



**AN EMPIRICAL ANALYSIS OF INTERNET SEARCH ENGINE AWARENESS,  
PREFERENCES AND SATISFACTION FOR INFORMATION RETRIEVAL:  
EVIDENCE FROM PUNE REGION.**

**Prof. Kumar B. Pawar & Bipin R. Bankar, P.h.D.**

*Assistant Prof. JSPM's Jayawant Institute of Management Studies, Tathawade, Pune-33*

*Assistant Prof. JSPM's Jayawant Institute of Management Studies, Tathawade, Pune, India*

**Abstract**

*The present study is aimed at analyzing the awareness and preferences of internet search engine for information retrieval. The present study was carried out in Pune region with a sample size of 681 respondents from different parts of Pune region. The Respondents were selected as Research scholar, Academician and Students. A structured questionnaire was prepared to know the awareness, preferences and satisfaction of internet search engine. To satisfy the objectives of the study hypothesis were framed and tested with the help of Chi square test and one way Anova test. From the present study, it was concluded that the sample respondents selected for the study are aware of Internet and in particular Internet search engine irrespective of their gender and age. The result of this paper indicates that there is significant difference in the satisfaction among users with the preferred search engine and information. Further it also reveals that the rating pattern of different search engine is not similar among different users of the search engine selected for the study. The results obtained from different search engine are not same. Almost all the respondents were significantly used Google search engine for information retrieval purpose.*

**Keywords:** *Internet Search Engine, Chi Square Test, Anova Test, Google*



*Scholarly Research Journal's is licensed Based on a work at [www.srjis.com](http://www.srjis.com)*

**Introduction**

After the huge success of internet, people are friendly to use search engine for different purposes. Before the search engines were developed, the Internet was a collection of File Transfer Protocol (FTP) sites in which users would navigate to find specific shared files listings

on public anonymous FTP with the help of sites, creating a searchable database of filenames. To navigate more easily and reduces other difficulties search engine concept was evolved in 1990 by Alan Emtage, a student of McGill University in Montreal.

**According to British Dictionary** search engine defines a service provided on the internet enabling users to search for items of interest.

**According to Microsoft Encarta Dictionary**, search engine is a computer program which searches the specific words and returns the list of document in which they were found. Search engine is a computer based program of computing, searching information from stored database which corresponds specified keywords or characters used by the user for information retrieval.

Search engine is an internet software program that will be used to search of its own database specifically web based information in terms of content which has been entered online. As a result the internet user will get list of web address that contains information which is relevant. Search Engines have become the most important tools for the internet users in locating the available relevant information and its effective usage.

Due to internet the format of information storage and retrieval has changed significantly. The users prefer search engine to access required relevant information from database. Search engine use web crawler or spider to provide updated information to its internet user.

There are two elements of search engine. One is the Search index and other is Web directory. Search index is a vast catalog made up of every word taken from all the web pages searched by crawler. The web directory organizes web pages into different categories or subcategories for easy information retrieval. Google and Yahoo are the examples of search index and web directory.

There are different types of search engines available to the internet users. They are Google, Yahoo, Ask, Bing, MSN etc. Even these large commercial search engines and directories have been found to search only a small portion of the web. This is sufficient enough to help the internet users to get the right kind of webpage that contains the information which internet users are looking for. Further the websites contains links to other websites to its internet users for information retrieval purpose.

### **Objectives of the Study**

1. To study internet search engine awareness and preferences for information retrieval.
2. To know the demographic profile of awareness and preferences of search engine.
3. To find out significant difference in the satisfaction among users with the preferred search engine and information.
4. To find out the significant difference in the rating pattern of different search engine.

### **Review of Literature**

Bavakutty and Salih (1999) conducted a survey at Calicut University and indicated that students, research scholars and faculty members are aware of Internet materials in their specific interest areas irrespective of gender differences.

Llan, Peritz and Wolman (2003) have found that there is a high degree of awareness and acceptance of electronic resources in seven Israeli universities among male and female Internet users. Authors further stated that disparities in awareness exist between disciplines and ages.

Connell, Rogers and Diedrichs (2005) reported a high level of awareness and extensive use of electronic resources in Ohio State University.

Choudrie and Dwivedi (2005) in their study reveal that gender, education, and social class will definitely have an imperative role in explaining the users' awareness of Internet resources.

Madhusudhan (2007) revealed that most research scholar in Delhi University were aware of information sources. Further the study was reported that no gender difference in awareness.

Chandran carried out a study on the use of Internet information resources in S.V. University Tirupathi, India, and did not find any significant difference between male and female awareness of diverse online journals, databases and e-books.

Isaac E. Anyira (2013) has investigated the implication of gender in awareness and use of search engines by private university lecturers in South Nigeria. The study found that there is significant difference between male and female lecturers level of awareness of search engine. And also found that the extent of utilization of Google search engine is also significantly different.

### **Sources of Data:**

The present study was carried out in Pune region of India. A questionnaire was prepared to conduct the survey. Further, a structured questionnaire was used to know the awareness, preferences and satisfaction of internet search engine. The questionnaire was filled from 681

respondents which include Research scholar, Academician and Students of Pune region. The study was also based on the secondary data source.

### **Selection of Sample**

The selection of sample was done with the help of Krejcie & Morgan table. The present study was carried out in Pune region with a sample size of 681 users or respondents from different parts of Pune region. The Respondents were selected as Research scholar, Academician and Students. Random sampling technique was used for selection of the sample size. The distribution of sample size of different respondents and total population or universe is as follows:-

**Table 1: Distribution of sample size of different respondents and their population**

| <b>Sr. No.</b> | <b>Respondents</b> | <b>Population (N)</b> | <b>Sample Size (S)</b> |
|----------------|--------------------|-----------------------|------------------------|
| 1              | Research Scholar   | 70                    | 61                     |
| 2              | Academician        | 650                   | 250                    |
| 3              | Students           | 10000                 | 370                    |
|                | <b>Total</b>       | <b>10720</b>          | <b>681</b>             |

### **Scope and Limitations of the Study**

The present study was carried out in Pune region covering Pune city and Pimpri Chinchwad Municipal Corporation area with a sample size of 681 respondents. A structured questionnaire was filled from Research scholar, Academician and Students. The analysis of this research is confined only to the Research scholar, Academician and Students. The analysis of the study was done on the basis of the framed hypothesis.

The survey was carried out in Pune region covering a sample size of 681 respondents. Therefore, a due care has been taken to have a nice representation of population in the sample. Hence, the limitations of sample survey and respondents biasness are applicable to the present study.

### **Framing Of Hypothesis**

1. Gender and Internet Usage are related
2. Gender and Awareness of Search Engine are related
3. Age and Awareness of Search Engine are related
4. The results obtained from different search engine are not same
5. There is significant difference in the satisfaction among users with the preferred search engine and information provided by the search engine.
6. The rating pattern of different search engine is not similar.

### Tools Used For Analysis of Data

To analyze the data of the present study, the statistical tools such as Chai Square Test and One way Anova Test has been used. The analysis of data has been carried out with the help of MS Excel.

### Analysis and Interpretation Of Data

**Table 2: Demographic profile of Respondents**

| <b>Profile</b>    | <b>Research Scholar</b> | <b>Academician</b> | <b>Students</b>   |
|-------------------|-------------------------|--------------------|-------------------|
| <b>Gender:</b>    |                         |                    |                   |
| Male              | 40 (65.57%)             | 150 (60%)          | 221 (59.73%)      |
| Female            | 21(34.43%)              | 100 (40%)          | 149 (40.27%)      |
| <b>Total</b>      | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |
| <b>Age Group:</b> |                         |                    |                   |
| Below 20 Years    | 0 (0%)                  | 0 (0%)             | 23 (6.22%)        |
| 20-30 Years       | 32 (52.46%)             | 61 (24.4%)         | 347 (93.78%)      |
| 31-40 Years       | 29 (47.54%)             | 170 (68%)          | 0 (0%)            |
| Above 40 Years    | 0 (0%)                  | 19 (7.6%)          | 0 (0%)            |
| <b>Total</b>      | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |

From the above table, it is observed that, In case of Research scholar, 65.57% are male and 34.43% are female, whereas in case of Academician, 60% are male and 40% are female. Further, 59.73% are male students and 40.27% are female students. Further, 6.22% Students respondents are below 20 years age, 93.78% Students respondents are in between 20 to 30 years age. Whereas 52.46% Research Scholar and 24.4% Academician respondents respectively are in between 20-30 years age. In the age group of 31 to 40 years, 68% and 47.54% respondents respectively are Academician and Research scholar. Further, 7.6% Academician respondents are in the age group of above 40 years.

**Table 3: Purpose of searching information on Internet**

| <b>Sr. No.</b> | <b>Purpose</b>                     | <b>Research Scholar</b> | <b>Academician</b> | <b>Students</b>   |
|----------------|------------------------------------|-------------------------|--------------------|-------------------|
| 1              | Website search                     | 9 (14.75%)              | 16 (6.4%)          | 64 (17.30%)       |
| 2              | Collection of relevant information | 37 (60.66%)             | 78 (31.20%)        | 62 (16.76%)       |
| 3              | E-commerce                         | 09 (14.75%)             | 69 (27.6%)         | 7 (1.89%)         |
| 4              | All of the above                   | 06 (9.84%)              | 87 (34.80%)        | 237 (64.5%)       |
|                | <b>Total</b>                       | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |

**(Source: - Primary data)**

The above table indicates the purpose of searching information on internet. The purpose of searching information includes website search, collection of relevant information, E-commerce

etc. 60.66% of Research scholar respondents are searching information on internet for the purpose of collection of relevant information only. Further 64.5% of Student respondents are searching information on internet for all the purposes (i.e. website search, relevant information and E-commerce). Only 6.4 % of Academician respondents are searching information on internet for the purpose of website search. Only 1.89 % of Student respondents are searching information on internet for the purpose of E-commerce.

**Table 4: Mode of searching information on Internet**

| <b>Sr. No.</b> | <b>Mode</b>    | <b>Research Scholar</b> | <b>Academician</b> | <b>Students</b>   |
|----------------|----------------|-------------------------|--------------------|-------------------|
| 1              | Website search | 15 (24.59%)             | 36 (14.4%)         | 49 (13.24%)       |
| 2              | Search Engine  | 18 (29.51%)             | 53 (21.20%)        | 22 (5.95%)        |
| 3              | Both           | 28 (45.90%)             | 161 (64.40%)       | 299 (80.81%)      |
| <b>Total</b>   |                | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |

**(Source: - Primary data)**

The above table reveals the mode of searching information on internet. Information searching modes are website search, search engine and both. 80.81% of respondents followed by 64.40% respondents such as Students and Academician were searching information from both mode, i.e. website search mode and search engine mode respectively. Whereas 24.59%, 14.4% and 13.24% respondents such as Research scholar, Academician and Students were searching information from website search mode only. Further, 29.51%, 21.20% and 5.95% respondents such as Research scholar, Academician and Students were searching information from Search engine mode only.

**Table 5: Awareness of Search Engine**

| <b>Sr. No.</b> | <b>Awareness</b> | <b>Research Scholar</b> | <b>Academician</b> | <b>Students</b>   |
|----------------|------------------|-------------------------|--------------------|-------------------|
| 1              | Yes              | 42 (68.85%)             | 233 (93.2%)        | 319 (86.22%)      |
| 2              | No               | 19 (31.15%)             | 17 (6.8%)          | 51 (13.78%)       |
| <b>Total</b>   |                  | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |

**(Source: - Primary data)**

The above table indicates the awareness of search engine among the respondents. 93.2% of Academician respondents are aware of search engine whereas 6.8% of Academician respondents are not aware of search engine. In case of Students respondents 86.22% are aware and 13.78% are not aware of search engine. Further, in case of Research scholar respondents 68.85% are aware and 31.15% are not aware of search engine.

**Table 6: Searching same information on two different search engine**

| <b>Sr. No.</b> | <b>Awareness</b> | <b>Research Scholar</b> | <b>Academician</b> | <b>Students</b>   |
|----------------|------------------|-------------------------|--------------------|-------------------|
| 1              | Yes              | 24 (39.34%)             | 149 (59.6%)        | 228 (61.62%)      |
| 2              | No               | 37 (60.66%)             | 101 (40.4%)        | 142 (38.38%)      |
|                | <b>Total</b>     | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |

**(Source: - Primary data)**

It is evident from the above table that 61.62% of Student respondents are searching same information on two different search engine and 38.38% of Student respondents are not searching same information on two different search engine. In case of Research scholar, 60.66% of respondents are not searching same information on two different search engines, whereas 39.34% are searching same information on two different search engines. Further, in case of Academician, 59.6% respondents are searching same information on two different search engine and 40.4% are not searching same information on two different search engine.

**Table 7: Finding of Relevant Information after response from search engine**

| <b>Sr. No.</b> | <b>Relevant information</b> | <b>Research Scholar</b> | <b>Academician</b> | <b>Students</b>   |
|----------------|-----------------------------|-------------------------|--------------------|-------------------|
| 1              | From first three websites   | 14 (22.96%)             | 94 (37.6%)         | 111 (30%)         |
| 2              | From websites on 1 page     | 24 (39.34%)             | 51 (20.4%)         | 104 (28.11%)      |
| 3              | From websites on 1-3 pages  | 12 (19.67%)             | 52 (20.8%)         | 67 (18.11%)       |
| 4              | All Pages                   | 11 (18.03%)             | 53 (21.2%)         | 88 (23.78%)       |
|                | <b>Total</b>                | <b>61 (100%)</b>        | <b>250 (100%)</b>  | <b>370 (100%)</b> |

**(Source: - Primary data)**

The above table indicates that finding of relevant information after response from search engine. The respondents are finding the relevant information from first three websites, websites on first page, websites on first- three pages and all pages. In case of Research scholar, 39.34%, 22.96%, 19.67% and 18.03% respondents are finding relevant information after response from search engine are from websites on first page, first three websites, websites on first-three pages and all pages respectively. In case of Academician, 37.6%, 21.2%, 20.8% and 20.4% respondents are finding relevant information after response from search engine are from first three websites, all pages, from websites on first-three pages and websites on first pages respectively. 30% Students respondents are finding relevant information from first three websites after response from search

engine, 28.11% from website on first page, 23.78% from all pages and 18.11 % from websites on first-three pages respectively after response from search engine.

**Table 8: Search Engine Preferences and Rank**

| Sr. No. | Search Engine | Research Scholar |      | Academician |      | Students |      |
|---------|---------------|------------------|------|-------------|------|----------|------|
|         |               | Nos.             | Rank | Nos.        | Rank | Nos.     | Rank |
| 1       | Google        | 61               | 1    | 175         | 1    | 285      | 1    |
| 2       | Yahoo         | 0                | --   | 32          | 2    | 55       | 2    |
| 3       | Bing          | 0                | --   | 22          | 3    | 8        | 4    |
| 4       | Ask           | 0                | --   | 11          | 4    | 22       | 3    |
| 5       | MSN           | 0                | --   | 10          | 5    | 0        |      |

(Source: - Primary data)

The above table shows that search engine preferences and rank given by the sample respondents to different search engine such as Google, Yahoo, Bing, Ask and MSN. It is evident from the above table that, amongst the search engine, Google was most preferred and used search engine followed by Yahoo, Bing, Ask and MSN by the sample respondents.

**Hypothesis testing:**

**1. Gender and Internet Usage are related**

H<sub>0</sub>: Gender and Internet Usage are related

H<sub>1</sub>: Gender and Internet Usage are not related

**Table 9**

| Categories       | Male       |                |          | Female     |                |          | Total | $\chi^2$ Calc | $\chi^2$ Table value 2 d.f at 5% Sign. level |
|------------------|------------|----------------|----------|------------|----------------|----------|-------|---------------|--|
|                  | Obs. Freq. | Expected Freq. | $\chi^2$ | Obs. Freq. | Expected Freq. | $\chi^2$ |       |               |  |
| Research Scholar | 40         | 36.81          | 0.28     | 21         | 24.19          | 0.42     | 61    |               |  |
| Academician      | 150        | 150.88         | 0.0051   | 100        | 99.12          | 0.008    | 250   |               |  |
| Student          | 221        | 223.3          | 0.024    | 149        | 146.7          | 0.036    | 370   | 0.7731        | 5.991  |
| Total            | 411        |                | 0.3091   | 270        |                | 0.464    | 681   |               |  |

(Total Chi square ( $\chi^2$ ) calculated value = 0.3091+0.464=0.7731)

It is evident from the above table that, total Chi square ( $\chi^2$ ) calculated value is 0.7731 which is less than the Chi square ( $\chi^2$ ) table value for 2 degree of freedom and 5% level of significance is



5.991. Therefore, Null hypothesis is accepted. Hence it is concluded that gender and internet usage are related.

**Gender and Awareness of Search Engine are related**

H<sub>0</sub>: Gender and Awareness of Search Engine are related

H<sub>1</sub>: Gender and Awareness of Search Engine are not related

**Table 10**

| Awareness | Male       |                |          | Female     |                |          | Total | $\chi^2$ Calc | $\chi^2$ Table value 1 d.f at 5% Sign. level |
|-----------|------------|----------------|----------|------------|----------------|----------|-------|---------------|--|
|           | Obs. Freq. | Expected Freq. | $\chi^2$ | Obs. Freq. | Expected Freq. | $\chi^2$ |       |               |  |
| Yes       | 348        | 350.04         | 0.0119   | 232        | 229.96         | 0.0181   | 580   | 0.2025        | 3.841  |
| No        | 63         | 60.96          | 0.0685   | 38         | 40.04          | 0.104    | 101   |               |  |
| Total     | 411        |                | 0.0804   | 270        |                | 0.1221   | 681   |               |  |

(Total Chi square ( $\chi^2$ ) calculated value = 0.0804+0.1221=0.2025)

The above table reveals that, total Chi square ( $\chi^2$ ) calculated value is 0.2025 which is less than the Chi square ( $\chi^2$ ) table value for 1 degree of freedom and 5% level of significance is 3.841. Therefore, Null hypothesis is accepted. Hence it is concluded that gender and awareness of search engine are related.

**Age and Awareness of Search Engine are related**

H<sub>0</sub>: Age and Awareness of Search Engine are related

H<sub>1</sub>: Age and Awareness of Search Engine are not related

**Table 11**

| Age            | Yes        |                |          | No         |                |          | Total | $\chi^2$ Calc | $\chi^2$ Table value 3 d.f at 5% Sign. level |
|----------------|------------|----------------|----------|------------|----------------|----------|-------|---------------|--|
|                | Obs. Freq. | Expected Freq. | $\chi^2$ | Obs. Freq. | Expected Freq. | $\chi^2$ |       |               |  |
| Below 20 Years | 17         | 19.59          | 0.342    | 6          | 3.41           | 1.967    | 23    | 12.384        | 7.815  |
| 20-30 Years    | 369        | 374.74         | 0.088    | 71         | 65.26          | 0.505    | 440   |               |  |
| 31-40 Years    | 181        | 169.49         | 0.782    | 18         | 29.51          | 4.489    | 199   |               |  |
| Above 40 Years | 13         | 16.18          | 0.626    | 06         | 2.82           | 3.585    | 19    |               |  |

Total                      580                                      1.838    101                                      10.546    681

(Total Chi square ( $\chi^2$ ) calculated value = 1.838+10.546 = 12.384)

The above table reveals that, total Chi square ( $\chi^2$ ) calculated value is 12.384 which is more than the Chi square table ( $\chi^2$ ) value for 3 degree of freedom and 5% level of significance is 7.815. Therefore, Null hypothesis is rejected. Hence it is concluded that age and awareness of search engine are not related. In other words, age and awareness of search engine are independent.

**4. The results obtained from different search engine is not same**

H<sub>0</sub>: The results obtained from different search engine is not same

H<sub>1</sub>: The results obtained from different search engine is same

**Table 12**

| Categories       | Yes        |                |          | No         |                |          | Total | $\chi^2$ Calc | $\chi^2$ Table value 2 d.f at 5% Sign. level |
|------------------|------------|----------------|----------|------------|----------------|----------|-------|---------------|--|
|                  | Obs. Freq. | Expected Freq. | $\chi^2$ | Obs. Freq. | Expected Freq. | $\chi^2$ |       |               |  |
| Research Scholar | 14         | 17.65          | 0.754    | 47         | 43.35          | 0.307    | 61    | 1.211         | 5.991  |
| Academician      | 75         | 72.32          | 0.099    | 175        | 177.68         | 0.040    | 250   |               |  |
| Student          | 108        | 107.03         | 0.008    | 262        | 262.97         | 0.003    | 370   |               |  |
| Total            | 197        |                | 0.861    | 484        |                | 0.35     | 681   |               |  |

(Total Chi square ( $\chi^2$ ) calculated value = 0.861+0.35 = 1.211)

It has been observed from the above table that, total Chi square ( $\chi^2$ ) calculated value is 1.211 which is less than the Chi square ( $\chi^2$ ) table value for 2 degree of freedom and 5% level of significance is 5.991. Therefore, Null hypothesis is accepted. Hence it is concluded that the results obtained from different search engine is not same. In other words, the results obtained from different search engine are different.

**5. There is significant difference in the satisfaction among users with the preferred search engine and information provided by the search engine.**

H<sub>0</sub>: There is significant difference in the satisfaction among users with the preferred Search Engine and information provided by the search engine.

H<sub>1</sub>: There is no significant difference in the satisfaction among users with the preferred Search Engine and information provided by the search engine.

**Table 13: ANOVA**

| Source of Variations       | Sum of Square | D. F. | Mean Squares | F Calculated Value | F table value @ 5% Sign. level | Decision                   |
|----------------------------|---------------|-------|--------------|--------------------|--------------------------------|----------------------------|
| Between Satisfaction Level | 64988.4       | 4     | 16247.1      | 0.707              | 3.0069                         | H <sub>0</sub> is Accepted |
| Within Search Engine       | 0             | 4     | 0            | 0                  |                                |                            |
| Residual                   | 367433.6      | 16    | 22964.6      |                    |                                |                            |
| Total                      | 432422        | 24    |              |                    |                                |                            |

It has been observed from the above table that, for comparison between satisfaction level among users with the preferred search engine, F calculated value is 0.707 which is less than F table value at 5% significant level which is 3.0069. Therefore, Null hypothesis is accepted. Hence, it is concluded that, there is significant difference in the satisfaction among users with the preferred search engine and information provided by the search engine.

**6. The rating pattern of different search engine is not similar**

H<sub>0</sub>: The rating pattern of different search engine is not similar

H<sub>1</sub>: The rating pattern of different search engine is similar

**Table 14: ANOVA**

| Source of Variations | Sum of Square | D. F. | Mean Squares | F Calculated Value | F table value @ 5% Sign. level | Decision                   |
|----------------------|---------------|-------|--------------|--------------------|--------------------------------|----------------------------|
| Between Rating       | 25190         | 4     | 6297.5       | 0.2909             | 3.0069                         | H <sub>0</sub> is Accepted |
| Within Search Engine | 0             | 4     | 0            | 0                  |                                |                            |
| Residual             | 346432        | 16    | 21652        |                    |                                |                            |
| Total                | 371622        | 24    |              |                    |                                |                            |

It has been evident from the table that, for comparison of rating pattern of different search engine among users, F calculated value is 0.2909 which is less than F table value at 5% significant level which is 3.0069. Therefore, Null hypothesis is accepted. Hence, it is concluded that, the rating pattern of different search engine is not similar. In other words, the users have rated different search engine differently.

**Findings**

1. Almost all the sample respondents are using internet. Out of the total sample size, 60.35% male respondents are using internet whereas 39.65% female respondents are using internet.

2. Out of the total sample size, 100% sample respondents are searching information on internet.
3. Out of the total sample size, 85.17% sample respondents are aware of search engine and 14.83% sample respondents are not aware of search engine. Out of the total male sample size, 84.67% of male respondents are aware of search engine and 15.33% male respondents are not aware of search engine. Whereas out of the total female sample size, 85.93% of female respondents are aware of search engine and 14.07% female respondents are not aware of search engine.
4. Out of the total 681 sample size, 23 respondents (i.e.3.38%) are in the age group of below 20 years, 440 respondents (i.e.64.61%) are in the age group of 20 to 30 years, 199 respondents (i.e.29.22%) are in the age group of 31 to 40 years and 19 respondents (i.e.2.79%) are in the age group of above 40 years.
5. In the age group of below 20 years, out of 23 respondents 17 respondents (i.e.73.91%) are aware of search engine and 06 respondents (i.e.26.09%) are not aware of search engine.
6. In the age group of 20 to 30 years, out of 440 respondents 369 respondents (i.e. 83.86%) are aware of search engine and remaining 71 respondents (i.e.16.14%) are not aware of search engine.
7. In the age group of 31 to 40 years, out of 199 respondents 181 respondents (i.e. 90.95%) are aware of search engine and rest 18 respondents (i.e. 9.05%) are not aware. Further, in the age group of above 40 years, out of 19 respondents 13 (i.e. 68.42%) are aware of search engine and remaining 06 (i.e. 31.58%) are not aware of search engine.
8. In case of Research Scholar, 77.5% respondents says that they are not getting same information from two or more different search engine and remaining 22.95% says that they are getting same information from two or more different search engine.
9. In case of Academician, 70% respondents says that they are not getting same information from two or more different search engine and remaining 30% says that they are getting same information from two or more different search engine.
10. In case of Students, 70.81% respondents says that they are not getting same information from two or more different search engine and remaining 29.19% says that they are getting same information from two or more different search engine.
11. It was found that, amongst all the search engine, Google is the most preferred search engine by the sample respondents. Further, all the sample respondents rated Google as no.1 search

engine. And majority of the sample respondents are satisfied with Google search engine as compared to the other search engine regarding searching of relevant information.

## **Conclusion**

From the present study, it was concluded that the sample respondents selected for the study such as Research Scholar, Academician and Students of Pune region are aware of Internet and in particular internet search engine irrespective of their gender and age. Therefore, this conclusion of the present study is also matching with the conclusion of earlier study undertaken by the various authors. Further, the analysis of the present study reveals that the results obtained from different search engine is not same. The study also reveals that there is significant difference in the satisfaction among users with the preferred search engine and information provided by the search engine. Further it is also concluded the rating pattern of different search engine is not similar. In other words, the respondents have rated different search engine differently. Further, the study also conclude that amongst all the respondents Google search engine is the most preferred and used search engine for information retrieval. And Google search engine is the most popular search engine among all the respondents followed by Yahoo search engine.

## **REFERENCES**

- Jennifer Grappone & Gradiva Couzin (Jan 2011), Search Engine Optimization (SEP) : An hour a day, Publisher Sybex, 3<sup>rd</sup> edition.*
- Rajendra Nargundkar (2006), Marketing Research, Tata McGraw Hill, Second Edition.*
- T.N. Srivastava, Shilaja Rego (2011), Business Research Methodology, Tata McGraw Hill, First reprint.*
- C.R.Kothari, Research Methodology, Methods and Techniques, New Age International Publishers, Second Edition.*
- Bavakutty, M. & Salih, M. (1999), Internet services in Calicut University, In Proceedings of the 6th National Convention on Academic Libraries in the Internet Era, 37-44.*
- Bar-Llan, J., Peritz, B. & Wolman, Y. (2003), a survey on the use of electronic databases and electronic journal, Journal of Academic Librarianship, 29, 356-361.*
- Chandran, D. (2000), Use of Internet resources and services in S.V. University, Tirupathi environment, Paper presented at the conference on information services in a networked environment, Ahmadabad, 18-20 December, 2000.*
- Choudrie, J & Dwivedi, Y. (2005), a survey of citizens' awareness and adoption of e-government initiatives, the 'government gateway': a United Kingdom perspective, Retrieved from <http://www.iseing.org>.*
- Connell, T., Rogers, S. & Diedrichs, C. (2005), Ohio LINK electronic Journal use at Ohio University Portal: Libraries and the Academy, 5, 371-390.*
- Madhusudhan, M. (2007), Internet use by research scholars in University of Delhi, India. Library Hi Tech News, 8, 36- 42.*

*Anyira, Isaac E. (2013), Gender Implication in awareness and use of search engines by Private University lecturers in South-South, Nigeria, Library Philosophy and Practice (E-Journal), Paper 1039, retrieved from <http://digitalcommons.unl.edu/libphilprac/1039>.*