

## Information Retrieval: An Empirical Study on Search Engine

Mohd Zool Hilmie Mohamed Sawal<sup>1+</sup>, Zaliha Hj Hussin<sup>2</sup>, Syed Mohammed Alhady Syed Ahmad Alhady<sup>3</sup>, Nazni Noordin<sup>4</sup>, Zaherawati Zakaria<sup>5</sup> and Nurul Fasihah Abu Samah<sup>6</sup>

<sup>1</sup> Faculty of Information Management, Universiti Teknologi MARA,  
08400 Merbok, Kedah, Malaysia

<sup>2</sup> Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA,  
08400 Merbok, Kedah, Malaysia

<sup>3</sup> Faculty of Information Management, Universiti Teknologi MARA,  
08400 Merbok, Kedah, Malaysia

<sup>4</sup> Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA,  
08400 Merbok, Kedah, Malaysia

<sup>5</sup> Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA,  
08400 Merbok, Kedah, Malaysia

<sup>6</sup> Faculty of Information Management, Universiti Teknologi MARA,  
08400 Merbok, Kedah, Malaysia

**Abstract.** Search engine is very widely and around the world. Search engine allow the user to enter search terms by using phrases or keyword. The search engine retrieved web pages from its database that match the search terms entered by the searcher. The total respondents are 375 student from were selected randomly Universiti Teknologi MARA Perak were selected randomly. The data was analyzed using Statistical Package for the Social Science (SPSS) in getting descriptive statistic and correlation also to find the relationship effectiveness using search engine for retrieving information and search engine problem and also accessing information. The result indicates that there is a positive finding.

**Keywords:** search engine, information retrieval, information searching

### 1. Introduction

Search engine allow the user to search and retrieve information in simple and easy using terms such as phrase or keyword. Search engine retrieved web pages from its database that match the search terms entered by the searcher. By using of search engine user can find the quality and effective information in short time. According Alison Stacey and Adrian Stacey (2004), once a search has been performed, suitable links have been located and the required information obtained, it is clearly necessary to assess that information for accuracy and bias. Inaccuracy refers to incorrect reporting of objective factual information and bias refers to the representation of a particular subjective approach to a subjective or objective piece of information, coupled with an absence of balancing and compensatory approach.

Alison cooks (2001). The ease of assessing accuracy is affected by both the nature of the information and the expertise of the evaluator. For example, mathematical information can be either correct or incorrect, whereas theories can be subjective and there may be no right or wrong answer. Some evaluators will be able

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<sup>+</sup> Mohd Zool Hilmie Mohamed Sawal. Tel.: + 604- 4562519; fax: +604- 4562234.  
E-mail address: zoolhilmie@kedah.uitm.edu.my.

to search a sources for information about which they have some knowledge and expertise in order to make assessment of accuracy while others may have little or no expertise about the subject.

Debra Dudek, Anna Mastora and Monica Landoni, (2007). The creators of each search engine try to develop mechanisms that would allow their search engine to work more efficiently than others and, thus, make it more popular among the users. However, there are some general rules that apply to the way every search engine works. Each search engine performs three main tasks:

[1] Searches for web pages available in the WWW and stores information about them.

[2] Indexes the retrieved information about the web pages found and, consequently, a database is created.

The database contains the data is which each of the search engines has decided as important in order to be used for the delivery of relevant results to the users.

[3] Allows for the users to search its database/index through an interface providing searching facilities and options which the user can use at his or her discretion.

Sudharma Haridasan and Majid Khan (2009) the major findings of the study indicate that respondents are aware of the search engine to find (e-books, e-journals, e-encyclopedias, e-theses, CD-ROM databases, e-mail, internet and the OPAC). Large numbers of research scholars and faculty members are using these search engines to find electronic sources for their research work. Many faculty members strongly agreed with the necessity for computer and internet literacy to access information. A majority of users were satisfied with the e-resources available at the NASSDOC library.

Dirk Lewandowski (2008), when comparing the search engines from a purely user-centred perspective, one finds that users are satisfied with their favorite search engine, whether it is Google or not. However, in the case of Google, preference for the favorite engine is stronger than for any other search engine. Nosrat Riahinia and Fatimah Zandian (2007), the survey by the participants among post graduate students at two universities in Tehran show the participants ranked Google as the most favorite search engine. MSN, which belongs to Microsoft Company, has been ignored by the participating respondents. Dirk Lewandowski (2008), how can search engines provide accurate language restricted search functionality? From a technical standpoint, the detection of the correct language of a document is not a problem. Sufficient detection algorithms should be used and documents to which more than one language is assigned should be carefully selected when the searcher uses a language restriction. Search engines should provide only results that match the language restriction 100 per cent.

Alison Stacey and Adrian Stacey (2004), the main problem is the searcher requires some knowledge of the subject to navigate through the directory in the first place. Second the directories are not structured consistently. Third is there is a lack of comprehensive in directories and the last is a search for information using a directory is open-ended. It is not necessary clear when an answer has been obtained satisfactorily.

## **2. Method**

The population of this study is among Universiti Teknologi MARA Perak students. 375 students were selected as respondents due to larger size of population. Questionnaires were distributed randomly. The data was analyzed using Statistical Package for the Social Science (SPSS) in getting descriptive statistic and correlation.

## **3. Finding & Correlation**

### **3.1. Finding**

Total of 340 respondents from 375 respondents answer questionnaire which are 199 students are male while the rest 141 students are female. Therefore, out of hundred, the percentage of male respondents is higher with 58.5% while the percentage of female is only 41.5%.

For the respondents age 266 students are 18-20 years old, 71 students are 21-23 years old while the rest 3 students are 24-26 years old. Therefore, out of hundred, the percentage of 18-20 years old respondents is higher with 78.2% while the percentage of 24-26 years old is only 0.9% which is the lower percent of age.

Table 1 show the prefer search engine by. 68.8% of the respondents stated Google is the search engine that their preferred while the 1.2% respondents choose Ask.com for search engine. Compare to Yahoo the different percentage between Google is 43.8 %.

Table 2 shows 230 respondents are choose Google for the relevant information which is 67.6%. Ask.com does not have high percentage and not many respondents are chosen it as the relevant information and only 1.5% respondents choose it as relevant information.

Table 1 Prefer Search Engine

		Frequency	Percent	Valid Percent
Valid	Google	232	68.2	68.2
	Yahoo	83	24.4	24.4
	MSN	21	6.2	6.2
	Ask.com	4	1.2	1.2
	Total	340	100.0	100.0

Table 2 Search Engine Has More Relevant Information?

		Frequency	Percent	Valid Percent
Valid	Google	230	67.6	67.6
	Yahoo	90	26.5	26.5
	MSN	15	4.4	4.4
	Ask.com	5	1.5	1.5
	Total	340	100.0	100.0

Table 3 shows Ask.com have lower percentage 2.1%, MSN with 2.9%, Yahoo with 36.5% and Google get the high percentage which is 58.5%. The percentage difference between Google and Yahoo is 22 %. This indicated respondents agree that search engines have different performance when searching.

Table 3 Search Engine Performs Better In Retrieval Information

		Frequency	Percent	Valid Percent
Valid	Google	199	58.5	58.5
	Yahoo	124	36.5	36.5
	MSN	10	2.9	2.9
	Ask.com	7	2.1	2.1
	Total	340	100.0	100.0

### 3.2. Correlation

Hypothesis 1 - The relationship between effectiveness using search engine for retrieving information and search engine problem.

- H0 – There is no significant relationship between effectiveness using search engine for retrieving information and search engine problem.
- H1 –There is a significant relationship between effectiveness using search engine for retrieving information and search engine problem.

Hypothesis 2 - The relationship between effectiveness using search engine for retrieving information and accessing information.

- H0 – There is no significant relationship between effectiveness using search engine for retrieving information and accessing information.
- H1 –There is a significant relationship between effectiveness using search engine for retrieving information and accessing information.

Table 4 Search Engine Problem Relationships

	Effectiveness using search engine for retrieving information	Search Engine Problem
Pearson Correlation	1	.742**
Sig. (2-tailed)	-	.000
N	340	340

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 4, show the correlation between effectiveness using search engine for retrieving information and search engine problem. There is a significant positive relationship exists between these two variables which is 0.742. Therefore, H1 is accepted

Table5 Accessing Information Relationships

	Effectiveness using search engine for retrieving information	Accessing Information
Pearson Correlation	1	-.260**
Sig. (2-tailed)	-	.000
N	340	340

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 5, show the correlation between effectiveness using search engine for retrieving information and search engine problem. There is no significant positive relationship exists between these two variables which is - 0.260. Therefore, H0 is accepted.

#### 4. Conclusion

As conclusion, preferred search engine for information retrieval is Google. Relevant information and perform better in information retrieval is Google the highest percentage compare with other search engine. This is probably due to the layout design, time taken for retrieving search information.

For correlation, search engine problem has positive value toward effectiveness using search engine for retrieving information and accessing information ha negative value toward effectiveness using search engine for retrieving information.

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