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LITERATURE OUTPUT OF CHEMISTRY, BANARAS HINDU UNIVERSITY: A BIBLIOMETRIC STUDY

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Abstract

This paper deals with the analysis of the 1476 articles analysised in the subject chemistry published during 2005-2014In Banaras Hindu University. It examines year wise, distribution of contribution, Citation analysis, Channel of communication, Geographical distributions etc. The data for the study collected from Web of Science database. The result shows that there are total 1476 publications published in the subject Chemistry the year (2005- 2014). The year 2014 has the highest number of 241 (16.33%) publications, the average research outputs in this subject are 148 articles as per year. The author Singh AK has contributed 96 (6.50%) articles with 986 citations, 17 h- index and occupied the most profile author among the contribution. There is 1411(92.83%) publications fall under the category of articles.RSC Advances journal has the highest number of publications with 71(4.81%) papers. India is found those be highest country that contributed 1476(100%) articles.

Keywords: Bibliometric study, Data Analysis, Chemistry, Banaras Hindu University,

Introduction

Bblioimetric is a statistical analysis of written publications such as books or articles. Bibliometrics methods are frequently used in the field of library and information science including Scientometrics. The term Bibliometrics was coined by Alan Pritchard in a paper published in 1969.Titles statistical bibliography or Bibliometrics. He defined the term mathematical and statistical methods to book other media of communication.

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Banaras Hindu University is an internationally reputed temple of learning. This is creative and Innovation University. The Department of chemistry rated as one of the best in the country for the teaching learning and the research activities. It has been selected as the center of advance studies in chemistry by the University grant commission. One of those in few departments, which were established in1916. Chemistry is the part of physical science that studies of composition, structure, properties and change of the matters. Changing of resources, the interaction of substance through intermolecular forces that gives matters its general properties and the interaction between substances threw chemical reactions to form different substances of methodologies of chemical individuals technologies etc in a complete economy with different types of require ongoing dialog and a realistic proof-of-concepts achieved in society.

Objectives

The main objectives are as follows:

1. To find out year-wise distribution of research articles
2. To examine the document type used by the authors for their contributions.
3. To study the extent of collaboration.
4. To find out journal wise distribution of publications
5. To analyze Geographical distribution of research output

Methodology

The articles included in the present study were collected from the Web of Science (WoS) citation database of the Institute for Scientific information (ISI), Philadelphia, USA. Web of Science is a multidisciplinary citation database that provides information from approximately 8700 international journals and is used to map worldwide science and technology data[4]. The search strategy used for collecting data was as follows; Publication Name = International Journal of Educational Development; Time span 2005-2014. The data were downloaded in the Microsoft Excel format and analyzed according to objectives of the research.

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Year Wise Distributions of Publication

Table 1 shows the year wise distribution of articles in the subject Chemistry by the authors of Banaras Hindu University. There are total 1476 research papers published during 2005-2014. It is found that the highest numbers of articles 241 (16.33%) were published in the year 2014, while the least numb of articles 50 (3.39%) were brought out in the year 2006. The articles published in the year 2011 have yielded the highest number of citations 3175 for 216 records of articles (14.63 %) articles whereas the least numb of citations 570 (3.39 %) were found in the year 2006 for 50 articles. Total of citations per articles are counts to be 12. It may be observed from the table that there is a fluctuation in the contributions of the papers during 2005 to 2007. There is a gradual growth in the number of publications during 2008 to 2014. An average research output in the subject chemistry 148as (9.00%) per year.

Table 1.Year wise distributions of publication

Sl.No	Year	Record	%	Citation	Citing articles	Average articles	h-Index
1	2005	50	3.39	836	806	14.22	16
2	2006	59	4.00	570	559	11.40	14
3	2007	91	6.17	1532	1430	16.95	21
4	2008	112	7.59	1478	1395	13.26	21
5	2009	136	9.21	2471	2263	18.29	25
6	2010	170	11.52	2690	2455	16.66	27
7	2011	193	13.08	3175	2920	14.89	27
8	2012	208	14.09	2348	2114	12.38	25
9	2013	216	16.33	1738	1453	8.56	21
10	2014	241	100.01	1195	1100	5.21	16
	Total	**1476**	**100**	**18033**	**16495**	**131.82**	**213**

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Document Type

Table 2 shows the document wise distribution of articles in the subject Chemistry by the authors of Banaras Hindu University. The document types are categorized into eight types such as Articles, Meeting, Review, abstract, Correction, Editorial, Book, and Biography. Out of these eight, there are 1411 (92.83 %) publications which fall under the category of Articles, followed by Meeting 43 (2.83 %), Review 39 (2.57%), Abstract 16 (1.05 %), Correction 5 (0.33%), Editorial 4 (0.26%). Rest of the documents is below (0.07 %). It is found that the highest numbers of publications (1411) were published in the record of articles. It is deduced from the study that authors are more interested in contributing to articles than any other category.

Table 2. Document type

Sl.No	Document type	Record	%	Citation	Citing articles	h-Index
1	Article	1411	9.83	14556	12768	46
2	Meeting	43	2.83	340	328	10
3	Review	39	2.57	1405	1380	20
4	Abstract	16	1.05	0	0	0
5	Correction	5	0.33	1	1	1
6	Editorial	4	0.26	2	2	1
7	Book	1	0.07	4	4	1
8	Biography	1	0.07	0	0	0
9	**Total**	**1520**	**100.00**	**16308**	**14483**	**79**

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Scattering of Articles in Different Journals

Table 3 explains the top ten journals in the subject chemistry. The cumulated records for the 10 years period revealed that a sum of total journals. RSC Advances Journal the first highest records of publications with 71 (4.81 %) articles which have received the 743 citations. The second highest journals of publications are Polyhedron with 54 (3.66%) articles and the 402 citations and also h -index is (12) which have received Journals of Alloys and Compounds in the chemistry subject with 53 (3.59%) articles and the 516 citations. It is identified form the above analyses, the RSC Advances Reviews is leading journal with 71 articles.

Table 3 Scattering of Articles in Different Journals

Sl.NO	Name of the Journals	Records	%	Citations	Citing Article	Average Articles	h-Index
1	RSC Advances	71	4.81	743	695	10.82	15
2	Polyhedron	54	3.66	402	361	8.26	12
3	Journal of Alloys and Compounds	53	3.59	516	487	9.87	14
4	International Journal of Hydrogen Energy	52	3.52	851	757	17.94	19
5	Tetrahedron Letters	39	2.64	700	610	19.23	16
6	Journal of Nanoscience and Nanotechnology	36	2.44	377	377	10.67	10
7	Journal of the Indian Chemical Society	35	2.37	58	54	1.74	5
8	Indian Journal of Chemistry Section B Organic Chemistry Including Medicinal Chemistry	35	2.31	235	206	7.34	9
9	Dalton Transaction	33	2.24	597	459	19.09	14
10	Journal of Molecilar Structure	31	2.10	246	240	8.06	8
	Total	**439**	**29.74**	**4725**	**4246**	**113.02**	**122**

Prolific Authors

The most prolific authors of the subject chemistry research have been identified and ranked from greater to lesser contribution. Table 4 it is found that the authors of publications Singh AK 96 (6.50%) articles are found to be the most prolific author among the contributors. Second in the rank was Singh S with 90 (6.10%) articles. The Third Singh KN with 74 (5.01%) articles value measured; followed by the Kumar A with 72(4.88%) articles; Singh SK 71(4.81%) articles; respectively. It could be identified form this analysis, the author Singh AK has a higher frequency of incidence of his name in the author of the records.

Table 4 Most Prolific Authors

Sl.No.	Name of authors	Record	Percentage	Citations	Citing articles	Average articles	h-index
1	Singh AK	96	6.50	986	906	11.14	17
2	Singh S	90	6.10	566	543	6.82	14
3	Singh KN	74	5.01	660	584	11.97	18
4	Kumar A	72	4.88	804	705	12.44	18
5	Singh SK	71	4.81	1006	907	14.87	15
6	Singh RK	69	4.67	579	544	9.36	15
7	Srivastava ON	68	4.61	1106	1002	17.53	20
8	Singh MS	68	4.61	1157	991	23.16	22
9	Singh N	64	4.34	516	431	10.20	14
10	Pandey DS	61	4.13	633	569	12.16	15
	Total	**733**	**49.66**	**8013**	**7182**	**129.65**	**168**

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Country Wise Distribution

The geographical wise distribution of papers is presented in table 6. It is found the sample total of 1741 articles. India is found to be the highest country that contributed 1476 with (100.00%) articles. USA ranked second with 65 (4.40%) articles. Germany stood third rank with 59 (4.00%) articles. England found fourth rank contributed 36 (2.44%) articles.

Table 5 Country Wise Distribution of Literature

Sl.No	Countries	Record	%	Citations	Citing article	Average article	h-index
1	India	1476	100.00	15817	13982	12.39	48
2	USA	65	4.40	1556	1521	24.28	20
3	Germany	59	4.00	591	539	10.54	14
4	England	36	2.44	355	288	12.42	12
5	Japan	34	2.30	547	529	16.32	11
6	Spain	21	1.42	115	102	5.52	6
7	South Korea	20	1.36	781	778	39.25	10
8	South Africa	10	0.68	100	95	10.50	6
9	Peoples R China	10	0.68	158	155	15.80	7
10	France	10	0.68	159	159	15.90	5
	Total	**1741**	**100.00**	**20179**	**18148**	**162.92**	**139**

Conclusion

There are total 1476 publications published in the subject Chemistry in the year 2005- 2014. The year 2014 has the highest number of 241(16.33%) publications, whereas the year 2006 has lowest number of 50 (3.39%) publications. The year 2011 has the highest number of 3175 (14.63%) citations for 27 articles, but the year 2006 has lowest number of 570 (3.39%) citations for 14 articles. The average research output per year is 148. The author Singh AK has contributed 96 (6.50%) articles with 986 citations, 17 h-index and occupied first rank. There is 733 (49.66 %) publications fall under the category of articles. It is deduced

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from the study that authors are more interested in contributing articles than any other category. It has been identified that the highest contributions is from India with 1476 (100.00%) publications, followed by USA with 65 (4.40%) contributions and occupies second position, Germany contributed 59 (4.00%) publications and occupied third position. England had 36 (2.44%) publications and occupies fourth position. Other countries contributed less than 30 publications and the percentage is less than (2.30 %). The trends towards collaborative research is gaining currency day-by-day. Every work of researchers depends purely on the library because it contains more sources information. The researchers have become an important entity wherein more and more researchers help to make it innovative.

References

1. Indian Institute of Technology Rookee at a glance. In Souvenir prepared for 21 st Annual Convention and Confrence of SIS, Roorkee, 9-11 2003, Roorkee, 2003, p.5-14.
2. Jeevan (V K J) and Gupta (B M). A Scientometric analysis of research output from Indian Institute of Technology, Kharagpur, Scientometircs, 53;1, 2002, 165-168.
3. Jeevan (V K J) and Gupta (B M). R & D performance of different departments of IIT, Kharagpur: A Scientometic study based on research output. Journal of Library and Information Science, 26, 2; 2001;130-143.
4. Borgman C.L., Furner J. Scholarly communication and bibliometrics. Annu Rev Inform Sci Technol. 2002;36:3–72.
5. Garfield E. Garfield E. Essays of an information scientist. v.6. Philadelphia, PA: ISI Press; 1983. How to use citation analysis for faculty evaluations, and when is it relevant? part 1; pp. 354–62.
6. Garfield E. Garfield E. Essays of an information scientist. v.6. Philadelphia, PA: ISI Press; 1983. How to use citation analysis for faculty evaluations, and when is it relevant? part 2; pp. 363–72.
7. Cronin B., Atkins H.B. The scholar's spoor. In: Cronin B., Atkins H.B., editors. The web of knowledge: a festschrift in honor of Eugene Garfield. Medford, NJ: Information Today; 2000. pp. 1–7.
8. Epstein R.J. Journal impact factors do not equitably reflect academic staff performance in different medical subspecialties. J Investig Med. 2004 Dec;52(8):531–6. [PubMed]
9. Maunder R.G. Using publication statistics for evaluation in academic psychiatry. Can J Psychiatry. 2007 Dec;52(12):790–7. [PubMed]
10. Murphy P.S. Journal quality assessment for performance-based funding. Assess Eval High Educ. 1998 Mar;23(1):25–31.