



Evidence Summary

Physicists and Astronomers Use Google as a Starting Point for Specific Queries, but Do Not Intentionally Use It to Search for Articles

A Review of:

Jamali, H. R., & Asadi, S. (2010). Google and the scholar: The role of Google in scientists' information seeking behaviour. *Online Information Review*, 34(2), 282-294.

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Abstract

Objective – To determine how Google's general search engine impacts the information-seeking behaviour of physicists and astronomers.

Design – Using purposive stratified non-random sampling, a mixed-methods study was conducted which included one-on-one interviews, information-event cards, and an online questionnaire survey.

Setting – Department of Physics and Astronomy at University College London.

Subjects – The researchers interviewed 26 PhD students and 30 faculty members (23% of the department's 242 faculty and students),

and 24 of those participants completed information-event cards. A total of 114 respondents (47.1% of the department members) participated in the online survey.

Methods – The researchers conducted 56 interviews which lasted an average of 44 minutes each. These were digitally recorded, fully transcribed, and coded. The researchers asked questions related to information-seeking behaviour and scholarly communication. Four information-event cards were given to volunteer interviewees to gather critical incident information on their first four information-seeking actions after the interview. These were to be completed preferably within the first week of receiving the cards, with 82 cards completed by 24 participants. Once initial analysis of the

interviews was completed, the researchers sent an online survey to the members of the same department.

Main Results – This particular paper examined only the results related to the scholars' information-seeking behaviour in terms of search engines and web searching. Details of further results are examined in Jamali (2008) and Jamali and Nicholas (2008). The authors reported that 18% of the respondents used Google on a daily basis to identify articles. They also found that 11% searched subject databases, and 9% searched e-journal websites on a daily basis. When responses on daily searching were combined with those from participants who searched two to three times per week, the most popular method for finding research was by tracking references at the end of an article (61%). This was followed by Google (58%) and ToC email alerts (35%). Responses showed that 46% never used Google Scholar to discover research articles. When asked if they intentionally searched Google to find articles, all except two participants answered that they do not, instead using specific databases to find research. The researchers noted that finding articles in Google was not the original intention of participants' searches, but more of a by-product of Google searching. In the information-event card study, two categories emerged based on the kinds of information required. This included participants looking for general information on a specific topic (64%, with 22 cases finding this information successfully), and participants knowing exactly what piece of information they were seeking (36%, with 28 cases finding information successfully). There was no occurrence of using Google specifically to conduct a literature search or to search for a paper during this information-event card study, although the researchers say that Google is progressively showing more scholarly information within its search results. (This cannot be ascertained from these specific results except for one response from an interviewee.) The researchers found that 29.4% of respondents used Google to find

specific pieces of information, although it was not necessarily scholarly.

Conclusion – Physics and astronomy researchers do not intentionally use Google's general search engine to search for articles, but, Google seems to be a good starting point for problem-specific information queries.

Commentary

Oh, Google. Librarians certainly have a love/hate relationship with you. Instruction librarians are continually faced with students who regularly use Google as a research tool. Its simplicity of use may not necessarily lead to the best research. But Google's popularity is not limited to students. It is important for librarians to know how faculty and other researchers are finding information in order to better meet their research needs. Jamali and Asadi's study aims to learn more about the information-seeking behaviour of physicists and astronomers in terms of using search engines for web searching. They have written a very good literature review on the debate surrounding the use of Google in academia.

This paper is an extrapolation of results from a bigger study of information-seeking behaviours of physicists and astronomers. Details of further results are examined in Jamali (2008) and Jamali and Nicholas (2008). Although Jamali and Asadi have written detailed results, something seems to be missing in writing this paper from a bigger study. It's difficult to pinpoint exactly what is missing, but the conclusions don't necessarily work together with the results. Perhaps it is the reliance on one or two interviewee statements to make claims that are not necessarily apparent from the results. For example, the researchers state that Google is progressively showing more scholarly information within its search results. This may be true, but it cannot be ascertained from the results except for one response from an interviewee.

Perhaps more concrete definitions need to be put in place. For example, a definition would have been beneficial in explaining what is meant by "identifying an article." The researchers show that 18% of respondents use Google on a daily basis to identify articles, and when this is combined with those who search two to three times per week, Google is used by 58% of respondents as the second most popular method for finding an article (behind tracking references at the end of an article). Some clarification would be beneficial in this case. When asked if researchers intentionally searched Google to find articles, all except two people answered that they do not (using particular databases instead). It looks like physicists and astronomers are mostly just looking for specifics, perhaps bibliographic information for a reference, but the numbers are not completely clear. It would be valuable for readers to see a copy of the questions asked in this case. It would also be useful to know what researchers use to track a reference at the end of an article. It is not entirely apparent if they use Google, a subject database, or some other method for this task.

Results are gleaned from all three methods used in the study. The information-event component of the study can easily be replicated because the authors show a copy of an information-event card and clearly explain the procedures given to participants. However, although the authors stated that the interview and survey questions were piloted before the study was executed, it is difficult for readers of the paper to replicate the study for further research because there are no copies of the interview or survey questions.

This research used both PhD students and faculty as participants. However, it does not separate the results of the students versus faculty, except in mentioning that three student interviewees liked the Google brand. It would have been interesting to note any discrepancies within the two groups, as differences were described for other results in Jamali and Nicholas (2008).

The researchers raise an interesting point about the reliance of Google within specific subfields of physics and astronomy in terms of the high availability of open access materials for this information. It would be useful to repeat this study now that there is a proliferation of open access materials in this and other science fields.

This study was conducted in 2005 and 2006. In web years, this feels like a lifetime ago. The researchers acknowledge that although Google Scholar was not popular among these scientists at the time of the study (46% had never used it), this is an area worthy of further investigation five years after the original study. Since Google Scholar now plays a much more predominant role in academia, it is difficult to determine what actions should be taken from this particular research. Anecdotal evidence from academic librarians will inform us that Google Scholar is the first choice for many patrons. What should libraries do to connect Google to the library collections? How do we get patrons to come back to the library website (assuming that they visited the website in the first place, which many have not)? Some libraries have a Google Scholar search option directly on the home page, in the hopes that if one is going to use Google Scholar, accessing through the library website will at least lead patrons back to library e-resources. Others might argue against this, reasoning that if it is a less reliable source, the library should not put a link to Google Scholar on the homepage when other, more reliable, library resources are vying for exposure on precious web real estate. A compromise to this is to list Google Scholar with the list of other library databases. It is questionable whether patrons will take the time to go this route unless specifically told about the benefits of linking up to the library's proxy server. It is certainly a predicament with which many librarians struggle.

The authors of this paper acknowledge that these are results from one department of one institution and that caution should be taken when generalizing these results. Regardless, studies such as this are helpful to librarians in

order to better understand the needs of their science patrons. Knowing how faculty and students find information can help in planning future instruction sessions and website redesign projects. Because this study is somewhat disjointed in its results, it would be beneficial for librarians to read the other paper by Jamali and Nicholas (2008) in order to see a fuller picture of this particular research.

References

- Jamali, H. R. (2008). *Information-seeking behaviour of physicists and astronomers: An intradisciplinary study*. University College London. Unpublished PhD thesis.
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