Scientometrics Analysis Of Kelpro Bulletin Journal

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Abstract- *Journals of Kelpro bulletin is one of the leading journals in the field of Library and Information Science. The main objective of this study is to cover various aspects of the journal through metrics study.During the period 2018-2022, a total of 116 full-length articles were published in a particular journal. The study includes various aspects such as the distribution of full-length articles on an annual basis, classification of articles by category, authorship pattern of articles, ranking of authors, degree of author collaboration, RGR, etc. As a result, the degree of collaboration in the Journals of Kelpro bulletin is 0.65, which clearly shows the dominance of multiple authors in their contributions.*

I. INTRODUCTION

Scientometrics is the science of measuring and analyzing science. In practice, Scientometrics is often done using Bibliometrics which is a measurement of the impact of (scientific) publications.

Scientometrics is the science of method scientific output similar to Bibliometrics used by librarians and information scientists. (Agrawal, Aruna, 1982); related fields are the history of science and technology philosophy of science and sociology of scientific knowledge. (Eugene Garfield, 1995) ; application of mathematical and statistical methods of scientific literature (Derek de solla, 2000); to identify national an international network and to map the development of new fields of science and technology as well as to know the inner logic of science development (yadavJaisi Ram, 1984); this enables to evaluate the size of scientific production on the assumption that the essence of scientific activity is the assumption the production of knowledge (Eugene Garfield, 2002); open access has emerged in the last few years as serious alternative to additional commercial publishing models taking the benefits offered by technology one step further (Wasudevan K T 1995); one significant finding in the field is principle of cost escalation to the effect that achieving further findings at a given level of importance grow exponentially more costly in the expenditure of efforts and resources (Manavalan R 1982); other characteristics of open access journals are that author relation copyrights and they must self achieved content in an independent repository (David Wilson, 2001); modern Scientometrics is mostly based on latter founded the institute for scientific information which is heavily used for Scientometric analysis (Derek, J. 1995); currently prepares and international methodological manual that will contain guidelines for creating applying and interpreting the indices based on Bibliometric data (Eva Rodenas, 2001).

II. REVIEW OF LITERATURE

Scientometric is complex of quantitative method which is used to investigate the process of science. According to Kademani and et al. (2005), the key scientometric concepts include: if the scientist is a renowned personality in this field these specializations will naturally attract more number of collaborators. Mahapatra and Kaul (1992); Singh (2007); Kogamuramath, (2001); Deshpande (1997); indicates that the use of analysis of chronological distribution show that older documents are less cited than newer ones. Le Minor, (1991), carried out the study in Self-citation is part of the wider analysis of scientific and scholarly citation patterns. Nicolsion, (2002), indicates that the Journal self-citation is an interesting bibliometric indicator that gives in an indication about the popularity of the journal among its contributors as well as the reader community. Lehnus (1973); analyzed Authors enrich a subject by their contributions citation analysis studies identify the familiar and prominent in the field. Kademani and et al. (2005) the key Scientists are trying to write jointly than the single author; joint author and more than two authors are authorship patterns. Kulsrestha and Haridasan, (2007), analyzed Personalities in the subject, whose work is used by the authors to refine their ideas on the used by the authors to refine their ideas on the subject topic. Balasubramanian and Bhaskar, (1984), indicate that the Self-citation refers to the number of times the previous papers published in the same journal, the rate of self-citation is lower than other authors citations.

III. OBJECTIVE OF STUDY

- To investigate year wise and document wise publication patterns.
- To Find out the Most Author Productivity:

- Know the geographical distribution of authors
- To calculate Relative Growth Rate and Doubling Time of Publication

IV. METHODOLOGY

The present study investigates the research contributions of authors in Kelpro bulletin journals through bibliometric analysis from 2018 to 2022 (five years). The journal is retrieved from its website, i.e. https://journals.aps.org/prab/. A total of 116 full-text research articles were published between 2018-2022. Bibliographic details obtained from the publications were tabulated, organized, and analyzed using MS Excel. Data were arranged and organized to consider different perspectives related to growth rate.

V. SCOPE OF THE STUDY

The scope of the study is limited to evaluating the research contributions of Library and Information Science professionals published as full-text papers in Kelpro bulletin journals. Publications of Journals of Kelpro bulletin for the five years 2018 to 2022 are taken up for the present study. A total of 116 articles were published over five years totaling Five volumes.

VI. DATA ANALYSIS AND INTERPRETATION

6.1 Year wise publication of contribution

Table No. 6.1: Year wise publication of contribution

Sr. No	Year	Articls	References
1	2018	23	246
2	2019	21	271
3	2020	21	287
4	2021	27	316
5	2022	24	296
Total		116	1416

Table 5.1 indicates that there are 116 articles and 1416 references in the Journal of Kelpro bulletin published during 2018-2022. Maximum number of references per article appeared in 2021 and minimum in 2018. The present study reveals that the average number of references per article has been increasing from 2018 to 2022. The average number of references per year is 283.20

6.2 Relative Growth Rate and Doubling Time of Publication

Growth rate analysis The growth rate analysis is done with respect to the relative growth rate and doubling time.
Relative growth rate per unit of publications per unit of time, ie, R(a) =
W1 = log w1 (Natural log of initial number of publications);
W2 = log w2 (Natural log of initial number of publications);
T2-T1=The unit difference between the initial time and final time.

Table No.6. 2: Relative Growth Rate and Doubling Time of Publication

Sr. No	**Year**	**Number of Articles**	**Cumulative Frequency**	**W1**	**W2**	**RGR**	**Mean [R(P)]**	**[Dt(p)]**	**Mean Dt (p)**
1	2018	23	23		3.15				
2	2019	21	44	3.15	3.78	0.63		0.91	
3	2020	21	65	3.78	4.17	0.39	0.32	0.56	0.46
4	2021	27	92	4.17	4.52	0.35		0.51	
5	2022	24	116	4.52	4.75	0.23		0.33	

Table 6.2 shows that, the relative growth rate of articles is decreased from 0.63 in 2018 to 0.23 in 2022. The mean relative growth rate for the entire period is 0.32. The whole study period has witnessed a mean doubling time of 046. The analysis clearly indicates that relative growth rate of articles has shown a declining trend, whereas a doubling time for publication has shown increasing.

6.3 Authorship pattern and collaboration rate

Table No. 6.3: Authorship pattern and collaboration rate

Year	**Single Authored Publication**	**Multi Authored Publication**	**Total**	**Collaboration Rate**
2018	9	14	23	0.61
2019	4	17	21	0.81
2020	7	14	21	0.67
2021	11	16	27	0.59
2022	8	16	24	0.67
Total	**39**	**77**	**116**	**0.66**

It can be observed from above Total No.6.3 that during the period of five years since 2018 to 2022 of 116 contributions contributed. The table shows the Authorship pattern and collaboration rate of the journals. It indicates that kelpro bulletinhas thehighest collaboration rate 0.81 and lowest collaboration rate has 0.59 of Kelpro bulletin.

6.4 Authorship and collaboration Trend

Table No. 6.4: Authorship and Collaboration Trend

Year	Single Author	Double Author	Three Author	Fourth Author	Total
2018	9	11	2	1	23
2019	4	9	7	1	21
2020	7	12	2	0	21
2021	11	14	2	0	27
2022	8	15	0	1	24

6.5. Degree of Collaboration

Degree of collaboration (DC) among different authors presented in Table No. 5.5 in order to calculate the Degree of Collaboration (DC) the formula given by Subramanyam (1983) have been employed which is expressed mathematical as;

$$DC = \frac{Nm}{Nm + Ns}$$

Whereas-
DC= Degree of Collaboration
Nm= No. of multi authors papers
Ns= No. of Single authored Papers.

Table no.6.5Degree of Collaboration

Year	Single Author	Multi Author	Total	DC
2018	9	14	23	0.61
2019	4	17	21	0.74
2020	7	14	21	0.61
2021	11	16	27	0.70
2022	8	16	24	0.70
Total	**39**	**77**	**116**	3.35

The above table reveals that, DC was lowest at 0.61 in 2018 and 2020.The highest at 0.70 in 2021and 2022. There is a steady increase in multi-authored papers in all years, but it is the lowest in 2020 and hence shows a study duration of 0.61 during the average DC.

6.6. Most productive Authors

Table No. 6.6: Most productive Authors

Sr. No	Name Of Author	Frequency	%
1	Dr. V Jalaja,	9	7.76
2	Dineshan Koovakkai,	8	6.90
3	Dr. M Suriya,	7	6.03
4	A Manimekalai	7	6.03
5	Dr. Raju M Mathew,	6	5.17
6	Dr. Raju M. Mathew,	6	5.17
7	Kca Majeed	6	5.17
8	Suresh Jange,	5	4.31
9	M. Varghese,	5	4.31
10	M. Parameswaran	4	3.45
11	Dr. Mohamed Haneefa K,	4	3.45
12	Dr. Manoj Kumar Sinha,	4	3.45
13	Dr. V.J. Suseela,	4	3.45
14	Manoj Kumar Sinha,	3	2.59
15	Dr. S. Humayoon Kabir	3	2.59
16	Double Author Publication (2 X 6)	12	10.34
17	Single Author Publication (1 X 23)	23	19.83
Total		**116**	**100.00**

It can be observed from the Table no. 6.6 that, there are two journals analysis in this study. Out of 116 Articlescontributorshas contributed during the period Fiveyear of the study. It indicates from table the most productive authors mentioned in this table. In Kelpro bulletin the author Dr. V Jalaja, with (9. 7.76%)on first position, Dineshan Koovakkai (8. 6.90%)second position, Dr. M Suriya (7. 6.03%)on Third position.

6.7. Geographical distribution of research output

Table No. 6.7: Geographical distribution of research output

Sr. No	Country	Publications	Percentage
1	India	99	85.34
2	Bangladesh	11	9.48
3	Nigeria	6	5.17
TOTAL		116	100.00

It can be observed from above Table No.6.7 there were 348 countries contributed during the research and their

continent wise distributions shows in the research. Majority of the contributions India with 99 publications (85.34%) of the total output. Second rank followed by Bangladesh with 11 published (9.48%) and third rank is for Nigeria with 6 published (5.17%)**.**

6.8 Distributions of Literature in Various Channels of Communications

Table No. 6.8: Distributions of literature in various Channels of Communications

Sr. No	Document	Total	Percentage
1	Article	90	77.59
2	Book Review	16	13.79
3	Editorial	10	8.62
Total		**116**	100.00

It can be observed from table no. 6.8 total 116 papers published during the period of five years. Majority of the contributions contributed under the Article document type with 90 (77.59%) publications. Followed by Book Review with 16 (13.79%) publications then Editorial10 (8.62%) publications like that various channels of communications analyzed in this study.

6.9Most Productive Keywords

Table No. 6.9: most productive keywords

Sr. No	Name of Keyword	Frequency	%
1	Technology	16	2.76
2	Information Communication	12	2.07
3	International	12	2.07
4	Information Technology	11	1.90
5	Library Science	11	1.90
6	Public Libraries	9	1.55
7	Information Creation	9	1.55
8	Information Behavior	7	1.21
9	Health Information	7	1.21
10	Content Analysis	7	1.21
11	Information Experience	6	1.03
12	Misinformation	6	1.03
13	Phenomenology	6	1.03
14	Academic Libraries	5	0.86
15	Information Literacy	5	0.86
16	Fouth Keyword Publication (2 X 24)	96	16.55
17	Three Keyword Publication (2 X 39)	117	20.17
18	Double Keyword Publication (2 X 56)	112	19.31
19	Single Keyword Publication (1X126)	126	21.72
Total		**580**	**100.00**

It can be observed from the table no. 6.9 that, analysis in this study. Out of 116articles contributed during the period five yearsof the study. It indicates from table the most productive keywords mentioned in this table. In KELPRO BULLETIN, the keyword Technology is on first position, pricing on second Information Communication, International on Third position, Information Technology on fourth position, and Library science is on fifth position.

VII. CONCLUSION

The study quantitatively identified the research productivity in the “Journal of Kelpro Bulletin” search from the Scopus database period of Five years (2018-2022). A total number of 116 documents were retrieved following the Journal of Kelpro Bulletin. It was revealed that 2021 had the highest publication of 27 articlesand the lowest number of publications were produced in 2019 and 2020 with 21 publications. While the country-wise distribution of publications was also considered. It was indicated that India was the most productive country with 99 documents followed by the Bangladesh with 11 (9.48%) publications. It was further noted from the study that Dr. V Jalaja, was the most productive authors with 9 (7.76%) publications followed by Dineshan Koovakkai with 8(6.90%) publication. In relation to publication types, it was revealed that the article category had the most number of publications 77.59% followed by Book Review 13.79%, and Editorial8.62%, etc.

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