



MAPPING THE RESEARCH PRODUCTIVITY OF JAWAHARLAL NEHRU UNIVERSITY: A BIBLIOMETRIC ANALYSIS BASED ON SCOPUS DATABASE

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Abstract

The present study explores the research output of the Jawaharlal Nehru University since 1971 by the all faculties viz, Social Sciences and Sciences. For that the Scopus database has been used for data downloaded for the period of 41 years, based on the database of Science Citation Index (SCI) and Social Sciences Citation Index (SSCI) and its implications using the Bibliometric/scientometric techniques. The results of this work reveal that the total number of publications is 5395 and the year 2012 ranked at first place and scored 490 publications and also found that the year 2007 onwards there was a steady level of increasing trend. Where the ranking of top 10 Authors Ramasamy, R. has ranked at first with 124 publications. The Subject wise distribution of publications the highest publications were found in the subject of Biochemistry, Genetics and Molecular Biology which scored the 1480 publications and stand at first. The Document type of publications were found that the Article type were stand at first with 4399 publications. The Institution wise collaborations of publications, the University of Delhi ranked at top with 160 publications. The Country wise collaboration of publications, the country United States with 494 publications and stood for top position. The study also found that the Highly Cited Papers of Jawaharlal Nehru University publications. The results of this study show that the Bibliometric/scientometric analysis has a great potential to gain valuable insights into the evolution of the research publications of an institution.

Keywords:; Bibliometric Study; Jawaharlal Nehru University(JNU);Scientometric Study; Scopus Database

Introduction

Young at forty two years, as universities go, what has lent strength and energy is the vision that ideas are a field for adventure, experimentation and unceasing quest and diversity of opinions its chief premise. The excellent teacher-student ratio at 1:10, a mode of instruction which encouraged students to explore their own creativity instead of reproducing received knowledge, and an exclusively internal evaluation were a new experiment on the Indian academic landscape; these have stood the test of time. Presently the University has over 7300 students, who come from all parts of the country and abroad, and from all sections of society. There are over 500 faculty members in addition to administrative staff. The living ambience and social milieu of the campus is also reflected in an integrated, interdisciplinary approach in teaching and research.

Research themes evolve with new developments in the area and the interface between different areas of study. Several Centres in these Schools have been declared by the UGC to be

Centres of 'Excellence'. These are Centre for Historical Studies, Centre for the Study of Social Systems, Centre for Political Studies, Centre for Economic Studies and Planning, Centre for the Study of Regional Development, all in the School of Social Sciences. In addition three Science Schools--School of Physical Sciences, School of Life Sciences and School of Environmental Sciences have also received the UGC recognition as Centers for Excellence.

Recently JNU has been ranked by the NAAC as the top University in the country and continue to play a major role in the field of higher education, by seeding new ideas and creating knowledge, and by imparting high level of training with values and social commitment. Participatory teaching and research is the hallmark of JNU. It has set a model for other Universities to follow. Lastly, JNU is one University which has made a highly perceptible impact on Indian society by way of its national character, liberal and democratic ethos, high

teaching standards, quality research and publications, etc.

Objectives

The objectives of the present study are:

- To study year-wise distribution of Publications of JNU;
- To study Document wise and journal distribution of Publications;
- To study the country wise collaboration of research of the scientists;
- To study the Ranking of authors;
- To study the Institution-wise collaboration; and
- To find the highly cited papers

Methodology

The methodology applicable in the current study is Bibliometric study, which is used to analyses in detail the bibliographic attributes of the articles published by JNU which indexed in Scopus database during 1971-2013. The data have downloaded 5395 records from Scopus database and tabulated, analyzed for the study.

Year Wise Distribution of Publications

Table -1 show that the year wise distribution of publications of Jawaharlal Nehru University since 1971. The total numbers of records were 5395 from the 42 years, among those the year 2012 ranked at first place and scored 490 records and followed the year 2011 stands second rank has scored 448 records and the year 2010 has ranked at third and scored 365. This shows clearly the increasing trends from the year 2007 onwards, previous year's shows that there was a fluctuation of publications.

Table - 1 shows that Year wise Distribution of Publications

Year	Publications	Year	Publications	Year	Publications
2014	1	2000	149	1986	30
2013	310	1999	161	1985	51
2012	490	1998	174	1984	39
2011	448	1997	128	1983	24
2010	365	1996	153	1982	11
2009	341	1995	72	1981	20
2008	334	1994	63	1980	16
2007	237	1993	103	1979	15
2006	222	1992	79	1978	7
2005	250	1991	86	1977	4
2004	230	1990	82	1976	6
2003	186	1989	64	1975	4
2002	166	1988	56	1974	3
2001	173	1987	40	1973	1
				1971	1

Ranking of Top 10 Authors of Jawaharlal Nehru University

Table - 2 shows that the ranking of top 10 Authors of Jawaharlal Nehru University publications of various faculties. Among those Bhattacharya has ranked at first with 107 publications and the author

Puri has ranked at second with 103 publications and the third ranked by two authors Bohidar and Baquer shared with 100 publications each and followed by others.

Table-2 Ranking of 10 Authors

Author's Name	Records
Bhattacharya, A.	107
Puri, S.	103
Bohidar, H.B.	100
Baquer, N.Z.	100
Subramanian, V.	80
Bhattacharya, S.	76
Sopory, S.K.	75

Kale, R.K.	73
Behari, J.	70
Ghosh, S.	67
Saxena, R.K.	67
Mallick, B.N.	66
Datta, K.	63

Subject Wise Distribution of Publications

Table - 3 shows that Subject wise distribution of publications from the faculties of Jawaharlal Nehru University. Among those the highest publications were found in the subject of Biochemistry, Genetics and Molecular Biology which scored the 1480 publications and stand at first. The subject area of Social Science has occupied at

second place which scored 875 publications and it is a witnessed that JNU is still meant for Social Science subject. The subject of Physics and Astronomy has stand the third slot with 814 publications and followed by Agricultural and Biological Sciences with 726 publications and 17 publications were found that undefined subject.

Table -3 shows that Subject wise Distribution of Publications

Subject Area	Publications
Agricultural and Biological Sciences	726
Arts and Humanities	150
Biochemistry, Genetics and Molecular Biology	1480
Business, Management and Accounting	90
Chemical Engineering	212
Chemistry	297
Computer Science	374
Decision Sciences	62
Dentistry	1
Earth and Planetary Sciences	297
Economics, Econometrics and Finance	329
Energy	50
Engineering	266
Environmental Science	529
Health Professions	34
Immunology and Microbiology	376
Materials Science	259
Mathematics	393
Medicine	676
Multidisciplinary	120
Neuroscience	111
Nursing	23
Pharmacology, Toxicology and Pharmaceutics	232
Physics and Astronomy	814
Psychology	26
Social Sciences	875
Veterinary	14
Undefined	17

Document Wise Distributions of Publications

Table - 4 explain the Document wise distribution of publications of Jawaharlal Nehru University faculty members in which the Article type were stand at first with 4399 publications and the second place were

occupied by Conference papers 366 publications , the third place has been occupied by the Reviews which scored 353 publications and the 47 publications were found that undefined.

Table-4 shows that Document wise Distributions of Publications

Document Type	Publications
Article	4399
Conference Paper	366
Review	353
Article in Press	53
Note	46
Letter	43
Editorial	31
Short Survey	24
Erratum	23
Book Chapter	9
Book	1
Undefined	47

Source Wise Distributions of Publications

Table - 5 shows that Source wise distribution publications of Jawaharlal Nehru University. The Economic and political Weekly (EPW) journal has scored its first rank with 177 publications. Again it proved that Social Science field of publications were

found that very strong and followed by International Studies which scored 126 publications and stood second rank. The third rank has been occupied by Physical Review E Statistical Nonlinear and Soft Matter Physics with 97 publications.

Table- 5 shows that Source wise Distributions of Publications

Source Title	Publications
Economic and Political Weekly	177
International Studies	126
Physical Review E Statistical Nonlinear and Soft Matter Physics	97
Current Science	87
Indian Journal of Experimental Biology	74
Biochemical and Biophysical Research Communications	73
Plos One	54
Journal of Biosciences	50
Journal of Biological Chemistry	44
China Report	44
Indian Journal of Labour Economics	44
Journal of Chemical Physics	42
Biochemistry International	42
Studies in History	40
Environmental Monitoring and Assessment	38

Institution Wise Collaborations of Publications

Table - 6 shows that Institution wise collaborations of publications of Jawaharlal Nehru University with its affiliated institutions. The Jawaharlal Nehru University has stood its first place with 5336 publications alone. The second place has been

occupied by the University of Delhi with 160 publications and the Indian Institute of Technology, Delhi ranked at third with 108 publications collaborations.

Table 6 shows that Institution wise collaboration of Publications

Institutions	Publications
Jawaharlal Nehru University	5336
University of Delhi	160
Indian Institute of Technology, Delhi	108
All India Institute of Medical Sciences	75
International Centre for Genetic Engineering and Biotechnology, New Delhi	55
International Centre for Genetic Engineering and Biotechnology	44
Govind Ballabh Pant Institute of Himalayan Environment and Development	41
National Institute of Immunology India	38
Inter University Accelerator Centre India	35
Annamalai University	35
National Institute for Plant Genome Research India	35
Tata Institute of Fundamental Research	34
Indian Agricultural Research Institute	32
University Colorado Cancer Center	27
National Centre for Plant Genome Research	26
Johannes Gutenberg UniversitÄt Mainz	26

Country Wise Collaboration of Publications

Table -7 shows that Country wise collaboration of publications of Jawaharlal Nehru University. Among those India has secured at top position with 5246 publications and the second place was occupied by the country United States with 494 publications. The country Germany has stood at third

slot with 155 publications and followed by United Kingdom and stand at fourth place with 103 publications. The table clearly shows that most of the author's publications were in India though they have been contributed as many as other countries in the world.

Table- 7 shows that Country wise Collaboration of Publications

Country	Records	Country	Records
United States	494	Iran	4
Germany	155	Czech Republic	4
United Kingdom	103	Chile	4
France	65	Brazil	4
Japan	61	Turkey	4
Canada	48	Philippines	4
Australia	29	Sri Lanka	3
Italy	27	Kuwait	3
Netherlands	27	Luxembourg	2
Switzerland	26	Egypt	2
Belgium	25	Cameroon	2
Sweden	24	Gambia	2
China	21	Argentina	2
Russian Federation	16	Estonia	1
South Korea	16	Ethiopia	1

Spain	15	Ghana	1
Israel	13	Romania	1
Singapore	12	Russia	1
Austria	11	Iraq	1
Poland	10	Jordan	1
Malaysia	10	Albania	1
Mexico	10	Lebanon	1
Finland	9	Slovakia	1
Saudi Arabia	8	Lithuania	1
Hungary	8	Botswana	1
Greece	8	Malawi	1
Yemen	7	Brunei Darussalam	1
Denmark	7	Costa Rica	1
South Africa	7	Nepal	1
Taiwan	6	Serbia	1
New Zealand	6	Croatia	1
Slovenia	6	Latvia	1
Thailand	6	Nigeria	1
Ireland	6	Ukraine	1
Norway	5	United Arab Emirates	1
Portugal	5	Bulgaria	1
Bangladesh	5	Oman	1
Hong Kong	5	Pakistan	1
Kenya	5	Yugoslavia	1

Figure-1 shows the Highly cited Papers

Document title	Author(s)	Date	Source title	Cited by
1 The causes of land-use and land-cover change: Moving beyond the myths	Lambin, E.F., Turner, B.L., Geist, H.J., Agbola, S.B., Angelsen, A., Bruce, J.W., Coomes, O.T., (...), Xu, J.	2001	<i>Global Environmental Change</i> 11 (4) , pp. 261-269	881
2 The genome of the protist parasite <i>Entamoeba histolytica</i>	Loftus, B., Anderson, I., Davies, R., Aismark, U.C.M., Samuelson, J., Amedeo, P., Rencaglia, P., (...), Hall, N.	2005	<i>Nature</i> 433 (7028) , pp. 865-868	397
3 Antibacterial and antifungal activity of aromatic constituents of essential oils	Pattnaik, S., Subramanyam, V.R., Bapaji, M., Kole, C.R.	1997	<i>Microbios</i> 89 (358) , pp. 39-46	257
4 Prediction of probable genes by Fourier analysis of genomic sequences	Tiwari, S., Ramchandran, S., Bhattacharya, A., Bhattacharya, S., Ramaswamy, R.	1997	<i>Computer Applications in the Biosciences</i> 13 (3) , pp. 263-270	251
5 TNF-induced signaling in apoptosis	Rath, P.C., Aggarwal, B.B.	1999	<i>Journal of Clinical Immunology</i> 19 (6) , pp. 350-364	215
6 Molecular mechanisms of quenching of reactive oxygen species by proline under stress in plants	Matysik, J., Alia, Bhalu, B., Mohanty, P.	2002	<i>Current Science</i> 82 (5) , pp. 525-532	214
7 Erosion of Deccan Traps determined by river geochemistry: Impact on the global climate and the 87Sr/86Sr ratio of seawater	Dessert, C., Duprè, B., François, L.M., Schott, J., Gaillardet, J., Chakrapani, G., Bajpai, S.	2001	<i>Earth and Planetary Science Letters</i> 188 (3-4) , pp. 459-474	182
Very high upper critical fields in MgB2 produced by selective tuning of	Gurevich, A., Pattnaik, S., Braccini, ...	2004	<i>Superconductor Science and</i>	170

Conclusion

The study conclude that the total number of publications is 5395 and the year 2012 ranked at top and scored 490 publications and also found that the year 2007 onwards there was a steady level of increasing trend. Where the ranking of top 10 Authors Bhattacharya has ranked at first with 107 publications. The Subject wise distribution of publications the highest publications were found in the subject of Biochemistry, Genetics and Molecular Biology which scored the 1480 publications and stand at first. The Document type of publications were found that the Article type were stand at first with 4399 publications. The Institution wise collaborations of publications, the University of Delhi ranked at top with 160 publications. The Country wise collaboration of publications, the country United States with 494 publications and stood for top position. The study also found that the Highly Cited Papers of Jawaharlal Nehru University publications.

References

- Madhan, M., Chandrasekar, G., & Arunachalam, S. (2010). Highly cited papers from india and china. *Current Science*, 99(6), 738-749.
- Rajagopal, T., Archunan, G., Surulinathi, M., & Ponmanickam, P. (2012). Research output in pheromone biology: A case study of india. *Scientometrics*, , 1-9.
- A. Poornima, **M. Surulinathi**, N. Amsaveni and M. vijayaragavan (2011), [Mapping the Indian Research Productivity of Food Science and Technology: A Scientometric Analysis](#), *Food Biology*, Vol. 1. No. 1. PP. 36-41. ISSN: 2249-4790.
- <http://www.scopus.com/>
- R. Duraipandi, R. Balasubramani (2013). Research Output of Jawaharlal Nehru University, National Conference proceedings in VSB Engineering College, Karur, Tamil Nadu.