ANALYSIS

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Mapping the global level research productivity of performing arts and arts community using scientometric evaluation - Lotka's law

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General Note

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ABSTRACT

This study aimed to describe literature growth and author productivity using a scientometric evaluation - Lotka's Law of the publication output associated with research on performing arts and arts community during the 15-year period of 1999 to 2013. This study is a productivity review on the literature gathered from SCI, SSCI and ACHI database. The research indicated that the number of literature productions on performing arts and arts community is still growing. The main research development country is the USA, and from the analysis of the distribution of language, English is the most popular language for performing arts and arts community literature. The research results show that a relatively large percentage of authors (95.4%) contributed one article, which is a much higher percentage than the 60% found in Lotka's original data. According to the K-S test, the distribution of frequency indexes of author productivity match Lotka's law.

Keywords: Performing Arts, Lotka's Law, Bibliometrics, Performing Arts, Arts Community

1. INTRODUCTION

The purpose of this research is to analyze the literature of performing arts and arts community by using Scientometric techniques, carrying on the research in performing arts and arts community (Arunachalam, 1998; Surulinathi et al. 2013; Amsaveni et al. 2012; Raja et al. 2012; Sivakumar et al. 2011; Surulinathi et al. 2013). Through analyzing the characteristics of the literature, we intend to achieve the following goals:

- Investigate the distribution of country, language, literature growth, and author productivity, as concrete indicators for objectively understanding Performing arts and arts community literature development.
- Use Lotka's law to verify and examine the distributions of authors' productivity and to observe the growth patterns of performing arts and arts community literature. The Kolmogorov-Smirnov (K-S) is used to test the applicability of Lotka's law.

2. OBJECTIVE

This study to analyze the global research output in the field of performing arts and arts community during the period 1999 to 2013 and the analyses included year wise growth, share of top scholarly journals, share of international collaborative papers and major collaborative partner countries, global publications' share, and patterns of research communication in most productive journals. It also analyses the characteristics of most productive institutions.

3. METHODOLOGY

Data was collected from the Web of Science (WoS). The WoS is the search platform provided by Thomson Reuters (the former Thomson Scientific emerged from the Institute for Scientific Information (ISI) in Philadelphia). SCI database is one of the very comprehensive databases covering all aspects of science. The study period (1999 to 2013) is selected, as the database is available in machine from since 1982. The search string "performing arts and arts community" in the "Basic search" field of for the years 1999-2013 to download the records. A total of 12398 records were downloaded and analyzed by using the web of science website application as per the objectives of the study.

4. RESULTS & DISCUSSION

These top 20 most productive Journals have contributed 1230 papers in total research output of 1999-2013 (Table 1). The journal "MEDICAL PROBLEMS OF PERFORMING ARTISTS" topped with 164 publications with the Global Citation Score of 228, next "PLOS ONE" 123 publications with the Global Citation Score of 639 and "FERTILITY AND STERILITY" with 98 publications with the Global Citation Score of 1681 respectively. Table 2 indicates that the country wise number of publications. Highest number of Records has published in USA 3587 records at the same time it ranks first in terms of Global Citation Scores 55376, followed by UK and Germany have above 1000 articles related this subject productivity. Remaining countries were having less contribution of performing arts and arts community research Output.

As indicated in the table 3, Authors from Performing arts and arts community research Output have contributed 12398 publications during 1999 to 2013 in different scholarly journals. The highest number of research output 1785 was produced in the year 2005. However, there was a gradual growth rate of publications after 2003. The annual average research output in Performing arts and arts community is 885.57 records. A year wise growth of research output and citations received by the authors of Performing arts and arts community is presented in the Table 4. On considering the citation profile of papers of Performing arts and arts community 1999-2013, it was observed that 715 papers scored highest citation 14533 in the year 2005. The study reveals that the major source of publications covered by web of science on Performing Arts and Arts Community research in journal articles 9563 Records, while Article; Proceedings Paper 1177 records and Review with 1078 records of the remaining literature. Analysis in table 5 indicates Institution-wise research productivity. It is noted that more than 200 institutions were contributed of the total research productivity in the subject of Performing arts and arts community. It is noted that Harvard University contributed the highest number of research publications (152) at the same time it ranks third in terms of Global Citation Score 2283. Table 6 indicates that the word frequency of performing arts and arts community research Output. The word "ART" is used highest number of times followed by Based, Arts and Using words used respectively. Remaining words were less usage of performing arts and arts community research output.

Table 1

Top 20 Most Productive Journals

S.No	JOURNAL	RECORDS	TLCS	TGCS
1	Medical Problems of Performing Artists	164	97	228
2	Plos One	123	0	639
3	Fertility and Sterility	98	96	1681
4	IEEE Transactions on Image Processing	79	34	1728
5	Human Reproduction	76	94	2535
6	BMC Bioinformatics	74	0	1359
7	Cochrane Database of Systematic Reviews	66	0	1245
8	IEEE Transactions on Pattern Analysis and Machine Intelligence	56	40	1916
9	Bioinformatics	54	21	1017
10	JAIDS-Journal of Acquired Immune Deficiency Syndromes	49	64	711
11	AIDS	48	196	2244
12	New Theatre Quarterly	46	2	11
13	Pattern Recognition	46	8	357
14	AIDS Care-Psychological and Socio-Medical Aspects of AIDS/HIV	41	43	394
15	Astronomy & Astrophysics	37	9	1227
16	Nuclear Instruments & Methods in Physics Research Section A-Accelerators Spectrometers Detectors and Associated Equipment	37	8	348
17	Nuclear Engineering and Design	36	2	222
18	International Journal of Art & Design Education	34	6	28
19	Analytical and Bioanalytical Chemistry	33	21	382
20	Expert Systems with Applications	33	1	280

Table 2

Country wise Distribution

S. No	Country	Records	TLCS	TGCS
1	USA	3587	1017	55376
2	Unknown	1394	156	7739
3	UK	1219	493	19805

4	Germany	1032	146	14925
5	Italy	897	184	11594
6	France	734	165	11735
7	Canada	628	190	7497
8	Spain	599	117	6980
9	Peoples R China	569	87	3678
10	Australia	447	102	5435
11	Netherlands	438	143	7821
12	Switzerland	330	125	5957
13	Belgium	329	123	4737
14	Japan	292	28	4051
15	South Africa	235	382	3540
16	Sweden	225	57	3479
17	Brazil	200	36	1705
18	India	184	18	1844
19	South Korea	178	12	1317
20	Austria	173	32	2907

Table 3

Yearly Output of Performing Arts and Arts Community research Output

S. No	Publication Year	Records	TLCS	TGCS
1	1999	415	82	8869
2	2000	425	105	10563
3	2001	425	105	9328
4	2002	429	110	9698
5	2003	487	171	9992
6	2004	573	201	11734
7	2005	715	240	14533
8	2006	740	387	14063
9	2007	861	326	13590
10	2008	1037	318	12509
11	2009	1184	320	12034
12	2010	1345	239	9150
13	2011	1593	159	4814
14	2012	1785	47	1436
15	2013	384	4	38

Table 4

Document Wise Distribution of Publications

S. No	Document Type	Records	TLCS	TGCS
1	Article	9563	2263	98971
2	Article; Proceedings Paper	1177	249	12844
3	Review	1078	266	29181
4	Book Review	200	4	8
5	Editorial Material	161	29	1033
6	News Item	68	1	2
7	Meeting Abstract	34	0	1
8	Letter	25	0	143
9	Correction	20	0	30
10	Biographical-Item	16	0	19
11	Article; Book Chapter	8	0	35
12	Review; Book Chapter	8	1	73
13	Record Review	7	0	0
14	Reprint	7	0	5
15	Bibliography	5	1	2
16	Art Exhibit Review	4	0	0
17	Dance Performance Review	4	0	0
18	Database Review	4	0	0
19	Film Review	3	0	0
20	Software Review	3	0	3

Table 5

Institution Wise Distribution of performing arts and arts community Research Output

S.No	Institution	Recs	TLCS	TGCS
1	Unknown	506	27	531

2	Harvard Univ	152	95	2283
3	Columbia Univ	94	134	2765
4	Univ Cape Town	92	285	2498
5	Univ Toronto	92	25	932
6	Univ Washington	92	17	1300
7	Univ Illinois	89	23	1697
8	Univ Michigan	89	18	1558
9	Univ Calif Los Angeles	87	15	1691
10	Johns Hopkins Univ	84	23	1399
11	Univ N Carolina	81	47	1312
12	CNRS	73	17	887
13	Univ Calif San Francisco	73	64	1891
14	Univ Penn	72	22	972
15	Univ Roma La Sapienza	69	33	1215
16	UCL	68	23	1092
17	Univ Calif Berkeley	68	13	1228
18	CNR	67	15	1063
19	Univ Bologna	67	15	1219
20	Univ Maryland	67	29	1115

Table 6

Word wise Distribution of Research output

S. No	Word	Records	TLCS	TGCS
1	ART	1395	431	14990
2	BASED	832	225	8298
3	ARTS	739	157	1160
4	USING	681	116	7850
5	ANALYSIS	625	149	7760
6	STATE	568	209	10443
7	HIV	565	397	6791
8	PERFORMING	552	74	524
9	COMMUNITY	485	234	3293
10	THERAPY	403	363	6189
11	ANTIRETROVIRAL	400	626	7415
12	TREATMENT	398	406	5573
13	NEW	357	60	3574
14	MODEL	352	95	5024
15	PATIENTS	350	120	3865
16	HIGH	317	72	3696
17	REVIEW	313	113	7818
18	PERFORMANCE	305	83	2110
19	EVALUATION	273	87	3465
20	APPROACH	266	79	1936
21	HEALTH	259	129	3174
22	SYSTEM	258	14	2055
23	DATA	250	26	2413
24	IMAGE	240	50	2497
25	RESEARCH	234	36	3062

5. CONCLUSION

From this analysis the researcher have found the following remarks:

1. During 2005, the contribution is highest.
2. Among 10 types of Bibliographic formats, the journal format has contributed leading position.
3. The journal of "MEDICAL PROBLEMS OF PERFORMING ARTISTS" has produced more articles.
4. Harvard University contributed the highest number of research publications in Performing arts and arts Community.
5. USA, UK and Germany have produced more than 50 percent of articles in subject.

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