

A SCIENTOMETRIC PROFILE ON “INTERNET USE” OF LIBRARY & INFORMATION SCIENCE SUBJECT IN (LISTA)

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Abstract:-The present study deals a Scientometric analysis of 56 papers published in the Library and Information science & Technical Abstract (LISTA) on internet use in the subject of library & Information science during the period 2004 - 2013. Data is collected and analysed by using the SPSS software. The study focused on various aspects: such as document types, growth Rate (GR) and doubling time (DT) of publications and citations, year-wise, authorship pattern, institutions involved, most prolific authors of the journal. The study revealed that most of the papers (71.4%) of papers were contributed by multiple authors. USA is the top producing country with 8 (14.3%) publications of the total output. All the articles were published in English language. The mean doubling time for the first five years (i.e. 2004 to 2008) is only (1.05) which is increased to (6.07) during the last five years (2009 to 2013). Maximum 35 (62.5%) out of 56 of the authors are not mentioned their email address in the paper.

Keywords: Scientometrics ,Bibliometrics, Internet use, LISTA

INTRODUCTION

Scientometrics is a branch of the science ‘Science of Science’. Haitun treats ‘Scientometrics’, as scientific disciplines, which performs reproducible measurements of scientific activity. (Haitun, 1983). Now a day’s scientometrics is one of the truly interdisciplinary research fields extended to almost all scientific fields. Scientometrics applications are used to measure scientific activities, mainly by producing statistics on scientific publications indexed in databases. Scientometrics is the branch of science that describes the output traits in terms of organizational research structure, resource inputs and outputs, develops benchmarks to evaluate the quality of information output. Also Scientometric studies characterize the disciplines using the growth pattern and other attributes. These applications are extremely valuable methods for evaluating research output, to know about the author productivity and citation analysis in science and technology. Further Scientometric tools can be used to measure and describe countries, universities, research institutes, journals, specific research topics and specific disciplines (Singh, 2014).

LITERATURE REVIEW:

Khaparde & Pawar (2013) studied the authorship pattern and author’s collaborative research in Information Technology with a sample of 17917 articles collect from LISA during 2000-2009. The average number of authors per article is 1.80. In the study the degree of collaboration (C)

during the overall 10 years (2000-2009) is 0.71 but the year wise degree of collaboration is almost same in all the years of mean value 0.49. According to 10 years of period, the multi- authorship articles are higher and predominant on single authorship. The study found that the researches in Information Technology are keep toward team research or group research rather than solo research.

Khparde (2013) the paper studied the Bibliometric Analysis of Research Publication of Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, from 1975 to 2012. It analyzed all the 774 research publications from the 144 journals. It examines year- wise distribution of papers, authorship pattern, journal in which author publish, it revealed that the number of publications has increased consistently from the year 1975 to the year 2012. 25% of the total publications have been made in 2009, 2010, and 2011. And the majority of the publications are made with 4 authors. And also the majority of the research paper published in journal of heterocyclic chemistry.

(Alhamdi, Khparde & Kanekar, 2014) they attempted on bibliometric analysis of ten volumes (57-66) in the field of journal of Documentation. It is based on the references appended to International Journal of “Journal of Documentation” during 2001-2010. The present study is based on 15150 references appended to 364 articles contributed by the authors in Journal of Documentation. It was found that Journals Citations are more in number than other citations. In Authorship pattern it was found that Solo Researchers are Predominant than Collaborative Researchers. The extent of collaboration was not much popular among the Journal of Documentation. The mean relative growth for articles and citation in the first five years 2001 to 2005 is reduced according to the last five years 2006 to 2010. The value of group co-efficient (gp) was only 0.46. It was seen that researchers cited latest documents. Universities are the major contributors. The study shows the UK, USA, Finland, and Denmark, have the majority of most cited records in Journal of Documentation. Out of 364 articles there are 175 articles have pages length from 11 to 20.

ABOUT THE DATABASE LISTA:

Library, Information Science & Technology Abstracts (LISTA) indexes more than 560 core journals, nearly 50 priority journals, and 125 selective journals; plus books, research reports and proceedings. Subject coverage includes librarianship, classification, cataloging, bibliometrics, online information retrieval, information management and more. Coverage in the database extends back as far as the mid-1960s. It is EBSCO Publishing’s intention to provide access to LISTA on a continual basis at www.libraryresearch.com. Customers currently subscribing to other EBSCOhost databases may elect to have LISTA added to their EBSCOhost profile.

OBJECTIVE OF THE STUDY:

1. To study the year-wise distribution of publishing and citation.
2. To study the growth Rate (GR) and doubling time (DT) of publications
3. To find out the authorship and degree of collaboration pattern in the publication
4. To identify the mail domain of contributors.
5. To identify the length of title and pages.
6. To find out organization-wise distribution of publication.
7. To find out country-wise distribution of publication.

METHODOLOGY:

For this study data has collected from the “Library & Information Science & Technology Abstract (LISTA)” website named www.list.org. Each and every term “Internet use” in library and information science” published on the LISTA directory during 2004 to 2013 was examined. It was interesting to analyze the journals of such a leading Directory in the different fields so as to know the structure and contentment of LISTA, language of publication, and year of journal addition during the study period. At the end data accessed has analyzed by helping of SPSS software, and analyzed data has represented in the form of tables and graphs.

Data interpretation:

In views of the objectives of the present study, analysis the terms “internet use” in the

subject of library and information science in the database “Library and Information science and Technical Abstract” on during 2004-2013.

Table No 1. year Wise Distribution Of Papers:

Sr. No	Year	Frequency	Percentage
01	2004	5	8.9
02	2005	6	10.7
03	2006	10	17.9
04	2007	5	8.9
05	2008	-	-
06	2009	8	14.3
07	2010	9	16.1
08	2011	5	8.9
09	2012	5	8.9
10	2013	3	5.4
Total		56	100.0

Fig. No.1 Year wise distribution of papers:

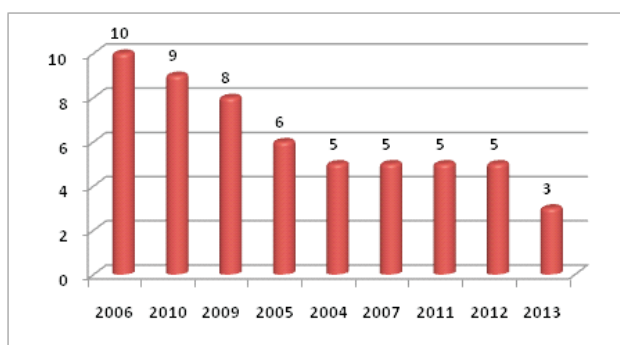


Table No. 1 and fig. No. 1 show the year-wise distribution of papers on internet use in library and information science” in LISTA during 2004-2013. The highest numbers of papers were published in the year of 2006 contributing 10 (17.9%) papers, followed by 9 (16.1%) papers in 2010, 8 (14.3%) papers in 2009, and 6 (10.7%) papers in 2005. The minimum numbers 3(5.4%) of papers were published in 2013.

Table No. 2 shows Authorship pattern

Authorship pattern	Frequency	Percentage
single	16	28.6
corporate	16	28.6
three	8	14.3
four	8	14.3
five	4	7.1
more than five	4	7.1
Total	56	100.0

Fig no. 2 Authorship patterns

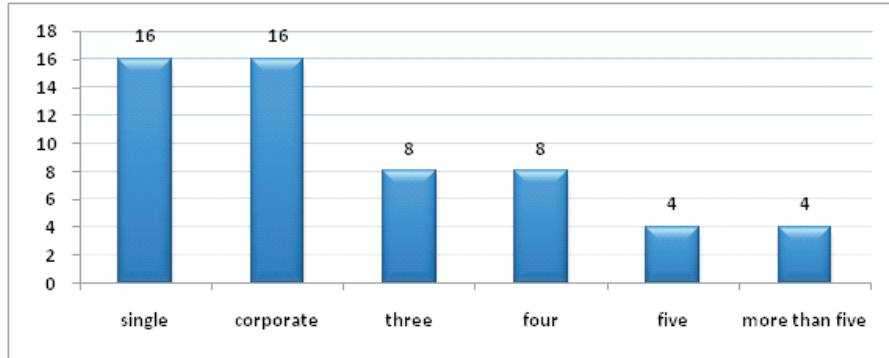


Table No. 2 and Fig. No.2 show the authorship pattern of the papers published during the period of study. Study revealed that more than two-thirds 40 (71.4%) of papers were contributed by multiple authors, while the rest 16 (28.6%) were contributed by single author.

MOST PRODUCTIVE AUTHORS:

Table No. 2 shows Most Productive Author

‘A SCIENTOMETRIC PROFILE ON “INTERNET USE” OF LIBRARY & INFORMATION SCIENCE SUBJECT IN (LISTA)

Name of Authors	Frequency	Percentage
Sangita Gupta	2	3.6
Sara M. Vambheim	2	3.6
Afzaal H. Seyal	1	1.8
Angelina Ilyar mah	1	1.8
Cajsabartusch	1	1.8
Carol S. Bond	1	1.8
Cornelia F. Van Uden-Kraan	1	1.8
Edward J. Hertenstein	1	1.8
Ellen Gay Detlefsen	1	1.8
Ellen Helsper	1	1.8
Eric G. Benoetsch	1	1.8
Eun-Ok Baek	1	1.8
Fadihirzalla	1	1.8
Fatima Darries	1	1.8
Florence Gonodboissin	1	1.8
Geraldine Peterson-Clark	1	1.8
Gove N. Allen	1	1.8
Grace A Ajuwon	1	1.8
Gregor Petric	1	1.8
Hsiu-Fen Lin	1	1.8
Jonathanj. H. Zhu	1	1.8
Ji-Young Kim	1	1.8
Jiali Ye, M.A.	1	1.8
Jing Lei	1	1.8
Joan M. Kiel	1	1.8
José Carlos Pinho	1	1.8
Linda A. Jackson	1	1.8
Lisl Zach	1	1.8
Lynn Martin	1	1.8
Margaret B. Edem	1	1.8
Maria Rosalia Vicente	1	1.8
Marjo Kurki I	1	1.8
Michaël R. Laurent I	1	1.8
Mieko Takahira	1	1.8
Moezlimayema	1	1.8
Niranadetoro	1	1.8
Oya Kavlak I	1	1.8
Padmajaneelapala	1	1.8
Panayiotatsatso	1	1.8
Pawelrzyski	1	1.8
Peter G. Miller	1	1.8
Por Aurora Gonzalez Terul	1	1.8
R.L. Huang a	1	1.8
Richard V. King	1	1.8
Robert J. Buchanan	1	1.8
Robin Gauld	1	1.8
Ruby Roy Dholakia	1	1.8
Sarah Bauerle Bass	1	1.8
Seong-Jae Min	1	1.8
Takashi Ishizuki	1	1.8
Tomas B. Corcoran,	1	1.8
Tomásbaiget	1	1.8
Undrahbuyanbaasanjav	1	1.8
Yan Tian	1	1.8
Total	56	100.0

It can be observed from Table No.3 that, the most productive authors are Sangita Gupta & Sara M. Vambheim who had contributed 2 papers. And the rest 54 authors each published one article.

Table No-3 Institute-Wise Distribution of Articles Published

Institution	Frequency	Percentage
Not mention	6	10.7
Department of Psychology, University of Tromsø, Tromsø, Norway	2	3.6
Institution mentioned once	48	85.70
Total	56	100.0

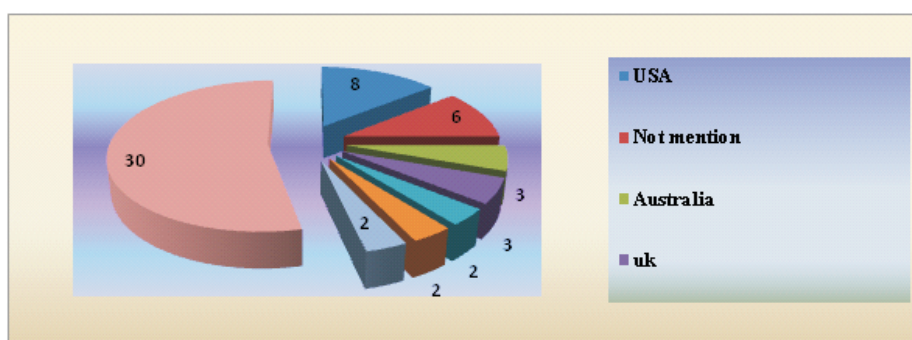
Institution is a society or organization for the promotion of science, education etc. An institute is a permanent organizational body created for a certain purpose. Often it is a research organization (research institution) created to do research on specific topics. An institute can also be a professional body. In some countries institutes can be part of a university or other institution of higher education, either as a group of departments or an autonomous educational institution without a classic full university status such as a University Institute.

From the table above, only University of Tromsø contributed two times, while the other institution each contributed one time.

Table 5: Country-Wise Distribution of Articles

Country	Frequency	Percentage
USA	8	14.3
Australia	3	5.4
UK	3	5.4
Japan	2	3.6
Nigeria	2	3.6
Norway	2	3.6
One time countries cited by (1 X30)	30	53.57
Not mention	6	10.7
Total	56	100.0

Fig no. 3: Country-Wise Distribution of Articles



It can be observed from Table No 5 and Fig No. 3 that, there were as many as 36 countries carrying out research and produced 56 articles. Table no.5 provides ranked List of countries contributing to this field, the number of publications of each country and their share in percentages. USA is the top producing country with 8 (14.3%) publications of the total output. Also It can be stated that papers not mentioned their country of publication are more

than other countries in this study.

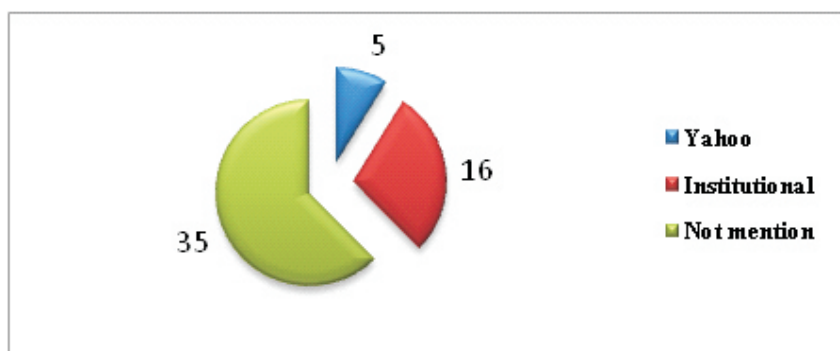
POPULARITY OF THE E-MAIL DOMAIN:

At now days, e-mail is considered as one of the best communication media for keeping literacy\academic communication for the betterment and development of the community as a whole. (Saha, 2013)

Table No. 6: Domain of E-Mail Id of the Contributors

Mail Domain	Frequency	Percentage
Yahoo	5	8.93
Institutional	16	28.57
Not mention	35	62.5
Total	56	100.0

Fig no. 4: Domain of E-Mail Id of the Contributors



It can be observed from the table no.6 and fig no.4. Maximum 35 (62.5%) out of 56 of the authors are not mentioned their email address in the paper. It may be that they don't have mail address or not interest to mention it. Otherwise, there 16 (28.57%) are using institutional domain in e-mail address. And the few rest authors 5 (22.58.938%) are using Yahoo mail.

Table No. 7: Domain Name wise Distribution of the Article

Domain Name	Frequency	Percentage
.edu	9	16.07
.com	3	5.35
.ac	3	5.35
.co	2	3.57
.as	1	1.79
.se	1	1.79
.uminho	1	1.79
.gov	1	1.79
Not Having	35	62.5
Total	56	100.0

It can be observed from the table No. 7, there were 9 (16.07%) of authors use the educational domain name, there are similar numbers 3 (5.35%) authors who are using the commercial and academic domains name.

Relative Growth Rate [r(p)] And Doubling Time[dt(p)] For Publications:

RELATIVE GROWTH RATE (RGR):

The Relative Growth Rate (RGR) is the increase in number of articles/ pages per unit of time. This definition is derived from the definition of relative growth rates in the study of growth analysis of individual plants and effectively applied in the field of Botany Hunt (1919), Blackman (1919) defined, which in turn had its origin from the study of the rate of interest in the financial investment. The mean Relative Growth rate (R) over the specific period of interval can be calculated from the following equation.

R

$$1-2 = \text{Loge } 2 W - \text{loge } IW$$

Whereas,

1-2 R = mean relative growth rate over the specific period of interval.

Loge IW = log of initial number of Articles.

Loge 2 W = log of final number of articles after a specific period of interval.

2 T - 1 T = the unit difference between the initial time and final time.

The year can be taken here as the unit of time. The RGR for articles is hereby circulated.

Therefore,

1-2 (aa-1 year-1) can represent the mean relative growth rate per unit of year over a specific period of interval.

DOUBLING TIME (Dt)

There exists a direct equivalence between the relative growth rate and the doubling time. If the numbers of articles/pages of subject double during a given period then the difference the logarithms of numbers at the beginning and end of this period must be logarithms of number 2. If natural logarithm is used this difference has a value of 0.693. Thus the corresponding doubling time for each specific period of interval and for both articles and pages can be calculated by the formula,

$$\text{Doubling time (Dt)} = 0.693 / R (p)$$

Therefore,

$$\text{Doubling time for articles } D(t) = 0.693 / 1-2 R (aa-1 \text{ year-1})$$

Table No. 8: Relative Growth Rate and Doubling Time of Publication

Sl. No.	Year	No. of Output	Cumulative	W1	W2	RGR	Mean [R(P)]	[Dt(P)]	Mean Dt(P)
01	2004	5	5	-	1.61	-	0.33	-	1.05
02	2005	6	11	1.61	2.40	0.79		0.88	
03	2006	10	21	2.40	3.05	0.65		1.07	
04	2007	5	26	3.05	3.26	0.21		3.3	
05	2008	-	26	3.26	3.26	0		0	
06	2009	8	34	3.26	3.53	0.27	0.15	2.57	6.07
07	2010	9	43	3.53	3.76	0.23		3.01	
08	2011	5	48	3.76	3.87	0.11		6.3	
09	2012	5	53	3.87	3.97	0.1		6.93	
10	2013	3	56	3.97	4.03	0.06		11.55	

From the table no.8 and fig no, it noticed that the mean relative growth for the first five years 2004 to 2008 is (0.33), and the mean relative growth rate for the last five years 2009 to 2013 reduced to (0.15). While the Doubling time for different years [Dt(p)] gradually increased from (0.88) in 2005 to (6.93) in 2013. The mean doubling time for the first five years (i.e. 2004 to 2008) is only (1.05) which is increased to (6.07) during the last five years (2009 to 2013). Thus as the rate of growth of publication was decreased, the corresponding Doubling Time was increased.

Table No. 9: Number of Page wise Distribution of the Article

Number of pages	Frequency	Percentage
5	1	1.8
6	2	3.6
7	3	5.4
8	5	8.9
9	3	5.4
10	7	12.5
11	2	3.6
12	8	14.3
13	6	10.7
15	3	5.4
16	6	10.7
17	1	1.8
18	2	3.6
19	3	5.4
21	1	1.8
23	1	1.8
24	2	3.6
Total	56	100.0

It can be observed from Table no.9, that the highest number of 8 articles contains 12 (14.3%) pages, followed by 7 articles contain 10 (12.5 %) pages.

Table No. 10: Language-wise Distribution of Art

Language	Frequency	Percentage
English	56	100
Total	56	100.0

From table no. 12 Show that, the language wise distribution of Article on LISTA. Total 56 Article were published in “Internet use in library and information science on LISTA” from 2004 to 2013. All the articles were published in English language.

Table No. 13: Number of References wise Distribution of the Article

References	Frequency	Percentage
1-10	3	5.36
11-20	11	19.64
21-30	9	16.07
31-40	13	23.21
41-50	7	12.50
51-60	5	8.93
61-70	4	7.14
71-80	3	5.36
81-90	1	1.79
Total	56	100.0

Out of 56 contributions, it is seen that the majority 33 (58.92%) of publications have citations from 11 to 40. followed by 7 (12.508.18%) have citations from 41-50. While only there is one contribution that have citations more than 90 pages (1.79%).

FINDINGS AND CONCLUSION:

1. The highest numbers 10 (17.9%) of papers were published in 2006 contributing.
2. More than two-thirds 40 (71.4%) of papers were contributed by multiple authors.
3. Most productive authors are Sangita Gupta & Sara M. Vambheim who had contributed 2 papers.
4. Only University of Tromsø contributed two times, while the other institution each contributed once.
5. 36 countries carrying out research and produced 56 articles. USA is the top producing country with 8 (14.3%) publications of the total output.
6. Maximum 35 (62.5%) out of 56 of the authors are not mentioned their email address in the paper. Otherwise, there 16 (28.57%) are using institutional domain in e-mail address. And the rest 5 (22.58.938%) are using Yahoo.
7. The mean doubling time for the first five years (i.e. 2004 to 2008) is only (1.05) which is increased to (6.07) during the last five years (2009 to 2013). Thus as the rate of growth of publication was decreased, the corresponding Doubling Time was increased.
8. All the articles were published in English language
9. The majority 33 (58.92%) of publications have citations from 11 to 40.

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