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Research paper

Defence Science Journal from 2007 to 2011: a Bibliometric Study

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Abstract

Bibliometrics is the study dealing with written communication used the statistical measurement of the published article. Bibliometrics studies are on the subject of interdisciplinary and major subject in nature of the science and identify the pattern of publication, authorship and citation analysis. This paper is mainly study about Defence Science Journal publications of articles from the period of study 2007 to 2011 only five years. Totally 410 articles published from prescribed periods also described about author wise, year wise, pagination wise of the articles of this journal.

Keywords: *Defence Science Journal, Laws, Statistical Tools, and Article Publications of Author wise, Year wise.*

1. Introduction

In 1969 during the term used "Bibliometrics" by Pritchard. The term "metrics" used in different names Bibliometric, Scientometric, Librametry, Webometric and Informetrics. The defined the statistical methods of the literature (Cole and Eales). The Hulme used the term "Statistical Bibliography" in 1923. "Librametry" is the coined term by Ranganathan (Ranganathan, 1948). It uses the services of librarianship. The Social Science Citation Index, the Science Citation Index or the Arts and Humanities Citation Index using the Bibliometric and Scientometric studies.

Bibliometrics is the study dealing with written communication used the statistical measurement of the published article. Bibliometrics studies are on the subject of interdisciplinary and major subject in nature of the science and identify the pattern of publication, authorship and citation analysis. It is the purpose of quantitative analysis of science and technology performance, cognitive and organizational structure. The use of Research and Development of productivity between two competing technologies using the scientific research of bibliometric study.

1.1. About Defence Science Journal

The Defence Science Journal is started the journal for the year 1949 and peer-reviewed. It is a Bi-Monthly, multidisciplinary research journal in the area covered by Aeronautics, Armaments, combat vehicles and engineering, biomedical sciences, computer sciences, electronics, material sciences, missiles and naval systems.It is indexed by Science Citation Index Expanded, Journal Citation Report/Science Edition, Cambridge Scientific Abstracts, Chemical Abstracts, Compendex, Scopus and SCImago etc.

1.2. Laws of Bibliometrics

- Lotka's law defined as the scientific productivity and frequency of publication by authors.
- Bradford's law notedof scatter and investigate the number of core journals.
- Zipf's law as a result of the word occurrence and the frequency of words within selected journal publication.

1.3. Definitions of Bibliometrics

- Wikipedia: It is a written analysis using the statistical analysis for publication of the books or articles.
- Oxford dictionary: The applied to statistical analysis of books, articles, or other publications.

2. Review of Literature

A literature review is an evaluative report of information found in the literaturerelated to your selected area of study.Patel (1991) carried out the provided descriptions about Bibliometrics laws, scope, and citation analysis and so on. It is the main value of Science Citation Index (SCI), Journal Citation Report (JCR) and their different types and talk about the technology used to collect facts provided and various search using Science Citation Index CD-ROM.Kanungo (1995) analyzed on the Indian Journal of political science for the period 1990-93. The result shows that the total number citations 3509 were cited for 119 articles. It reveals that Indian authors (88.37%) and Foreign Countries (111.63%). There are single author (89.08%) and two or more authors(10.92%).The result of the score, self- citation constituted (1.82%), author self-citation (24.03%), using the periodical (18.97%) and separated the author an Indian (41.86%) and a Foreigner (58.14%).Singh (2011) published article on citation analysis of the entire journal article published in the journal of documentation from 1996 to

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2010 are selected for the study.Borgman (1990) reveals that the study explained the intellectualcommunication. Related to find out three categories namely as the part of the producers, authors and institutions.

3. Objective of the Study

The study framed the following as below:

- To examine the study of Journal Publications output in 2007 to 2011 year
- To examine the study of Journal Publications output in year wise
- To examine Authorship pattern of publications
- To examine Distribution of Total Number of Pages

3.1. Limitations

Data were collected from the Defence Science Journal. Data analysis was restricted to articles published from 2007-2011.The present study covers Articles, Reviews, conference papers and Editorials only.

3.2. Title and Author Details

The data were collected from Defence Science Journal,from January 2007 to December 2011, this data which give details for five years. Additionally, it covers the records downloaded from the database and analyzed by Microsoft Excel.Data collected through database were analyzed by using different conventional Statistical Tools like tables, percentages, average etc.

4. Data Analysis and Interpretation

4.1. Title and Author Details

Table 1: Defence Science Journal Publications output in 2007 to 2011 Year

No. of Authors	Year					Total	%
	2007	2008	2009	2010	2011		
Single Authors	9	7	18	18	10	62	15.10
Two Authors	28	25	16	16	25	110	26.80
Three Authors	35	21	17	11	18	102	24.90
Four Authors	10	13	21	14	16	74	18.00
Five Authors	13	6	9	1	4	33	8.04
More than Five Authors	2	8	4	8	7	29	7.07
Total	97	80	85	68	80	410	100.00

It is revealed that production of defence science journal is further into five year blocks. Each block year is formed with five consecutive years and the same is shown from table 1. The above table provides the publication output of five year blocks. From the values, it is seen that, the number of publications is increased in 2007 and 2009. In the year 2010 decreases in the block year except 2008 and 2011 year, which have the same static number of contributions (80)?

Table 2: Authorship pattern of publications for the Year 2007

S. No	Number of Authors	Total	Percentage
1	Single Authors	9	9.27
2	Two Authors	28	28.86
3	Three Authors	35	36.08
4	Four Authors	10	10.33
5	Five Authors	13	13.40
6	More than Five Authors	2	2.06
Total		97	100.00

Table 2 Explore that the authorship patterns of the articles are in the year 2007. Most of the articles (90.73%) are collaborative in nature. Single authors publish (9.27%) of the articles over a period of 2007 year. Even in authorship pattern nature 28.86 % belongs to two authors' contribution.

Table 3: Authorship pattern of publications for the Year 2008

S. No	Number of Authors	Total	Percentage
1	Single Authors	7	8.75
2	Two Authors	25	31.25
3	Three Authors	21	26.25
4	Four Authors	13	16.25
5	Five Authors	6	7.50
6	More than Five Authors	8	10.00
Total		80	100.00

Table 4: Authorship pattern of publications for the Year 2009

S.No	Number of Authors	Total	Percentage
1	Single Authors	18	21.17
2	Two Authors	16	18.82
3	Three Authors	17	20.03
4	Four Authors	21	24.70
5	Five Authors	9	10.58
6	More than Five Authors	4	4.70
Total		85	100.00

Table 3 explains that the authorship patterns of the articles are in the year 2008. Most of the articles (91.25%) are collaborative in nature. Single authors publish (8.75%) of the articles over a period of 2008 year. Even in authorship pattern nature 31.25 % belongs to two authors' contribution.

Table 4 indicates that the authorship patterns of the articles are in the year 2009. Most of the articles (78.83%) are collaborative in nature. Single authors publish (18.82%) of the articles over a period of 2009 year. Even in authorship pattern nature 18.82 % belongs to two authors' contribution.

Table 5: Authorship pattern of publications for the Year 2010

S.No	Number of Authors	Total	Percentage
1	Single Authors	18	26.50
2	Two Authors	16	23.52
3	Three Authors	11	16.17
4	Four Authors	14	20.58
5	Five Authors	1	1.47
6	More than Five Authors	8	11.76
Total		68	100.00

Table 5 Indicates that the authorship patterns of the articles are in the year 2010. Most of the articles (73.50%) are collaborative in nature. Single authors publish (26.50%) of the articles over a period of 2010 year. Even in authorship pattern nature 23.52 % belongs to two authors' contribution.

Table 6: Authorship pattern of publications for the Year 2011

S.No	Number of Authors	Total	Percentage
1	Single Authors	10	12.50
2	Two Authors	25	31.25
3	Three Authors	18	22.50
4	Four Authors	16	20.00
5	Five Authors	4	5.00
6	More than Five Authors	7	8.75
Total		80	100.00

Table 6 Indicates that the authorship patterns of the articles are in the year 2011. Most of the articles (87.50%) are collaborative in nature. Single authors publish (12.50%) of the articles over a period of 2011 year. Even in authorship pattern nature 31.25 % belongs to two authors' contribution.

Table 7 shows that growth of total publication pages are 3580 for the span of 5 years from 2007 to 2011. It is observed that there is an increasing and decreasing trend in the quantum of publication pages. It is deduced that from the above discussion that the growth rate of publication pages has fluctuations over issues.

Table 7: Year (2007 - 2011) Wise Distribution of Total Number of Pages

S. No	Year	Year wise Distribution of Total number of Pages						Total	%	Cumulative %
		1	2	3	4	5	6			
1	2007	161	142	183	139	131	157	913	25.51	25.51
2	20	16	14	97	15	11	80	746	20.8	46.34

	08	6	0		2	1			3	
3	2009	92	94	120	134	93	129	662	18.49	64.83
4	2010	117	105	104	116	98	127	667	18.63	83.46
5	2011	95	93	95	115	106	88	592	16.54	100.00
Total		**631**	**574**	**599**	**656**	**539**	**581**	**3580**	**100.00**	

5. Findings and Conclusion

The Journal published 410articles during the period (2007-2011) of study. The maximum number of contributors like year wise, author wise, pagination wise of the five years. They are such as;

- It is concluded that, Defence science Publication output in 2007 to 2011 year is in the year 2007 are 97 articles and contribution of two authors are majority (26.80%).
- The authorship patterns of the articles of the year 2007 are three authors' contributions (36.08%).
- The authorship patterns of the articles of the year 2008 are two authors' contributions (31.25%).
- The authorship patterns of the articles of the year 2009 are four authors' contributions (24.70%).
- It is found that, the authorship patterns of the articles of the year 2010 are single authors' contributions (26.50%).
- In the Year wise distribution of total number of page of 913 is in the year 2007 (7.50%)
- It is concluded that, 5 Year (2007 - 2011) of distribution of total number of page of 913 is in the year 2007 (25.51%)
- In the year 2008, most of the articles (91.25%) are collaborative in nature.
- The Single authors publish (21.17%) of the articles over a period of the 2009 year.
- The authorship patterns of the articles are in the year 2010 is a single author published (26.50%).
- The Two authors publish (31.25%) of the articles over a period of the 2011 year.
- It is concluded that, the authorship patterns of the articles of the year 2011 are two authors' contributions (31.25%).

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