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Mapping of Authorship and collaboration pattern of IFLA journal during 2015-2019: Scientometrics study

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Abstract:- "*The article is analysis on the Authorship and collaboration analysis of 20 issues of IFLA journal published during 2015 to 2019 five year Of the total 131 were retrieved from 20 issues of four volumes with an average of per year 26 publication from IFLA journal in the period 2015-2019. In this study year 2015 was highest contribution of article with 23%, The Degree Collaboration was year 2017 (0.73) year highest degree of collaboration during the periods 2015-2019 in five year . Year 2016 with (0.42) is lowest Degree of Collaboration. coefficient 2017 with (0.48) highest. and lowest collaboration coefficient in 2016 year with (0.23). MCC year 2017 highest MCC with 0.49 and 2016 with (0.24) followed by 2018 and 2019 with 0.39 second highest, year 2019 with 0.32. MCC, 15 articles were distributed by a single author in 2016, Year 2017(26) maximum number of Male author and 2015 with (44) Female author highest contribution in this during periods 2015-2019.*

Keyword: - Bibliometrics; Scientometrics; Content Analysis; IFLA Journal ;; Authorship pattern; Modified collaborative co-efficient,

1. Introduction

The term of bibilometrics given by Alan Pritchard in the and Eugene Garfield is considered as the father of scientometrics research. in 1961 He founded the institute for science information (ISI).

IFLA (International Federation of Library Associations and Institutions) this journal is a international peer-reviewed journal . Journal is cover of lbrary and information science, economics , political and social issues related with information access in various fields . IFLA journal is an international journal publishing peer reviewed articles on library and information services and the social political and economic issues that impact access to information though libraries . The journal publishes research, case studies and essays that reflect the broad spectrum of the profession internationally.

Each issue of IFLA journal is made available open access upon publication on IFLA's website. Authors are also encouraged to make accepted version of their manuscripts available in their personal or institutional repositories.

Editorial Committee

The IFLA (International Federation of Library Associations and Institutions) journal editorial committee is a committee appointed by and reporting to the professional committee, with the responsibility to manage the editorial direction of the IFLA journal in consultation with the editor and the professional committee and to monitor the quality of the journal.

2. Review of Literature

Hussain (2011)17 analysis for the periods 2006-2010 explore the bibliometrics analysis of IFLA journal . The analysis that many research paper were more contributed by technical papers and highest of single author, double author etc.

Siwach (2013)16 analysis the IFLA Journal for the during periods 2008-2012 and explore the USA was the leading country in the Contributions and Its is analysis on self citation approach of authors.

Mondal & Jana (2018)5 examined Authorship and Collaboration patterns in the Indian library and information science journals. This study, authors considered the articles the published in Library and Information science journals during 2012-2017. It was found that two authored papers are in the lead position having 48% compared to others. But multi-authored papers received more citations. It observed that the highest collaboration arises in intra-institutional and inter-institutions inside state level and recommended that the library and information science departments are also considered inter departmental collaboration to bring out added excellence works for developing and advanced Research. Singh (2017)6 on a study authorship pattern and collaboration coefficient of Biotechnology research for sixteen years (2001-2016) in India using Scopus database, 18918 articles were considered for the study. He observed the mean author's article. He has used 5 scientometric tools to analyze the data and found that the collaboration coefficient was 0.63 for the study

period in India. Multi-authored papers were dominating over the single-author paper. Maximum co-operative works were done rather than an individual. The average activity index of India was found to be 91.78 during the study and the year 2016 with 180.3 activity index was the highest and lowest with 42.38 in 2001. Naheem and Shibu (2015)7 investigated a study on Authorship Patterns and Collaborative Research in the Journal of Knowledge and Communication Management from (2011-2014). In which an aggregate of 46 articles was distributed in the journal and the examination look at and tracked down that the most noteworthy 22 articles (47.83%) were distributed by single writers , the normal number of writers each article of the general commitment is 1.67 and normal profitability each creator is 0.60, and the normal level of creator coordinated effort is 0.52.

Deshmuk (2011)9 conducted a study on annals of library and information studies and analyzed a total 326 articles and received a total number of 4141 citations during the period 1997 to 2010. Out of this, 4141 citations,54.34% from journals, 17.47% from books, 12.25% from web resources, 6.79% from conference proceedings 5.97% from institute publication,1.49% from theses or dissertations, and so on, He also reported that the journal half-life period was 9.

3. Purpose of study: -

The study has been carried out with the following Purpose-

1. To study the authorship pattern of IFLA Journal

2. Identify year wise Publication Distribution and authorship Pattern of IFLA journal

3. Analysis the collaboration pattern, collaborative coefficient, modified collaborative coefficient of IFLA journal

4.Expore the Gender wise Distribution

5. Distribution of Citations wise IFLA journal during the periods 2015-2019.

4. Methodology:-

The journal IFLA. https://www.ifla.org/ifla-journal/ To accumulate the date all the article within the timeframe were downloaded from main the website of source journal. The application data were arranged as per necessity for analysis. The data analysed by using the the MS office, MS Excel Software . The analysis data was scanned to analysis a different aspects relating to the Collaboration Index, Degree of Collaboration (DC), Collaboration Coefficient (CC) , Modified collaboration Coefficient (MCC), Gender wise and Reference wise etc.

5. Data Collection and Analysis:

Formula used for analysis

a. **Degree of Collaboration (DC)**:- Subramanyam was given the 1980 the DC, Degree of collaboration is a Measure to calculate the proportion of single and multi-author papers and to interpret it as a Degree According to Subramanyam,

DC=1-Nm/(Ns+Nm)

Where,

Nm = the number of multi-authored papers

Ns = the number of single-author papers

DC varies from O all the papers have a single author to 1 when all the papers have more

than one author. It can be easily calculation and can also be easily interpreted.

b. Collaboration index (CI): Collaboration index CI is the simply index presently used to examine the Below

given by = $\sum jfjAj=1N$ Lawani12 in 1980. The Collaboration Index (CI) is the simplest index presently used

to explore the literature, which is to be interpreted as the mean number of authors per paper.

$CI=\sum\_(j=1)^A$ Jfj

Where,

fjis the number of J authored papers published in the discipline during a certain period of time

N is the total number of research papers published in a discipline during a certain period of time

c. Collaborative coefficient

Ajiferuke13et. al. in 1988 given the formula for collaboration coefficient (CC) as

$\boldsymbol{CC}$ =1-∑A/j=1(1/J)fj/N

Fj =denotes the number of j authored research papers

N =denotes the total number of research papers published

k =is the greatest number of authors per paper

It is detected by Ajiferuke, that the value of CC will be zero when single-authored papers dominant. This implication shows that the higher the value of CC, means the higher the probability of multi-authored papers.

d.) Modified Collaborative coefficient (MCC)

Modified collaborative coefficient formula

$$\mathbf{MCC} = \frac{(A/A-1)* \{1-\sum (1j)=1N\}}{n}$$

Table 5.1 Year wise Publication

Year wise publication of IFLA Journal

Year	No. of publications	Percentage
2015	31	23
2016	26	20
2017	26	20
2018	22	17
2019	26	20
	131	100

Table 1 has been show that 2015 highest Number of Publication in this table 23 % and second highest 2016,2017,2019 with 26 Number of publication 20%. The lowest year of publication 2018 only 22 publication 17% in overall publication. During the periods 2015-2019 five year 131 total publication.

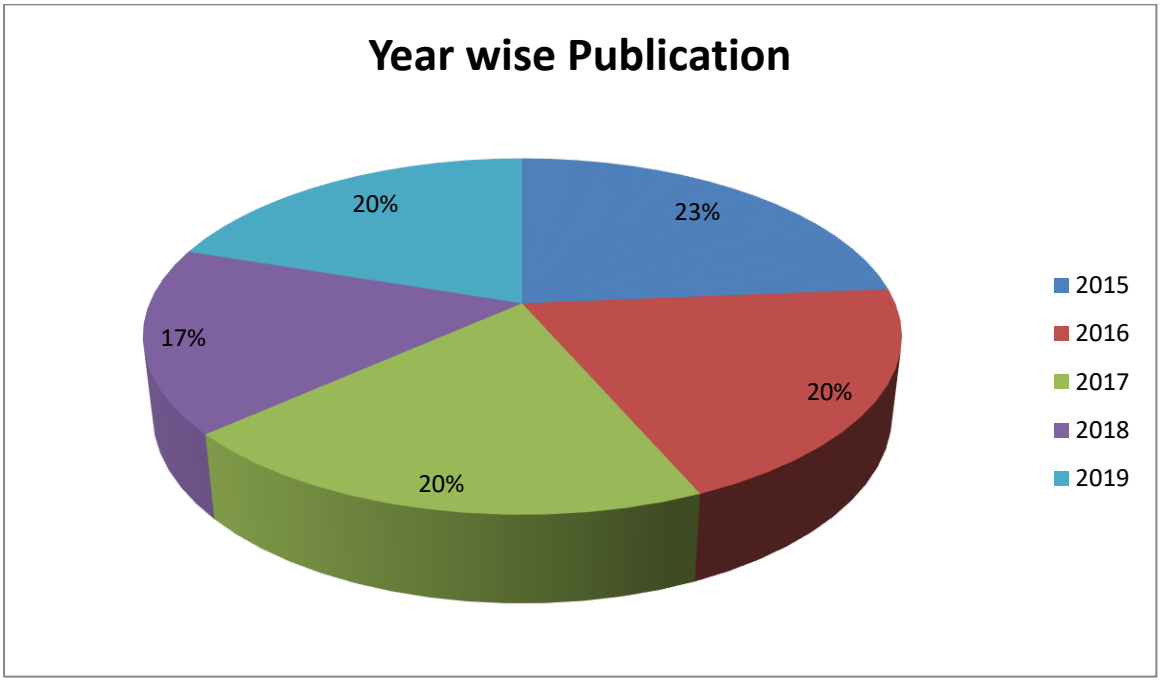


Table 5.2 - Degree of collaboration

Degree of Collaboration is an estimate of the comparative relation of multiple-authored papers to total no of published article below table has been analysed a Degree of

Collaboration.

Year	Single	Multiple	Total	Degree of

	author (Ns)	Author (Nm)		Collaboration
2015	12	19	31	0.61
2016	15	11`	26	0.42
2017	7	19	26	0.73
2018	6	16	22	0.72
2019	13	13	26	0.50
Total	53	78	131	2.98

Above table is shown that 2017 (0.73) year highest degree of collaboration during the periods 2015-2019 five year . Year 2016 with (0.42) is lowest Degree of Collaboration during in this periods.

Table 3:- collaboration coefficient {CC}

Year	One Author	Double Author	Three Author	Four Author	Five Auhor	Total Publication	Collaboration Coefficient
2015	12	12	4	2	1	31	0.35
2016	15	08	2	-	1	26	0.23
2017	07	06	5	7	1	26	0.48
2018	06	14	1	1	-	22	0.38
2019	13	04	8	1	-	26	0.31
	53	44	20	11	3	131	1.75

Above table has been shown that collaboration coefficient 2017 with (0.48) highest in the during periods 2016-2020. and minimum collaboration coefficient in 2016 year (0.23).

Table 4:- Modified collaboration coefficient (MCC)

Year	One Author	Double	Three Author	Four Author	Five Author	Total Publication	Modified Collaboration coefficient (MCC)
2015	12	12	4	2	1	31	0.36
2016	15	08	2	-	1	26	0.24
2017	07	06	5	7	1	26	0.49
2018	06	14	1	1	-	22	0.39
2019	13	04	8	1	-	26	0.32

	53	04	20	11	3	131	1.80

Table 4 :- Modified collaboration coefficient MCC 2017 year highest MCC with 0.49 and The Lowest in this table 2016 with (0.24) followed by 2018 and 2019 with 0.39 second highest in this table , year 2019 with 0.32. MCC.

Table 5:- Authorship Pattern

Year	Single Author	Double	Three	Four	Five	Total Publication
2015	12	12	4	2	1	31
2016	15	08	2	-	1	26
2017	07	06	5	7	1	26
2018	06	14	1	1	-	22
2019	13	04	8	1	-	26

The authorship pattern of publication is shown in the table no 5. that the highest 15 articles were distributed by a single author in 2016, the 14 article were distributed by Double author in year 2018, year 2019 maximum number of Three author contribution with 8 article in this table. The 7 article were distributed by Four Author in 2017, 2015,2016,2017 were distributed five author in one time.

Table :-6 Gender wise Distribution

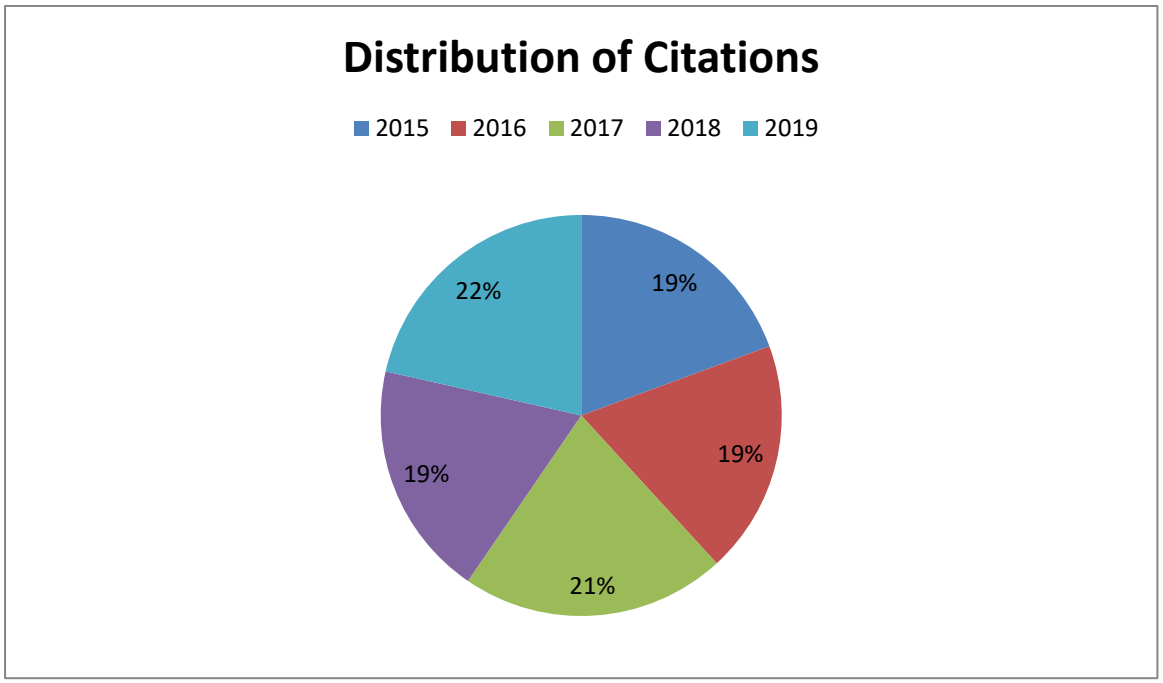
Year	Male	Female	Total
2015	17	44	61
2016	17	25	42
2017	26	41	67
2018	14	27	41
2019	21	28	49
	95	165	260

Table 6 It is show that Year 2017 Total Number of author was maximum than to other year. Year 2017 maximum number of Male author and 2015 Female author ware maximum in this table. Year 2018 was lowest number of Male author contribution in article. The female author year 2016 was lowest contribution in IFLA journal during the periods in 2015 to 2019. Total Male authors were 95 and Total Female authors contribution in the during periods 2015-2019 ,165 total was 260 Authors contribution in IFLA Journal

Table:- 7 Distribution of Citations

Year	Volume Number	Issues wise 1	2	3	4	Total Citations	Percentage
2015	41	214	212	313	251	990	19%
2016	42	265	168	269	258	960	19%
2017	43	275	171	309	336	1091	21%
2018	44	223	219	249	278	969	19%
2019	45	232	302	291	271	1096	22%
							100%

Table-7 has been show that 2019 with 22 % highest citations. Year 2015,2016,2018 with 19 % citation in this table. Highest citations year 2019 with 1096 total citations with 22%. The lowest citations were citations 960 with 19%. During the periods 2015-2019.



Conclusion:-

.IFLA journal published during 2015 to 2019 five year Of the total 131 were retrieved from 20 issues of four volumes with an average of per year 26 publication from IFLA Journal in the period 2015 to 2019. Year 2015 was highest contribution of article with 23%, 2017 (0.73) year highest degree of collaboration during the periods 2015-2019 five year . Year 2016 with (0.42) is lowest Degree of Collaboration. coefficient 2017 with (0.48) highest. and lowest collaboration coefficient in 2016 year with (0.23). MCC year 2017 highest MCC with 0.49 and 2016 with (0.24) followed by 2018 and 2019 with 0.39 second highest, year 2019 with 0.32. MCC, the 15 articles were distributed by a single author in 2016, Year 2017(26) maximum number of Male author and 2015 with (44) Female author highest contribution in this during periods 2015-2019. 2019 with 22 % highest citations. Year 2015,2016,2018 with 19 % citation in this table. Highest citations year 2019 with 1096 total citations with 22%. The lowest citations were citations 960 with 19%.

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