scoop on how the men and women in the program get there and how you can get your foot in the door. Other job opportunities with NASA are also available.

Space Careers
> …now carrying job listings along with links to hundreds of sources for employers, industry news and information. Well organized and easy to review very quickly.

Space Jobs
> …employment in the aerospace industry worldwide.

There may be some overlap with Airlines and Aviation under Transportation.

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POLL: How often do you look "under the hood" when using a new search tool?

- Almost never
- Only if I get low/no search results
- Sometimes, but not consistently
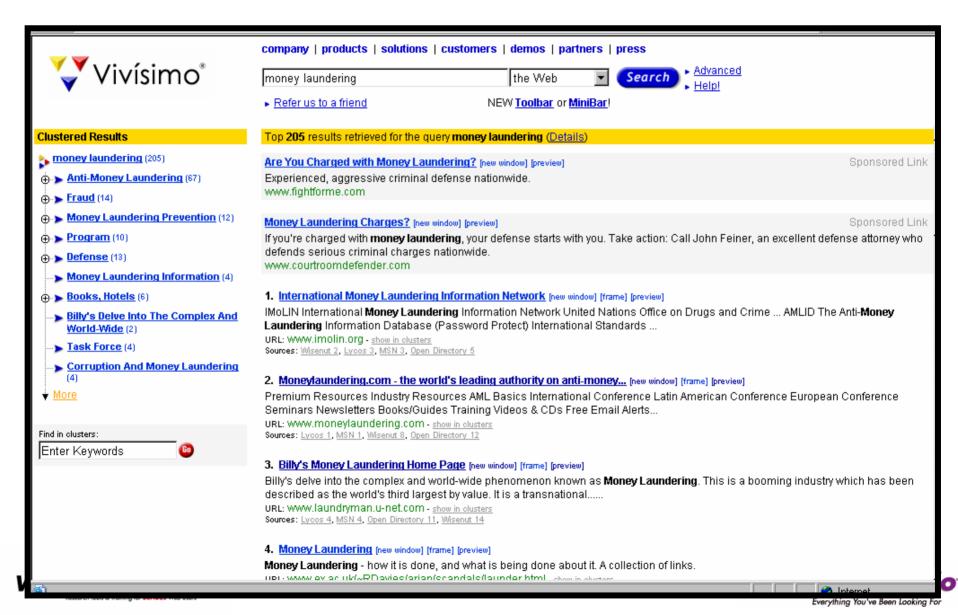- Always - I never trust new tools until I test them

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2. Understand business models of free search tools

- **1. Public good**
  - LII, PubMed
- **2. Promote capabilities/services of the author/sponsor**
  - SiteLines, Infobel/Teldir
- **3.Earn revenue from provision of information**
  - all commercial search and meta-search engines

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Example: Vivisimo

What's more, revenue from advertising makes up about 35 percent of all Vivisimo's sales today. Vivisimo's original business plan -- selling search software to corporations and higher education -- makes up 65 percent of sales.

» Commercial Real Estate
» Debt Collection
» Education/Training

SQUIRREL HILL -- The fervor over Google going public is rubbing o on a Pittsburgh startup that also specializes in search technology.

"All of the

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3. Understand the limitations of search engines

- Invisible web

- Database size - bigger is not better

- Ranking algorithms favor older, best known, basic-info resources

- The more commercial the topic, the more likely that optimization will intrude on quality

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When to USE Search Engines

- Darn I know the web site I just forgot the address
- Distinctive name consistently used
  - "rita vine" "special libraries association"
- "Needle in a haystack"
  - *louisiana tax forms; mediastinoscopy*
- Low commercial value

When to LOSE Search Engines

- Not a clear "aha! moment

- topics with flexible/ambiguous terminology (*mating behavior of cats; online credit card payments*)

- topics with spelling/language variations (e.g. British/American)

- Results are light on info, heavy on buy

- To avoid popups, spyware hijacks

Google is Easy
Research is Hard

There will never be one single, perfect, all-purpose starter site

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Q & A Break

Power Features of Search Engines

- link:url -- All the major search engines
- Search by filetype: All the majors
- Language - limited usefulness
- Date = last UPDATED, not first entry

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5. Evaluate all new free search tools

- Compelling business model
- Easy to use and understand
- Link to mainly free information
- Cover many subjects
- Preferably browsable
- An on-hand expert should select
- Best-of-breed in their category

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home | journals A-Z | journals by subject | advanced search | authors | reviewers | libraries | jobs | about | my BioMed Central

Quick Search

> Go!

- ○ BioMed Central
- ○ PubMed Central
- ○ PubMed

SUBMIT A MANUSCRIPT

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> Journals A-Z

> Journals by subject

> Faculty of 1000

> Current Controlled Trials

> Primers in Biology

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Not ready to commit a complete journal to PMC? You can **deposit individual Open Access articles** in PMC.

It's about preservation and access: **digitizing the complete run of back issues** of many of the journals in PMC.

Looking for a thoroughly modern journal article DTD? Take a look at NLM's **Journal Publishing XML DTD and schema**.

Great Sites Don't Have to Great for Everything

Example: Oiaster

- University of Michigan
- Academically oriented

Example: Oiaster

Don't be persuaded by awards and "best of" lists alone

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POLL: How important is web searching in your job?

- Not at all important
- Somewhat important
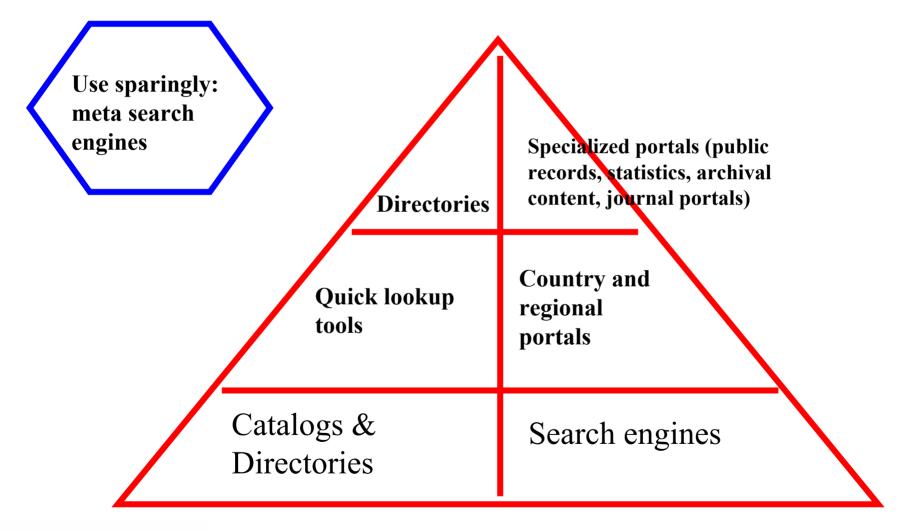- Essential

Applying Great Web Searcher Skills

Example:

Information on methods used to counteract money laundering in the Cayman Islands

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Include a Variety of Search Tools in Your Healthy Web Diet

Use sparingly: meta search engines

Directories

Specialized portals (public records, statistics, archival content, journal portals)

Quick lookup tools

Country and regional portals
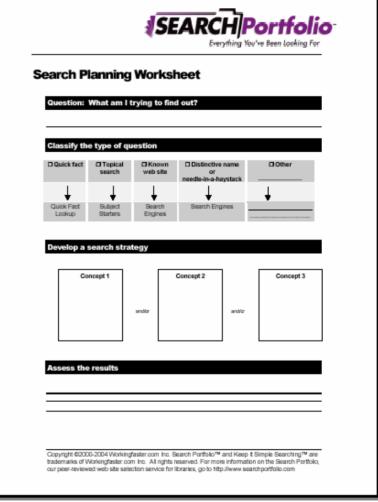
Catalogs & Directories

Search engines

Step One: Write Down Some Ideas

- Keywords/combos

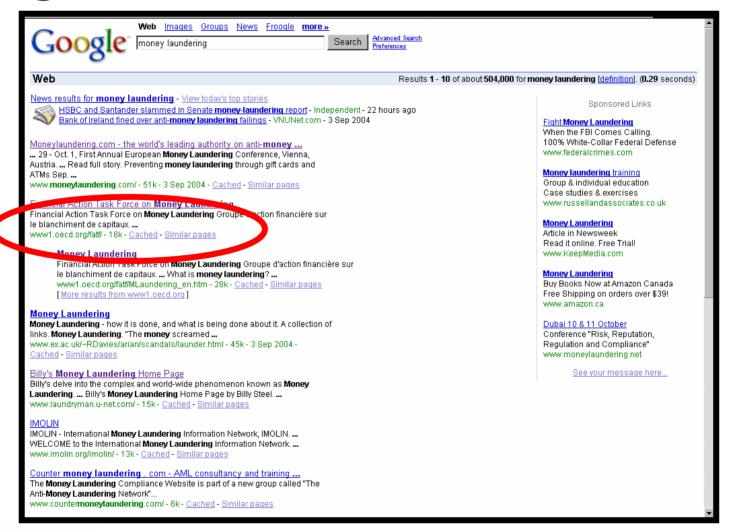- Types of resources

- Starter sites

www.workingfaster.com/worksheet.pdf

Step 2: Use search engines for idea generation

3. Consider strategy

- **General categories of web directories?**
  - business, economics, politics, criminal law
- **Alternative keywords or concepts?**
  - *corruption, organized crime, money-laundering*
- **Types of sources?**
  - *government, NGOs, journals, news, statistics, associations*
- **Use/lose geographic qualifier?**
  - *"cayman islands" may omit relevant results*

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Next Stop: Starter Sites

http://www.searchportfolio.com/searchlite.html

- ## Infomine **60**
  - keyword search *money laundering*
  - LCSH *money laundering*

- ## Librarians Index **2**
  - heading: *money laundering*
  - keywords *money laundering*

- ## Portals to the World **6**

- ## Nations Online **1**
  - heading *cayman islands - resources mainly related to banking, currencies, etc. including official sites*

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Next Stop: Journal Portals

- Findarticles.com **15**
  - Advanced search, limit to last five years: keywords *cayman islands laundering*

Next Stop: Business Starters

■ British Library Business Information

– browse to *Country Information*

Other Stops to Consider

- Statistics portals
- News portals
- Associations and Groups
- Government sites

Benefits of a Beyond-Search-Engine Approach

- Portals have better organization
- Portals have filtered resources selected by those who know
- Portals have annotations
- Portals can link to more obscure resources

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Keeping Current

- Few competent critics
- Conduct your own tests and double check all claims

How to Build Better Web Search Skills

- Get "beyond-search-engine" training
- Commit high level searchers to a community of practice
- Develop or outsource your search starter desktop of beyond-Google resources
- Follow 2-3 key updater services preferably with an RSS newsreader tool

More at http://www.workingfaster.com/trainingreport.html

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Open Q & A

Thank you!

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- Contact Rita ***rita@workingfaster.com***

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Our next seminar…

September 29, 2004
2:00 – 3:30 pm ET

elearning: Fundamentals & Opportunities for Info Pros

Speaker: Stephen Abram