



Volume 2, Issue 4, April 2012

ISSN: 2277 128X

International Journal of Advanced Research in Computer Science and Software Engineering

Research Paper

Available online at: www.ijarcsse.com

Evaluation of Search Engine Performance

Rahul J. Jadhav

*Bharati Vidyapeeth Deemed University, Pune
Yashwantrao Mohite Institute of Management,
Karad. INDIA E-mail rjjmail@rediffmail.com*

Dr. P. K. Mudalkar

*Bharati Vidyapeeth Deemed University, Pune
Yashwantrao Mohite Institute of Management,
Karad. INDIA*

Abstract:- Use of internet has taken rapid stride. For collecting data and information varied programs are developed and the use of search engine proves to be the most significant tool for gathering information and knowledge. Search engines are the most widely used methods for navigating of cyberspace. Due to the rapid growth in the size of the web, web search engines are facing enormous performance challenges. Performance evaluation is an important issue in Web search engine researches. The aim of current study is to evaluate search engine performance.

Keywords:= Search engine, Web search, navigating of cyberspace, FTP servers, Performance evaluation,.

I Introduction

Search engine is a program that searches documents for specified keywords and returns a list of the documents where the keywords were found. A web search engine is designed to search for information on the World Wide Web and FTP servers. The search results are generally presented in a list of results and are often called *hits*. The information may consist of web pages, images, information and other types of files. Some search engines also mine data available in databases or open directories

Evaluation is one of the key questions in information retrieval research. The web is extremely dynamic, new pages are published; old pages are removed while the content of other pages are changed. Publication of accurate and meaningful evaluation of quality of results returned by search engines assist and encourages search engine operators to improve their performance. Most current search engines consist of two key components. One is crawler whose job is to create a web snapshot. And other is a text retrieval system operating over the snapshot collection. The quality of search results depends upon the performance of both the components.

II Importance of Search Engine

The usefulness of a search engine depends on the relevance of the **result set** it gives back. While there may be millions of web pages that include a particular word or

phrase, some pages may be more relevant, popular, or authoritative than others. Most search engines employ methods to rank the results to provide the "best" results first. How a search engine decides which pages are the best matches, and what order the results should be shown in, varies widely from one engine to another. In cyberspace, there's no place to "turn." I have only my computer screen in front of me. Somehow, I need to find a place to purchase the book I want. There's no street on my screen so I can't drive around on the Web (I could "surf," but that's hit and miss; even then I still need to know where to start). Sometimes it's obvious: type in the name of the bookstore, add a .COM and it's a pretty good bet you're going to end up where you want to go. But what if it's a specialty bookstore and doesn't have a Web site with an obvious URL?

One solution to this problem is the search engine. In fact, it's probably one of the most widely used methods for navigating in cyberspace. Considering the amount of information that's available from a good search engine, it's similar to having the Yellow Pages, a guide book and a road map all-in-one. Search engines can provide much more information than just the URL of a Web site. Typing in "books" into the Google search engine returns about 9,270,000 results. If we refine the search to "books, Internet", we end up with about 6,070,000 results. If we know the book's author, let's say E.Balguruswamy books, search engines now returns About 80,500 results within 0.18 seconds (of course, these results will change from

day to day).For many people, using search engines has become routine. Are the Search Engines are important? Undoubtedly, positively, absolutely....YES! Here's how important they are. In the recent *Georgia Tech Internet User Survey*, respondents were asked how they find pages on the Internet. A full 82% said they used the major search engines. It is the search engines that finally bring your website to the notice of the prospective customers. When a topic is typed for search, nearly instantly, the search engine will sift through the millions of pages it has indexed about and present you with ones that match your topic. The searched matches are also ranked, so that the most relevant ones come first.

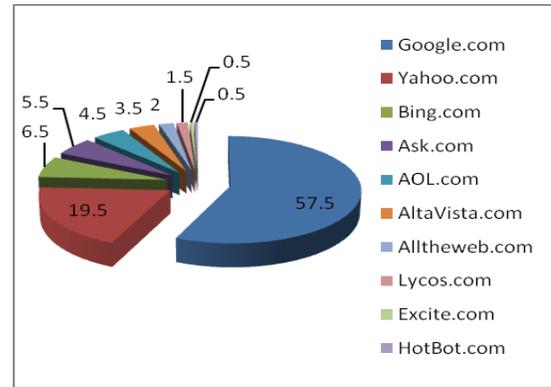
It is the Keywords that play an important role than any expensive online or offline advertising of your website. It is found by surveys that a when customers want to find a website for information or to buy a product or service, they find their site in one of the following ways:

- 1.The first option is they find their site through a search engine.
 2. Secondly they find their site by clicking on a link from another website or page that relates to the topic in which they are interested.
 3. Occasionally, they find a site by hearing about it from a friend or reading in an article.
- Thus it's obvious that the most popular way to find a site is search engine.

Table 1.1 Top Ten Search Engines

Search Engine	No. of Respondents	Percentage
Google.com	112	57.5
Yahoo.com	39	19.5
Bing.com	13	6.5
Ask.com	11	5.5
AOL.com	9	4.5
AltaVista.com	7	3.5
Alltheweb.com	4	2
Lycos.com	3	1.5
Excite.com	1	0.5
HotBot.com	1	0.5

As you can see from the statistics, **Google absolutely dominates the search engine market.** Its closest competitor is Yahoo.com but they seem to be endlessly buying old search technologies that do not provide any innovative techniques. This bodes well for Google's continued dominion.



III. Performance Evaluation Experiment

To conduct an effective search, the researcher must understand the structure of the various search engines. Search engines do not always provide the right information, but rather often subject the user to a deluge of disjointed irrelevant data.

All search engines support single-word queries. The user simply types in a keyword and presses the search button. Most engines also support multiple-word queries. However, the engines differ as to whether and to what extent they support Boolean operators (such as "and" and "or") and the level of detail supported in the query. More specific queries will enhance the relevance of the user's results.

A. Variations on the Search Engine

A search engine is not the same as a "subject directory." A subject directory does not visit the web, at least not by using the programmed, automated tools of a search engine. Websites must be submitted to a staff of trained individuals entrusted with the task of reviewing, classifying, and ranking the sites. Content has been screened for quality, and the sites have been categorized and organized so as to provide the user with the most logical access. Their advantage is that they typically yield a smaller, but more focused, set of results.

Table 1.2 Search result.

Keyword	Notes on JAVA	Indian Railway	Bharati Vidyapeeth
Google	56,000,000	2,580,000	272,000
Yahoo	59,600,000	17,200,000	293,000
Bing	8,41,00,000	16,00,000	208,000
AltaVista	92,800,000	17,300,000	64,200
AOL	3,820,000	2,210,000	95,100

Above table 1.2 shows, no search engine covers the entire web. There are technical obstacles such as the inability to index frames, image maps, or dynamically created websites

B. Importance of Search

There can be no downplaying the importance of search in higher education. Search continues to be the number one

Work VS Personal Internet Use	Percent
0% personal/ 100% work	7.8
50% personal/ 50% work	68.6
75% personal/ 25% work	21.2
100% personal/ 0% work	2.4

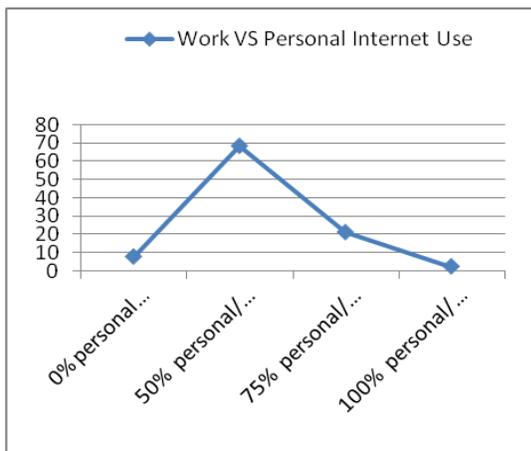
method for finding relevant information online. Respondents indicated that they spend an average of almost 4 hours a day online (see table 1.3) and the majority of that time is spent at work (see table 1.4)

Table 1.3 Daily Time spent online

Daily Time spent online	Percent
< 1 hour	10.4
1-2 hours	24.8
2-3 hours	33.1
3+ hours	31.1



Table 1.4 Work VS Personal Internet Use by the Respondents



Respondents were asked the first place they would go online to learn more about the product or service they were considering. Search was the clear winner over

manufacturer's sites and information portals, with 66.3 % of respondents. (see Table 1.5).

Table 1.5 first place to find out information

Where would be the first place you would go online to find out educational information	Percent
Search Engine	66.3
Independent Web site	21.6
Educational Portal	8.3
Other	4.8

With the majority of respondents indicating that search plays a major role in their education, we next asked which engine they would use to launch their search. We fully expected Google to be the winner, but we were surprised by how much they dominated their competition (Table 1.6). An amazing 90.9% chose Google as their engine of choice.

Table 1.6 Search engine chosen by the Respondents

Search engine chosen by the Respondents	Percent
Google	90.9
Yahoo	4.7
MSN	4.3
AltaVista	0.3
Lycos	0.2

IV. Conclusion

Table 1.7 Conclusion

Daily Time spent online			
< 1 hour	1-2 hours	2-3 hours	3+ hours
10.4	24.8	33.1	31.1
Work VS Personal Internet Use by the Respondents			
0% personal /100% work	50% personal/ 50% work	75% personal/ 25% work	100% personal/ 0% work
7.8	68.6	21.2	2.4
First place to find out educational information			
Search Engine	Independent Web site	Educational Portal	Other
66.3	21.6	8.3	4.8
Search engine chosen by the Respondents			
Google	Yahoo	MSN	AltaVista
90.9	4.7	4.3	0.3

This study revealed information that will be key to formulating effective search. This study also revealed that majority of the respondents search for information on

general search engines like Google, yahoo. Google is overwhelming the search engine. Percentage of respondents who search for information relevant to their objective is very low.

REFERENCES

- [1] Craig Lerner. The importance of search engine. Uber Articles March 2, 2010
- [2] Broder, A. Taxonomy of web search, *SIGIR Forum*, vol. 36, pp. 3-10, 2002.
- [3] Web search engine - Wikipedia, the free encyclopedia
- [4] Are Search Engines Important? Searchengineposition.com
- [5] How Do Web Search Engines Work – webopedia 02-17-2006
- [6] LevelTen_Colin The role of Search Engine Optimization in Internet Marketing <http://www.articlesbase.com/>
- [7] The Role of Search in B2B Buying Decisions White paper - Enquiro Search Solutions
- [8] Lee Underwood A Brief History of Search Engines
- [9] Brooks, N. 2004. The Atlas Rank Report II: How searchengine rank impacts conversions. Atlas Institute, 2004.
- [10] Finkelstein, L., Gabrilovich, E., Matias, Y., Rivlin, E., Solan, Z., Wolfman G., and Ruppin, E. Placing search in context: the concept revisited. *Proceedings of the WWW Conference*, 2001.
- [11] Greenspan, R. Searching for balance. vol. 2004: *ClickZ stats*.
- [12] R. Villa, M. Chalmers, “A framework for implicitly tracking data”, *Proceedings of the Second DELOS Network of Excellence Workshop on Personalisation and Recommender Systems in Digital Libraries, Dublin City University, Ireland, June 2001*.
- [13] iProspect Inc. Search engine user attitudes, 2005.
- [14] Jansen, B., and Spink, A. The effect on click-through of combining sponsored and non-sponsored search engine results in a single listing, *Proceedings of the 2007 Workshop on Sponsored Search Auctions, WWW Conference*, 2007.