CHAPTER 13

E-Journal of Chemistry from 2007 to 2012: A Bibliometric Study

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INTRODUCTION

Bibliometric research is a complex area to comprehend and to undertake in which one might expect information about the intricacies of identifying data for a bibliometric study, discussion about what that data means when it has been extracted, as well as details about the assumptions and limitations researchers face when working in the field, will need to consult an alternative source (Haddow, 2010). Now-a-days, bibliometric studies are conducted for a given field of knowledge on specific literature, research output of a prolific author, research productivity of an organization or of an individual journal for a specific range of time. The present study attempts to unfold the publication characteristics of

E-Journal of Chemistry which is published by World Wide Web Publications (P) India from the USA.

METHODOLOGY

All necessary bibliographic details of the articles published in E-Journal of Chemistry from 2007 to 2012 were retrieved from Scopus (Elsevier Bibliographic Database). The obtained data were transported into MS Excel file and major facets like types of publications, country wise distribution of contributions, ranking of authors, contributions by affiliations were analyzed using appropriate bibliometric measures.

OBJECTIVES

The key objectives of this study are:

- To ascertain the number of papers published in the journal *E-Journal of Chemistry* from 2007 to 2012;
- To study the types of contributions;
- To ascertain country wise representations to the journal E-Journal of Chemistry;
- To find out ranking of authors; and
- To identify the core institutions who have significant contributions to the publications of *E-Journal of Chemistry* from 2007 to 2012.

LITERATURE REVIEW

Swain (2011) analysed "Library Philosophy and Practice (LPP) from 2004 to 2009" and found that, "most of the cited journals in LPP hailed from the field of library science as expected and the authorship productivity pattern of the journal witnessed a partial compliance with Lotka's Law". Swain and Panda's (2012) bibliometric analysis on "Journal of Intellectual Property Rights"

revealed that, single authored contribution to the journal was comparatively more than multi-authored contributions and the average number of Google scholar citations to all published articles was found to be 0.66 per article. Swain, Jena and Mohapatra (2012) analyzed 315 scholarly articles published in *Interlending* & Document Supply from 2001 to 2010 and reported the instance of most current citations by the majority of the ILDS authors.

Jena, Swain, and Sahu (2012) found that the majority of articles published in the journal The Electronic Library (TEL) fall under the category of research papers, followed by case studies, and general reviews and the majority of citations are from journals, followed by web resources and books. The study further revealed that the average length of articles in TEL is 13 pages per article. Hussain and Fatima (2011) in the bibliometric analysis of the 'Chinese Librarianship: an international Electronic Journal from 2006 to 2010 found that the journal published the highest number of 14 articles in 2007 out of the total 62 articles published during 2006 to 2010. Singh (2013) revisited the Chinese Librarianship from 2009 to 2012 and found that majority of papers contributed to the journal were single authored papers and the degree of collaboration ranged from 0.47 to 0.71. Swain, et al.(2013) conducted a bibliometric study on Library Review from 2007 to 2011 and revealed the key facets of the publications of this journal indicating the quality and maturity of Library Review and its high impact and influence in the field of library and information science. Swain's (2013) case study on the journal Internet Research showed that "the 2012 Impact Factor of Internet Research (based on record of Scopus citations) is 1.900 and immediacy index is 0.241".

ANALYSIS OF TYPES OF PAPERS

Table 1 shows that *E-Journal of Chemistry* has published a great majority of papers in the form of articles (1433) followed by quite a few reviews (5). The year wise distribution of papers is depicted in Table 1.

Table 1: Types of papers

Year	Type of paper		Total	
	Article	Review		
2012	279	2	281	
2011	350	0	350	
2010	322	0	322	
2009	247	1	248	
2008	153	0	153	
2007	82	2	84	
Total	1433	5	1438	

Performance Measure of E-Journal of Chemistry through SJR indicator

The SJR indicator measures the scientific influence of the average article in a journal, it expresses how central to the global scientific discussion an average article of the journal is. Cites per Doc. (2y) measures the scientific impact of an average article published in the journal, it is computed using the same formula that journal impact factor TM (Thomson Reuters).¹

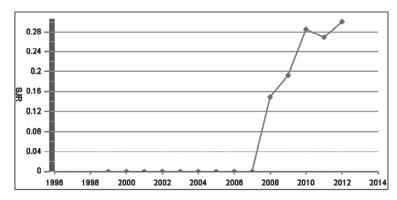


Figure 1: SJR Values for E-Journal of Chemistry

It is found from Figure 1 that the performance of *E-Journal of* Chemistry has witnessed a steady rise from 2007 to 2010. Though there has been a bit decline in the impact of journal in 2011, it has managed to achieve it peak performance in the year 2012 indicating the higher rate of citations for 2011 and 2010.

Prolific Authors

A total of 880 authors contributed in all 1438 papers to E-Journal of Chemistry from 2007 to 2012. It is evident that Basavaiah, K. and Obot, I.B. with the contribution of 10 papers each are found to be the most prolific authors of E-Journal of Chemistry. The authors who have contributed at least 5 or more papers to the publications of the journal are presented in table 2 in order.

Table 2: Prolific authors

Sl No	Rank	Author	No. of papers
1	1	Basavaiah, K.	10
2	=1	Obot, I.B.	10
3	2	Arivoli, S.	8
4	=2	Heravi, M.M.	8
5	=2	Mangaonkar, K.V.	8
6	=2	Palanisamy, P.N.	8
7	=2	Sharma, S.	8
8	=2	Sivakumar, P.	8
9	=2	Vashi, R.T.	8
10	3	Balasubramaniam, V	7
11	=3	Begum, A.	7
12	=3	Giraldo, L.	7
13	=3	Kumar, A.	7
14	=3	Mathrusri Annapurna, M.	. 7
15	=3	Moreno-Pirajan, J.C.	7
16	=3	Nasef, M.M.	7
17	4	Baei, M.T.	6

Contd..

Table 2: Contd...

Sl No	Rank	Author	No. of papers
18	=4	Bamoharam, F.F.	6
19	=4	Eddy, N.O.	6
20	=4	El-Hefian, E.A.	6
21	=4	Hui, Q.	6
22	=4	Kumar, S.	6
23	=4	Mukkanti, K.	6
24	=4	Pang, X.Y.	6
25	=4	Sarrafi, A.H.M.	6
26	=4	Sundrarajan, M.	6
27	=4	Vora, J.J.	6
28	5	Badiei, A.	5
29	=5	Cai, Y.H.	5
30	=5	Deepika, D.	5
31	=5	Gowri Sankar, D.	5
32	=5	Hajian, R.	5
33	=5	Harikrishna, S.	5
34	=5	Hasaninejad, A.	5
35	=5	Hiran, B.L.	5
36	=5	Motamedi, M.	5
37	=5	Najim, T.S.	5
38	=5	Narendra, A.=5	5
39	=5	Nezhadali, A.=5	5
40	=5	Peiyue, L.(5)	5
41	=5	Rambabu, C.=5	5
42	=5	Sankar, D.G.=5	5
43	=5	Zare, A.=5	5

Distribution of representations by countries

It is found that India has represented a record number of 946 authors to the publications of the journal followed by Iran (161authors). The representations from 54 different countries are depicted in Table 3.

Table 3: Distribution of representations by countries

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Sl No.	Rank	Country	No of representation			
1	1	India	946			
2	2	Iran	161			
3	3	China	72			
4	4	Nigeria	44			
5	5	Malaysia	40			
6	6	Iraq	27			
7	7	Turkey	18			
8	8	Libyan Arab Jamahir	iya 17			
9	9	South Korea	15			
10	10	Saudi Arabia	13			
11	11	Egypt	10			
12	11	South Africa	10			
13	12	France	9			
14	13	Morocco	8			
15	13	Pakistan	8			
16	14	Tunisia	6			
17	15	Egypt	5			
18	15	Algeria	5			
19	15	Jordan	5			
20	15	Sudan	5			
21	15	Thailand	5			
22	16	Algeria	4			
23	16	Colombia	4			
24	16	Colombia	4			
25	16	Romania	4			
26	16	United Kingdom	4			
27	16	United States	4			
28	17	Canada	3			
29	17	Germany	3			
30	17	Indonesia	3			
31	17	Philippines	3			

Contd..

Table 3: Contd.

Sl No.	Rank	Country	No of representation
32	17	Serbia	3
33	17	Viet Nam	3
34	17	Yemen	3
35	18	Cameroon	2
36	18	Canada	2
37	18	Cote d'Ivoire	2
38	18	Argentina	2
39	18	Ethiopia	2
40	18	Mexico	2
41	18	Switzerland	2
42	18	Taiwan	2
43	18	Ukraine	2
44	19	Australia	1
45	19	Colombia	1
46	19	Cameroon	1
47	19	Congo	1
48	19	Cote d'Ivoire	1
49	19	Israel	1
50	19	Mauritius	1
51	19	Singapore	1
52	19	Spain	1
53	19	Sri Lanka	1
54	19	United Arab Emirates	s 1

Distribution of representations by institutions

The study finds that Daneshgahe Azad Eslami has represented the highest number of 71 authors, followed by Andhra University (41 authors), and Annamalai University (28 authors). The institutions which have represented 5 or more authors to the publications of the source journal are presented in Table 4.

Table 4: Distribution of representations by institutions

Sl. No	Rank	Institution	No. of
			representations
1	1	Daneshgahe Azad Eslami	71
2	2	Andhra University	41
$\frac{2}{3}$	3	Annamalai University	28
	4	Hebei University	22
5	5	Payame Noor University	21
6	6	University of Mysore	19
7	7	Osmania University	16
8	7	Rashtrasant Tukadoji Maharaj Nagpur Universit	y 16
9	7	Sri Venkateswara University	16
10	8	Dr. Harisingh Gour University, Sagar	15
11	9	University of Malaya	14
12	10	Gulbarga University	12
13	10	Navjivan Science College	12
14	11	Alzahra University	10
15	11	Islamic Azad University of Sepidan	10
16	11	Jawaharlal Nehru Technological University	10
17	11	Khadir Mohideen College	10
18	11	Kuvempu University	10
19	11	Roland Institute of Pharmaceutical Sciences	10
20	11	University of Mysore	10
21	12	Persian Gulf University	9
22	12	Universiti Teknologi Malaysia	9
23	13	Avinashilingam University for Women	8
24	14	Chang'an University	7
25	14	Periyar University	7
26	14	Universidad de Los Andes	7
27	14	Universidad Nacional de Colombia	7
28	14	University of Garyounis	7
29	14	University of Ibadan	7
30	14	University of Uyo	7
31	15	Acharya Nagarjuna University	6
32	15	Alagappa University	6
33	15	Mohan Lal Sukhadia University	6

Contd..

Table 4: Distribution of representations by institutions

Rank		No. of representations
15	University of Tehran	6
16	Chongqing University	5
16	Karnatak University India	5
16	PES School of Engineering	5
16	Punjabi University Patiala	5
16	Royal College of Pharmacy & Health Sciences	5
16	St. Joseph's College Tiruchirapalli	5
16	The Kongu Vellalar Institute of Technology Tru	st 5
16	The University of Guilan	5
16	University of Kurdistan	5
16	University of Uyo	5
	15 16 16 16 16 16 16 16 16	15 University of Tehran 16 Chongqing University 16 Karnatak University India 16 PES School of Engineering 16 Punjabi University Patiala 16 Royal College of Pharmacy & Health Sciences 16 St. Joseph's College Tiruchirapalli 16 The Kongu Vellalar Institute of Technology Tru 16 The University of Guilan 16 University of Kurdistan

Distribution of keywords

Keywords are the key elements that facilitate the visibility of the papers. It is found that 'Synthesis' as a keyword has appeared in as many as 71 times followed by 'RP-HPLC', 'Spectrophotometric' and 'Antibacterial activity'. The keywords which have appeared at least for 5 times or more are depicted in Table 5.

MAJOR FINDINGS

The key findings of the study may be summarized as:

- 1. E-Journal of Chemistry has published a great majority of papers in the form of articles (1433) followed by quite a few reviews (5);
- 2. A total of 880 authors contributed in all 1438 papers to E-Journal of Chemistry from 2007 to 2012. It is evident that Basavaiah, K. and Obot, I.B. with the contribution of 10 papers each are found to be the most prolific authors of *E-Journal of* Chemistry;

Table 5: Distribution of keywords

Sl. No.	Keywords	Frequency	Sl. No.	Keywords Fr	equency
1	Synthesis	71	31	Aldehydes	10
2	RP-HPLC	48	32	Antioxidant activity	10
3	Spectrophotometric	43	33	Biological activity	10
4	Antibacterial activity	39	34	Activation energy	9
5	Validation	37	35	Antifungal	9
6	Kinetics	35	36	Determination	9
7	Schiff base	35	37	FTIR	9
8	Antimicrobial activity	34	38	Spectrophotometric determination	9
9	Activated carbon	25	39	Chitosan	8
10	Chalcones	23	40	Complex	8
11	Antifungal activity	22	41	Complexes	8
12	Mild steel	22	42	Corrosion inhibition	8
13	HPLC	21	43	Adiabatic compressibilit	y 7
14	Estimation	20	44	Adsorption	7
15	Oxidation	20	45	Anti-inflammatory activi	ty 7
16	Corrosion	19	46	Aromatic aldehyde	7
17	Groundwater	19	47	Characterization	7
18	Heavy metals	16	48	Extraction	7
19	Isotherm	16	49	UV spectrophotometry	7
20	Microwave irradiation	16	50	Water quality index	7
21	Antibacterial	15	51	Benzothiazole	6
22	Paracetamol	15	52	DFT	6
23	Solvent free	15	53	Imidazole	6
24	Ultrasonic velocity	15	54	Magnetic moment	6
25	Adsorption isotherm	14	55	Mechanism	6
26	Antimicrobial	12	56	Methylene blue	6
27	Inhibition	12	57	Agar	5
28	Adsorption kinetics	11	58	Aluminium	5
29	Metal complexes	11	59	Antioxidant	5
30	Physicochemical parameter	ers 11	60	Benzimidazole	5

- 3. It is found that India has represented a record number of 946 authors to the publications of the journal followed by Iran (161authors);
- 4. The study finds that Daneshgahe Azad Eslami has represented the highest number of 71 authors, followed by Andhra University (41 authors), and Annamalai University (28 authors); and
- 5. It is found that 'Synthesis' as a keyword has appeared in as many as 71 times followed by 'RP-HPLC', 'Spectrophotometric' and 'Antibacterial activity'.

CONCLUSION

It is evident from the analysis that *E-Journal of Chemistry* has published a good number of research papers emanating from 54 different countries of the world indicating the quality of its high visibility and access all around. The SJR values and the citation trends of the journal speak volumes about the acceptability of its contents by the academics of chemistry. Moreover, the open access characteristic of the journal attracts and influences the budding researchers of chemistry to be published with journal.

Notes

1. http://www.scimagojr.com/journalsearch.php?q=5300152236&tip=sid

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