

## A SCIENTOMETRIC STUDY ON RESEARCH OUTPUT AND LITERATURE GROWTH OF INFORMATION LITERACY

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### ABSTRACT

*This study is aimed to examine the productivity and literature output in Information Literacy. This study analyses the growth of the literature output and information literacy, types of the documents. The relevant data were collected from the Scopus database and tabulated. The total record retrieved is 10,254. Major subject categories, authors whose contribution is in the maximum level, country wise productivity, Affiliations of the institutions and the source titles of the literature. . In the year of 2010 the growth also entered in the four digits. In the year of 2010, 1106(10.78%) were published. From the total Number of Records 10,254(99.92%), 6799(66.3%) were articles which also highest of all the category of the documents. The maximum numbers of articles were in the category of social science 4841.*

**Keywords:** Bibliometric; Information Literacy; Literature growth

### INTRODUCTION

In the information super high way, due to the development of Information and Communication Technology (ICT) tremendous growth of information's leads to information overflow. Today the major challenging task is how to access? How to use? How to evaluate the information.. We have lot of information and development in technologies but the foremost problem is literacy about the information. To avoid such kind of problems educate the users is an essential one. Not only in the academic area including all the fields like medical, financial etc. needs to literate the people how to use that, how to utilize all the kinds of information and services available in the world wide. So the knowledge about the information for the people is an important one for the effective usage of the information.

This also the terms bibliometrics and scientometrics have been introduced simultaneously by Pritchard, Nalimov and Mulchenko in 1969. Pritchard defined the term 'Bibliometrics' as 'the application of mathematical and statistical methods to books and other communication medium'. Nalimov and Mulchenko defined 'Scientometrics' as 'the application of those quantitative methods which are dealing with the analysis of science viewed as an information process'. So, scientometrics is the measurement of science communication, and bibliometrics

deals with more general information processes. Although, famous Bradford's law (1934) of scattering, Lotka's law (1926) of scientific productivity are regarded as milestones in bibliometrics, but bibliometrics/scientometrics research actually started in late sixties. Later in the seventies and eighties, bibliometrics research took a distinct shape and emerged as a prominent discipline.

## **REVIEW OF LITERATURE**

Xavier Carbonell (2009) et al. conducted the on the bibliometric analysis of the scientific literature on Internet, video games, and cell phone addiction. His study revealed that years with the highest numbers of articles published were 2004 (n=42) and 2005 (n=40). The most productive countries, in terms of number of articles published, were the United States (n=52), China (n=23), the United Kingdom (n=17), Taiwan (n=13), and South Korea (n=9). The most commonly used language was English (65.4%), followed by Chinese (12.8%) and Spanish (4.5%). Articles were published in 96 different journals, of which 22 published 2 or more articles. Kumar Suchetan and et. al. (2012) Bibliometric method is most often used in the field of library and information science; as well it has an equal applicability in other areas also. In fact, in many research fields use of bibliometric methods is carried out to explore the impact of their field, the impact of a set of researchers, or the impact of a particular paper etc. Bibliometrics are now used in quantitative research assessment exercises of academic output. Dhanavandan and Tamizhchelvan (2014) studied the research articles published and its citation from Universities in South Tamil Nadu. During period from 2009 to 2013, 377 articles were published which include, in the year 2009, 81 (21.49%) articles were published by three universities sand 45 citations were identified from Indian Citation Index.

## **OBJECTIVES**

- To study the growth of the literature out put in information literacy
- To analyses the types of the documents in the literature
- To find out the Major subject categories in the literature
- To study the Top 10 authors whose contribution is in the maximum level
- To assess the country wise productivity of the articles
- To know the Affiliations of the institutions of the articles
- To identify the source titles of the literature.

## **METHODOLOGY**

This is an attempt is made to study the research productivity and growth of literature in Information Literacy. The relevant data were collected from the Scopus database and tabulated. The total record retrieved is 10,254. The number of records taken for the study is 10,254 from the year of 1919. Standard statistical tools were used for analyze the data.

## **ANALYSIS AND INTERPRETATION**

The research productivity and the growth literature of information literacy form the year 1919 to 2013 are shown in table 1. It also reveals that the information literacy how drastically changes from the beginning of the year 1919 to 2013. It also represents year wise growth of the article and also the cumulative growth of the literature.

**Table.1. Year wise Distribution of Research Productivity in Information Literacy**

S.No	Year	No. of articles	%	Cumulative Growth TTL(CGTTL)	%
1	1919	1	0	0	0
2	1947	1	0	2	0.01
3	1952	1	0	3	0.02
4	1964	1	0	4	0.03
5	1966	3	0.02	7	0.06
6	1967	1	0	8	0.07
7	1970	1	0	9	0.08
8	1973	2	0.01	11	0.1
9	1974	1	0	12	0.11
10	1975	1	0	13	0.12
11	1976	4	0.03	17	0.16
12	1977	5	0.04	22	0.21
13	1978	5	0.04	27	0.26
14	1979	2	0.01	29	0.28
15	1980	4	0.03	33	0.32
16	1981	6	0.05	39	0.38
17	1982	16	0.15	55	0.53
18	1983	25	0.24	80	0.78
19	1984	28	0.27	108	1.05
20	1985	27	0.26	135	1.31
21	1986	25	0.24	160	1.56
22	1987	32	0.31	192	1.87
23	1988	33	0.32	225	2.19
24	1989	28	0.27	253	2.46
25	1990	25	0.24	278	2.71
26	1991	42	0.4	320	3.12
27	1992	35	0.34	355	3.46
28	1993	70	0.68	425	4.14
29	1994	58	0.56	483	4.71
30	1995	73	0.71	556	5.42
31	1996	111	1.08	667	6.5
32	1997	121	1.18	788	7.68
33	1998	129	1.25	917	8.94
34	1999	143	1.39	1060	10.33
35	2000	176	1.71	1236	12.05
36	2001	182	1.77	1418	13.82
37	2002	193	1.88	1611	15.71
38	2003	222	2.16	1833	17.87
39	2004	300	2.92	2133	20.8
40	2005	469	4.57	2602	25.37
41	2006	578	5.63	3180	31.01
42	2007	674	6.57	3854	37.58
43	2008	740	7.21	4594	44.8
44	2009	894	8.71	5488	53.52
45	2010	1106	10.78	6594	64.3
46	2011	1156	11.27	7750	75.58
47	2012	1125	10.97	8875	86.55
48	2013	1379	13.44	10254	100
	Total	10254	99.71		

From the table 1 identified that the year 1919 the article about the information literacy is in single digit. The people were not aware about the information literacy before from the year of 1982 it slightly changes occurred about that in the year of 1982, 16 (0.15%) articles were published. After that the forth coming years it increases gradually. In the year of 2010 the

growth also entered in the four digits. In the year of 2010, 1106(10.78%) were published, 1156(11.27%) were published in the year of 2011, 1125(10.97%) in the year of 2012, 1379(13.44%) were published in the year of 2013. the information literacy programmes were offered worldwide in all the fields. The amicable changes were leads to the new evolution in Research and development of the country.

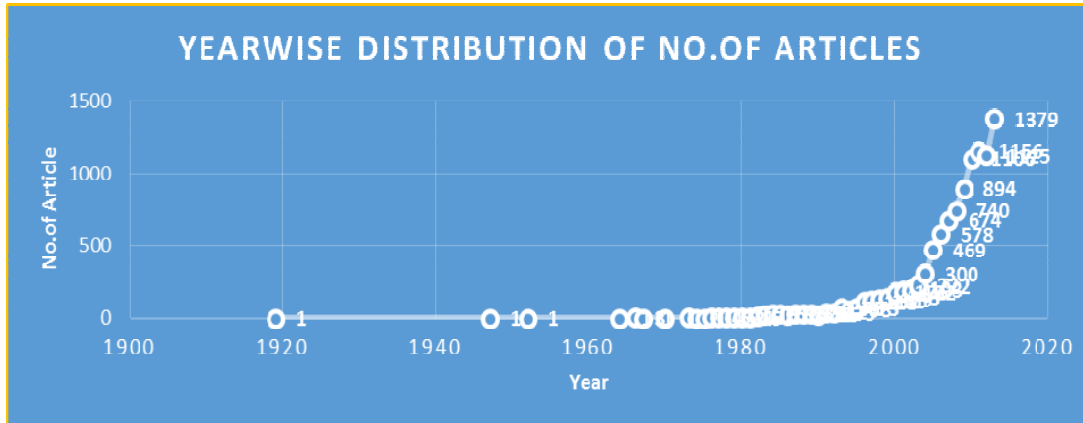
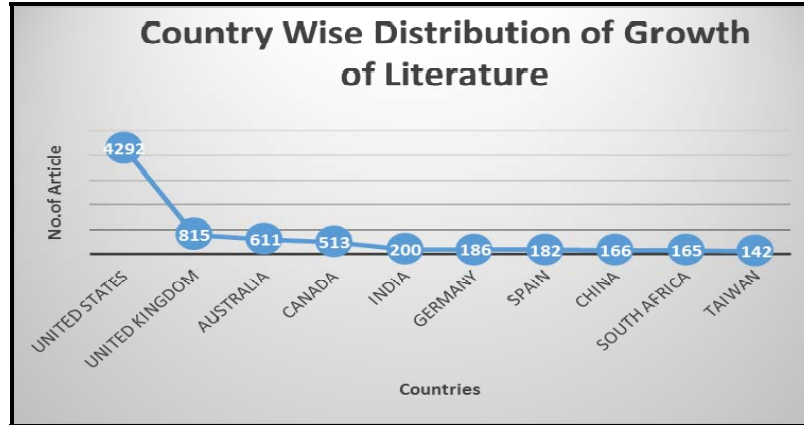


Figure 1. Year wise Distribution of Research Productivity in Information Literacy

Table 2: Top 10 Country Wise Distribution of Growth of Literature

Sl. No	Country wise productivity	No. of articles	%
1	United States	4292	41.85
2	United Kingdom	815	7.94
3	Australia	611	5.95
4	Canada	513	5
5	India	200	1.95
6	Germany	186	1.81
7	Spain	182	1.77
8	China	166	1.61
9	South Africa	165	1.6
10	Taiwan	142	1.38

Table 6 indicated that the top 10 country by the country wise distribution of research productivity and growth of literature. The maximum number of articles were contributed by the United States 4292(41.85%) followed by the United Kingdom 815(7.94%). 611(5.95%) were contributed by Australia, 513(5%) were by Canada, 186(1.81%) by Germany, 182(1.77%) by Spain, 166(1.61%) were by China and 165(1.6%) were by Taiwan. Our Country India is contributed 200(1.95%) of articles which also in the 5<sup>th</sup> Place. The chart also indicated the country wise contribution of the articles.



**Table 2: Types of Documents**

Sl. No	Document Types	TTL	%
1	Research Article	6799	66.3
2	Conference Paper	1572	15.33
3	Review	1016	9.9
4	Book Chapter	290	2.82
5	Editorial	133	1.29
6	Note	101	0.98
7	Conference Review	94	0.91
8	Short Survey	69	0.67
9	Book	52	0.5
10	Undefined	46	0.44
11	Letter	43	0.41
12	Article in Press	35	0.34
13	Erratum	4	0.03
	<b>Total</b>	<b>10254</b>	<b>99.92</b>

The above table 2 shows the types of the documents. Among the total Number of Records 10,254(99.92%), 6799(66.3%) Research articles which also highest of all the category of the documents. 1572(15.33%) articles from conference papers, 1016(9.9%) from reviews, 290(2.82%) from book chapters, 133(1.29%) from editorials and 52(0.5) from books. The 35(0.34%) articles in press followed by the Erratum was 4(0.036%).

**Table 3: Distribution of Top10 Subject Categories**

S.No	Subject Category	No. of Articles
1	Social Sciences	4841
2	Medicine	3348
3	Computer Science	1824
4	Engineering	724
5	Nursing	692
6	Health Professions	519
7	Psychology	505
8	Arts and Humanities	403
9	Business, Management and Accounting	321
10	Biochemistry, Genetics and Molecular Biology	208

The table 3 revealed that the top 10 subject categories of the articles related to information literacy. The maximum numbers of articles were in the category of social science subject with 4841 which is also followed by the medicine subject 3348. And 208 articles were in the

category of Biochemistry, Genetics and Molecular Biology, 321 articles were in Business, management and accounting, 724 articles were in engineering and 519 articles were in health professions which is also followed by the psychology 505

**Table 4: Top 10 Authors from Literature Output**

S. No	Author Name	No. of articles	%
1	Wolf, M.S.	52	0.5
2	Davis, T.C.	29	0.28
3	Julien, H.	26	0.25
4	Hoffman-Goetz, L.	25	0.24
5	Parker, R.M.	24	0.23
6	Jorm, A.F.	23	0.22
7	Baker, D.W.	23	0.22
8	Wallace, L.S.	21	0.2
9	Pinto, M.	21	0.2
10	Lloyd, A.	18	0.17
11	Badke, W.	17	0.16
12	Crawford, J.	16	0.15

Table4 identified that the top 10 authors from total literature output in the information literacy. Among the total 10254 articles, the maximum numbers of articles were contributed by Wolf. M.S. 52(0.5%) followed by Davis, T.C., (0.28), 26(0.25%) by Julien, H., 25(0.24%) by Hoffman-Goetz, L., 16(0.15%) by Crawford,J, 18(0.17%) by Lloyd, A 21(0.2%) by Pinto, M. and Wallace, L.S. and 23(0.22%) by Baker, D.W and Jorm. A.F.

**Table 5: Top 10 affiliated Institutes:**

S. No	Affiliation	No. of articles	%
1	VA Medical Center	74	0.72
2	University of Melbourne	72	0.70
3	The University of North Carolina at Chapel Hill	70	0.68
4	University of Toronto	68	0.66
5	Ohio State University	64	0.62
6	Northwestern University	62	0.60
7	Northwestern University Feinberg School of Medicine	62	0.60
8	University of Alberta	61	0.59
9	University of Sydney	57	0.55
10	University Michigan Ann Arbor	55	0.53

Table 5 shows that the top 10 affiliated institutes which contributed the articles. The maximum numbers of articles were contributed by the 74(0.72%) VA Medical Centre which is followed by the University of Melbourne 72(0.70%). 55(0.53%) were by University of Michigan Ann Arbor, 57(0.55%) by University of Sydney, 70(0.68%) by The University of North Carolina at Chapel Hill, 62(0.60%) by Northwestern University Feinberg School of Medicine and Northwestern University.

**Table 7: Top 10 Source Titles of the articles**

Sl. No.	Source title	No. of articles	%
1	Reference Services Review	144	1.4
2	Patient Education and Counseling	119	1.16
3	Communications in Computer and Information Science	108	1.05
4	Journal of Academic Librarianship	101	0.98
5	ASEE Annual Conference and Exposition Conference Proceedings	97	0.94
6	College and Undergraduate Libraries	79	0.77
7	Journal of Health Communication	79	0.77
8	Lecture Notes in Computer Science Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics	76	0.74
9	Communications in Information Literacy	66	0.64
10	Health Information and Libraries Journal	62	0.6
11	Studies in Health Technology and Informatics	61	0.59

Table 7 revealed that the top 10 Source titles of the articles from Information Literacy. The highest number of articles were in the Reference services Review 144(1.4%) followed by the Patient Education and counseling 119(1.16%). 79(0.77%) were in College and Undergraduate Libraries and Journal of Health Communication, 76(0.74%) were in Lecture Notes in Computer Science Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics, 66(0.64) were in Communications in Information Literacy, 62(0.6%) were in Health Information and Libraries Journal. 108(1.05%) were in Communications in Computer and Information Science, 97(0.94%) were in ASEE Annual Conference and Exposition Conference Proceedings and 61(0.59%) were in Studies in Health Technology and Informatics

## CONCLUSION

The information literacy how drastically changes from the beginning of the year 1919 to 2013. The people were not aware about the information literacy before from the year of 1982 it slightly changes occurred about that in the year of 1982, 16 (0.15%) articles were published. After that the forth coming years it increases gradually. The maximum number of articles were contributed by the United States 4292(41.85%) followed by the United Kingdom 815(7.94%).

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