

# A Study on the Impact of Google Search on the Reading Habits of Academicians

Arumugam Balasubramanian<sup>1</sup> and B. A. Sabarish<sup>2</sup>

<sup>1</sup>Department of Communication, Amrita School of Engineering, Coimbatore, Amrita Vishwa Vidyapeetham [Amrita University], Coimbatore – 641112, Tamil Nadu, India; a\_balasubramanian@cb.amrita.edu

<sup>2</sup>Department of Computer Science and Engineering, Amrita School of Engineering, Coimbatore, Amrita Vishwa Vidyapeetham [Amrita University], Coimbatore – 641112, Tamil Nadu, India; ba\_sabarish@cb.amrita.edu

## Abstract

**Background/ Objectives:** The present day students, research supervisors and faculty members depend on Google search engine as a tool for collecting information on any specific topic of interest. There is a need to understand what extent the materials selected is relevant for their work under consideration. This study investigates the outcome of the use of Google search engine for the choice of material and the reading habits among the research supervisors, research scholars, faculty members and graduate students. **Methods:** Questionnaires were used to conduct the survey. The responses were obtained through telephonic interviews or receiving duly filled in questionnaire through E-mail. **Findings:** It has been identified that search engines like Google has reduced the level of lateral thinking and force the academicians to depend on Google for information. This actively reduces the thinking process and developing innovative research ideas. **Applications/ Improvements:** The use of search engine has resulted in thinking less and searching more when it comes to academic purpose, which also drastically reduces the analytical capability.

**Keywords:** Google Search, Page Rank Algorithm, Phrase Based Search, Reading Habits, Survey Method

## 1. Introduction

In recent times, the technology world has made all the resources available in a huge amount which has given rise to a new problem of data overloading. The analysis and choice of the relevant resource for any topic of interest is a growing challenge now. The academic community largely depends on Internet of Things (IOT) for research or academic purpose. More academicians choose Google (around 40%) as their educational partner for research, teaching and learning purposes. The ultimate goal of the learning process is gaining knowledge from the data. As Diagram 1 shows the increase in data does not mean increase in knowledge unless it increases the overload to process the large data available to gain the minimum knowledge that can be extracted from the data.

Figure 1 gives a clear understanding of how the wisdom and knowledge has been affected by means of the data overhead. This era of data overload has buried the

capability of academicians to reach the top level of wisdom. To identify the relevant resource for their usage, users seek the help of search engines including Google, Yahoo, MSN and so on by submitting the query to the search engine. Most of these search engines provides almost the identical results about the given query<sup>1</sup>.

Several studies discuss how people use the Web for search<sup>2-5</sup> and it is also found out that most of the people who use Internet have used to collect information related to health, sports and news<sup>6,7</sup>.

Knowledge and information mainly differ in three aspects, knowledge asks know how and information asks know what. Information is about what is but knowledge is about what works. Information collects what is interesting but knowledge is about its usefulness.

### 1.1 Preliminaries

Google is a powerful search engine in the recent trends; it has improved its performance in terms quality based

\*Author for correspondence

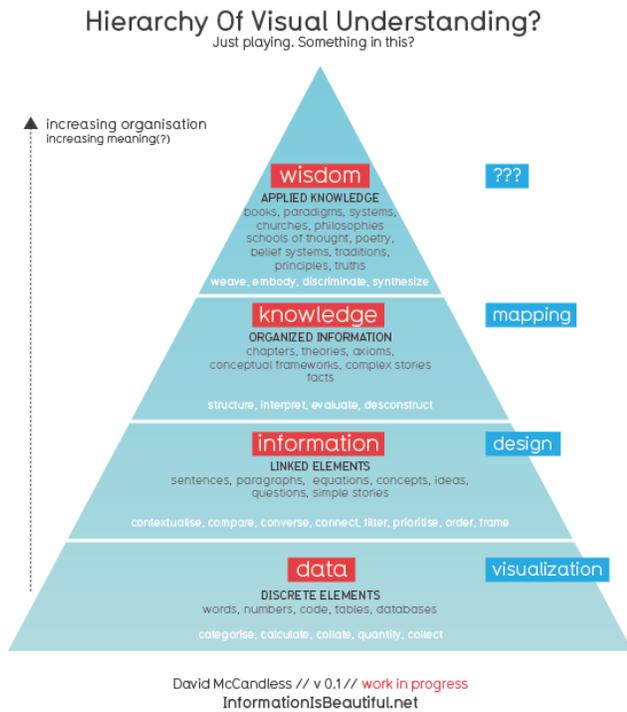


Figure 1.

search options and efficient page ranking mechanisms. History of search engines says that the documents are ranked based on the phrases or the words which occur in the document<sup>8</sup>. The occurrence of the words are analyzed with reference to the length of the document, based on that the weighted value will be allocated to the documents for the related phrase<sup>1,9</sup>.

As a growth of technological part of the web pages, this involved the creation of dynamic pages based on the user scripts. To rank these pages along with the original documents needs a special technology to adapt with. Pages can be ranked according to references or citations it has got, they are ranked depending on the total number of incoming links to that particular page which is termed as link popularity.

The page ranking algorithm uses the concept of in-bound and out-bound links made to the particular page. In other words, we can say the highest ranked page have got more inbound references to it. It makes the process recursive where page rank of a page is ranked on the influence of other documents. This recursive process leads to a false ranking which is caused by the web page owners; they try to misuse the recursion process by producing false in-bound and out-bound links as well as creating special metadata to attract the number of hits using SEO.

## 1.2 Keyword or Phrase based Search

Since the search engines can handle the words as well as the phrases, it automatically checks for the pages with the most frequent occurrence of the same words in the page and they will be listed as per the relation with the page size. It is preferred to get the exact result when comparing to the result which misses few words in the phrase. Nowadays search engines provide suggesting phrases when the searching phrase is entered. Development of Teoma search engines try to provide category based search options too, but since the categories are not fixed the result will be unstable on the subject of the classifications.

Search engines consider the location and give an additional weight according to that. It includes high end of the page and headings, marked in bold face in the page, in definition or in the links to the particular page.

Page ranking query mainly depend on the factors including:

- Relevance.
- Popularity measured using links in-bound.
- Penalty based on Search Engine Optimization (SEO).

## 1.3 Getting Access to the Web Pages (Spiders)

For the efficient searching process the search engine should explore and create the index and rank for the particular page. The page with high rank should be crawled deeply and often. Search engines should encourage the owners of the sight to permit to spider (respider) through their pages.

The way Google organizes results shapes heavily what content individuals are likely to encounter after executing a search<sup>1</sup>. Most users keep their Web queries short and use two to three keywords and check around five web documents<sup>9,10,2,11</sup>. The people who are not using Internet regularly, found it difficult to complete the task whereas, experienced as well as young users succeed quickly<sup>12</sup>.

Search engines like Google favor large, established sites of an institutional, governmental or commercial nature that are very well connected<sup>13,14</sup>, including in crucial areas such as health<sup>15,16</sup> or politics<sup>17</sup>. Since, Google is not classifying positive and negative links; as a result, the total number is not indicative of their informational value or even of their importance in the field<sup>18,19</sup>.

## 1.4 Reading Habits of the Present Academicians

The way Google organizes results shapes heavily on what content individuals are likely to encounter after executing a search. When the user gives a word or phrase to search it is an abstract of what they want the search engine to search for.

The individuals using the system can be easily classified in three categories based on their usage namely novice, intermittent and expert. The searching policy and the phrase will differ in the way they use the search engines. The expert users provide the exact phrase and try to get a better listing of pages with relevance but in the case of other two types of users the result may not be accurate as expected. Customized Search Engines (CSE) provides a way to create your own Meta data. If Meta data is specific and clear it can provide a better hit rate and in turn increase the PageRank. This may lead to irrelevant information with respect to the string you are searching for.

This paper concentrates on the study academicians of various levels and their usage of Google. In this case, the users are classified as students, faculty members, research scholars and research supervisors. The questionnaire was framed to analyze the performance of the academicians based on the aspect of time spent on choosing the materials, criteria for choosing the materials, number of pages used to refer for supporting the search and so on.

## 2. Data Collection

For this study the population comprises research supervisors, research scholars, faculty members and graduate students in state universities and deemed universities in Tamil Nadu. The researchers used descriptive survey methods using a structured questionnaire to collect the necessary data for this study. The researchers sent questionnaire to 10 State Universities and Deemed universities in Tamil Nadu and collected a sample of size 200 from each category.

## 3. Analysis and Interpretation

Based on the analysis conducted among the academicians of various levels, the researchers consolidated the analysis in two perspectives, namely, the time spent to choose the resources and relevance and reliability of the resources chosen.

In the perspective of the time spent, the researchers identified that around 65% of time is spent on identifying answer for the two questions - What to search? How to search? Which consumes more time actively and actual reading? After collecting the data it has been concluded that academicians are spending 15% of time to understand and analyze the resources.

The analysis shows the level of expertise in the academic field plays a vital role in choosing the appropriate resources. In search engines, search depends on the factors including search phrase and identification of the reliable resources. A well qualified academician uses his domain expertise and forms a third question as to where to search for the resources. This actively reduces the searching time and provides valid information. However, situation in the real, due to the dynamic creation of web pages, the web pages which may provide the most recent and valuable information are not listed in the first page. Hence, even the experts get outdated information.

In the case of students and faculty members they tried to explore more using the advanced search options than the experts. But, the lack of domain expertise in providing the key phrases for search reduces the efficiency of selecting the appropriate materials. Among the students, seventy five percentage of the time they are not able to use the correct key words for search which leads them to irrelevant information, whereas scholars, faculty members and research supervisors are able to choose the appropriate key words for search to get irrelevant information in only less than 40% of the cases.

Around 75% of the faculty members, research supervisors and students are depending on Google search for materials rather than on books. However, only 50% of the research scholars depend on Google search for information and they are equally depending on books. 70% of the students get satisfied when they got information from one link whereas faculty members and research supervisors are surfing more links to get relevant information.

In this perspective, researchers found that, even the search engines provide a wide platform to search for the appropriate resources in a time efficient manner. Most of the academicians are not getting the resources which motivate them to reach the level of wisdom in their respective field. Experts search less and get minimal information from the search engine but the students spend more time in finding the answer for the question where to search.

## 4. Conclusion

This study is focused on the factors in the learning process which can elevate the level of academicians to wisdom in their respective field. But it has been identified that the academicians at various levels lack in the knowledge of using the search engines effectively by providing the appropriate key phrases or choosing the right material. Hence this reduces and degrades the level of learning. It has also been identified that search engines like Google has reduced the level of lateral thinking and force the academicians to depend on Google for information. This actively reduces the thinking process and developing innovative research ideas. Thus the use of search engine has resulted in thinking less and searching more when it comes to academic purpose, which also drastically reduces the analytical capability.

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