Advanced International Journal for Research (AIJFR)
E-ISSN: 3048-7641 ● Website: www.aijfr.com ● Email: editor@aijfr.com

Growth of Literature and Citation Impact in Geography: A Bibliometric Approach

Dr. Asish Maity

Librarian, Yogoda Satsanga Palpara Mahavidyalaya,
Email: maityasish1989@gmail.com

Abstract

The present paper taken an attempt to discover growth of publications output and citation study of the subject Geography, retrieved from Web of Science (WoS) for the during period 1994-2014. A total number of 12,318 research documents were published and total 1, 50,929 citations were received. After analyzed data the outcomes of the study are: USA contributed highest number of research documents 3759, which global contribution is 30% but England received highest number of citation 58158; Italy was received highest (20.35) Average Citation per Paper (ACP) in respect of published 115 paper and 2340 citations; most of the research papers 859 in the year 2012. This study uses different parameters Types of documents, prolific authors, publication with citation trends between different countries, average growth rate of publication, and most productive source title in the field of Geography.

Keywords: Citation, Geography, Web of Science, Average growth rate, Bibliometric, Scientometrics.

1. Introduction

In order to investigate the growth of publication output and citation patterns in the discipline of geography as indexed in the Web of Science (WoS) database for the years 1994–2014, the current study conducts a thorough bibliometric analysis. The potential of bibliometric techniques, especially citation analysis, to gauge research output, monitor intellectual trends, and evaluate the scholarly influence of scholarly publications within a certain discipline is well known. The Web of Science is an important tool for assessing research output and its impact over time since it offers powerful capabilities for monitoring citation counts, examining publishing trends, and producing citation summaries.This research attempts to chart the intellectual growth of geography over the course of two decades, identify changes in publication activity, and highlight key works by methodically retrieving and analysing bibliographic records from WoS. Researchers, librarians, and politicians involved in research evaluation and strategic planning will find valuable insights from this study that will deepen our understanding of academic growth and citation dynamics in geography.

2. Objectives of the study

The main objective of this study is to analyze the growth of literature in the field of Geography by research work, research paper contribution and their impact i.e. is reflected in citation during the study

periods 1994-2014 from the database web of Science (WoS). In particular the study focuses on the following objectives:

- To know the annual growth of publication and citation received.
- To Find out Average Growth Rate of publication in the field of geography.
- To find out type of research documents.
- To discovered most contributing Authors and their citation impact.
- To find out most productive source title.
- To find out most prolific countries and their citation trends.
- To identify highly productive Institution of publications.
- To know language wise distribution of research document.
- To find out top ten highly cited paper.

3. Methodology:

The data has been collected from the Thomson Reuter's Web of Science (WoS) Science database for 21 years publication output on the Topic Geography. The data is retrieved on 27th November, 2015. In present methodology we made used the Web of Science core collection database and used the field tag PY= 1994 – 2014, TP= Geography, where PY stand for publication year, TP stand for topic and uses three Indexes:
SCI –EXPANDED= Science Citation Index Expanded, SSCI= Social Sciences Citation Index, A&HCI= Arts & Humanities Citation Index for retrieve data. In this way all the records are collected and arrange them in MS-Excel sheet and analyzed all the data in different parameter. Total number of 12,318 research documents was collected from the database on the selected topic.

The Annual Growth Rate of publication can be mathematically derived from the below formula:

$$AGR = \frac{(V\ present - Vpast)}{Vpast} \text{ X } 100 \text{ where,}$$

PR= Percent Rate
$V_{present}$= Present value
V_{past}= Past value

4. Review of Literature:

Schloegl and Stock (2004) conducted a scientometric analysis of International and German-Language LIS Journals—Citation Analysis Versus Reader Survey. For this study author collected all the data from ISI's Social Sciences Citation Index Journal Citation Reports (JCR). Total 40 international periodicals downloaded from database and out 40 journals, 10 journals counted in German language and 1,494 source articles with 10,520 citations. Altogether, the empirical base of the citation analysis consisted of nearly 90,000 citations in 6,203 source articles that were published between 1997 and 2000.

Davarpanah and Aslekia (2008) revealed a scientometric profile on International LIS journal during the year 2000-2004 and found 894 contributions in 56 LIS journals indexed in SSCI the year of 2000-2004. Total no of 1361 authors contributed their publication during the five years. U.S.A contributed highest number of article i.e. 519 (58.5%) and holds first ranked. The current study showed highest number of single author contribution i.e. 457 (51.11%). The study also showed out of 894 articles only 458 articles get 1613 citation. After analyzed topic wise distribution author found that communication and information technology with 29.87%, Computerized information storage and Retrieval with 11.62% contributions.

Kaur and Gupta (2009) analyzed the Indian research contribution on the topic immunology and microbiology during the year 1999-2008 from SCOPUS multidisciplinary bibliographical database. This study mainly concentrates on special reference to India. Total 13,172 articles are collected from SCOPUS database from the during time periods. India holds 12th rank among the top 15 productive countries of the world in immunology and microbiology, with its global publications share of 2.50 per cent as computed. India achieved an annual average growth rate of 12.19% per annum during 1999-2008 and china hold second rank amongst the top 15 most productive countries. The study also find that most productive 15 authors together contributed 832 papers.

Kumar (2010) examined the applicability of Lotka's Law as a general inverse power($\propto \neq 2$) and as an inverse square power relationship ($\propto = 2$) to the distribution of the research productivity in Council of Scientific and Industrial Research, India. Data collected from two databases Science Citation Index database available on CD-ROM and Web of Science respectively during two different period of time 1988 to 1992 and 1992 to 2008. A total number of 6076 and 17681 research paper contributed by CSIR scientist during this two different time period. After analysis the result obtained the inverse square power law of Lotka as such and similarity.

Suradkar, Vaishali & Ambedkar (2012) carried out a scientometric study on The Journal of Documentation. This study consisted of 5 volumes and 30 issues. Study covered 532 articles which received 5521 citations during the years 2007 to 2011. In this study author concentrated on author productivity and find out the Value of group Co-Efficient for collaborative authors of citation. The revealed that the value of group co-efficient for citations (gc) is 0.42 and average rate of citation per articles (C/A) is 10.37.

Kavitha and Venkatesan (2013) attempted to analyze the citation analysis, growth and development of journal Nature, which is top, ranked in Google Scholar Metrics. The study found 291 articles and ranked by impact factor with the parameter of period. In the 2007 journal received greater number of citation (120 articles) than over the years. This study also analyzed the impact factor of this journal over a period.

Gupta, Kaur & Kshitih (2013) stated a scientometric analysis on the subject Dementia during the year 2002-2011 on SCOPUS citation database. Author included different parameters like the growth of literature, global publication share, citation impact, share of international collaborative papers, contribution of major collaborative partner countries, most prolific subfield and by type of dementia, productivity and impact of most productive institution and author patterns of research communication in most prolific journal. A total number of 1109 research documents published in the during 11 years. after analyzed author concluded that 3.7 million elderly people suffering from dementia by 2010 in India it produced only 1109 papers during last ten years from 2002-11 so, it is urgent to increase the research both qualitative and quantitatively.

Huang and Yang (2013) studied a bibliometric analysis to explore the technical development in scientific and technical area in the field of fuel cell research by the published research articles and patent documents. Research data retrieved from the WOS database and USPTO patent data from the period between 1991 and 2010, which consists of 20,758 papers and 8,112 patents. The authors analyzed numbers of papers and patents to examine the trends in the papers and patents in different countries, organizations and individuals. After analysis author founded a positive growth of published research articles and patent document. But it revealed that most of articles are concentrate in a few number of organizations and mostly patent published from the industrial organization.

Balasubramani, Gopalakrishnan and Gnanasekaran (2014) revealed a scientometric study to examine the growth and development of in genetic Engineering from the multidiscipline citation database 'Scopus' from the year 1974-2013. Total 165984 numbers of research documents are published in the field of Genetic Engineering. After analyzed data study found that 4149 papers are published per year, United States of America holds the key position with 59877 (36.07%) of total publications which is followed by China and UK. India holds 8th place with 5354 (3.23%) publications. Research article is the most contributed form of published document which is 123239 (74.25%). The research outputs on Genetic Engineering were contributed in 38 languages.

Kuri (2014) presented a analytical study about the impact of Library and information science journals on DOAJ database. The study founded 150 open access e-journals published in the area of Library and Information Science discipline by various publishers of the world and all that journals are analyzed based on the Social science discipline, country wise journal distribution, Year wise growth of LIS journals in DOAJ, Language wise distribution. After analyzed the result comes that USA published 72 journals and hold 1st rank then Brazil (16 journals), Spain (11 journals), India stands fifth place in contributing 6 open access e-journals in to the Directory of Open Access Journals (DOAJ).

Gupta, Gupta, Ahmed & Tiwari (2014) revealed a growth pattern and citation impact on the topic Cervical Cancer in India in the year 2003-2012 on SCOPUS database. 1141 number of paper published in India on the during years. India's publications in cervical cancer registered citation impact per paper of 5.04 during 2003-2012 which decreased from 5.69 during 2003-2007 to 4.73 during 2008-2012. India ranked at 8th place in global research output.

Ahmed, Ritu & Gupta (2014) presented a bibliometric study on the topic atypical antipsychotic drugs from the indexed in Scopus database. The study tried to identify Indian contribution or research output among the others 15 most productive countries and examined distribution of citations of the Indian research, to study the distribution of Indian publications output by individual drugs and by disease, to study the characteristics of the high cited publications. After analyzed author found AADs research, India has produced 1432 publications during 1998-2013. The citation impact per paper in Indian publication is 2.43 which decreased from 3.14 to 2.32 from 1998-2005 to 2006-2013. Of the total publication 35.89% research has no citation received and 64.11% publications cited one or more times.

Hiremath and Hadagali (2014) examined Nano composites publications retrieved form Web of Science (WoS) for the period 1999 – 2012. After collected the data author found a total of 42,876 papers published and 778957 citations were received in the during time periods. The study revealed that 11,561 number of research documents published from China and hold the most prolific country. USA received 240589 number of citation. South Korea received highest (46.09%) Average Citation per Paper (ACP); the study used different indicators, sources preferred, authors contribution, the Average Growth Rate

(AGR), the Activity Index (AI), the Attractive Index (AAI) and the Publication Efficiency Index (PeI) to analyzed the aspects of the publications.

Bala and Singh (2014) in this paper critically analysed 316 scholarly communications published in the Indian Journal of Biochemistry & Bio-Physics.The study covered the period during the year from 2009-2013 The analysis cover mainly the number of articles, form of document cited, most cited Journals etc. Study revealed that single author contributed 18 (5.7%) while the rest of 162 (51.3%) articles were contributed by Multi authors. The contributions in this Journal from India 768 (68.9%) are slightly more than those from the other countries.

Kumar (2014) focused on Digital Literacy in Online Library Information Science and Technology Abstracts, LISTA database during the year 1997-2011. The study attempted to examine the distribution of research document according to age-wise, year-wise. Total number of 137 articles found during the time span. Author used Bradford's law to determine the scattering of journals article in the publication on the LISTA database. After the analyzed current study found that majority of articles published during the year 2009-2011. U.K contributed 37 (27.01%) articles.

Jeyasekar and Saravanan (2014) carried out a scientometric study on the journal of Digital Investigation for the period 2001-2013 in the Google scholar database. This journal published a total number of 568 papers. The study showed that in the year 2013 produced 81, highest number of articles over the 14 years and authorship distribution single authors contributed 304 (53.52%) articles.

Jesubright and Saravanan (2014) studied a scientometric approach of Global forensic science literature in SCOPUS database during the year 1975-2011. Study found 13626 number of research documents. In this study most prolific author Budowle, B. published 166 articles. The top most contributed source title Journal of Forensic Sciences with 4497 articles i.e., 33%. U.S.A contributed 4197 articles in this study. Institution wise distribution Forensic science Service, Birmingham is the most contributing institute, published 196 (1.44%) articles.

Singh (2014) conducted a scientometric analysis of the journal "Indian journal of pure and applied physics" during the year 2006-2010. In his study 657 papers published in 5 year from Web of Science data base. After data collection and analysis study found that out of 657 research document, 640(97.41%) documents are article. He showed that the maximum number of papers 174 (26.48%) had been contributed by two authors. study found 1229 citation; in the year 2007 received 291 citation.

Velmurugan and Radhakrishnan (2015) has evaluated a scientometric study of the journal Advances in Pharmacognosy and Phytomedicine during the year 1989 – 2014 from the data base Web of Science. Author analyzed the different parameters such as type of document, Language, yearly output, most prolific authors, prolific journals, Institution, country wise production, source titles, research areas and keywords of literature output and also examine various metric analysis such as hindex, g-index, e-index, hc-index, hI-index, hI,norm, hI,annual, hm-index, AWindex, AWCR and AWCRpA and degree of collaboration. Author founded a total of number of 348 scholarly communications as a sample for data analysis. Current study found 220 (63.2%) research articles out of 348 research documents, in the year 2004 get highest number of citations 549.

Fay and Decouverte (2015) examined the General Relativity and Quantum Cosmology (GRQC) field of research by analyzing 38291 papers uploaded on the electronic archives arXiv.org from 2000 to 2012. After analysis author established a map of the countries contributing to GRQC in 2012 and to determined that which journals are the most contributed journal in the topic GR-QC. Also which

countries published in which journals. current study founded that Russia is the most prolific country where most of the articles are written by single authors and on the other hand, other countries Authors published articles in International collaboration.

Young, Wilkinson & Smith (2015) conducted a scientometric analysis of the contents of the Journal of Business-to-Business marketing from 1993 to 2014. The authors used the Leximancer computer-aided text analysis program, which reliably and reproducibly identifies the main concepts embedded in the text—their frequency and patterns of co-occurrence—based on the ways words move together in the text. They also identify key concepts that differentiate among the networks of concepts occurring in each of the first four five-year periods of the Journal's history.

Result and Data analysis:

The number of publication in the field of Geography is 12,318 during the 21 years (1994-2014) as reflected in the database Web of Science. The total number of citation received 150929 during the study periods. The Average Growth Rate is manipulated by formula AGR.

5. Growth Rate of Publications and citation in the Field of Geography

Table no. 1 shows that the total of 12318 documents is published during the period (1994-2014) which received 150929 citations. The highest numbers of publications i.e. 859 were published in 2012 followed by yea 2013(857), year 2014(838) respectively 2nd and 4th position.

Table no 1: Growth Rate of Publications and citation in the Field of Geography

Publication Years	Record Count	Annual Growth Rate (%)	Total no of citation received	Sum of Times Cited without self-citations	Citation per Paper per year (CPPY)
1994	461	---	4912	4850	10.66
1995	428	-7.16	4505	4482	10.53
1996	437	+2.10	4489	4459	10.27
1997	393	-10.06	5965	5950	15.18
1998	418	+6.36	5802	5779	13.88
1999	414	-0.95	6671	6651	16.11
2000	452	+9.18	8928	8901	19.75
2001	451	-0.22	7292	7256	16.17
2002	459	+1.77	10024	9970	21.84
2003	495	+7.84	9874	9833	19.91
2004	506	+2.22	9432	9383	18.64
2005	548	+8.30	11558	11526	21.09
2006	670	+22.26	12182	12058	18.18
2007	646	-3.58	10330	10242	15.99

2008	716	+10.84	9613	9535	13.43
2009	754	+5.31	8893	8775	11.79
2010	748	-0.79	7170	7085	9.59
2011	768	+2.67	5452	5339	7.10
2012	859	+11.85	4314	4199	5.02
2013	857	-0.23	2377	2303	2.77
2014	838	-2.22	1146	1040	1.37
TOTAL	12318		150929	149616	12.25

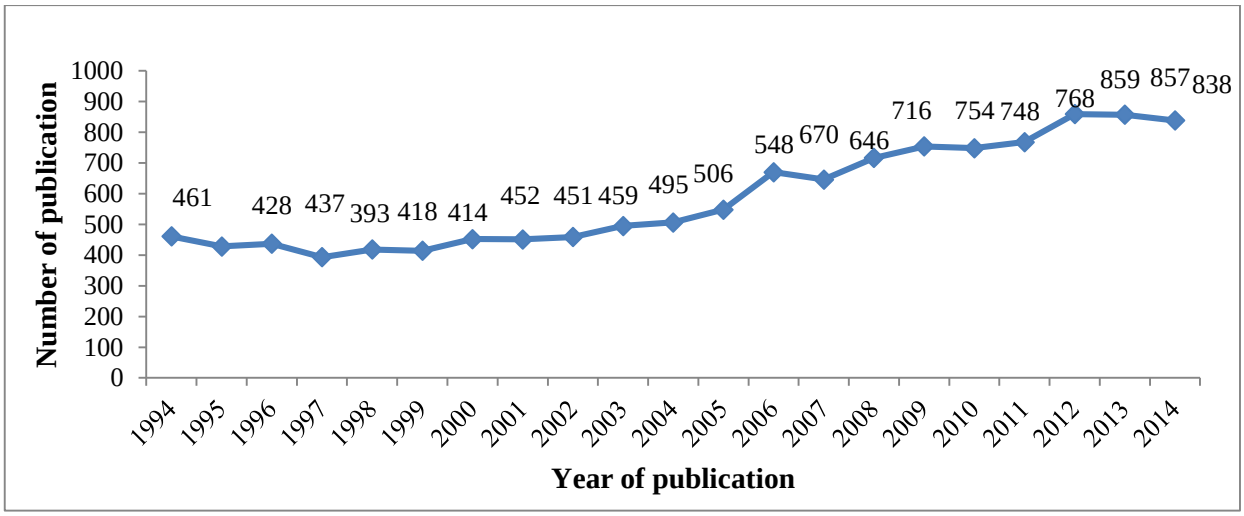

Figure no. 1: Growth of publication and citation in the field of Geography

The highest numbers of citations were received i.e. 12182 for the year 2006. Publications of document were gradually increased from the year 1999 to 2014. But the Average Growth Rate are fluctuate in every year and number of citation also fluctuated throughout during study. Average citation per paper is very important because it's depends on number of published documents and divided by number of received citation. If we analysis average number of citation per paper then see that in the year 2005 receive highest number of average citation i.e. 21.09 and all over average citation receive throughout the during study.

6. Top 20 highly impact journals in the field of Geography

The word "Impact" use in that sense, which journal received more citations those journals become more popular because increasing number of browsing, citation, follow etc. by the scholar, student, teachers, other academicians, professional; simultaneously those journals become more impact journal. Journal Impact Factor (JIF) will be high with the growing number of citation.

Table no 2: Top 20 highly impact journals in the field of Geography

Sl. no	Source Titles	Record Count	Total citation received	Self citation
1	Progress in Human Geography	855	19483	1276
2	Environment and Planning	646	11712	405
3	Annals of the Association Of American Geographers	647	10464	487
4	Transactions of the Institute of British Geographers	398	9616	414
5	Journal of Economic Geography	279	8832	676
6	Regional Studies	341	8369	328
7	Geoforum	462	7336	280
8	Political Geography	400	6875	410
9	Environment and Planning D Society Space	314	6297	194
10	Economic Geography	238	5980	226
11	Area	438	5023	268
12	Professional Geographer	532	4904	243
13	Journal of Geography in Higher Education	625	4590	2022
14	Antipode	262	4483	169
15	Cultural Geography	250	2674	206
16	Urban Geography	277	2363	191
17	Journal of Geography	547	1718	567
18	Journal of Historical Geography	326	1436	93
19	Geographical Review	236	929	50
20	Geography	372	632	108
	Remaining 64 sources titles	6881		

Some journals are exists which research productivity is less but received highest number of citation and there are subject specific journal known as core journal of that subject area. On the other hand highly productive and less cited journals were exists and their popularity is not so much. The study found that from table no-2 shows that top 20 journals were published 5437 articles i.e. 44.14% of the total contributions and remaining 6881 articles published by 64 journals i.e. 55.86%. Progress in Human Geography contributed 855 research documents and get highest citation 19483 hold first rank. Journal of Environment and Planning hold 3rd rank by published 646 documents and 4th by number of citation. So, it will be concluded that Journal of Environment and Planning, Environment and Planning is the core journal of the field of Geography.

7. Publications and Citation Trend of Top 20 Countries

Table no. 3 revealed the publication output of top 20 countries except India which have contributed 92.39% of global publication. USA ranked first position with 3759 publications in the field of Geography and global share 28.55%.

Table no. 3 Publications and Citation Trend of Top 20 Countries

Rank no	Countries/ Territories	Record Count	Total citation	Average citation per paper	H-Index	% of Global contribution
1	USA	3759	45503	12.11	82	28.55
2	England	3612	58158	16.10	93	27.43
3	Canada	1027	13092	12.75	48	7.80
4	Australia	548	5287	9.65	35	4.16
5	Scotland	505	7066	13.99	40	3.84
6	Germany	404	4688	11.60	34	3.07
7	Netherlands	310	5637	18.18	38	2.35
8	New Zealand	270	2754	10.20	29	2.05
9	Wales	244	5489	22.50	36	1.85
10	Spain	225	1154	5.13	17	1.71
11	Sweden	185	3307	17.88	29	1.41
12	Singapore	164	3035	1.51	28	1.25
13	France	146	1701	11.65	21	1.11
14	Peoples R China	123	1330	10.81	20	0.93
15	Italy	115	2340	20.35	23	0.87
16	South Africa	115	739	6.43	12	0.87
17	Ireland	114	624	5.47	13	0.87
18	Norway	106	1367	12.90	17	0.81
19	Austria	98	630	6.43	13	0.74
20	Finland	95	1278	13.45	16	0.72
	India	16	47	2.94	4	0.12
	45 Others	888				7.49
	66 countries	13167				100

England hold second positions by publishing 3612 documents but in respect of received citation hold first positions with 58158 citations and 4th in get Average Citation per Paper (16.10) with highest number of H-index 93 followed by Canada 1027 publications with 13092 citations, Australia 548

publications with 5287 citations. India has 16 contributions with 47 citations, 4 H-index and global share 0.12%. Some countries are here which publication has less but Average Citation per Paper is higher than the others productive countries cause of receive more citation.

8. Organizations productivity:

Table no. 4 represents the total publications count of top twenty institutions is 3974 (24.25%) out of total publications of 16390.

Table no. 4 Organization wise Distributions of Publications

Rank no	Organizations	Country	Record Count	Percen -tage	Total citations	Self citation
1	University of London	UK	704	4.30	9360	400
2	University of California System	USA	264	1.61	5543	81
3	University of Bristol	UK	243	1.48	3497	170
4	University of Oxford	UK	220	1.34	3963	204
5	University of Cambridge	UK	205	1.25	3711	108
6	University of British Columbia	USA	202	1.23	3470	120
7	University College London	UK	190	1.16	2471	41
8	Durham University	UK	187	1.14	5705	150
9	University of Manchester	UK	176	1.07	4554	128
10	University of Sheffield	UK	158	0.96	2304	69
11	National University of Singapore	Singapore	155	0.95	2950	187
12	Pennsylvania Commonwealth System of Higher Education Pcshe	USA	149	0.91	2532	54
13	University of Toronto	Canada	147	0.90	2765	55
14	Florida State University System	USA	145	0.88	1142	78
15	University of Edinburgh	Scotland	144	0.88	2660	103
16	University of Glasgow	UK	142	0.87	2373	88
17	University of Washington	USA	141	0.86	2726	95
18	Royal Holloway University London	UK	138	0.84	1992	47
19	University of Birmingham	UK	132	0.81	1492	60
20	University of Southampton	UK	132	0.81	3553	130
	Others 588		12416	75.75		
	Total 608		16390	100		

University of London (UK) has contributed highest number of publication (704) with receive highest number of citations, University of California System (USA) published 264 documents, University of Bristol (UK) with 243 publication, University of Oxford (UK) with 220 publications ranked 2nd to 4th position respectively. UK is the most prominent country among the others top 20 countries considered in this study, followed by the four organizations from USA and one organization from Singapore, Canada, and Scotland.

9. Prolific Authors in the field of Geography:

A total number of 3045 authors contributed 12318 articles in the database Web of Science (WoS) for the time periods 1994-2014. The ratio between authors and articles is 3045:12318 or 1:4.05. Table no 5 shows the author rank analysis and also shows top 20 authors contribution and impact in the field of geography. They contributed 677 articles out of 12641 contributions i.e. 5.51% of total contributions during the periods.

Table no. 5 Most prolific Authors in the field of Geography

Sl no.	Rank no	Authors	Country	Record Count	Total no. of times cited	Self citation	Percentage (%)
1	1	Johnston R	UK	103	705	71	0.84
2	2	Clout H	UK	50	70	17	0.41
3	3	Castree N	UK	44	1370	33	0.36
4	4	Sidaway J.D	UK	41	506	22	0.33
5	5	Clark G.L	UK	35	658	44	0.28
6	6	Yeung H.W.C	Singapore	34	1275	97	0.28
7	7	Martin R	Sweden	31	1484	32	0.25
8	8	Barnes T.J	Canada	30	660	35	0.24
9	9	Mitchell D	USA	29	495	6	0.24
10	=9	Philo C	UK	29	549	9	0.24
11	10	Peck J	Canada	27	1203	25	0.22
12	11	Driver F	UK	26	298	6	0.21
13	=11	Healey M	UK	26	375	29	0.21
14	=11	Warf B	USA	26	140	8	0.21
15	=11	Withers C.W.J	UK	26	223	24	0.21
16	12	Agnew J	USA	25	447	4	0.20
17	=12	Brown M	USA	25	352	16	0.20
18	13	Seger M	Austria	24	6	0	0.20
19	14	7 Authors		Contributed 23 articles			

			1.27% (total) 0.18% (for each author)
20	15	2 Authors	Contributed 22 articles each 0.35% (total) 0.17% (for each author)
21	16	1 Authors	Contributed 21 articles each 0.17% (total)
22	17	5 Authors	Contributed 20 articles each 0.79% (total) 0.16% (for each author)
23	18	12 Authors	Contributed 19 articles each 1.80% (total) 0.15% (for each author)
24	19	6 Authors	Contributed 18 articles each 0.85% (total) 0.14% (for each author)
25	20	11 Authors	Contributed 17 articles each 1.48% (total) 0.13% (for each author)
26	21	11 Authors	Contributed 16 articles each 1.39% (total) 0.13% (for each author)
27	22	16 Authors	Contributed 15 articles each 1.90% (total) 0.12% (for each author)
28	23	14 Authors	Contributed 14 articles each 1.55% (total) 0.11% (for each author)
29	24	15 Authors	Contributed 13 articles each 1.54% (total) 0.10% (for each author)
30	25	23 Authors	Contributed 12 articles each 2.18% (total) 0.09% (for each author)
31	26	29 Authors	Contributed 11 articles each 2.61% (total) 0.09% (for each author)
32	27	52 Authors	Contributed 10 articles each 4.11% (total) 0.08% (for each author)
33	28	48 Authors	Contributed 9 articles each 3.42% (total)

			0.07% (for each article)
34	29	72 Authors	Contributed 8 articles each 4.56% (total) 0.06% (for each author)
35	30	86 Authors	Contributed 7 articles each 4.76% (total) 0.06% (for each author)
36	31	137 Authors	Contributed 6 articles each 6.50% (total) 0.05% (for each author)
37	32	205 Authors	Contributed 5 articles each 8.11% (total) 0.04% (for each author)
38	33	328 Authors	Contributed 4 articles each 10.38% (total) 0.03% (for each author)
39	34	567 Authors	Contributed 3 articles each 13.46% (total) 0.02% (for each author)
40	35	1379 Authors	Contributed 2 articles each 21.82% (total) 0.02% (for each author)

Johnston R is the most prolific author which published 103 articles followed by Clout H has 50 publications; Castree N. has 44 publications, Sidaway J.D. has 41 publications; Clark G.L. has 35 publications ranked 2nd to 4th position. But it is surprisingly to say that from the upper table, Castree N is the most cited author in geography because author published 44 articles and hold 3rd position but received highest number of citations among the others 19 authors. On the other hand Johnston R published 103 articles and gets 705 citations. Among 20 authors 9 authors belongs from UK which is predominantly high compared to other countries, and then followed by 5 authors from USA, 3 authors from the country Canada and others three authors from Austria, Sweden, Singapore.

10. Types of documents:

There are various types of documents have been published on the topic geography in the database Web of Science such as article, book review, editorial materials, review, biographical item etc. Research productive documents have been categorized in 14 types. Most of the documents were published in research article form i.e. 8602 (69.83). Book Review amount 1989 that account for 16.15%, editorial materials amount 956 (7.76%), review amount 672 (5.46%) these are the main types research published. From these table findings that research Article is the most common form of published documents.

Table no. 6 Types of document

Record Count	Number of record	Percentage (%)
Article	8602	69.83
Book review	1989	16.15
Editorial material	956	7.76
Review	672	5.46
Biographical item	28	0.23
Note	20	0.16
Letter	12	0.10
Reprint	10	0.08
Correction	8	0.06
News item	8	0.06
Discussion	5	0.04
Bibliography	4	0.03
Item about an individual	2	0.02
Software review	2	0.02

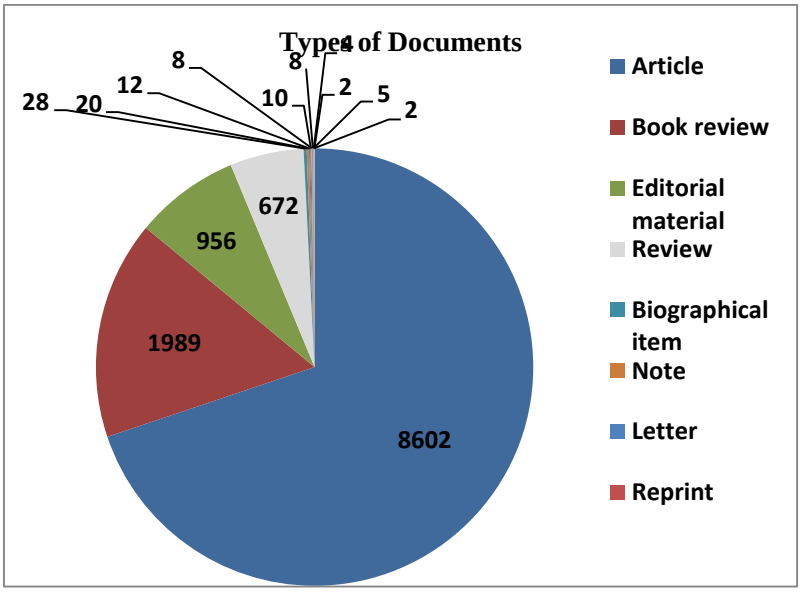

Figure no. 1: Types of documents

11. Language wise distribution of publication

Table no. 7 Language wise distribution of publication

Language	Record count	Percentage (%)
ENGLISH	11735	95.26
GERMAN	353	2.87
SPANISH	135	1.10
CZECH	39	0.32
FRENCH	34	0.28
PORTUGUESE	18	0.15
ITALIAN	2	0.02
Not defind	2	0.02
Total	12318	100

Table no 7 revealed that total publication have been distributed in 7 different languages in the field of Geography. Most of contributors contribute their articles in English languages i.e. 11735 and share 95.25% followed by German language 353 publications, Spanish language 135publications.

12. Names of top 10 highly cited paper

Table no. 7 Names of top 10 highly cited paper

Sl no.	Name of the Article	Source of the Title	Total number of citations	Usage count (up to 2013)
1	Proximity and innovation: A critical assessment	Regional studies	873	244
2	The new mobilities paradigm	Environment and planning a	669	199
3	The learning region: Institutions, innovation and regional renewal	Regional studies	667	74
4	Social and ecological resilience: are they related?	Progress in human geography	547	268
5	Tacit knowledge and the economic geography of context, or The undefinable tacitness of being (there)	Journal of economic geography	514	133
6	The social construction of scale	Progress in human geography	500	72

7	The elusive concept of localization economies: towards a knowledge-based theory of spatial clustering	Environment and planning a	461	115
8	Human geography without scale	Transactions of the institute of british geographers	413	96
9	Situating knowledges: positionality, reflexivities and other tactics	Progress in human geography	398	92
10	Culture sits in places: reflections on globalism and subaltern strategies of localization	Political geography	395	77

Table no 7 shows the top cited paper in geography. It is showed that from the study number of citation and number of usage count are not depend to each other. It's may be happened some of articles citation is high but get less number of usage count; on other hand some articles usage count high but receive less number of citations.

13. Conclusion:

The main focused of this study to analyze the growth pattern and citation trends in the field of Geography from the database Web of Science during the periods 1994-2014. Growth of publication trends in any field totally depend on contribution of authors and growth of research. From this study it will be concluded that impact of an article, journal, and author depends on citation, so it is very important that how much qualitative paper or research document published by author, journal. Current study revealed that 2012 is the most prolific year because of published 859 and average growth rate is higher from previous 5 years but received comparatively less number of per paper citation. Second objective of this study prolific journal in the field of geography. Most impact and prolific journal is Progress in human geography published 855 articles and get 19483 citations. USA and England both are published most number of research documents and hold first, second rank respectively. Indian contribution is so much poor than the others country which published only 16 documents. Most of the productive organization belongs in UK and USA in the top 20 countries. Study finds that Jhonson R. is the most productive author in geography; published 103 numbers of articles with receive 705 citations. Castree N is the most impact author in the field geography because he receives 1370 citations from 44 articles; average citation per article is 31.14. This is the difference between most productive author and Impact author.

References:

1. Ahmed,M., Gupta,R. & Gupta, B.M. (2014) Atypical antipsychotic drugs in India: A scientometric study during 1998-2013. Journal of Young Pharmacists, 6 (2), 14-24.
2. Bala, M., & Singh, M. P. (2014). A Scientometric Study of Journal of Bio-Chemistry and Bio-Physics (IJBB). Library Philosophy and practice.

3. Balasubramani, C., Gopalakrishnan, S., & Gnanasekaran, D. (2014). Growth of Research Output in Genetic Engineering: A Scientometric Study. Journal of Advances in Library and Information Science, 3(3), 179-185.
4. Davarpanah, M. R., & Aslekia, S. (2008). A scientometric analysis of international LIS journals: Productivity and characteristics. Scientometrics, 77(1), 21-39.
5. Fay, S., & Gautrias, S. (2015). A scientometric study of General Relativity and Quantum Cosmology from 2000 to 2012. arXiv preprint arXiv:1502.03471.
6. Gupta, B. M., Kaur, H., & Kshitig, A. (2013). Dementia research in India: A scientometric analysis of research output during 2002-11. Annals of Library and Information Studies (ALIS), 59(4), 280-288.
7. Gupta, R., Gupta, B.M., Ahmed, M., & Tiwari, R. (2014). Cervical cancer in India: A scientometric study of publications, 2003-2012. Oncology, Gastroenterology and Hepatology Reports, 3(3), 4.
8. Hiremath, R. & Hadagali, S. G. (2014) A Scientometric study of nanocomposites: a global perspective. International Journal of Library Science and Research (IJLSR), 4(3), 29-40.
9. Huang, M. H., & Yang, H. W. (2013). A scientometric study of fuel cell based on paper and patent analysis. Journal of Library and Information Studies, 11(2), 1-24.
10. Jesubright, J. J. (2014). A Scientometric Analysis of Global Forensic Science Research Publications. Library Philosophy and practice.
11. Jeyasekar, J. J. and Saravanan, P. (2014). A Scientometric Portrait of the Journal Digital Investigation. Journal of Advances in Library and Information Science, 3 (2), 155-162.
12. Kaur, H., & Gupta, B. M. (2009). Indian contribution in immunology and microbiology 1999-2008: A scientometric analysis. DESIDOC Journal of Library & Information Technology, 29(5), 36-43.
13. Kavitha, M., & Venkatesan, M. N. (2013). Analysis of Google Scholar Top Rated Journals with Special Reference to the Journal "Nature". International Journal of Advanced Library and Information Science, 1(1), 01-06.
14. Kumar, K. A. (2014) Scientometric study of digital literacy in online library information science and technology abstracts (LISTA). Library Philosophy and Practice.
15. Kumar, N. (2010). Applicability to Lotka's Law to research productivity of Council of Scientificand Industrial Research (CSIR), India. Annals of Library and Information Studies, 57 (1), 1-5.
16. Kuri, R. (2014). Foot Marks of LIS Journals in DOAJ: an Analytical Study.Asian Journal of Multidisciplinary Studies, 2(5).
17. Schloegl, C., & Stock, W. G. (2004). Impact and relevance of LIS journals: A scientometric analysis of international and German-language LIS journals—Citation analysis versus reader survey. Journal of the American Society for information Science and Technology, 55(13), 1155-1168.
18. Singh, J. K. (2014). A Scientometric analysis of "Indian Journal of Pure and Applied Physics"(2006-2010): A study based on Web of Science. Research Journal of Library Sciences.
19. Suradkar, Vaishali and Ambedkar (2012) Authorship pattern: scientometric study on citation in journal of documentation. Electronic International Interdisipinary Research Journal (EIIRJ), 1 (3), 54-64.

20. Velmurugan, C. & Radhakrishnan, N. (2015). A Scientometric Analysis of Research Papers Published on Pharmacognosy as reflected in theWeb of Science. Advances in Pharmacognosy and Phytomedicine, 1 (1), 27-40.
21. Young, L., Wilkinson, I. & Smith, A. (2015). A Scientometric Analysis of Publications in the Journal of Business-to-Business Marketing 1993-2014. Journal of Business-to-Business Marketing, 111-123.