

# “Scientometric Appraisal The European Association for Health Information and Libraries”

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## ABSTRACT

*This study examines the scientometrics appraisal of the The European Association for Health Information and Libraries for five years from 2014-2018. This paper analysis the year wise distribution of articles and citations, authorship pattern, the degree of collaboration, the subject/form covered and the length of the articles in the journal. The results indicate that the average number of contribution per issue is 9.75, the maximum number of contribution of article is by single author and books as subject/form is covered with more number of articles. The maximum length of an article goes to 6.33 with the minimum of 4.40 pages. It is found that this is an important journal in the field of Health Information & Library Science.*

**KEYWORDS:** Bibliometrics; Scientometric; online information review; e-journal; The European Association for Health Information and Libraries.

## INTRODUCTION

Bibliometrics is a relatively new metrics it is the application of mathematical and statistical analysis of graphical unit. The most basic bibliometric techniques which involve counting and categorizing publication by subject and by country.

The terms bibliometrics consist of two words namely 'Biblio' and 'Metrics', biblio means book and metrics means simply measurement.

The terms was used by, Alen Richard (1969) in his article entitled , statistical bibliography bibliometric to study which seek to quantity process written communication .(1969)

Bibliometric is the quantitative treatment of the properties of recorded as bibliometric is the study of use of document and pattern of publication in which mathematical and statistical method have been applied (Fair Thom, 1970)

The terms was introduced and came into prominent with finding of journal named scientometric by T. Braunin in 1977. Originally published in Hungry and currently form Amesterdom scope of journal to publish all those studies of quantities aspect of science as discipline or economic activity. Scientometric is a part of the sociology of science and has application to science and has application to science policy making. It involve quantitative studies activates among other publication and so overlap a bibliometric to some extent scientometric is a branch to science.

According to Bankapur, M.B. and Kumabar M.(1993) “ Scientometrics is a more general than bibliometrics. It is interesting to know, that both disciplines have a large overlap. It is surprising to learn certain comments stating that scientometrics, using bibliometric techniques is a part of bibliometrics.”

Scientometrics has been traditionally concerned with the analysis of the “information” parameters of science, such as of paper, patents, journals, laws of ageing and dissimilation of scientific information, citation process etc.

Scientometrics aims at publishing original studies, short communications, preliminary reports, and reviews, Scientometrics included the journal of research communication studies.

In 1969, the term ‘Scientometrics’ was suggested by V. Nalimov and Z. Malcherko in their book “Scientometrics” The investigation of service as development of information process “ (1969). According to them scientometrics is a complex of quantitative (Mathematical and statistical) method According to them scientometrics is a complex of quantitative (Mathematical and statistical) method, which are used to investigate the processes of science, This term was introduced and came into prominence with the funding of the scientometrics by T. Barin (1977, originally published in Hungary and currently from Amsterdam.

It is defined as a subject field which applies quantitative method to study of science as an information process. (Malimave and Mulchenko 1979)

### **Scientometrics:**

According to Nalimov and Mulchenko (1969), “Scientometrics is the investigation of science as development of information process. “It is a formed structural part of science of science methodology including, the complex of mathematical and statistical method, used to analyze the quantitative characteristics of science as an enterprise (Voverience and Trumpience, 1994).

### **Scientometric Analysis:**

According to, Wouters, a certain tension has always existed between academic / cognitive scientometrics and political / practical, scientometrics, the latter of which has been described as a hybrid of social science and bureaucratic expertise (2006); scientometric analysis is a general than Bibliometrics it is interesting to know that both disciplines, have a large overlap. (Bankapur, M.B. 1933);

### **E- Journals:**

According to, a journal, academic in nature which is published using the world wide web, such a journal usually uses internet technology refereeing of papers. Many e- journals pride themselves on rapid refereeing and consequent rapid publication. (Gupta, 1998); According to “A publication in any Medium issued in successive parts bearing numerical or chronological designations and intended to be continued indefinitely.” (Yogendra Singh, 2000); E- Journals defined as the grouping of information that is sent out in electronic form with some regularity,. It covers any serial or serial like publication available in electronic format, which is produced, published and distributed electronically. (Ramesh, Yeranagula, 2003).

## SOURCES JOURNAL

The European Association for Health Information and Libraries is an active association uniting Librarians and information professionals working in medical and health science libraries in Europe. The association count almost 1900 members from 64 countries. EAHIL supports professional development , improves cooperation and enables exchanges of experience amongst its members, through a yearly meeting in the form of workshop or a conference . the journal and through various groups on social media.

In December 1984 a group of health librarians first discussed plans to initiate contacts with their colleagues in other European countries.

During the Fifth International Congress of Medical Librarianship in **1985** the 26 European colleagues present in Tokyo met to discuss place and date of a first conference which was to gather health information officers and librarians from all countries of Europe. The meeting concluded with the decision to hold such a conference in Brussels a year later.

The First European Conference of Medical Libraries was held in Brussels **1986**. Participants acknowledged the need for greater cooperation in Europe so the European Association for Health Information and Libraries (EAHIL) was established. His Association was constituted **1987**, in Brighton U.K. Mr Marc Walckiers, Director of the Bibliothèque de la Faculté de Médecine, Université Catholique de Louvain in Brussels, served as EAHIL's first President.

Analysis of information or data is one of the important part of any study. Data analysis is doing for the purpose of huge volume of data is reduced into meaning full case report.

Analysis of total 982 citations articles in the journal during 2014 to 2018. The was done by using various parameters like to identify the car e journals, to rank of cited journal, to rank of cited author to find out geographical distribution of citations to find out the types of cited document, to find out of the total citation of the average in the journals. The data or information was presented in the form of table and graphs to show the result prominently and easily.

## OBJECTIVES OF THE STUDIES

The main objective of the present studies is

1. To sketch the volume wise distribution of contributions and to find out the average number of contributions per volume.
2. To find out distribution of contributions issue wise.
3. To find out the authorship pattern of contributions.
4. To examine the authorship pattern of the contribution.
5. To find out the degree of collaboration.
6. To find out the number of references cited.

7. To find out maximum length of articles.
8. To quantify research and growth of different areas of knowledge.
9. To find out the research productivity count of the distributions on the basis of geographical distribution both at national and international level.

## SCOPE AND METHODOLOGY

The total 20 issues of The European Association for Health Information and Libraries during 2014-2018 were selected for the study. Information about each contribution such as number of authors, number of references, volume number, issue number, place of contributor, etc. were recorded and analyzed for making observations. The data has been calculated and represented in tables. In order to decide the subject field, title and the thought content of the contributions were studied. The citations were counted by the type of document and volume wise. Based on analysis, a ranked list of cited journal is prepared. Attempt has been made to do a scientometric appraisal of all 20 issues of The European Association for Health Information and Libraries.

## ANALYSIS AND FINDING:

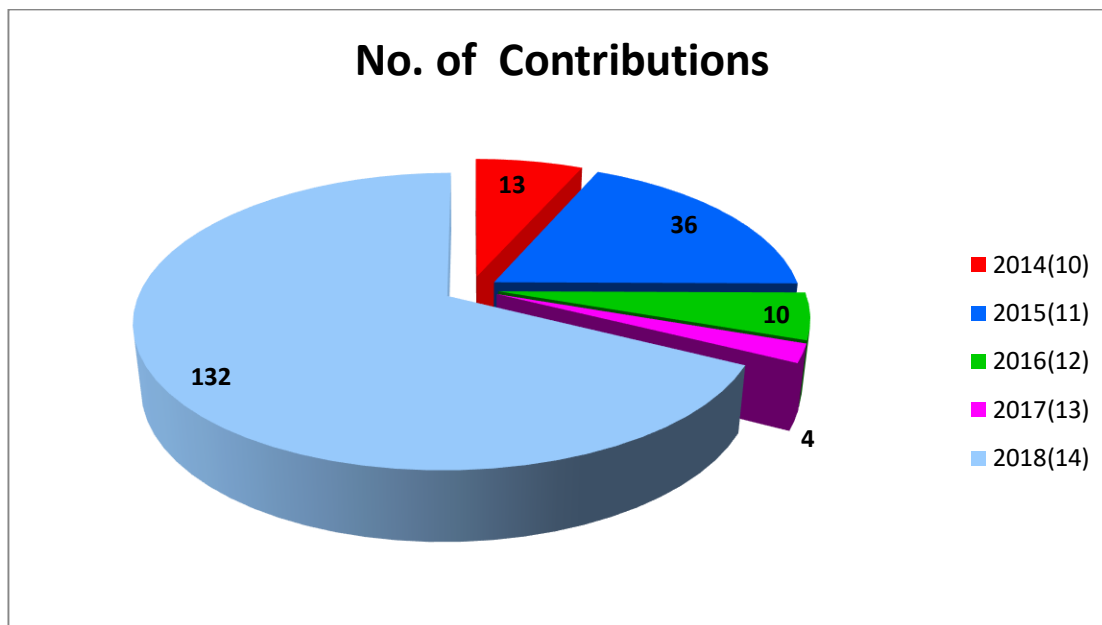
### 1. Volume Wise Distribution of contributions.

The volume wise distribution of contributions per article of “The European Association for Health Information and Libraries” of 5 volumes was considered for the present study from the year 2014 – 2018. The span of 5 years was taken into consideration which is shown in the table No.1.

**Table No.1: Volume Wise Distribution of Contributions**

Year	Vol.No	No. of Issue	No. of Contributions	Percentage
2014	10	4	13	6.66
2015	11	4	36	18.46
2016	12	4	10	5.12
2017	13	4	4	2.05
2018	14	4	132	67.69
<b>Total</b>		<b>20</b>	<b>195</b>	<b>100</b>

Table No.1 and Figure No.1 the distribution of contribution volume- wise, table No.1 depicts that out of 195 contributions, 13 (6.66 %) contributions were contributed in 2014 and 2015, 36 (18.46 %) of them were contributed in the year 2015, 10 (5.12 %) of them were published in the year 2016, 4 (2.05 %) of them were published in the year 2017, and the rest of 132 (67.69 %) of them were published in the year 2018. It is inferred from the table no.1 of distribution of contributions from 2014-2018 that the level of the percentage of distribution has increased. A notable attribute of the study is that the year 2015 and 2018. Shows the maximum number of contributions.



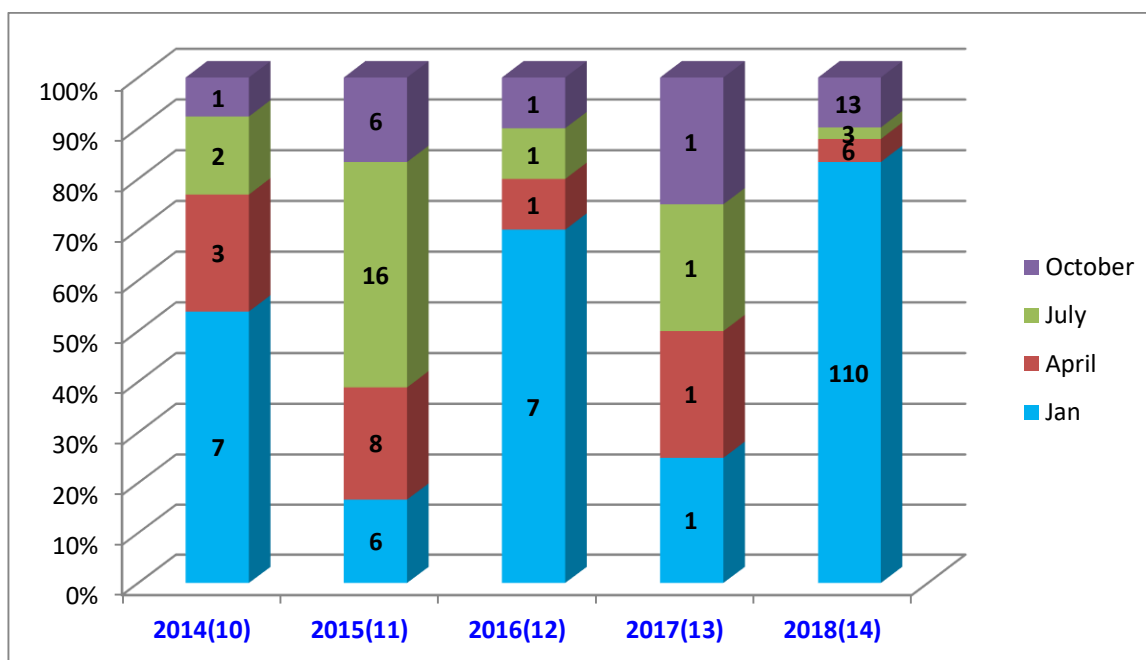
**Figure No. 1: Figure No.1 Volume Wise Distribution of Contributions**

## 2. Issue Wise Distribution of contributions.

The issue wise distribution of contributions in The European Association for Health Information Journal written by the various researchers were distributed in 5 volumes and 20 issues, which were considered, which is shown in the table No. 2.

**Table No.2: Issue Wise Distribution of Contributions (issue wise)**

	Volume Number				
	10	11	12	13	14
Jan	7	6	7	1	110
April	3	8	1	1	6
July	2	16	1	1	3
October	1	6	1	1	13
<b>Total</b>	<b>13</b>	<b>36</b>	<b>10</b>	<b>4</b>	<b>132</b>



**Figure No. 2: Issue Wise Distribution of Contributions.**

Table No.2 shows the distribution of contributions (issue –wise). Table no.2 shows published in year of Journals volume no. 11 (36) and 14 (132) shows the highest number of total contributions.

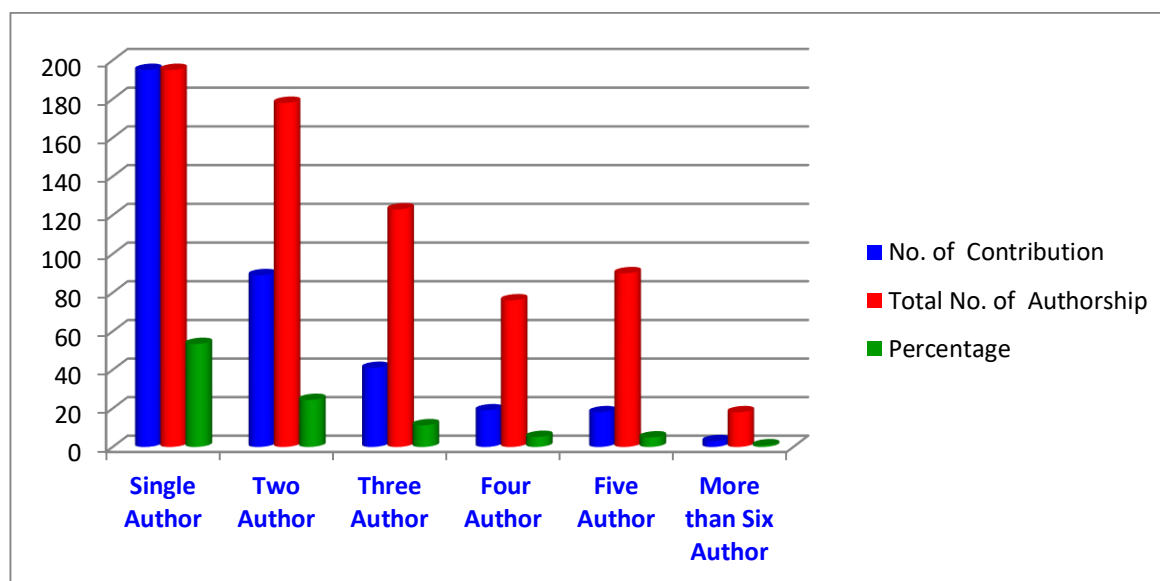
### 3. Authorship Pattern of Contributions

The characteristics of any subject literature include not only the basic publishing pattern but that of authors themselves so the authors were analyzed to determine the percentage of single, two, three, and more than three authors. In order to have a clear picture the result of analysis of authors are presented. The total numbers of 195 contribution in 5 volumes of Annals of library and information studies Journals in the period 2014-2018 were written by single author, two author, three author, four author, five author and more than six authors are shown in the Table No.3 .

**Table No.3: Authorship Pattern of Contribution**

No. of Authors	No. of Contribution	Total No. of Authorship	Percentage
Single Author	195	195	53.42
Two Author	89	178	24.38
Three Author	41	123	11.23
Four Author	19	76	5.20
Five Author	18	90	4.93
More than Six Author	3	18	0.82
<b>Total</b>	<b>365</b>	<b>680</b>	<b>100</b>





**Figure No. 3. Authorship Pattern of Contribution**

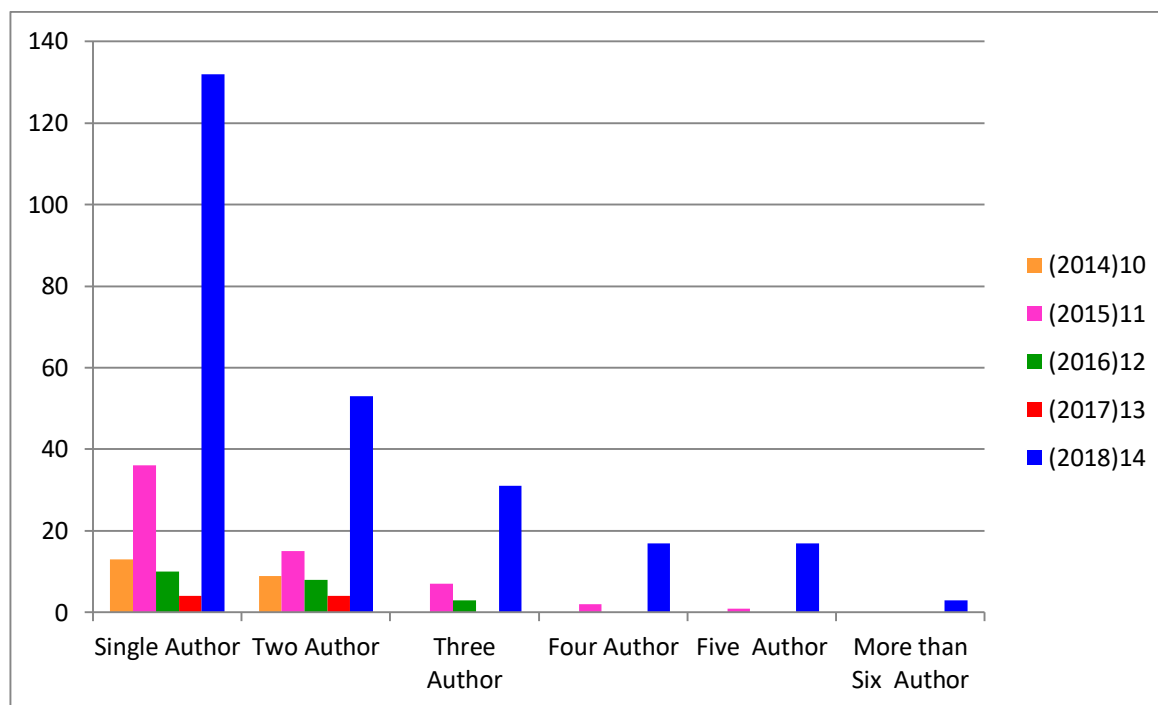
Table No.3, Fig. No 3 displays the authorship pattern of contributions out of total 195 contributions, single author has contributed 53.42 % percent of the total articles. 24.38 % percent of the contributions were published with two author articles, a three author has contributed 11.23 % percent of the total articles, 5.20 % percent of the contributions were published with four authors, 4.93 % percent of the contributions were published with five author, 0.82 % percent of the contributions were published with more than six author. A significant note of the study is that the majority of the articles are contributed by co-author.

#### 4. Authorship Pattern of Contributions (Volume –wise)

The characteristics of any subject literature include not only the basic publishing pattern but that authors themselves so the authors were analyzed to determine the percentage of single, two, three and more than three authors. In order to have a clear picture the result of analysis of authors are presented are shown in the table No. 4. and Figure No. 4.

**Table No.4: Authorship Pattern of Contribution (Volume –wise)**

Vol. No.	Single Author	Two Author	Three Author	Four Author	Five Author	More than Six Author	Total No. of Authorship
(2014)10	13	9	-	-	-	-	22
(2015)11	36	15	7	2	1	-	61
(2016)12	10	8	3	-	-	-	21
(2017)13	4	4	-	-	-	-	8
(2018)14	132	53	31	17	17	3	253
<b>Total</b>	<b>195</b>	<b>89</b>	<b>41</b>	<b>19</b>	<b>18</b>	<b>3</b>	<b>365</b>



**Figure No. 4. Authorship Pattern of Contribution (Volume Wise)**

Table No. 4 and Fig. No. 4 Shows the authorship pattern of contributions. volume-wise regarding contributions by a single author, volume no.11 and 14 records the highest percentage, However the two author contributions, vol. No.14 shows the maximum percentage where as the three author contributions , vol. No.14 depicts the highest percentage and the four author contributions volume no.14 reflects the maximum percentage. So it may be concluded that co- authors contributions has the maximum percentage. Fig. No. 4 Shows the authorship pattern of contributions. volume-wise regarding contributions by a single author, volume no.11 and 14 records the highest percentage, However the two author contributions, vol. No. 14 shows the maximum percentage where as the three author contributions , vol. No.14 depicts the highest percentage and the four author contributions volume no. 14 reflects the maximum percentage. So it may be concluded that co- authors contributions has the maximum percentage.

#### 5. Table No. 5: Single Author vs Multi-Authored Contributions

With Single Author			Multi-Author		
Year	No. of Articles	%	No. of Articles	%	Total Contribution
2014	13	6.66	9	5.29	22
2015	36	18.46	25	14.70	61
2016	10	5.12	11	6.47	21
2017	4	2.05	4	2.35	8



2018	132	67.70	121	71.17	253
<b>Total</b>	<b>195</b>	<b>100</b>	<b>170</b>	<b>100</b>	<b>365</b>

In table 5, the highest number of contribution in category of single authorship are contributed in the year 2018 which is 132 (67.70%) out of 195 single authored article, and in multi authored articles the highest number of contributions are contributed in the year 2018 having also 121 (71.17%) contribution out of 170 contribution.

## 6. Distribution of Degree of Collaborative Articles

Collaboration is a major area of authorship study which indicates how authors work together to bring out a publication. The earlier analysis shows that percentage of multi-authored articles is more than that of single authored articles. To determine the extent of collaborative in quantitative terms, Subramanyam (1983), proposed a mathematical formula for calculating author's degree of collaboration in a particular discipline. The degree of collaboration among authors is the ratio of the number of collaborative publication to the total number of publication published in a discipline during certain period of time. The value of degree of collaboration can be calculated both for publication and citation as well it is expressed mathematically as:

The formula is  $C = \frac{N_m}{N_m + N_s}$ ,

Where  $C$  = Degree of collaboration,

$N_m$  = Number of multi authored contributions,

$N_s$  = Number of single authored contributions.

For Example, the value of '  $C$  ' for 2014 is  $C = \frac{13}{13 + 9} = 0.59$

**Table No. 6: Distribution of Degree of Collaborative Articles**

<b>Year</b>	2014	2015	2016	2017	2018
<b>Degree of Collaboration</b>	0.59	0.59	0.47	0.50	0.52

## 7. Geographical distribution of contributions in International level

The total number of 195 contributions in 20 issues in 5 volumes are distributed in different geographical areas which is shown in Table No.7.

**Table No.7: Geographical distribution of contribution in International level**

<b>Sr. No</b>	<b>Name of State</b>	<b>No. of Contribution</b>	<b>Percentage</b>
1	USA	18	4.93
2	Australia	1	0.27
3	Belgium	1	0.27
4	Denmark	2	0.54
5	Finland	69	18.90

6	France	2	0.54
7	Germany	9	2.46
8	Iran	5	1.37
9	Ireland	3	0.82
10	Italy	106	29.04
11	Lithuania	2	0.54
12	Norway	5	1.37
13	Portugal	2	0.54
14	Russia	1	0.27
15	Slovenia	2	0.54
16	Span	4	1.09
17	Sweden	3	0.82
18	Switzerland	14	3.83
19	Nederland	2	0.54
20	Tokyo	2	0.54
21	UK	109	29.86
Total		365	100

Table No. 7 shows the geographical distributions of contribution at International level 29.86% of contributions came from UK; 29.04% percent of contributions came from Italy; 18.90% percent of contributions came from Finland; 4.93% percent of contributions came from USA; 3.83% percent of contributions came from Switzerland ; 2.46% percent of contributions came from Germany; 1.37% percent of contributions came from Iran and Norway. 1.09% percent of contributions came from Span. 0.82% percent of contributions came from Ireland and Sweden 0.54% percent of contributions came from Denmark, France, Lithuania, Portugal, Slovenia, Nederland and Tokyo. 0.27% percent of contributions came from Australia, Belgium, and Russia. However, it is inferred that out of the above mentioned 21 countries, USA, Finland, Italy, Switzerland & UK give partiality far research when compared to other countries.

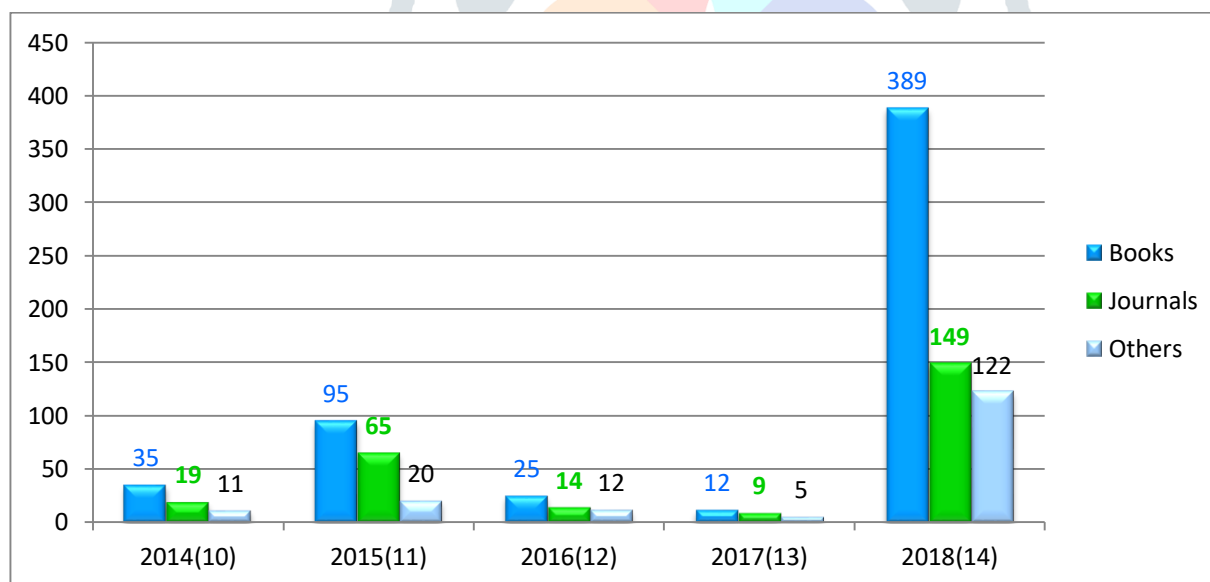
## 8. Types/Form Wise Distribution of Citation.

The form wise distribution of different forms of literature is used by researcher in The European Association for Health Information and Libraries Journal. A total number of 982 citations of 20 issues in 5 volumes are distributed in different sources as per shown in table the table no.8.

**Table No.8: Types /Form Wise Distribution of Citation.**

Vol. No.	Books	Journals	Others	Total
2014(10)	35	19	11	65
2015(11)	95	65	20	180
2016(12)	25	14	12	51
2017(13)	12	9	5	26
2018(14)	389	149	122	660
<b>Total</b>	<b>556</b>	<b>256</b>	<b>170</b>	<b>982</b>
<b>Percentage</b>	<b>56.61</b>	<b>26.06</b>	<b>17.31</b>	

Table No.8 and Fig. No. 5 displays that twenty issue of five volumes of The European Association for Health Information and Libraries Journal contained 982 citations, Based on analysis it was found that Health Information and Libraries profession all journals articles. This is due to the fact that books are the premier vehicle of nascent information dissemination. This is followed by books 556 (56.61) citation, journals 256 (26.06%) citation & others 170 (17.31%) citation. The remaining 170 (17.31%) citations are from other sources, which include conference proceeding theses and dissertations personal notes etc.

**Figure No. 5: Types /Form Wise Distribution of Citation.**

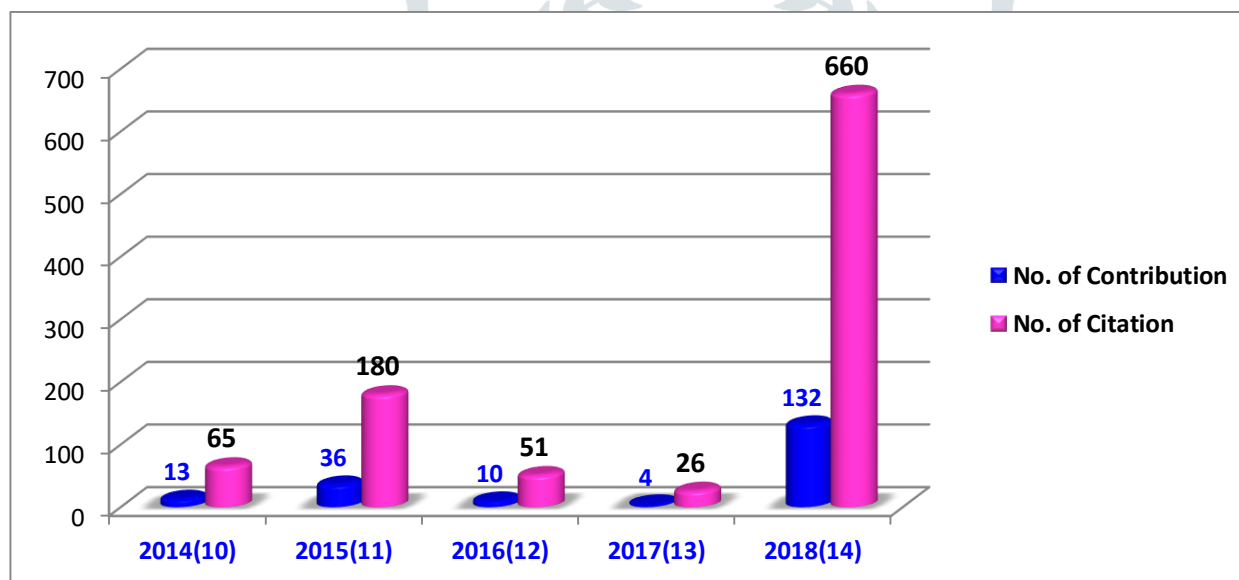
### 9. Average Citation per contribution in each volume

The average citation per contribution in each volume in showed in table no. 9.

**Table No.9: Average Citation per contribution in each volume**

Vol. No.	No. of Contribution	No. of Citation	Average
10	13	65	6.62
11	36	180	18.32
12	10	51	5.20
13	4	26	2.64
14	132	660	67.20
<b>Total</b>	<b>195</b>	<b>982</b>	<b>100</b>

It can be observed for average citation per contribution in each volume. Volume No.14 (67.20%) contributed 132 contribution of which highest numbers of citation appeared in vol. No.14, and 13 (2.64%) contribution of which minimum number of citation appeared in volume no.13.



**Figure No. 6: Average Citation per contribution in each volume**

### 10. Average Page /Length-wise Distribution of Contribution

The average page in showed in table in no.10.

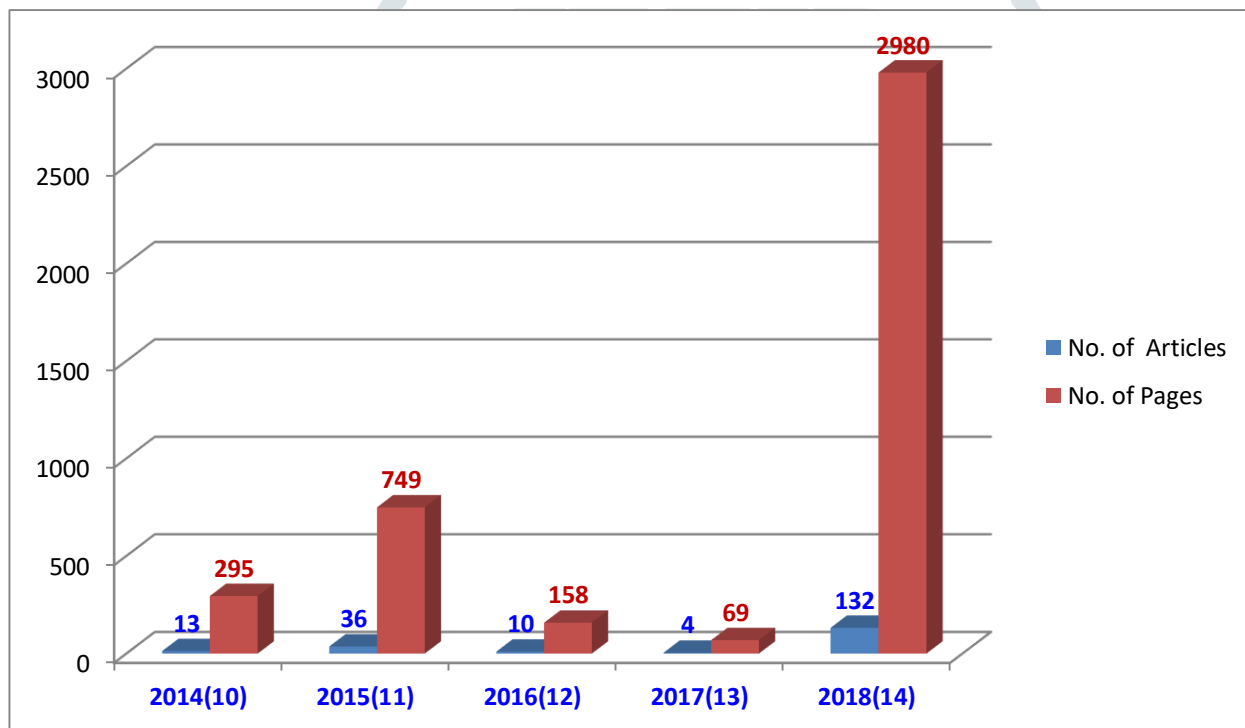
**Table No.10: Length-wise Distribution of Contribution**

Year	No. of Articles	Cumulative total of Articles	No. of Pages	Cumulative total of pages	Average
2014	13	13	295	295	4.40
2015	36	49	749	1044	4.80
2016	10	59	158	1202	6.33

2017	4	63	69	1271	5.79
2018	132	195	2980	4251	4.43

In the study average page wise contributions 13(4.40%) articles had the maximum number of pages. 36 articles for total pages 749 and percentage of (4.80%) and then 10 articles and covered pages 158 (6.33%) then 69 pages covered articles of 4 (5.79%) 132 articles is covered pages of 2980 percentage of 4.43% this is a respectively. It is for that the articles wise studies 37 articles in the year 2013 and 2015. But the table studies average wise pages 37 (14.01) articles the maximum pages in this table in the 2015 and volume number 12.

For 195 articles, total number of pages 4251 It is found as an average per article the page runs to 21.8.



**Figure No. 7: Average pages per contribution in each volume**

## CONCLUSION

The following findings and conclusion can be drawn from the present study:

- The study shows a trend of stable growth in contribution published in Annals of Library and Information Studies Journal (2014-2018). However there was decrease a number of contributions in 2018, the average number of contribution per issue is 67.69.
- Most of the contributions are by single author, where as more than four authors contributions are very much less.

- It is found from the study that the numbers of citation are growing substantially. However, the maximum number of citations are in 2018 (660) and minimum in 2017 (26).
- The subject/form coverage of the articles is mostly in the subject field of books.
- It is found that be the average length of article is 6.33 maximum pages and minimum of 4.40 pages.

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