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BIBLIOMETRIC ANALYSIS OF COMMUNICATIONS IN INFORMATION LITERACY (CIL) JOURNAL DURING 2007 - 2018

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Pattar, Vijay Dr and Patel, Vimlesh, "BIBLIOMETRIC ANALYSIS OF COMMUNICATIONS IN INFORMATION LITERACY (CIL) JOURNAL DURING 2007 - 2018" (2021). *Library Philosophy and Practice (e-journal)*. 5662. <https://digitalcommons.unl.edu/libphilprac/5662>

BIBLIOMETRIC ANALYSIS OF COMMUNICATIONS IN INFORMATION LITERACY (CIL) JOURNAL DURING 2007 - 2018

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ABSTRACT

This paper elicits the results of a bibliometric analysis of journal titled Communications in Information Literacy (CIL) for the period from 2007-2018. CIL is an open-access journal; it endeavors to bring recent research output in the area of information literacy particularly in higher education. This paper attempts to present the bibliometric analysis of CIL and its growth as a core and primary research journal dedicated to the advancement of research, theory, and practice in the field of library and Information science with a specific focus on Information Literacy.

Keywords: Bibliometric analysis, LIS journal, Communications in Information Literacy (CIL)

1. INTRODUCTION

Scholarly journals play a major role in communicating the latest research findings. Also publish the articles containing the current development in any field of knowledge. Journals are the primary sources of information and the most preferred sources for current information. They are used by the academic community, researchers, scientists, and professionals to share their thoughts, inventions, innovations, experiment results /findings, discoveries, etc.

Libraries and Information Centers are the only sources for information and knowledge that generally identify, acquire, and disseminate the information and also ensure the free flow of information. Libraries play the roles of both knowledge accumulators and disseminator.

But the exponential growth of scholarly journals over the period of time, varied needs of user, the ever-rising cost of the publications, and the shrinking funds of libraries have put the limitation on libraries to subscribe to the types of resources (Kumar, & Moorthy, 2011). Open access journal movement has given an alternative model of free online access to additional publishing models and removed the restriction of accessing scholarly literature as well as the serious economic challenges.

Bibliometrics study is simple statistic method of bibliography counting to evaluate and quantify the growth of a subject (Tsay, 2000). It is valuable tool for describing and promoting scientific productivity (McBurney & Novak, 2002). It uses quantitative analysis and statistics to

describe patterns and growth of a publication within a given subject area. This paper presents the bibliometric analysis of CIL and its growth as a core and primary research journal dedicated to the advancement of research, theory, and practice in the field of information literacy.

2. COMMUNICATIONS IN INFORMATION LITERACY (CIL)

Communications in Information Literacy (CIL) is an independent, professional, peer-reviewed, and most refereed electronic journal. The journal started publishing its first issue in 2007. It is a semi-annual publication, and its volumes are based on a calendar year. Issue number 1 for each volume (spring issue) is published during the month of June, and issue number 2 (fall issue) is released in December. CIL is an open-access journal dedicated to the advancement of research, theory, and practice in the field of information literacy. This journal provides open access to its content on the principle that making research content freely available to the public supports a greater global exchange of knowledge. It is currently indexed by several major bibliographic services including: H.W. Wilson (Library Literature & Information Science Full Text); Directory of Open Access Journals (DOAJ); Proquest (Library Science; EBSCO (Library, Information Science & Technology Abstracts); SCOPUS (Elsevier); Web of Science Core Collection (Clarivate Analytics); Google Scholar, etc.(CIL website).

3. REVIEW OF LITERATURE

Review of literature has always been essential for any study or research, it provides the researcher a bird's eye view the research done in that area so far, and helps in the future study. In recent years various authors have done bibliometric studies of papers published in different subject fields in various journals. Kumar and Moorthy (2011) have done a bibliometric analysis of DESIDOC Journal of Library and Information Technology during 2001-2010. The analysis shows that the number of papers published increased substantially and papers from single authors formed the major chunk of total papers published. Out of 3428 references sourced by the authors, 1382 were quoted from the journals. In another study, Panda and Chhatar (2013) analyzed journal of Information Literacy and revealed that the number of research articles 68 (51.9%) is highest among other types of publications such as book reviews 36 (27.49), conference papers 27 (20.61%), etc. A majority of contributions 94 (71.75%) emanating from the UK and other countries have a very meager contribution. Sahu and Parabhoi (2020) conducted bibliometric study of library and information sci. journal articles published during 2014-2018. It is found that there were a 395 total of 1357 numbers of papers published by 2884 numbers of authors. The study also revealed that out of 1357, journal articles 824 articles received a total 4490 citation whereas 533 publications had no citation received.

Thanuskodi (2011) attempted to analysed the Library Herald journal and result shows that more number of articles were on library automation. The highest contributors are from India with 89.85 % and the highest numbers are from the universities with 27.54%. Sujatha and Padmini (2015) conducted the study on journal of IEEE Transactions on Antennas and Propagation from 2010-2014. Study found that 3442 papers are published and the degree of collaboration ranges between 0.92 to 0.96. The majority of the contribution is from USA and India stands in the 21st position with 52 articles. Singh and Verma (2019) examined Journal of Information Literacy (JIL) from 2007 to 2017, this study analyzed 141 articles found in 11 volumes of this journal and revealed that 234 contributors from 134 institutions and average number of citations per article is 31.68 %. In another study, Thanuskodi (2012) analyzed of Indian Journal of Agricultural Research. The result reveals that out of 602 articles joint authors contributed 564 (93.69%) articles while the rest 38 (6.31%) articles were contributed by a single author and also reveals that most of the contributions are from India with 98.67 % and the rest 1.33% only from foreign sources. Study by Garg and Anjana (2104) shows that the number of references per paper is increasing and the average reference per paper is 23. The proportion of single-authored papers is decreasing, about one-fourth of the papers published in the journal are from abroad and the rest from India.

In one more study conducted by Bakeri and Willet (2008) found that the complete set of 161 articles attracted a total of 87 citations, 52 of which were self-citations, with 14% of the Malaysian Journal of Library and Information Science (MJLIS) articles having been cited at least once. Bibliometric study of Annals of Library and Information Studies journal during 2002-2011 by Pandita (2013), reveals that 65.81 % articles contributed to the journal during the period of study are based on co-authorship pattern, unveiling the fact that most of the research undertaken these days is on joint authorship pattern.

4. OBJECTIVES OF THE STUDY

The primary objective of the study is to analyze the papers published in the Communication in Information Literacy journal during 2007-2018. Specific objectives of the present study are;

- a. To analyze the year-wise distribution of papers.
- b. To ascertain authorship pattern of the papers.
- c. To find out degree of collaboration in the CIL.
- d. To evaluate geographical distribution of papers and contributors.
- e. To study the year-wise distribution of references cited in the papers.
- f. To examine volume-wise distribution of papers and their length.
- g. To identify the type of papers were published.

5. DATA AND METHODOLOGY

The study covers 12 volumes containing the 24 issue of Communications in Information Literacy (CIL) during the year 2007 to 2018. The source journal is an open access journal and is available on the <https://pdxscholar.library.pdx.edu/comminfolit/>. The data required for study was mined from CIL website as well as from Scopus citation & bibliographic database website <http://www.scopus.com/home.url>. Papers published during 2007- 2018 were downloaded, scanned, and the relevant data, as per the objectives of the study was extracted and analyzed. In all 223 papers were scanned from 12 volumes of the journal (Vol. no 1-12). The data collected was simply put to excel format to execute simple operations and analyzed to meet the objectives of the study.

6. DATA ANALYSIS

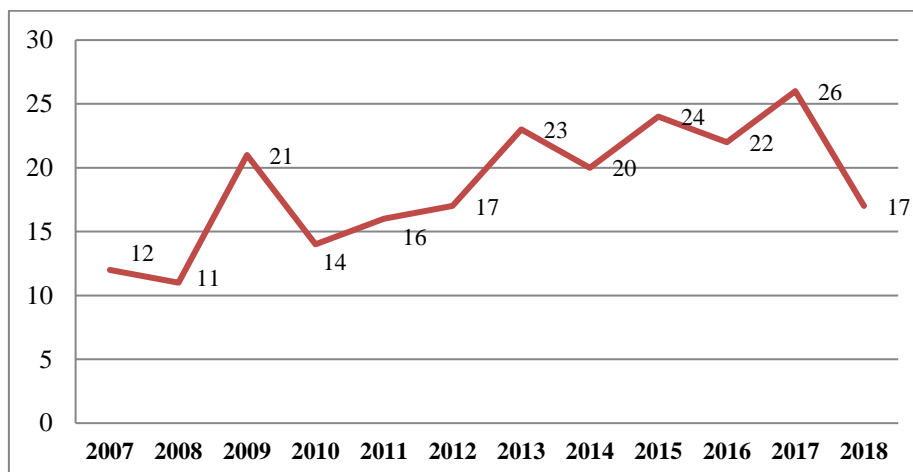
6.1 Year-wise distribution of papers

Table 1 is a depiction of papers scattered over 12 volumes (2007-2018) of Communications in Information Literacy (CIL) published Biannual, each volume having two issues published. A total of 223 papers, which includes Research articles, Editorials and Book reviews were published during the period spread over 24 issues of the journals. From the tabulation, it is found that there was a steady increase in the number of articles published in each volume of the journal (from volume 1 to 10). Volume 11 has published as many as 26 (11.66%) articles, highest among all under study with average articles 13.00 per issue, which is better than 3.71 articles over 9.29 articles published on average in each issue during 2007-2018. Minimum papers were published in 2008 i.e. 11 (04.93 %) with average article 5.50 per issue.

Table 1: Year-wise distribution of papers

Year	Vol. No.	No. of issues	No. of papers	Percentage (%)	Average papers per issue
2007	1	2	12	05.38	06.00
2008	2	2	11	04.93	05.50
2009	3	2	21	09.42	10.50
2010	4	2	14	06.28	07.00
2011	5	2	16	07.17	08.00
2012	6	2	17	07.62	08.50
2013	7	2	23	10.31	11.50
2014	8	2	20	08.97	10.00
2015	9	2	24	10.76	12.00
2016	10	2	22	09.87	11.00
2017	11	2	26	11.66	13.00
2018	12	2	17	07.62	08.50
Total	12	24	223	100.00	09.29

Fig 1: Year-wise distribution of papers



6.2 Author-wise distribution of papers

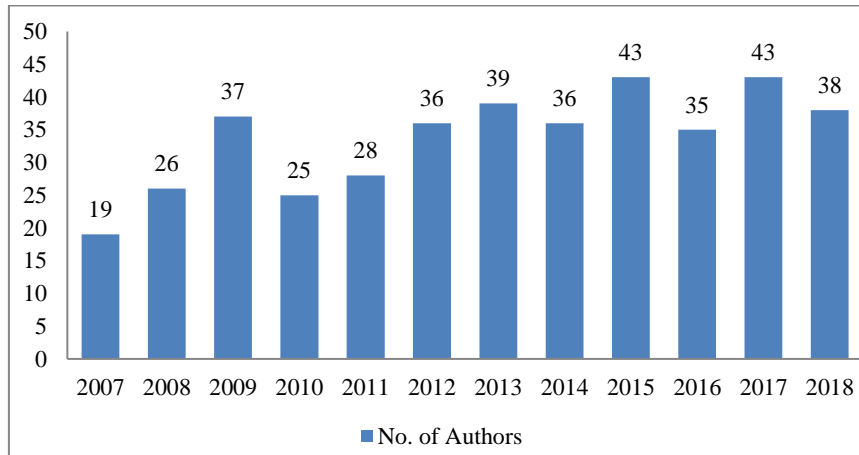
Table 2 confined to author wise distribution of papers spread over the issues of journal volumes under examination. Table 2 presents that during the period of 2007–2018, a total of 405 authors have contributed with an average contribution of authors per paper is 1.82. Table also shows that in 2015 & 2017 the highest number of authors have contributed i.e., 43 (10.62 %) each and the lowest number of contributions i.e., 19 (4.69%).

Table 2: Author-wise distribution of papers

Year	Vol. No.	No. of Papers	No. of Authors	Percentage (%)	AAPP
2007	1	12	19	4.69	1.58
2008	2	11	26	6.42	2.36
2009	3	21	37	9.14	1.76
2010	4	14	25	6.17	1.79
2011	5	16	28	6.91	1.75
2012	6	17	36	8.89	2.12
2013	7	23	39	9.63	1.70
2014	8	20	36	8.89	1.80
2015	9	24	43	10.62	1.79
2016	10	22	35	8.64	1.59
2017	11	26	43	10.62	1.65
2018	12	17	38	9.38	2.24
Total	12	223	405	100.00	1.82

*AAPP –Average author per paper

Fig 2: Author-wise distribution of papers



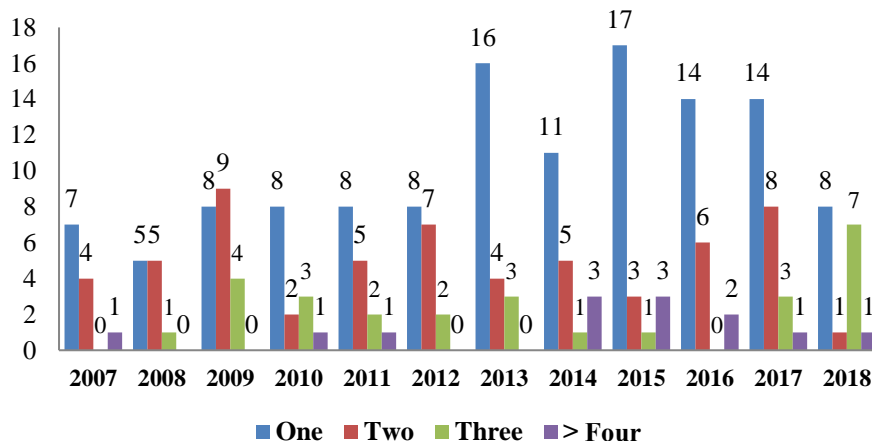
6.3 Authorship pattern of papers

The study of authorship pattern deals with the kind of authors and the nature of collaboration among them and collaborative trends of authors. The extent of collaboration depends on the number of participants involved in the work. Table 3 presents a better understanding of the authorship pattern spread over the 12 volumes of journal under study. On the whole we can see that single author contribution is highest i.e. 55.61 % (124), whereas contribution of two author papers is 26.46 % (59). 12.11 % (27) papers were contributed jointly by three authors and only 5.83 % (13) papers were contributed by more than four authors together. This shows that like in other discipline of social sciences here also single authored papers dominate.

Table 3: Authorship pattern of papers

Year	No. of author(s)				No. of Papers
	One	Two	Three	≥ Four	
2007	7	4	0	1	12
2008	5	5	1	0	11
2009	8	9	4	0	21
2010	8	2	3	1	14
2011	8	5	2	1	16
2012	8	7	2	0	17
2013	16	4	3	0	23
2014	11	5	1	3	20
2015	17	3	1	3	24
2016	14	6	0	2	22
2017	14	8	3	1	26
2018	8	1	7	1	17
Total	124	59	27	13	223
(%)	55.61	26.46	12.11	5.83	100

Fig 3: Authorship pattern of papers



6.4 Degree of collaboration in the CIL

The degree of collaboration is defined as the ratio of the number of collaborative research papers to the total number of research papers in the discipline during a certain period of time. The degree of collaboration is the ratio of collaborative papers published to the total number of papers published in the discipline during a year/ a certain period of time.

Table 4: Degree of collaboration in the CIL

Year	Vol. No.	Single Author (NS)	Joint/Multi Author (NM)	Total Papers (NS+NM)	Degree of Collaboration (C=Nm/Nm+Ns)
2007	1	7	5	12	0.42
2008	2	5	6	11	0.55
2009	3	8	13	21	0.62
2010	4	8	6	14	0.43
2011	5	8	8	16	0.50
2012	6	8	9	17	0.53
2013	7	16	7	23	0.30
2014	8	11	9	20	0.45
2015	9	17	7	24	0.29
2016	10	14	8	22	0.36
2017	11	14	12	26	0.46
2018	12	8	9	17	0.53
Total	12	124 (55.61%)	99 (44.39%)	223 (100%)	0.44

Table 4 depicts that out of 223 papers, 55.61 % (124) papers contributed by single author whereas, multi author papers contributed 44.39 % (99). To find out the ratio of the number of collaborative papers to the total numbers of paper published during 2007-2018 period. In the present study, K. Subramanyam's (Subramanyam, 1983) formula has been used to measure to the degree of collaboration in research in quantitative terms,

$$C = \frac{N_m}{N_m + N_s}$$

Where, C = Degree of Collaboration

N_m = Number of Multi authored papers

N_s = Number of single authored papers

$N_m = 99$, $N_s = 124$

$$C = 99 / 99 + 124 = \mathbf{0.44}$$

Thus the overall degree of collaboration in the CIL is 0.44. During the period of study, it is also observed that the DC ranged varied from 0.29 to 0.62 in CIL i.e., 2007-2018. Analysis unveils that the value of DC was maximum in the year 2009 (vol.3) with 0.62 and minimum in the year 2015 (vol.9) with 0.29. As degree of collaboration value does not exceed 0.5, it is deduced that single-authored contributions occupy the prominent position. However, the calculated value for the degree of collaboration in this study indicates that CIL has published more number of single authored contributions than multi authored ones. As it is also observed in earlier studies, collaboration is high in the field of science, technology and medicine than that of social sciences and humanities.

6.5 Geographical distribution of papers and contributors

Table 5 elucidates the data on the geographical distribution of the published papers during 2007 to 2013. Based on the complete count of papers it is observed that 223 papers were contributed by 13 different countries. Of these, USA has contributed 86.55 % (195) of the papers and 13.45% (28) was contributed remaining 12 countries. Of these 13.45%, the Canada contributed 14 (6.28%) papers followed by UK, (4), and Australia (2).

Table 5: Geographical distribution of papers and contributors

Name of Country	No. of Papers	Percentage (%)	No. of Authors	Percentage (%)
USA	193	86.55%	349	86.17%
Canada	14	6.28%	23	5.68%
UK	04	1.79%	09	2.22%
Australia	02	0.90%	06	1.48%
Georgia	02	0.90%	05	1.23%
Norway	01	0.45%	03	0.74%
Israel	01	0.45%	02	0.49%
Nigeria	01	0.45%	03	0.74%
India	01	0.45%	01	0.25%
Ireland	01	0.45%	01	0.25%
Hong Kong	01	0.45%	01	0.25%
Pak	01	0.45%	01	0.25%
Qatar	01	0.45%	01	0.25%
Total	223	100	405	100

Table 5 also presents the geographical distribution of contributors, who have contributed to CIL journal during the period of study, the tabulation also proved helpful to give better understanding about the highest contribution to the journal from a particular country. Over all 405 authors contributed to journal all across the globe irrespective of authorship pattern. From the analysis it is observed that, out of 405 authors contributed to CIL Journal, highest number of authors are from USA i.e., 349 authors, which is quite a significant number constitute about 86.17% of the total authors and followed by 23 (5.68%) authors from Canada.

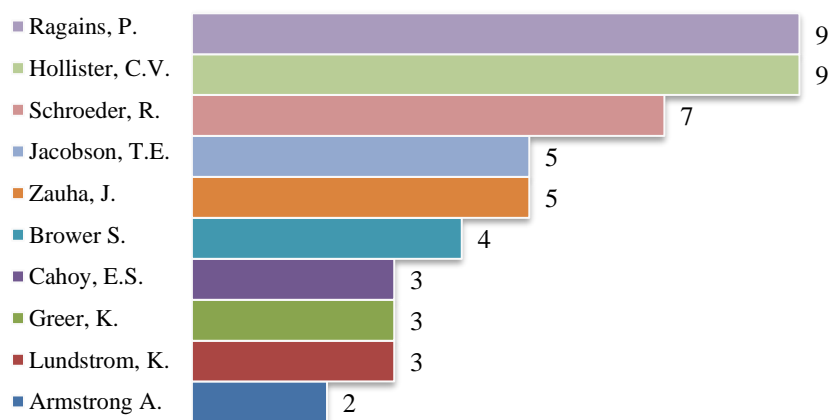
6.6 Major contributors to CIL

Table 6 depicts the top 10 authors who have contributed maximum number of papers to CIL journal in their standing order as per their contributions made during the period of investigation. A total no. 405 of authors contributed a total 223 papers. Table 6 shows that Ragains, P. and Hollister, C.V. each contributed 9 papers, followed by Schroeder, R. contributed 7 papers and Jacobson, T.E. with 5 papers, and ranked as first, second and third ranks, respectively.

Table 6: Major contributors to CIL

Author name	No. of Contributions
Ragains, P.	9
Hollister, C.V.	9
Schroeder, R.	7
Jacobson, T.E.	5
Zauha, J.	5
Brower S.	4
Cahoy, E.S.	3
Greer, K.	3
Lundstrom, K.	3
Armstrong A.	2

Fig 6: Major contributors to CIL



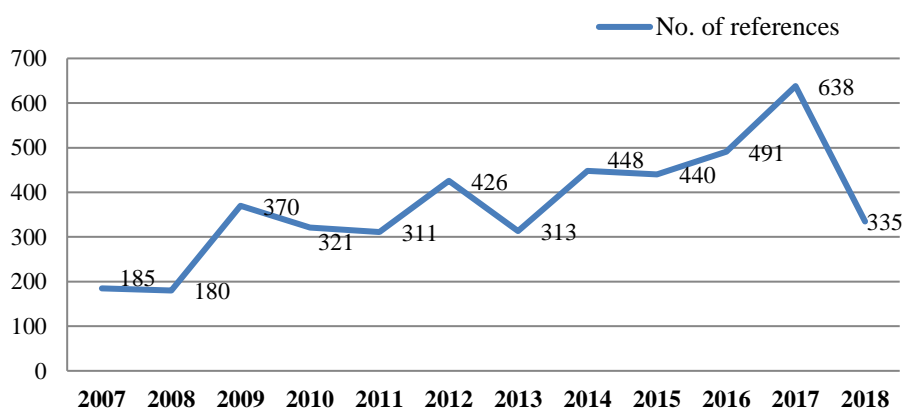
6.7 Year-wise distribution of References

References are an important aspect of any publication. These provide the reader with the background information about the topic being discussed in the publication. Table 7 reveals data on the number of references cited in each volume. It also presents that the number of references per paper is increasing over the period of time. As shown in the table, 4458 number of references cited in all 12 volumes (223 papers). It is also indicates that per paper the average references is 19.99. Among all the years the highest number of references per paper is for volume 11 (2017) i.e., 638 (14.31%) references and the lowest number of references per paper is in volume 2 (2008) i.e., 180 (4.04%) references.

Table 7: Year-wise distribution of References

Year	Vol. No.	No. of papers	No. of references	Percentage (%)	References per paper
2007	1	12	185	4.15	15.42
2008	2	11	180	4.04	16.36
2009	3	21	370	8.30	17.62
2010	4	14	321	7.20	22.93
2011	5	16	311	6.98	19.44
2012	6	17	426	9.56	25.06
2013	7	23	313	7.02	13.61
2014	8	20	448	10.05	22.40
2015	9	24	440	9.87	18.33
2016	10	22	491	11.01	22.32
2017	11	26	638	14.31	24.54
2018	12	17	335	7.51	19.71
Total	12	223	4458	100.00	19.99

Fig 7: Year-wise distribution of References



6.8 Volume-wise distribution of papers and their length

Table 8 reflects the volume-wise distribution of papers with their length in the journal published during the period under study. A total of 223 papers, with 2377 pages were published during the period spread over 12 volumes of the journals. Of the 12 volumes, the maximum number

of pages per volume, i.e. 352 pages was published in 2017 (Vol. No.11) and the minimum number of pages per volume i.e. 101 pages was published in 2007 (Vol. No.1). It is also found that the average length of the paper is 10.64 pages.

Table 8: Volume-wise distribution of papers and their length

Year	Vol. No.	No. of papers	Length (in pages)	Average* pages /paper
2007	1	12	101	8.42
2008	2	11	108	9.82
2009	3	21	192	9.14
2010	4	14	183	13.07
2011	5	16	185	11.56
2012	6	17	185	10.88
2013	7	23	201	8.74
2014	8	20	216	10.80
2015	9	24	186	7.75
2016	10	22	263	11.95
2017	11	26	352	13.54
2018	12	17	205	12.06
Total	12	223	2377	10.64

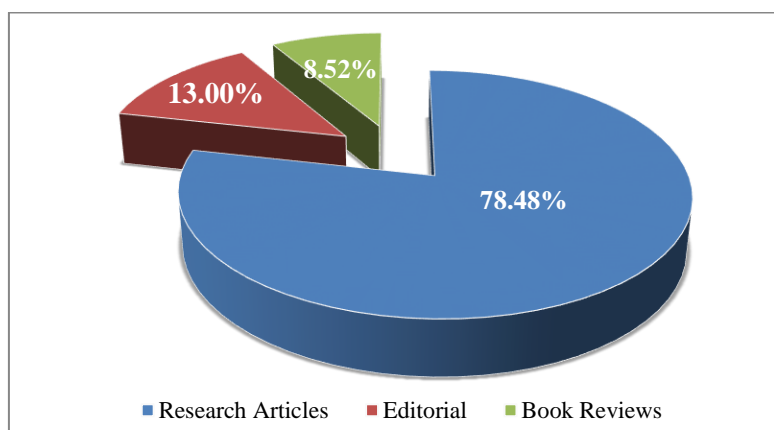
6.9 Distribution of papers by their types

Table 9 presents the *CIL* includes 3 types of papers viz. Research articles, Editorials and Book reviews. Out of 223 papers published during 2007-2018, Research articles constitute highest number of papers i.e. 175 (78.48%), followed by editorial 29 (13.00%), and Book Reviews 19 (8.82%).

Table 9: Distribution of papers by their types

Year & Vol. No.	Type of papers			Total papers
	Research Articles	Editorial	Book Reviews	
2007 (1)	7	5	0	12
2008 (2)	7	4	0	11
2009 (3)	15	6	0	21
2010 (4)	12	2	0	14
2011 (5)	15	1	0	16
2012 (6)	16	1	0	17
2013 (7)	21	2	0	23
2014 (8)	18	1	1	20
2015 (9)	16	2	6	24
2016(10)	16	1	5	22
2017(11)	20	2	4	26
2018(12)	12	2	3	17
Total	175	29	19	223
(%)	78.48	13.00	8.52	100.00

Fig 8: Distribution of papers by their types



7 FINDINGS/CONCLUSION

- CIL began as a bimonthly publication in 2007 and its popularity has increased as witnessed by the number of papers published over the last 12 years. Analysis also indicates that there is study increase in contributor numbers over the period of time.
- On the whole we can see that single author contribution is 55.61 % (124), which is highest when compared to contribution of two author papers. Authorship pattern of papers shows that like in other discipline of social sciences here also single authored papers dominate.
- The overall degree of collaboration in the CIL is 0.44As degree of collaboration value does not exceed 0.5, it is deduced that single-authored contributions occupy the prominent position
- Among the contributors of papers, USA has contributed 86.55 % (195) of the papers published and 13.45% (28) was contributed remaining 12 countries.
- It is observed that, out of 405 authors contributed to CIL Journal, highest number of authors are from USA i.e., 349 authors, which is quite a significant number constitute about 86.17% of the total authors and followed by 23 (5.68%) authors from Canada.
- Total 4458 number of references cited in all 12 volumes. The average number of references per paper is about 20 and the number of references per paper has increased considerably over the period of time.
- Study indicates that the average length of the paper is 10.64 pages, which is considered to be an ideal length for research articles. It shows that his ideal length hold the reader's attention.
- Analysis reveals that Research articles constitute highest number of papers i.e. 175 (78.48%), followed by editorials 29 (13.00%), and Book reviews 19 (8.82%).

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