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A study on Microsoft academic search and Google scholar: A gateway for researchers

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Abstract
This paper deals about the working techniques of Microsoft Academic Search and Google Scholar. MAS which automatically create a profile for authors who have published in the universe it searches. Therefore it is a good idea for scholars to check their profile and make any needed changes. Google Scholar provides a simple way to broadly search for scholarly literature. This paper deals the merits and demerits of both of these search engines for scholarly publishers.. Most of the peer reviewed Journals, non-peer reviewed journals and open access journals are indexed here. This paper is very much helpful for the research beginners and academicians for locating the related review of literature.

Keywords: google scholar, microsoft academic search, research

Introduction
People are living in the world of information explosion especially in the influence of information communication technology has brought drastically changes in the field of information. The growing amount of literature on the Web and the need for multidisciplinary information retrieval accentuated the need for improved retrieval mechanism because the documents were readily available, locating and relating to each other is very complicated. Researchers encounter problem in their study for searching relevant scholarly information and generally waste enormous time due to lack of awareness and non-availability of scholarly databases. Beginner researcher should know about the Open access popular search and academic bibliographic databases to do the effective collection of review of literature.

Objectives of the Study
- To study the overview of Microsoft Academic search & Google Scholar
- To know about various search strategies and merits and demerits of both the platform
- To prepare a tutorial for researchers to use the open access journal articles.

Review of Literature
Neumann (2007) evaluated those three services such as Google Web, Google Scholar, and the local library, in this regard. Users were presented with one of two research questions. They have 15 minutes time to find and evaluate results with one of the search services. Given this short time-span, it comes as no surprise that Google Web performs best. Web search results usually offer easier-to-read, overview articles in opposition to the highly specific scientific texts that are usually found in A&I or full-text databases. However, the approach to measuring the increase of knowledge seems to be promising and should be kept in mind for future studies.
Pomerantz (2006) [9] explained that libraries should give their users 100 percent availability of information. While Google Scholar could not compete in this respect, this search engine could help to lead users to the library's offerings. Problematic with this approach is that the user often doesn't know or recognize that he indeed uses the library's offerings—i.e., the content the library has licensed for its users. The first as well as subsequent coverage studies made it clear that Google Scholar could not compete when one demands this 100 percent approach to coverage. However, one must say that libraries currently do not give their users this complete coverage through one access point (see Lewandowski, 2006).
Walters (2007) [10] compared Google Scholar to other discipline-specific or multidisciplinary databases based on a set of "155 core articles representing the most important papers on later-life migration published from 1990 to 2000". The study found that that GS covers 93 percent of the literature, which is better than any of the other databases under investigation.
Bar-Ilan (2008) [1] added to her review of the current informetrics literature (from 2000 onward) an analysis of GS coverage of the 598 articles used for this review. Researcher found out that all but one of these articles could be found using GS. Lewandowski (2007) [3] studies the coverage of GS for articles in the German-language LIS journals. Researcher finds that coverage is comparably low (56 percent), but that for approximately 21 percent of articles, GS can lead the user to the full text.
Meier and Conkling (2008) [5] compared GS's coverage of the engineering literature using Compendex as reference database. They find that the coverage of GS has increased over time, reaching over 90 percent of the Compendex entries for records after 1990.
Mayr and Walter (2007) [4] test GS for its coverage of scientific journals based on journal lists from Web of Science the Directory of Open Access Journals, and the SOLIS iv database. They find that the coverage of journals (i.e., at least one article for a certain journal was found in GS) varies

between databases (from 68 to 88 percent). From the studies reported, researchers have found that while GS's coverage for certain disciplines varies, the overall coverage is quite good.

Overview of Microsoft Academic Search

Microsoft Academic Search is a bibliographic database designed and hosted by Microsoft Research to explore how scholars, scientists, students, and practitioners find the academic content, researchers, institutions, and activities. Microsoft Academic Search indexes not only academic publications but also exhibits the key relationships between the related subjects, content, and authors, accentuating the critical links that help to define scientific research.

In Microsoft Academic Search, objects in the search results are sorted based on two factors and relevance to the query.

- A static rank value that is calculated for each item in the Microsoft Academic Search index. The static rank encompasses the authority of the result, which is determined by how often and where a publication is cited.
- Field Rating is similar to h-index in that it calculates the number of publications by an author and the distribution of citations to the publications. Field rating only calculates publications and citations within a specific field and shows the impact of the scholar or journal within that specific field.

Understanding search results

When a researcher conducts a search, Microsoft Academic Search returns a list of publications on the search results page. The search results display publication titles, authors, journals, and citation information. Researcher can explore any of these elements further by clicking the required information.

Working Procedure of Microsoft Academic Search

Step 1: To search research papers on Microsoft Academic Search, type "academic.search.microsoft.com" on the address bar**.**

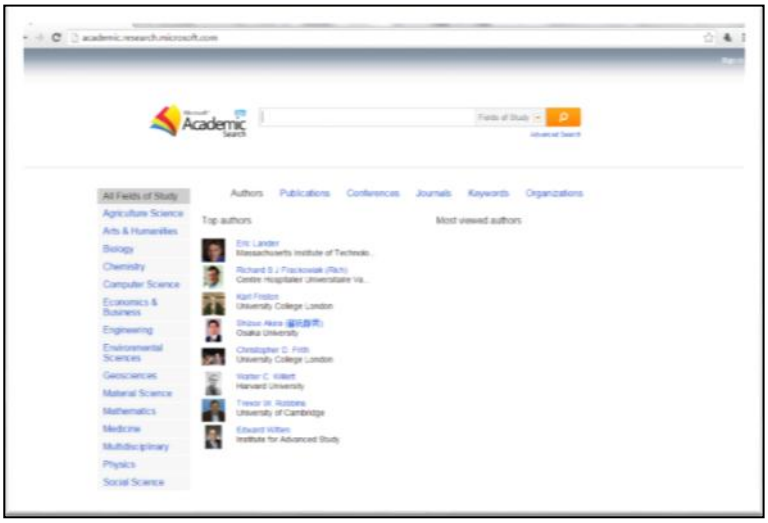

Fig 1: Figure shows academic. Research. Microsoft. Com Home Page

Step 2: Search the Topic. eg. "Library Automation"

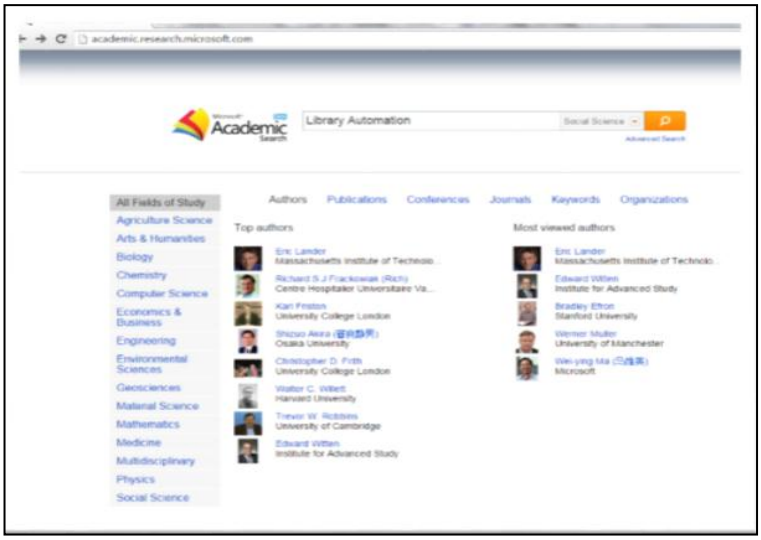

Fig 2: Figure shows the topic "Library Automation" for searching

Step 3: Next, select the "field of study" For instance, select "Social Science" and click on search button as shown in fig.3

Fig 3: Figure shows various menus

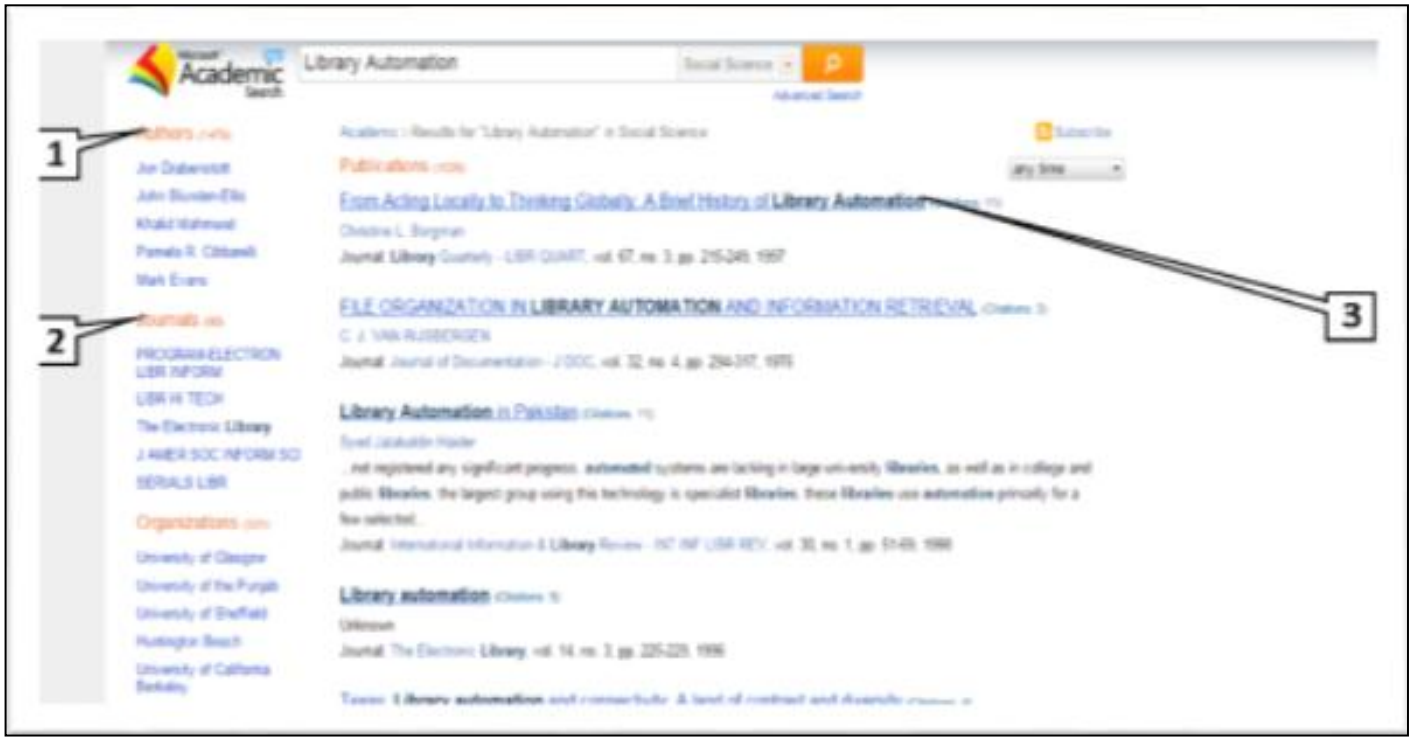

Fig 4: Figure shows search result and list of publications

Clicking the search button, will navigate to a new webpage containing the following information as shown in fig 4

1. List of renowned authors in a above said area as shown in fig 4
2. List of best rated Journals in specific area show in fig 4
3. List of publication as shown in fig

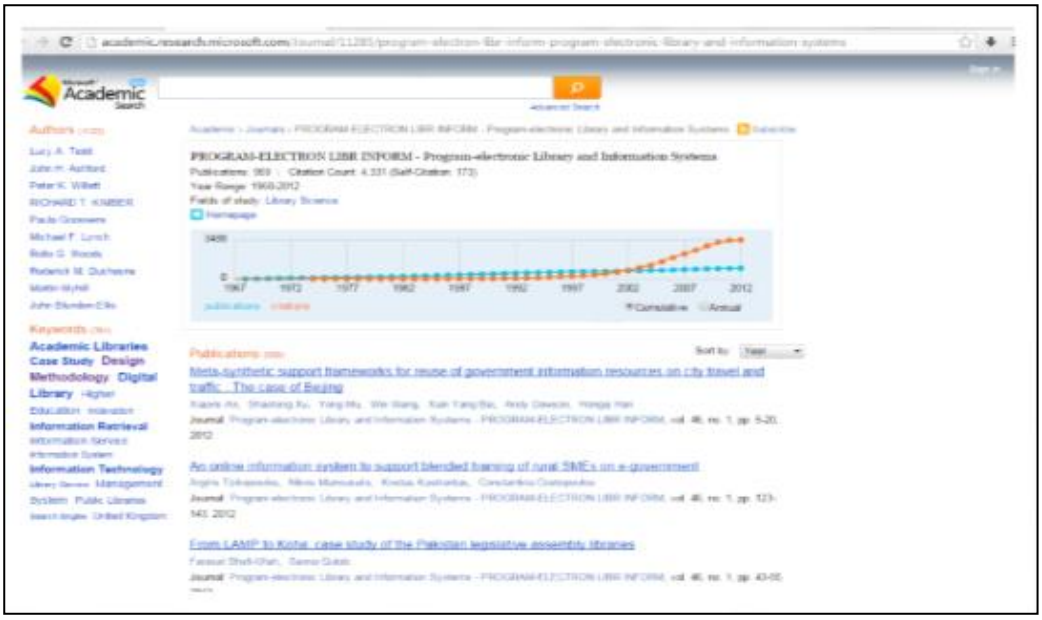

Fig 5: Showing the information related to "Program-electronic Library and Information Systems". The most cited authors, the keywords and list of research papers

Step 4: Clicking on the Program-electronic Library and Information Systems in fig 4 (extreme left), which navigate to new webpage, and the fig.5 shows the information related to Program-electronic Library and Information Systems. The Famous authors, keywords and the list of research paper published in the same journal.

Finding the citations of publications

One of the most important factors of searching academic publications is citation linking. Following citations from and to publications is critical to information discovery. Microsoft Academic Search gives an efficient mechanism to facilitate search results, whenever possible; display lists and links to both referenced publications and citing publications. Microsoft Academic Search highlights the context of a citation by displaying the section of the citing publication in which it is referenced.

Citation Graph

This visual representation feature displays the citation relationships among publications, providing a best ideal way of navigating from a particular publication to the publications that cite it. Double-clicking a citing publication will re-draw the graph, showing the publications that cite that publication. Clicking the edge between any two publications will expose the citation context, provided such information is available in Microsoft Academic Search.

Academic Map

This feature makes it easy to map scholarly output within organizations geographically. Organizations are showed as dots on a global map with their color and size related to their number of authors. Clicking an organization displays further detail about its authors. One can also refine the displayed organizations and authors by field; organizations automatically resize based on their number of authors in that particular field.

Special Features

- More than 10 million new publications from JSTOR, Nature, Public Library of Science (PLoS) and others (23 publishers added)
- New and simplified home page layout.
- Improved site navigation and browsing capabilities.
- Easier sign in via Facebook, Yahoo!, and Google sign in.
- Excised/hidden features (Genealogy, h-Index).
- Improved editing UI.
- Simplified Add/Edit/Merge actions.
- Edits to field of study now available on author profile.
- Auto-approval of content changes implemented for faster publishing.

Overview of Google Scholar

Google Scholar is the bibliographic database of the world's largest and most powerful tool which was developed by Anurag Acharya, an Indian-born computer scientist. It is an wonderful tool allowing researchers to locate a wide array of scholarly literature on the Web, including scholarly journals, abstracts, peer reviewed articles, theses, dissertations, books, preprints, PowerPoint presentations and technical reports from universities, academic institutions, professional societies, research groups, and preprint repositories around the world. Google Scholar may be used for citation analysis, through bibliometric techniques, which calculates the impact factor of an individual publication as a function of the number of citations it receives from subsequent authors. In addition, any author may legitimately wish to determine whether his/her own work has been criticized or used by others on the Web. Authors are interested in knowing whether anyone has cited their works and/or whether other researchers in their fields have commented on them. Researchers can locate recent articles that have cited the particular article.

Attributes of Google Scholar

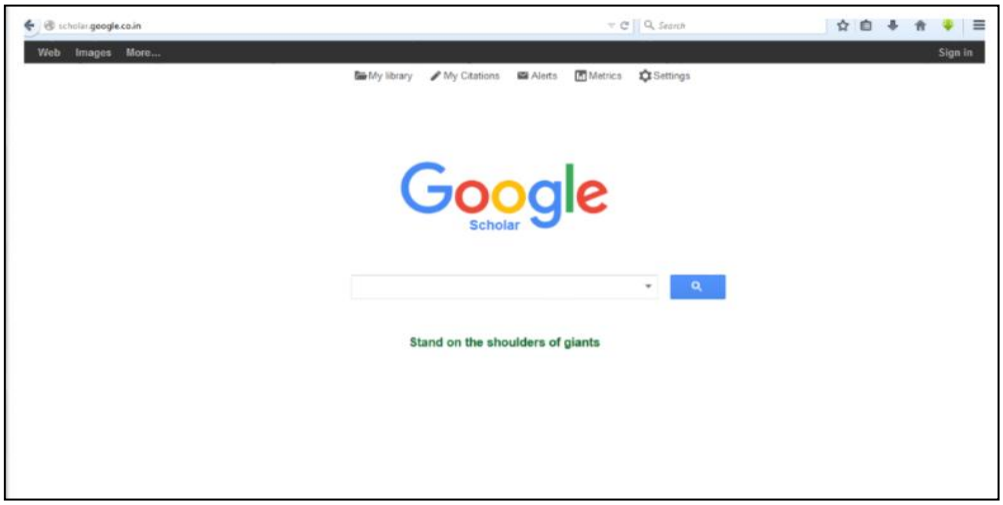

Fig 6: Figure shows http://scholar.google.co.in/ page in the Firefox web Browser

- It is familiar and relatively simple to use, as like Google.
- It allows users to search a wide variety of materials including articles, books, "grey literature" like conference proceedings on a vast number of topics.
- It allows viewing articles related to the one that might interest researchers, how many times an article has been cited and by whom, and provides citations for articles in a number of styles.
- It allows the research to save both citations and articles to read later.

Steps Involved In Scholar Google

Following steps are used in the Google scholar while searching the article

Step: 1 Click on www.scholar.google.com on the web browser.

The Google scholar one of the first aid for searching when we have to search for different articles, thesis, books, abstracts and research papers across different discipline. The above figure (Fig.6) snapshot when the following is typed on screen www.scholar.google.com

Step: 2 Enter the topic to be searched (for example Library Automation) For example in fig 7 “Library Automation” to get all the scholarly articles related to it.

Step: 3 showing the results of scholarly articles retrieved

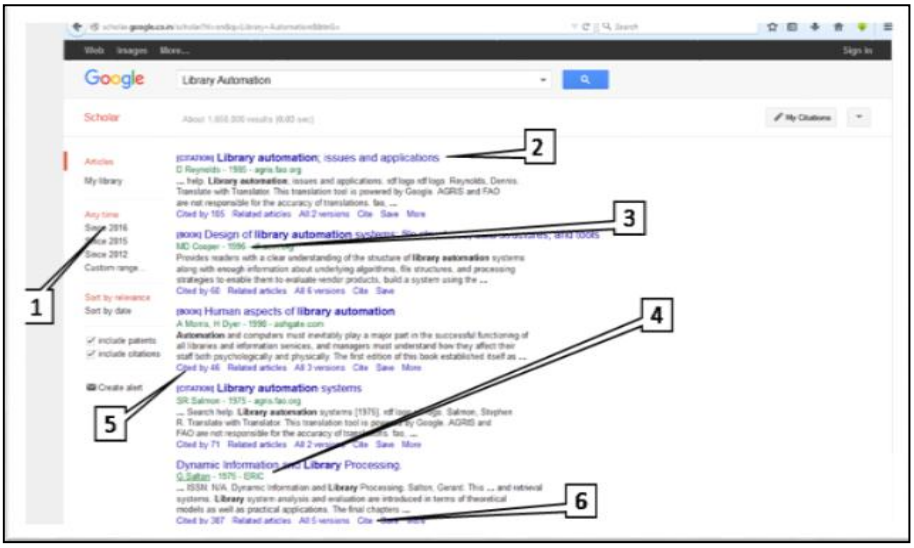

Fig 8: click on the search to get the list of scholarly articles.

Elements appeared in the search result page (Fig 8)

1. Click on "Since 2010" you can view papers published from the year 2010
2. It shows the title of the article, year of publication. Here year in which the research paper got published, (1996) and the academic publisher (ERIC)
3. Citation for a particular article can be viewed through "cited by' link. Here "cited by 46" indicates that this has been referred by 46 articles
4. In general researcher are having problem for writing reference. Here "cite" option provides that MLA, APA and Chicago referencing styles help the researcher in writing the bibliographic information.

Step 4: Click "cite by" to view articles that have been refereed this articles in their research articles.

For example cited by 105 of the articles title "Library automation issues and application" leads to new webpage containing all the scholarly articles and here referred the above articles. The new webpage will help the researcher for further work on their research.

Step 5: Click on cite to refer this article in your paper
It has several formats researcher can use anyone of that to add it as a reference. Fig 10 below shows the snapshot when the researcher click on cite.

Fig 10: Snapshot of the web page when the user clicks on "cite"

Conclusion

This paper gives an overall idea for excellent searching of scholarly articles using Google scholar and Microsoft Academic Search. This practical procedure gives a clear cut step by step process for a efficient search strategy for the related articles to the research. This paper explained that Google scholar offers more user friendly interface than Microsoft academic search because Google scholar contains more rich academic materials than that of Microsoft academic search. The main advantages of Microsoft academic search over Google scholar opt for retrieving results from multidisciplinary fields. Moreover Google provide easy citation and quality measuring performance indicator facility.

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