Use of Google Amongst Research Scholars in Sciences

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Abstract

The present article presents select results of a survey of science researchers of three central universities in Delhi and Indian Institute of Technology Delhi.

Keywords: Search Engine- Researchers

1. Introduction

Google is increasingly becoming the most used search engine amongst the research scholars. The research scholars browse the Internet extensively. A majority of times, their search for electronic resources start from Google, rather than from their library webpages. In this light, Education for Change (2012) must have opined, "Only Google commands a similar important role as an information source across all subject disciplines".

In a survey of basic sciences researchers Haines et al (2010) found, "Google was mentioned as a starting point by four researchers, two of whom specifically used Google to locate books, book chapters, and presentations. When searching a database, participants typically chose the simplest interface offered. For example, five researchers used Google, but only one searched Google Scholar."

Searching for data for research is a difficult task, even today in the age of information technology. The present article explores use of Google by research scholars pursuing Doctor of Philosophy (PhD) in various science areas in three central universities in Delhi and Indian Institute of Technology Delhi.

2. Results

2.1 Description of Sample

A total of 671 doctoral researchers from different streams in sciences pursuing research at central universities in Delhi and Indian Institute of Technology Delhi, answered the questionnaires. Doctoral researchers were chosen because they are expected to conduct the most exhaustive and sophisticated level of research projects among all students at the university. Out of a total of 671 researchers, 245 were from University of Delhi (DU), 196 from Indian Institute of Technology Delhi (IITD), 114 from Jamia Millia Islamia (JMI) and 116 from Jawaharlal Nehru University (JNU). Thus 36.5% researchers were from DU, 29.2% from IITD, 17% from JMI and 17.3% from JNU.

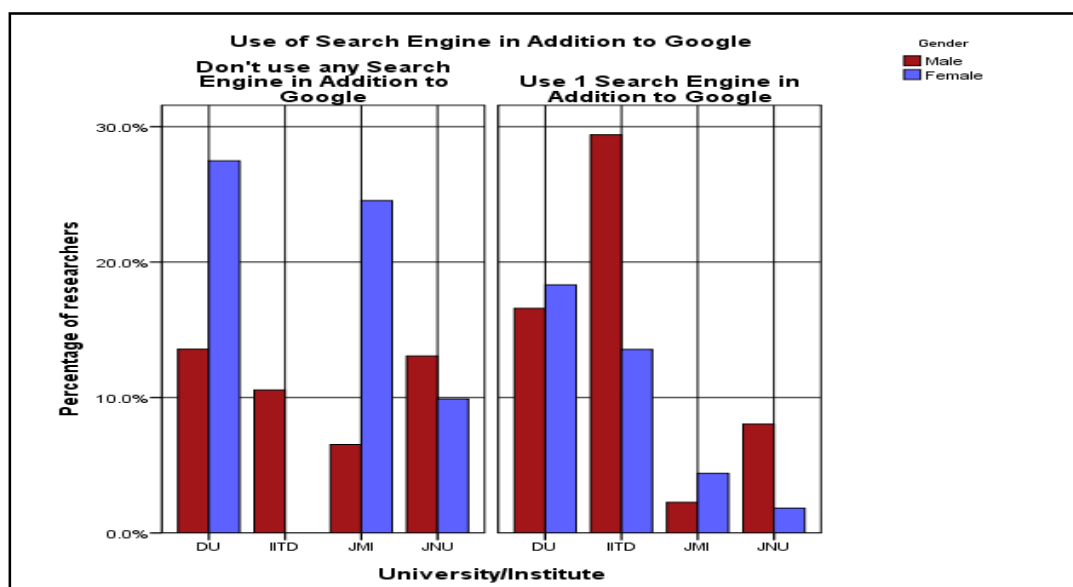### 2.2 Use of Search Engine in Addition to Google by University/Institute

52.7% researchers from DU, 21.4% from IITD, 81.6% from JMI and 68.1% from JNU don't use any search engine in addition to Google, whereas 47.3% researchers from DU, 78.6% from IITD, 18.4% from JMI and 31.9% from JNU use other search engine in addition to Google.

Overall 51.1% researchers don't use any search engine in addition to Google, while 48.9% use other search engine in addition to Google.

Table 1: Use of Search Engine in Addition to Google by Gender

Gender	Use of Search Engine in Addition to Google	University/Institute				
		DU	IITD	JMI	JNU	Total
Male	Don't use any Search Engine in Addition to Google	45.0%	26.4%	74.3%	61.9%	43.7%
	Use 1 Search Engine in Addition to Google	55.0%	73.6%	25.7%	38.1%	56.3%
Female	Don't use any Search Engine in Addition to Google	60.0%	-	84.8%	84.4%	61.9%
	Use 1 Search Engine in Addition to Google	40.0%	100.0%	15.2%	15.6%	38.1%

Figure 1: Use of Search Engine in Addition to Google by Gender

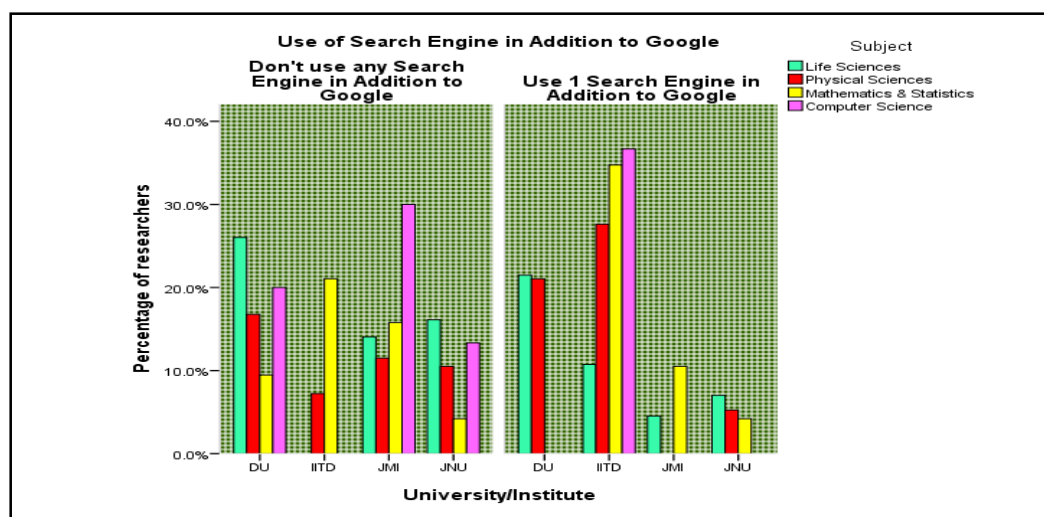## 2.3 Use of Search Engine in Addition to Google by Gender

45% male researchers from DU, 26.4% from IITD, 74.3% from JMI and 61.9% from JNU don't use any search engine in addition to Google, whereas 55% researchers from DU, 73.6% from IITD, 25.7% from JMI and 38.1% from JNU use other search engine in addition to Google. 60% female researchers from DU, 84.8% from JMI and 84.4% from JNU don't use any search engine in addition to Google, whereas

40% female researchers from DU, 100% from IITD, 15.2% from JMI and 15.6% from JNU use other search engine in addition to Google.

Overall 43.7% male researchers and 61.9% female researchers don't use any search engine in addition to Google On the other hand, 56.3% male researchers and 38.1% female researchers use other search engine in addition to Google.

Table 2: Use of Search Engine in Addition to Google by Subject

Subject	Use of Search Engine in Addition to Google	University/Institute				
		DU	IITD	JMI	JNU	Total
Life Sciences	Don't use any Search Engine in Addition to Google	54.8%	-	75.6%	69.6%	56.2%
	Use 1 Search Engine in Addition to Google	45.2%	100.0%	24.4%	30.4%	43.8%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Physical Sciences	Don't use any Search Engine in Addition to Google	44.3%	20.8%	100.0%	66.7%	46.1%
	Use 1 Search Engine in Addition to Google	55.7%	79.2%	-	33.3%	53.9%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Mathematics & Statistics	Don't use any Search Engine in Addition to Google	100.0%	37.7%	60.0%	50.0%	50.5%
	Use 1 Search Engine in Addition to Google	-	62.3%	40.0%	50.0%	49.5%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Computer Science	Don't use any Search Engine in Addition to Google	100.0%	-	100.0%	100.0%	63.3%
	Use 1 Search Engine in Addition to Google	-	100.0%	-	-	36.7%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 2: Use of Search Engine in Addition to Google by Subject

2.4 Use of Search Engine in Addition to Google by Subject

54.8% Life Sciences researchers from DU, 75.6% from JMI and 69.6% from JNU don't use any search engine in addition to Google, whereas 45.2% researchers from DU, 100% from IITD, 24.4% from JMI and 30.4% from JNU use other search engine in addition to Google. 44.3% Physical Sciences researchers from DU, 20.8% from IITD, 100% from JMI and 66.7% from JNU don't use any search engine in addition to Google, whereas 55.7% researchers from DU, 79.2% from IITD and 33.3% from JNU use other search engine in addition to Google. 100% Mathematics and Statistics researchers from DU, 37.7% from IITD, 60% from JMI and 50% from JNU don't use any

search engine in addition to Google, whereas 62.3% researchers from IITD, 40% from JMI and 50% from JNU use other search engine in addition to Google. 100% Computer Science researchers from DU, JMI and JNU don't use any search engine in addition to Google, while 100% researchers from IITD use other search engine in addition to Google.

Overall 56.2% researchers from Life Sciences, 46.1% from Physical Sciences, 50.5% from Mathematics and Statistics and 63.3% from Computer Science don't use any search engine in addition to Google. 43.8% researchers from Life Sciences, 53.9% from Physical Sciences, 49.5% from Mathematics and Statistics and 36.7% from Computer Science use other search engine in addition to Google.

Table 3: Use of Search Engine in Addition to Google by Stage of PhD

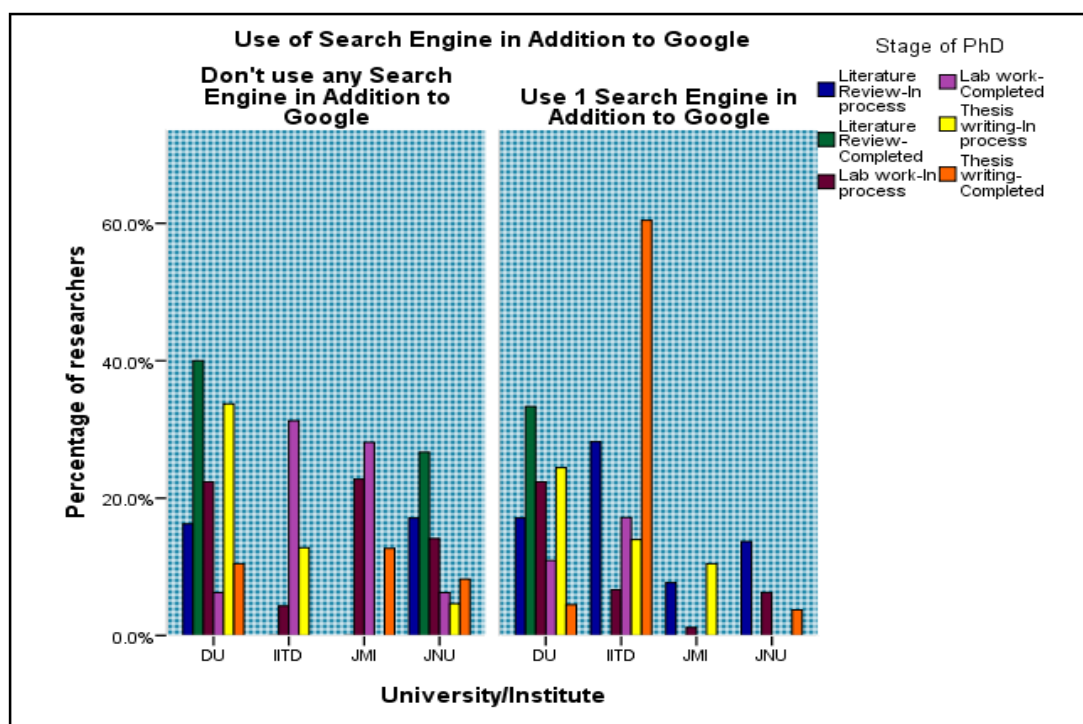| Subject	Use of Search Engine in Addition to Google	University/Institute				
		DU	IITD	JMI	JNU	Total
Life Sciences	Don't use any Search Engine in Addition to Google	54.8%	-	75.6%	69.6%	56.2%
	Use 1 Search Engine in Addition to Google	45.2%	100.0%	24.4%	30.4%	43.8%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Physical Sciences	Don't use any Search Engine in Addition to Google	44.3%	20.8%	100.0%	66.7%	46.1%
	Use 1 Search Engine in Addition to Google	55.7%	79.2%	-	33.3%	53.9%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Mathematics & Statistics	Don't use any Search Engine in Addition to Google	100.0%	37.7%	60.0%	50.0%	50.5%
	Use 1 Search Engine in Addition to Google	-	62.3%	40.0%	50.0%	49.5%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Computer Science	Don't use any Search Engine in Addition to Google	100.0%	-	100.0%	100.0%	63.3%
	Use 1 Search Engine in Addition to Google	-	100.0%	-	-	36.7%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 3: Use of Search Engine in Addition to Google by Stage of PhD

2.5 Use of Search Engine in Addition to Google by Stage of PhD

48.7% researchers from DU and 55.6% in JNU, who were reviewing relevant literature, don't use any search engine in addition to Google, while 51.3% from DU, 100% from IITD and JMI and 44.4% from JNU use search engine in addition to Google. 54.5% researchers from DU and 100% from JNU, who had completed reviewing relevant literature, don't use any search engine in addition to Google. On the other hand, 45.5% researchers from DU use search engine in addition to Google. 50% researchers from DU, 39.3% from IITD, 95.1% from JMI and 69.2% from JNU, who were doing laboratory work, don't use any search engine in addition to Google. Whereas, 50% researchers from DU, 60.7% from IITD, 4.9% from JMI and 30.8% from JNU use search

engine in addition to Google. 36.4% researchers from DU, 64.5% from IITD, 100% from JMI and 100% from JNU, who had completed laboratory work, don't use any search engine in addition to Google, whereas, 63.6% researchers from DU and 35.5% from IITD use search engine in addition to Google. 58% researchers from DU, 47.8% from IITD and 100% from JNU, who were writing thesis, don't use any search engine in addition to Google, whereas, 42% researchers from DU, 52.5% from IITD and 100% from JMI use search engine in addition to Google. 70% researchers from DU, 100% from JMI and 68.8% from JNU, who had completed thesis writing, don't use any search engine in addition to Google, whereas, 30% researchers from DU, 100% from IITD and 31.2% from JNU use search engine in addition to Google.

Overall 33.3% researchers at literature review- in process stage, 66.7% at literature review- completed stage, 63.5% at laboratory work- in process stage, 71.9% at laboratory work- completed stage, 51.2% at thesis writing- in process stage and 31.3% at thesis writing- completed stage, don't use any search engine in addition to Google. 66.7% researchers at literature review- in process stage, 33.3% at literature review- completed stage, 36.5% at laboratory work- in process stage, 28.1% at laboratory work- completed stage, 48.8% at thesis writing- in process stage and 68.7% at thesis writing- completed stage, use search engine in addition to Google.

2.6 Use of search engine in addition to Google by Age

52.9% researchers from DU, 100% from JMI and 33% from JNU, in the age group 20-24 years, don't use any search engine in addition to Google. 47.1% researchers from DU, 100% from IITD, 66.7% from JMI and 60.4% from JNU, use search engine in addition to Google. 44.1% researchers from DU, 33% from IITD, 75.3% from JMI and 77.6% from JNU, in the age group 25-29 years, don't use any search engine in addition to Google. 55.9% researchers from DU, 67% from IITD, 24.7% from JMI and 22.4% from JNU, use search engine in addition to Google. 87.1% researchers from DU, 15.9% from IITD, 95.8% from JMI and 66.7% from JNU, in the age group 30-34 years, don't use any search engine in addition to Google. 12.9% researchers from DU, 84.1% from IITD, 4.2% from JMI and 33.3% from JNU, use search engine in addition to Google. 100% researchers from DU and 100% from JNU, in the age group 35-39 years, don't use any search engine in addition to Google.
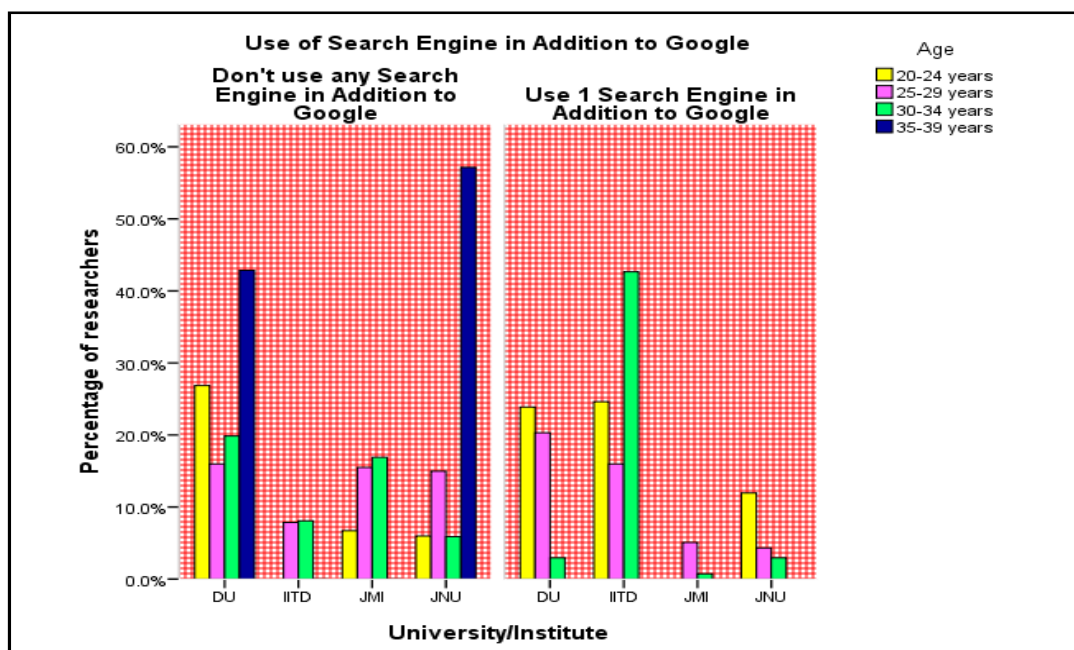

Figure 4: Use of Search Engine in Addition to Google by *Age*

Table 4: Use of Search Engine in Addition to Google by Age

Age	Use of Search Engine in Addition to Google	University/Institute				
		DU	IITD	JMI	JNU	Total
20-24 years	Don't use any Search Engine in Addition to Google	52.9%	-	100.0%	33.3%	39.6%
	Use 1 Search Engine in Addition to Google	47.1%	100.0%	-	66.7%	60.4%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
25-29 years	Don't use any Search Engine in Addition to Google	44.1%	33.0%	75.3%	77.6%	54.3%
	Use 1 Search Engine in Addition to Google	55.9%	67.0%	24.7%	22.4%	45.7%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
30-34 years	Don't use any Search Engine in Addition to Google	87.1%	15.9%	95.8%	66.7%	50.7%
	Use 1 Search Engine in Addition to Google	12.9%	84.1%	4.2%	33.3%	49.3%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
35-39 years	Don't use any Search Engine in Addition to Google	100.0%	-	-	100.0%	100.0%
	Total	100.0%	-	-	100.0%	100.0%

Overall 39.6% researchers in the age group 20-24 years, 54.3% in 25-29 years, 50.7% in 30-34 years and 100% in 35-39 years don't use any search engine in addition to Google. On the other hand, 60.4% researchers in the age group 20-24 years, 45.7% in 25-29 years, 49.3% in 30-34 years use search engine in addition to Google.

3. Conclusion

A large number of science researchers do not use any other search engine in addition to Google. They might not be aware of other search engines. The researcher should be able to make maximum use of the Internet for searching information. Lacunae in search leaves gaps in acquired information. The re-

searcher needs to know how to search information and from where to get the required information. A better choice is use of search engines in addition to Google. Thus, the researchers' need to be made aware of other available search engines, so that they can make optimum use of the information available on the Internet.

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