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Mapping of Research Productivity of College and Research Libraries News (C&RL News) during 1996-2019: A Scientometric Approach

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ABSTRACT

College and Research Libraries News (C&RL News) is an editorially reviewed publication that publishes news, case studies and other non-research material. The articles in the News do not go through peer review and are meet different standards. This study presents a systematic analysis of the publications in the C&RL News, magazine during the year 1996 to 2019. The analysis provides the understanding of features about highly cited publications. Although the articles in the magazine had been published after an editorial review only and not as other standard peer reviewed policies adopted by reputed journals, it appears in second quartile (Q2) in SCImago Journal Raking among publications of library and information science. The publication data collected from Scopus database has been utilized for analyses and interpretations. Authors have applied scientometric indicators such as collaboration coefficient, annual growth rate, relative growth rate to recognize various dynamics of the magazine. Authors have also analysed the characteristics of the highly cited publications and found that high profile collaborative authorship and addressing the contemporary trending topics are consistent features of highly cited documents, even without having a formal peer-review process.

Keywords: Scientometric, Annual growth rate (AGR), Relative growth rate (RGR), Doubling Time (DC), Collaboration coefficient (CC), College and research libraries news, Bibliometrics, Magazine Evaluation, Association of College and Research Libraries

1. INTRODUCTION

College and Research Libraries News (C&RL News) is an editor reviewed magazine that publishes news, case studies and other non-research materials. It is the official newsmagazine and publication of records of the Association of College and Research Libraries (ACRL) located in the United States of America, a division of the American Library Association. Though C&RL News was started in the year 1966, the first online available issue (Volume 28, Number 2 published in February 1967) can be found on its website. At present C&RL News is published in both print and online (having a print ISSN: 0099-0086 and online ISSN: 2150-6698) format and is published 11 times per year. It also provides articles on the latest trends and practices affecting academic and research libraries. Apart from covering the short essays, the magazine fetches news items related to internet resources, internet reviews, grants and acquisitions, people in the news, preservation news and also about new publications. Although the articles in the magazine had been published after an editorial review only as the magazine is not a standard peer reviewed journal, it appears in second quartile (Q2) among all publications of library and information science in 2019. Considering the consistency in the publication output and the current reputation of the journal as depicted from SCImago Journal Ranking, we decided to investigate its productivity on various dimensions to understand reasons for it. For the analyses we will use methods of bibliometrics.

2. LITERATURE REVIEW

Bibliometrics is about the application of quantitative tools and methods to assess the impact of scholarly activities and analyze the growth and effectiveness of scientific and technological literature. Further, such studies can assist in measuring the strengths and weaknesses under various aspects of a scholarly communication. Often bibliometrics and scientometrics are used as synonyms. According to Vinkler (2001), Scientometrics is a field of science dealing with the quantitative aspects of people or groups of people, matters and phenomena in science, and their relationships, but which do not primarily belong within the scope of a particular scientific discipline. Scientometric studies help in analysing the scholarly literature in terms of its growth and qualitatively measure the different aspects pertaining to scholarly publications under various aspects. Reviewing the already published literature shows that there is a significant number of studies of scientometrics to analyze and interpret the publication trends in any selected periodical. It is found that these types of studies have been carried out not only in libraries and information science but for periodicals of other disciplines also. However, authors found that no such studies related to C&RL News has been conducted or appeared in the available literature so far. Marisha (2019) performed a scientometric analysis of the Current Science journal for the publications that appeared during the year 1990–2017 and found that the journal output had been increased over the years and the authorship trend was found to be towards multi-authored papers. It was analysed from the study that most of the publications in the journal were from India and the majority of the contents published in the later stages of the

selected period were related to environmental science and geological science disciplines. Velmurugan (2013) carried out a scientometric analysis for the journal ‘Annals of Library and Information Studies’ for a selected period of 2007-2012 and found that most of the paper appeared in the journals contributed by double authors as well as authors affiliated with academic institutes. The study further revealed that the degree of collaboration ranges from 0.57 to 0.82 and the average degree of collaboration found to be 0.64 during the study period. In another study Velmurugan and Radhakrishnan (2015) conducted a scientometric analysis for the journal ‘Webology’ for the year 2007-2013 and observed that the degree of collaboration in the journal is 0.506 during the selected period of study. Study also observed that the highest numbers of papers were contributed by multi authors during the selected period of study. Periyaswamy, Jeyshankar, and Elango (2011) conducted a scientometric analysis of 633 research articles published in the Journal of Scientific and Industrial Research. The authors have analysed the journal in various aspects such as number of contributions, authorship pattern & author productivity, average citations, average length of articles, average keywords and collaborative papers etc. The finding revealed that out of 633 contributions, only 51 were single authored and rest by multi authored with 0.92 DC and weak collaboration among the authors. It was concluded that the Co-Authorship pattern had improved the trend of co-authored papers and the author productivity is 0.34, dominated by the Indian authors.

3. SCOPE AND OBJECTIVES

The aim of the present study is to assess the literature published in the College and Research Libraries News (C&RL News) under various dimensions for a selected period. The specific objectives are as follows:

- To estimate the Growth Pattern of publications appeared in C&RL News;
- To measure the Collaboration pattern among authors of the magazine;
- To analyze the country wise and affiliation wise distribution of articles;
- To examine the citability, funding and preferred type of publications;
- To find out the prolific authors and highly cited publications and to examine its characteristics.

4. METHODOLOGY

The descriptive study design was adopted to gather the research contributions made to College and Research Libraries News (C&RL News) during the period from 1996-2019. Elsevier’s abstract and citation database Scopus was chosen for collecting data. The search was conducted on 1st February 2020 and the search term rendered was “College and Research Libraries News” to know the consistency of publications, the nature of articles appeared and the quantum of research output generated in the journal C&RL News. Different keywords and search operators were used to search in Scopus to retrieve all the data pertaining to the C&RL News and the

final search string appeared as “(SRCTITLE (college AND & AND research AND libraries AND news) OR SRCTITLE (c&rl AND news)) AND (EXCLUDE (PU BYEAR, 2020)). However, authors have limited the search to a period of 24 years starting from the year 1996 to 2019. Based on the inclusion criteria, 1666 publications were included and proceeded for further analysis. The authors found that a total of 1666 contributions were made during the selected period of 1996 to 2019. After retrieval all the details were subsequently examined, tabulated, observed and analysed under different parameters. Further these analyses have been reported here with better visualizations to cater the objectives. The flow of search process is presented in Figure 1 for prompt access.

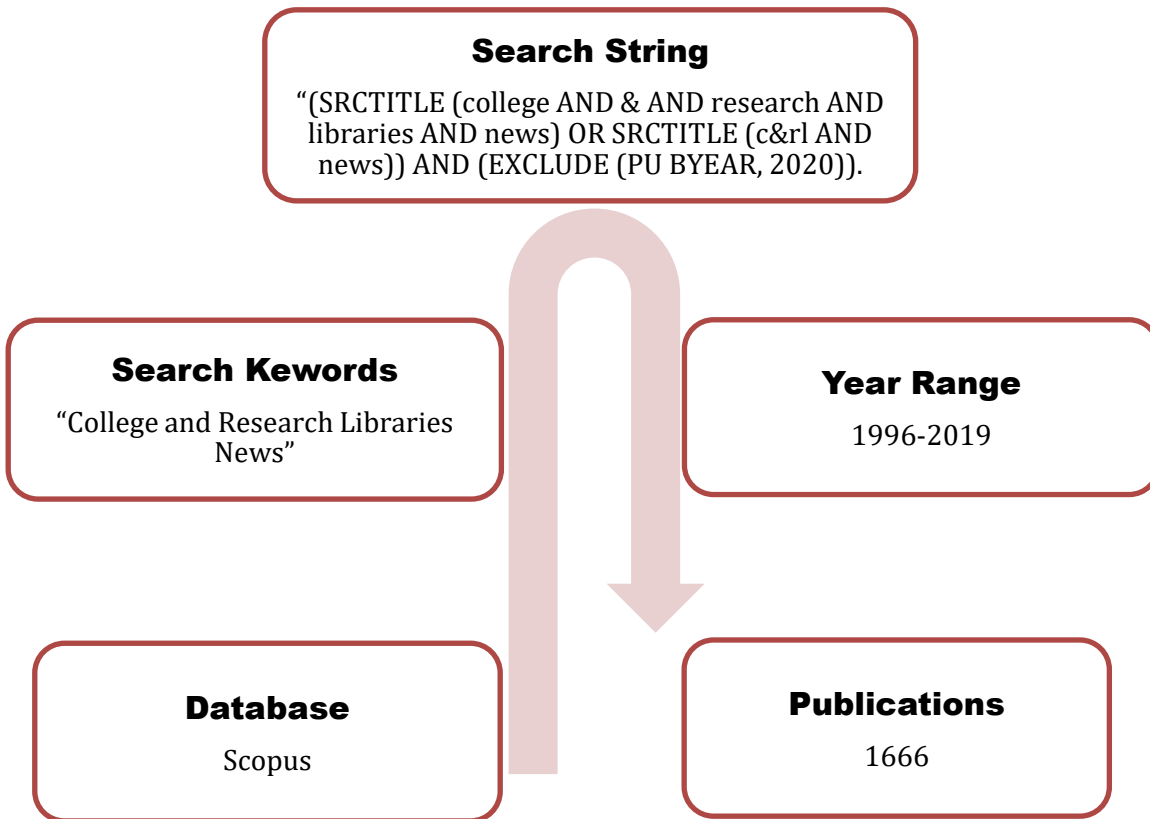


Figure 1 Diagrammatic representation of parameters used in search process

5. ANALYSES AND INTERPRETATION

All the data collected under various parameters pertaining to C&RL News have been taken into consideration to analyze and interpret. Detailed explanations were also rendered wherever found necessary to have a better understanding. Analysis and discussions performed under different heads supported with tabular and graphical representations are as follows.

5.1. Year wise distribution of publications

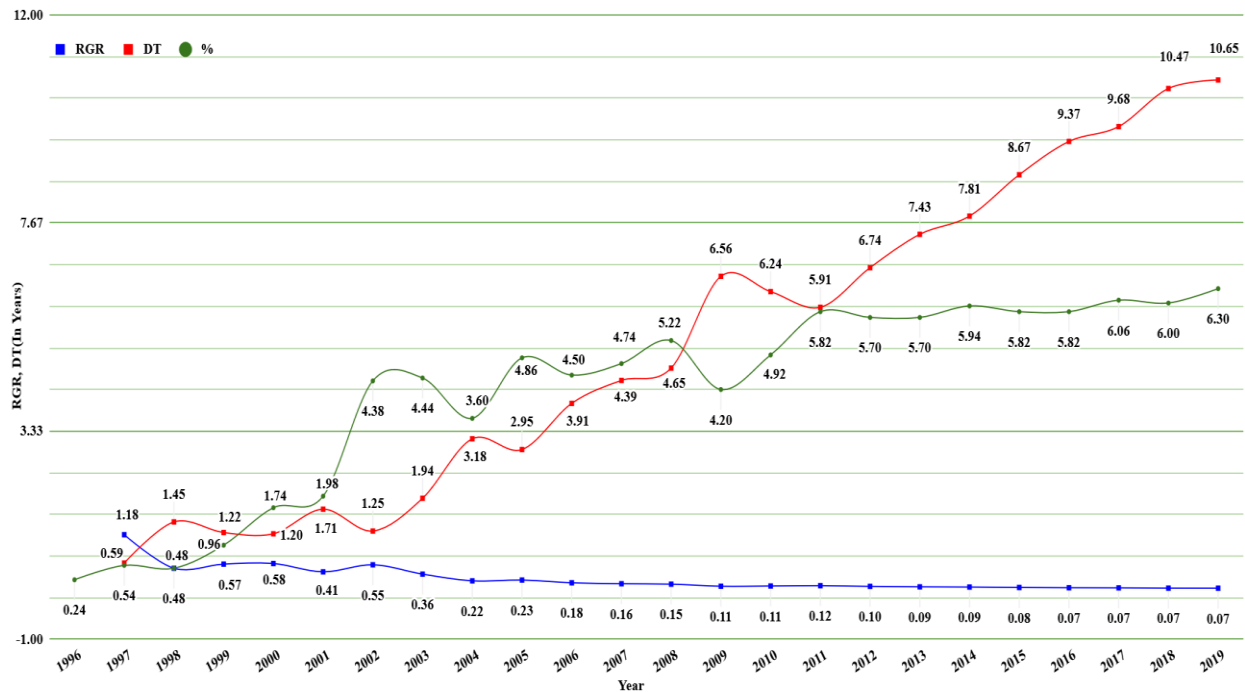


Figure 2: Relative Growth Rate (RGR), Doubling Time (DT) and Percentage Distribution over years

A total number of 1666 of research publications that had appeared in the search result are accounted to distribute them year wise. Figure 2 depicts the growth of items published in C&RL News from the year 1996 to 2019. It is found from the analysis that out of a total 1666 document published during the selected period, the highest amount (6.30%) of publications appeared in the year 2019 and the lowest (0.24%) found during the year 1996. However, it was examined from the analysis that during the last decade of the selected study period the publication appeared ranges from 4.20% to 6.30% which covers the major portion of the total publications. It was further noticed that there was a drastic uplift (from 1.98% to 4.38%) in the number of publications appeared during the year 2002 compared to previous year ranges of the selected period i.e. from 1996-2001. The number of publications from the year 2002 to 2019 was in a higher range of 60 to 105, compared to the range of 4 to 33 publications during the initial years from 1996 to 2001.

5.2. Relative Growth Rate (RGR) and Doubling time (DT)

The Relative Growth Rate (RGR) expresses growth in terms of a rate of increase in size per unit of size (Hunt, 1990). For calculating the mean relative growth rate (RGR) over the specific period of interval the following equation can be applied.

5.2.1. Relative Growth Rate (RGR)

$$RGR = (1 - 2^r) = \frac{l(w2) - l(w1)}{T_2 - T_1}$$

Where,

w1 = Total Number of Publications at Initial time.

w2 = Total Number of Publications at Final.

$T_2 - T_1$ = Difference between the initial year and the final year the year can be taken here as the unit of time.

5.2.2. Doubling Time (DT)

Doubling time used to indicate the period of time required for a quantity to double in size or value. The formula used for calculating Doubling Time as follows:

$$Doubling\ Time = D(t) = \frac{0.693}{RGR}$$

Table 1 depicts the Relative Growth Rate (RGR) according to the year of publications. It is observed from the analysis that RGR is exponentially decreasing over the years. However, the Doubling Time (DT) has a periodic growth over the years except in the year 2011.

*AGR=Annual growth rate, RGR=Relative growth rate, DT=Doubling time

Table-1: Relative Growth Rate (RGR) and Doubling Time (DT)

Year	TP	%	Cumulative	CAGR	ln(w1)	ln(w2)	RGR	DT
1996	4	0.24	4	-	-	1.39	-	-
1997	9	0.54	13	225.00	1.39	2.56	1.18	0.59
1998	8	0.48	21	61.54	2.56	3.04	0.48	1.45
1999	16	0.96	37	76.19	3.04	3.61	0.57	1.22
2000	29	1.74	66	78.38	3.61	4.19	0.58	1.20
2001	33	1.98	99	50.00	4.19	4.60	0.41	1.71
2002	73	4.38	172	73.74	4.60	5.15	0.55	1.25
2003	74	4.44	246	43.02	5.15	5.51	0.36	1.94
2004	60	3.60	306	24.39	5.51	5.72	0.22	3.18
2005	81	4.86	387	26.47	5.72	5.96	0.23	2.95
2006	75	4.50	462	19.38	5.96	6.14	0.18	3.91
2007	79	4.74	541	17.10	6.14	6.29	0.16	4.39
2008	87	5.22	628	16.08	6.29	6.44	0.15	4.65
2009	70	4.20	698	11.15	6.44	6.55	0.11	6.56
2010	82	4.92	780	11.75	6.55	6.66	0.11	6.24
2011	97	5.82	877	12.44	6.66	6.78	0.12	5.91
2012	95	5.70	972	10.83	6.78	6.88	0.10	6.74
2013	95	5.70	1067	9.77	6.88	6.97	0.09	7.43
2014	99	5.94	1166	9.28	6.97	7.06	0.09	7.81
2015	97	5.82	1263	8.32	7.06	7.14	0.08	8.67
2016	97	5.82	1360	7.68	7.14	7.22	0.07	9.37
2017	101	6.06	1461	7.43	7.22	7.29	0.07	9.68
2018	100	6.00	1561	6.84	7.29	7.35	0.07	10.47
2019	105	6.30	1666	6.73	7.35	7.42	0.07	10.65
Total	1666	100	1666	Final RGR = 0.26, Final DT = 2.64				

5.3. Collaboration Coefficient (CC)

To measure the strength of collaboration the following formula of Collaboration Coefficient as suggested by Ajiferuke, Burell, & Tague (1988) has been used. Collaboration Coefficient is a numerical value between 0 and 1. The more it is bigger than 0.5 the better is the collaboration rate among the authors. When it is near 0, it means that authors have a weak collaboration rate.

$$CC = 1 - \frac{\sum_{j=1}^k \binom{1}{j} f_j}{N}$$

Where; f_j = Total number of j authored research papers

N = Total number of research papers published in a year

k = The greatest number of authors per paper

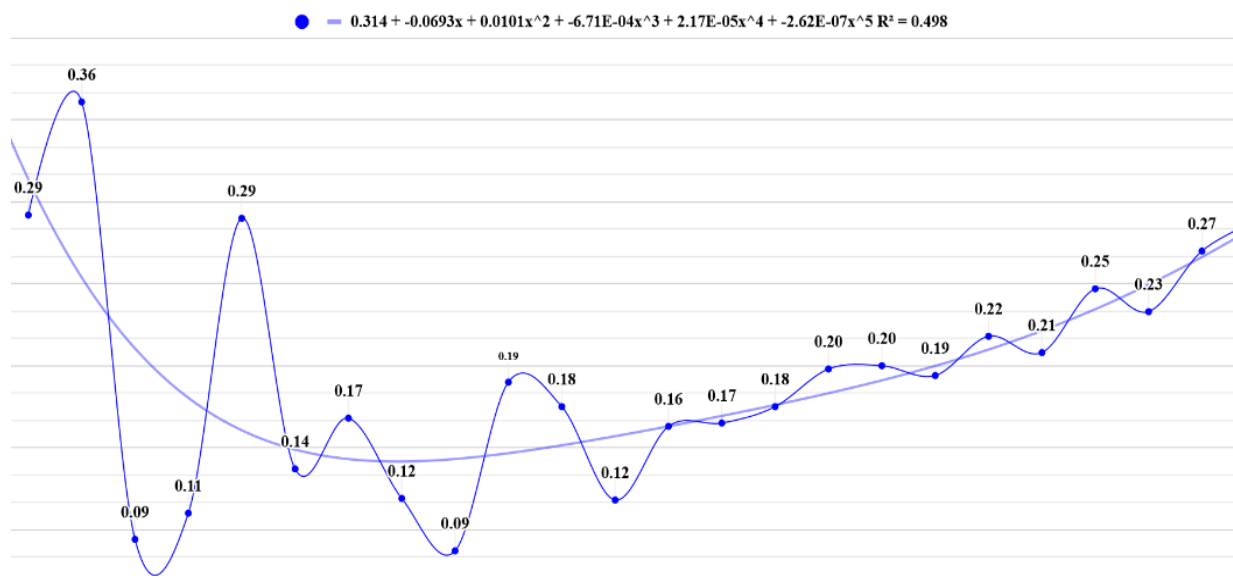


Figure 3: Collaboration Coefficient

Collaboration coefficient is a measure which takes a more detailed account of multiple authorship in comparison to Degree of Collaboration and Collaboration Index. Figure 3 Shows year wise values of the collaboration coefficient (CC), it is calculated by the formulae (3) which discreetly accounts for various number of authors' contribution to a single publication. From the figure it is inferred that till 2008 collaborative publications had been very infrequent. The years 1996, 1997 and 2000 had seen larger collaborative contributions to the C&RL News. In the year of 1998 collaboration was minimum with a value of CC as 0.09. Since 2008 CC has an increasing trend and has reached 0.29 in 2019 from 0.16 in the year 2008. Over all in the past more scholars had been publishing on their own, but now more publications are being contributed by collaborative scholarly efforts, which is an indication of increased knowledge sharing among the authors of C&RL News.

5.4. Highly Prolific Authors

Prolific authors are judged based on their number of publications. It is found Free D is the most prolific author with the highest number of publications as 55 in the C&RL News during the selected period of study. Later it was observed that Orphan, S had 15 publications to his credit and remarked as second highly prolific author followed by Mizzy, D and Kaspar, W with number of documents as 14 and 13 respectively. (Belle, S.J; Petrowski, M; and Walter, S), (Davis, M. E. K and Galloway, A.C.) (Drost, C.A; Roberts, J.R. and Wheeler, A) and (Dorney, E; Lotts, M and Ogburn, J.L) had equal number of publications such as 9, 8, 7 and 6 respectively.

5.5. Country wise distribution of documents

Authors have analysed the country wise contribution of publications that appeared in C&RL News and found that one third (76.86%) of the total publication output is generated by the United States. It is also identified that a small amount (17.59%) of publications are contributed with which their affiliation has not been mentioned and hence recorded as 'Unidentified'. The

contributions made by Canada is 1.93% followed by the United Kingdom (0.58%). Australia, Hong Kong and the United Arab Emirates made their contribution to the journal at an equal percentage (0.23%) followed by the countries such as Georgia, India, Nigeria, Qatar and South Africa at the same rate of 0.18% respectively. Egypt, Germany, Mexico, Norway and Turkey are the countries equally contributed their publications at the rate of 0.12% followed by many other countries such as Brazil, China, Colombia, Croatia, Dominica, France, Guyana, Italy, Jamaica, Kuwait, Netherlands, New Zealand, Peru, South Korea, Spain at an equal percentage of 0.06 %. Table-2 depicts the country wise distribution of documents appeared.

Table-2 Country wise distribution of documents

Rank	Country/Territory	Documents	Percentage (%)
1	United States	1315	76.86
2	Canada	33	1.93
3	United Kingdom	10	0.58
4	Australia	4	0.23
4	Hong Kong	4	0.23
4	United Arab Emirates	4	0.23
5	Georgia	3	0.18
5	India	3	0.18
5	Nigeria	3	0.18
5	Qatar	3	0.18
5	South Africa	3	0.18
6	Egypt	2	0.12
6	Germany	2	0.12
6	Mexico	2	0.12
6	Norway	2	0.12
6	Turkey	2	0.12
7	Brazil	1	0.06
7	China	1	0.06
7	Colombia	1	0.06
7	Croatia	1	0.06
7	Dominica	1	0.06
7	France	1	0.06
7	Guyana	1	0.06
7	Italy	1	0.06
7	Jamaica	1	0.06
7	Kuwait	1	0.06
7	Netherlands	1	0.06
7	New Zealand	1	0.06
7	Peru	1	0.06
7	South Korea	1	0.06
7	Spain	1	0.06
8	Undefined	301	17.59

5.6. Institution wise distribution of documents

Authors have taken measures to analyze the collaborations made between institutions on their

effort to publish scientific research articles during the period of study. Analysis showed that ALA's Washington Office stood in first place in which 25 publications appeared in the journal with this affiliation. University of Illinois at Urbana-Champaign found to be in the second position with 24 papers followed by Texas A&M University (22 Publications) and University of Minnesota System with 18 publications. Pennsylvania State University, University of Pennsylvania, University of Michigan were the other organizations who had contributed equally at a rate of 16 publications. Authors have analysed affiliation wise contributions up to 10 publications and represented as follows based on the number of documents produced. Indiana University (13), University of California and Oregon State University (12 each), ACRL, The Ohio State University, North-western University and the University of Florida (11 each) and University of Arizona, University at Albany, Indiana University-Purdue University Indianapolis, Temple University and University of New Mexico (10 each). Table- 3 represent the institution wise distribution of documents appeared in the C&RL News..

Table-3: Institution wise distribution of documents

Affiliation	Documents	%
ALA's Washington Office	25	2.54
University of Illinois at Urbana-Champaign	24	2.44
Texas A&M University	22	2.23
University of Minnesota System	18	1.83
Pennsylvania State University	16	1.62
University of Pennsylvania	16	1.62
University of Michigan, Ann Arbor	16	1.62
Indiana University	13	1.32
University of California, Irvine	12	1.22
Oregon State University	12	1.22
ACRL	11	1.12
The Ohio State University	11	1.12
Northwestern University	11	1.12
University of Florida	11	1.12
University of Arizona	10	1.02
University at Albany	10	1.02
Indiana University-Purdue University Indianapolis	10	1.02
Temple University	10	1.02
University of New Mexico	10	1.02

5.7. Funding Body

Upon analysing the funding sponsors who had supported to carry out the research output, authors found that Andrew W. Mellon Foundation ranked first at the rate of 9.09% of the total contributions followed by Association of College and Research Libraries and National Institutes of Health at a percentage rate of 6.82% and Canadian Library Association, National Endowment for the Humanities and University of British Columbia with an equal rate of 4.45%. The following institutes have funded to produce one documents which appeared as a percentage of 2.27% each: American Laryngological Association, American Psychological Association, Association of Research Libraries, Australian Research Council, Buchtel College of Arts and Sciences, Butler University, Calgary Laboratory Services, Central Research Laboratory, Colorado Scientific Society, Cornell University, Directorate for Social, Behavioral and

Economic Sciences, Duke University, Duquesne University, European Commission, Guangxi Experiment Center of Information Science, Horizon 2020, National Geographic Society Education Foundation, National Institute of Mental Health, National Park Service, Nippon Foundation, Northeastern University, Owl Research Institute, Royal Society, Simons Foundation, U.S. Department of Health and Human Services, University of Central Florida, University of South Australia, Yale University. Table-4 depicts the publication details of C&LR News by different funding agencies.

Table-4: Publications derived from Funded research

Funding Sponsor	Documents	%
Andrew W. Mellon Foundation	4	9.09
Association of College and Research Libraries	3	6.82
National Institutes of Health	3	6.82
Canadian Library Association	2	4.55
National Endowment for the Humanities	2	4.55
University of British Columbia	2	4.55
American Laryngological Association	1	2.27
American Psychological Association	1	2.27
Association of Research Libraries	1	2.27
Australian Research Council	1	2.27
Buchtel College of Arts and Sciences	1	2.27
Butler University	1	2.27
Calgary Laboratory Services	1	2.27
Central Research Laboratory	1	2.27
Colorado Scientific Society	1	2.27
Cornell University	1	2.27
Directorate for Social, Behavioral and Economic Sciences	1	2.27
Duke University	1	2.27
Duquesne University	1	2.27
European Commission	1	2.27
Guangxi Experiment Center of Information Science	1	2.27
Horizon 2020	1	2.27
National Geographic Society Education Foundation	1	2.27
National Institute of Mental Health	1	2.27
National Park Service	1	2.27
Nippon Foundation	1	2.27
Northeastern University	1	2.27
Owl Research Institute	1	2.27
Royal Society	1	2.27
Simons Foundation	1	2.27
U.S. Department of Health and Human Services	1	2.27
University of Central Florida	1	2.27
University of South Australia	1	2.27
Yale University	1	2.27
Total	44	100.00

5.8. Year wise average article Citability

Authors analysed the year wise contributions of citations recorded for the publications. It is found from the analysis that the highest number of citations 487 indicated as 6.16 average citation per item (ACPI) received for the articles published during the year 2007 followed by 361 citations for the 82 publications appeared in the year 2010. Next to this, the publications appeared in the year 2012 and 2011 have received citations 336 and 305 respectively. Further it is noticed that from the year 2001 to 2015 the average citation per publication is between 122-487.

5.9. Document types

Authors further analysed the total publications based on the type in which the publications appeared in the journal. It is identified from the analysis that more than half (52.40%) of the total publications appeared during the selected period was under the category of 'articles' followed by review publications found to be 21.67%. The document types 'Note' and 'Editorial' are published at 8.40% and 5.70% respectively. Further, 'Conference paper' and 'Short survey' were equally shared with a percentage of 5.64% followed by Erratum as 0.30% and Letter as 0.24%

5.10. Most cited articles

The publications which have received a minimum of 30 citations during the period are taken into consideration to represent the highly cited papers. Table 5 indicates the top 15 highly cited publication titles with its author details, number of citations received and the average citation per year.

Table 5: Top 15 Highly cited publications

Rank	Paper Title	Author	Citations	Year	ACPY
1	Eigenfactor: Measuring the value and prestige of scholarly journals	Bergstrom C.	250	2007	20.83
2	2012 top ten trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education	ACRL Research Planning and Review Committee	83	2012	11.86
3	Beyond Beall's list: Better understanding predatory publishers	Berger M., Cirasella J.	71	2015	17.75
4	Embedded librarianship in the research context: Navigating new waters	Carlson J., Kneale R.	66	2011	8.25
5	Top trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education	ACRL Research Planning and Review Committee	64	2014	12.80

6	2010 top ten trends in academic libraries: A review of the current literature	ACRL Research Planning and Review Committee	64	2010	7.11
7	QR codes and academic libraries: Reaching mobile users	Ashford R.	56	2010	6.22
8	Social media: A guide for college and university libraries	Burkhardt A.	54	2010	6.00
9	Moving on from Facebook: Using Instagram to connect with undergraduates and engage in teaching and learning	Salomon D.	43	2013	7.17
10	Do you Facebook? Networking with students online	Mathews B.S.	40	2006	3.08
11	Scholarly communication: Removing barriers to research: An introduction to open access for librarians	Suber P.	39	2003	2.44
12	2016 Top trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education	ACRL Research Planning and Review Committee	37	2016	12.33
13	Four quick flips: Activities for the information literacy classroom	Datig I., Ruswick C.	35	2013	5.83
14	Librarians as partners in e-research: Purdue University Libraries promote collaboration	Brandt D.S.	35	2007	2.92
15	The flipped classroom: Assessing an innovative teaching model for effective and engaging library instruction	Arnold-Garza S.	31	2014	6.20

Bergstrom's article titled "Eigenfactor: Measuring the value and prestige of scholarly journals", published in 2007 has received 250 citations as accounted in the Scopus database and is the most cited article. This paper stands out of all publications in C&RL News because of its wider impact and the theme, it affects the journals of each and every discipline. It has received more than an average of 20 citations per year. On second rank it is followed by a review paper titled "2012 top ten trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education" by ACRL Research Promotion and Review Committee (ACRL RPRC), published in the year 2012 which has received 83 citations. At third place is an article

published in 2015 by Berger and Cirasella receiving 71 citations in only 4 years of its existence. The article is focused on understanding and identifying predatory publishers, which is a contemporarily essential issue for scholars and librarians. It bears an average of citations per year equals 17.75, which is the second highest among all the publications.

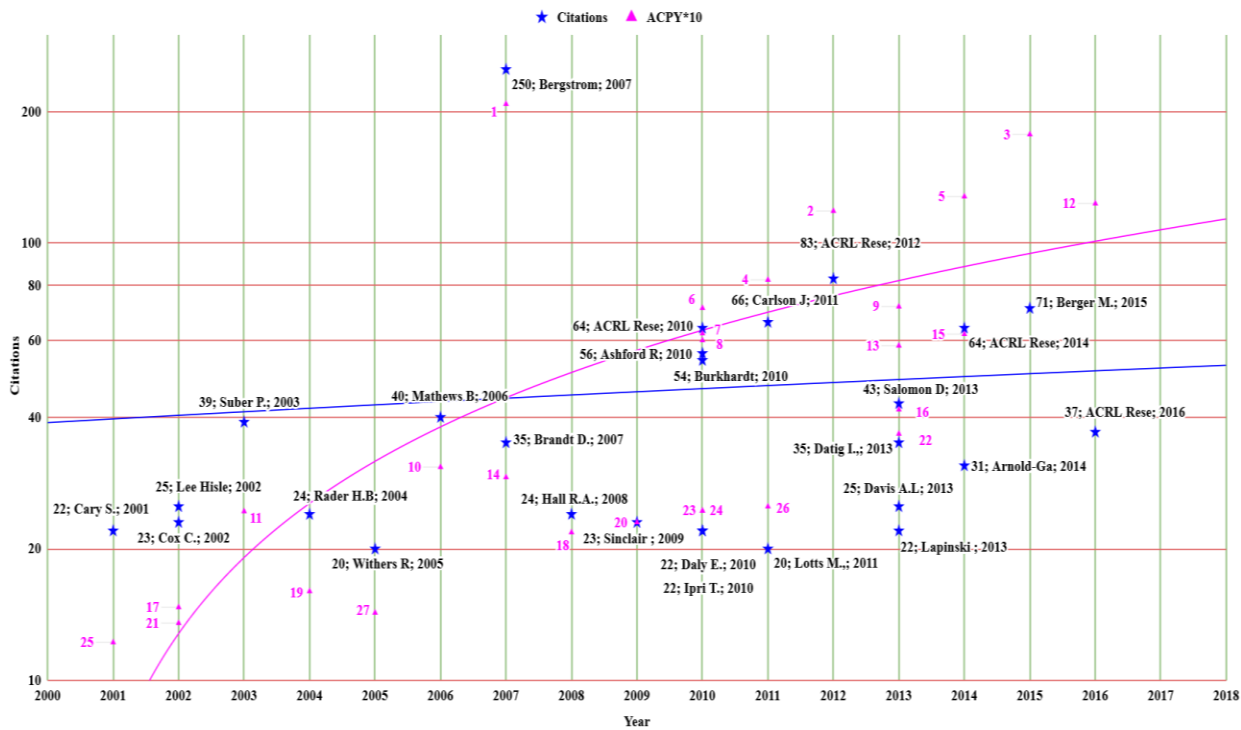


Figure 4: Top 15 Highly cited publications at present (Blue) and Expected future Citations (Pink) labeled with Rank

Figure 4 represent the top 15 highly cited publications at present (Blue) and expected future Citations (Pink) labeled with Rank. Furthermore, calculating the Average Citations Per Year (ACPY) for these highly cited publications provided insight that although some publications have lower numbers of citations at present, they have higher ACPY and vice versa. ACPY can be a good measure to estimate citability in the near future. Keeping this in mind if we multiply ACPY by 10, it will give the number of prospective citations in the next 10 years for a publication. Authors made an effort to calculate ACPY and is represented in Table 3. The publications labeled with ranks 3,5 and 12 are relatively more likely to receive citations than other publications. It can be validated from the Table 1 also. Moreover, it is also observed that four out of these 15 highly cited publications are produced by collaborative effort of the members of the ACRL Research Promotion and Review Committee in 2010, 2012, 2014 and 2016. These committees have produced very useful review articles comprehending the current issues of academic higher education libraries, which are reflected by their high ACPY. On

further reading of these reviews, we found that the key to produce highly useful publications is to be contemporary and to the point. These reviews provide comprehensive knowledge of current trends in librarianship which makes it more citable.

6. FINDINGS

The major findings of the analysis of the study are as follows:

- It was found from the analysis that the highest number (6.30%) of publications appeared in the year 2019 and the lowest (0.24%) in the year 1996
- It was observed that the publications, which covers the major portion of the total publications were appeared during the year 2010-2019, which ranges from 4.20% to 6.30%
- It was clear from the study that there was a drastic uplift (from 1.98% to 4.38%) in the number of publications appeared during the year 2002 compared to previous year ranges of the selected period i.e. from 1996-2001.
- The United States is the country which has contributed most of the publications to the journal C&RL News during the selected period.
- It was further observed that the Relative Growth Rate was exponentially decreasing over the years and at the same time Doubling Time had a periodic growth over the years except in the year 2011.
- It was observed from the analysis that the years 1996, 1997 and 2000 had witnessed a larger collaborative contribution to the C&RL News and the collaboration coefficient since 2008 was increased and reached 0.29 in the year 2019 that indicate the enhancement in collaborative scholarly contribution.
- It was identified from the study that ALA's Washington Office, University of Illinois at Urbana-Champaign and Texas A&M University respectively are the top three affiliations of the authors of C&RL News during the selected period of study.
- It was found from the study that there were many funding sponsors who had been the part of publications and Andrew W. Mellon Foundation among them ranked top. It was also found from the study that being the part of this publication the Association of College and Research Libraries supported in a larger way hence placed in the second position followed by National Institutes of Health, Canadian Library Association, National Endowment for the Humanities and University of British Columbia.

- It was observed that the highest number of citations 487 (6.16 average citation per item (ACPI)) received for the articles published during the year 2007 followed by 361 citations for the 82 publications appeared in the year 2010.
- It was identified from the study that Bergstrom's article published in the year 2007 received the highest number of citations followed by the review written by ACRL Research Planning and Review Committee in the year 2010.
- It is found from the analysis that the documents published during the year 2003 to 2016 had received at least 30 citations.
- It was further examined from the analysis that ACRL Research Planning and Review Committee is doing a tremendous job at publishing reviews of high utility.
- It was examined from the analysis that more than half of the publications appearing in the C&RL News are categorized under the document type article. Further, among the remaining 50% publications major amounts of publications appeared are review papers followed by note. However, editorial, conference papers and short surveys are given almost equal considerations in its publications.
- It was identified from the analysis that Free, D is the highly prolific author with a publication of 55 articles during the selected period followed by Orphan, S, Mizzy, D and Kaspar, W

7. CONCLUSION

Scientometric analysis of publication helps to identify the impact and growth of scientific literature in terms of its quantitative aspects. College & Research Libraries News has maintained a consistent pattern in publishing articles, contemporary issues related to librarianship and reviews etc. From the present analysis of publications for the period of 1996 to 2019, it is found that collaboration has an increasing trend for the last 11 years. It is also found that knowledge sharing among the authors of the journal is higher relative to the past as the collaboration has been increasing but the number of published articles is nearly the same for the last 7 to 8 years. Bergstrom's article published in 2007 is the most cited publication of the last 21 years. Moreover, it is also found that there are 84 publications in the last 21 years, which have received equals to or more than 10 citations, but only 15 were capable of getting more than 30 citations. ACRL Research Planning and Review Committee has been putting a good collaborative effort to produce high quality review papers since 2010. This type of review committee publication can be an efficient way to ensure periodic review of the contents of a journal and can produce high quality articles for the journal also which will finally benefit the readers.

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