

An Altmetric Analysis of Top Journals in Library and Information Science

Rangaswamy* & Rajendra Babu. H**

Abstract

The current research examines that, which journals and article will get high citations as well as altmetrics attention score in the field of Library and Information Science. Purpose of this study analysed to 5 LIS journals indexed by Google Scholar Metrics 2019. The study results reveal that JAIS&T journal got 1st position with h5-Index. In this study significantly found that mostly used altmetrics source in LIS research was Mendeley (1998), followed by Twitter (113) and Blog (6) respectively. The highest altmetrics presence was seen in this study “Bibliometrix: An R-tool for Comprehensive Science Mapping Analysis” article with (50) Altmetrics Attention Score.

Keywords: *Altmetrics, Google Scholar Metrics, LIS*

1. INTRODUCTION

Today the academic publishing world has changed significantly from traditional to present trends with the use of technology. Present scenario numerous types of metrics are available to assist the evaluation of scientific scholarship (Zarifm Mahmoudi, Jamali, and Sadeghi 2014). Similarly, the metrics approach to assessing scientific productivity also has changed from Libra metrics to Bibliometrics, Scientometrics, Webometrics to Altmetrics today. Altmetrics is one of the scientific research output analysis metrics. Journal Impact Factor, CiteScore & SNIP, h-Index, SJR, PlumX, Altmetrics attention score, Article Influence Score, Google Scholar Citations are the most popular metrics used in the analysis of scholarly communication (Fire and Guestrin 2019); (Fisher 2019); (Ezema and Ugwu, 2017).

In recent years Altmetrics (Alternative metrics) has grown as a most powerful metrics tool for capturing communication around scientific content access wide

* rangaswamytut@gmail.com ** hrajendra.babu@gmail.com
Tumkur University, Tumakuru, Karnataka-572103

range of social media platforms (Wouters, Zahedi, and Costas 2018). Altmetrics track online readers of scientific research from various sources (Facebook, Twitter, Blogs, News, Mendeley, CiteULike and so-on). (Phillips 2010) opined that blog is one of the featured social media for future. In this study, we tried to investigate the highly cited journals as well as articles in Journal of Informetrics and to examine the article attention score with demographic information.

2. OBJECTIVES OF THE STUDY

The five objectives of the study are to:

1. To know the top 5 journals in LIS.
2. To identify the top article in the Journal of Informetrics.
3. To study the major online attention for the articles.
4. To know the tweeting statistics for the articles.
5. To examine the correlation between citation and AAS (Altmetric Attention Score)

3. THE METHODOLOGY OF THE STUDY

For this study purpose we collected data from google scholar metrics https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=soc_libraryinformationscience. According to google scholar metrics, we have taken top 5 journals in the field of Library and Information Science and particularly selected top 5 articles in the 'Journal of Informetrics' in terms of citations have been taken, and the corresponding altmetric score is calculated with the help of Altmetrics.com. The online attention capture by the articles in terms of mentions, news, blogs, bookmarks, reads and shares on Blogs, Facebook, Mendeley, Twitter are estimated. Further, to know the correlation between citations and altmetric attention score, Pearson correlation study has done with the help of SPSS 21st edition. For providing REFERENCES we used Zotero open-source reference management tool.

4. FINDINGS AND DISCUSSIONS

4.1 Top Publications in Library and Information Science according to Google Scholar Metrics

Google Scholar is an important role in scholarly communication, it helps researchers to locate the broad scope of scholarly literature on the web (Noruzi 2005). It provides an alternative to the ISI Citation Index and follows a different collection policy which affects both the publications covered and the number of citations to the publications (Bar-Ilan 2008). The following table shows the top 5 publications in Google Scholar under the category of Library and Information Science in particularly Journal of Informetrics.

Table 1: Top 5 Journal Publications Featured in Google Scholar on Library and Information Science subject

<i>Ranking</i>	<i>Publication</i>	<i>h5-index</i>	<i>h5-median</i>
1.	Journal of the Association for Information Science and Technology	60	94
2.	Scientometrics	57	84
3.	Journal of Informetrics	39	53
4.	The Journal of Academic Librarianship	33	48
5.	Online Information Review	30	42

Note:h5-index- The h-index for articles published in the last 5 complete years

h5-median- Measuring the median value of citations is for the h number of citations in the last 5 years.

The data in Table 1 shows the top 5 LIS journals with the highest altmetric presence in terms of highest h-index scored in the last 5 years. Journal of the Association for Information Science and Technology publication stands in the first position with 60 h5-index and 94 h-5 median scores, followed by Scientometrics with 57 and 84 h5-index respectively. Online Information Review stands least in terms of h5-index with 30 and 42 h5 median.

Table 2: Top 5 Highly Cited Articles in the Journal of Informetrics

<i>Rank</i>	<i>Title</i>	<i>Author</i>	<i>Publication year</i>	<i>Citation</i>
1	A review of the literature on citation impact indicators	Ludo Waltman	2016	203
2	Do altmetrics point to the broader impact of research? An overview of the benefits and disadvantages of altmetrics	Lutz Bornmann	2014	145
3	CitNetExplorer: A new software tool for analyzing and visualizing citation networks	Nees Jan van Eck, Ludo Waltman	2014	89
4	Relationship between altmetric and bibliometric indicators across academic social sites: The case of CSIC's members	José Luis Ortega	2015	76
5	Bibliometrix: An R-tool for comprehensive science mapping analysis	Massimo Aria, Corrado Cuccurullo	2017	63
Total				576

According to Google scholar metrics as shown in the table-2 shows the highly cited articles published in the Journal of Informetrics. The top-cited author is Ludo Waltman in the journal of informatics with 203 citations in the year of 2016, followed by ‘Do altmetrics points to the broader impact of research? An overview of benefits and disadvantages of altmetrics’ and ‘CitNetExplorer: A new software tool for analyzing and visualizing citation networks’ with 145 and 89 citations in the year f 2014 respectively.

4.2 Online Attention for the Articles

Today social media have become a powerful platform for the researchers to make their knowledge sharable across the globe. The use of social media platforms like Blogs, Twitter, Facebook and other new media for academic research has found very much helpful for the researchers (Powell, Jacob, and Chapman 2012). The social platform is an open access publishing platform which can attract the attention of plenty. The major online attentions received by the papers are given below.

Table 3: Online attentions and Altmetric Attention Score

<i>Paper</i>	<i>Blogs</i>	<i>Tweets</i>	<i>Facebook</i>	<i>Wikipedia</i>	<i>Mendeley</i>	<i>AAS</i>
1	-	20	-	-	428	14
2	5	11	-	-	501	37
3	-	5	-	-	295	4
4	1	2	-	-	326	14
5	-	75	-	-	438	50
Total	6	113	-	-	1988	119

Above table show that paper -2 got highest readers in Mendeley with 501 and AAS with 37 followed by paper -4 with 438 and AAS with 50 respectively. All articles scored good under Twitter 113, and Blogs 6 but it has been observed that none of the paper got any score under Facebook and Wikipedia.

Table 4: Country-wise Tweeting

<i>Paper</i>	<i>Top 1</i>	<i>No. of tweets</i>	<i>Top 2</i>	<i>No. of tweets</i>	<i>Top 3</i>	<i>No. of tweets</i>
1	Spain	2	France	1	Netherland	1
2	Brazil	3	Germany	2	USA	2
3	Brazil	1	Netherland	1	Germany	1
4	France	1	-	-	-	-
5	USA	7	Australia	6	UK	6
Total		14		10		10

Twitter has become a more powerful social platform for scientific communication. It is clear from the data in the table-4 that all the 5 papers got

the good responses through tweets, paper 5 got from the USA with a total of 7 tweets followed by the U.K and Australia with 6 tweets. Followed by paper 2 get good responses from Brazil, Germany and the USA.

Table 5: Readers by Subject wise

<i>Paper</i>	<i>Discipline</i>			<i>Total</i>
	<i>Social sciences</i>	<i>Computer science</i>	<i>Others</i>	
1	119	80	229	428
2	185	105	211	501
3	52	50	193	295
4	124	77	125	326
5	63	36	339	438
Total	543	348	1097	1988

In terms of subject areas, the results of Table 6 is notable that in some of the subject streams research data read by various disciplines with various social media platforms, present data from the table reflected that paper 5 got (339) readers other than social science and computer science readers, followed by paper 2 received (185) social sciences and (105) computer science readers. Interestingly it can see from the table almost all library and information science papers got good readers from other than library science subject readers.

5. FINDINGS OF THE STUDY

- According to Google Scholar Metrics, in Library and Information Science “Journal of the Association for Information Science and Technology”, stands 1st 60 h-Index, and followed by Journal of Informetrics with 3rd position with 39 h-Index.
- In the Journal of Informetrics “A review of the literature on citation impact indicated by Ludo Waltman article got highest (203) citation with only 14 AAS.
- Mendeley is the only one most (1988) used platform compare to other social media sites.
- The study found that the USA (7) followed by Australia and UK (6) are highly twitted countries.
- The study significantly found that majority (1097) of readers red LIS articles other than social Science and Computer science discipline.

6. CONCLUSION

Today, there are numerous types of metrics available to assist in the evaluation of scientific productivity. Altmetrics is a popular metric tool to measure scientific productivity which is less than a decade old. It can provide an accurate evaluation of the impact of scholarly output. Judging an articles’ impact might be more fairly

assessed with the use of several social media through the alt-metric method. The present study is limited by its time coverage, as considered only Google Scholar Metrics' top 5 LIS publications in 2019. The current research studied the highly cited LIS articles based on data from Altmetric Explorer. In this study, the investigator found that most of the library and information science journals as well as articles failed to get good attention from social media. The study has used an alt-metric approach to identify the productivity of the research literature. The study suggests that the authors, to choose open access publishing and social media platforms to channelise their research output in order to popularise their research output and to get good online attention.

REFERENCES

1. Bar-Ilan, Judit. 2008. "Which H-Index? – A Comparison of WoS, Scopus and Google Scholar." *Scientometrics* 74 (2): 257–71. <https://doi.org/10.1007/s11192-008-0216-y>.
2. Delgado-López-Cózar, Emilio, and Álvaro Cabezas-Clavijo. 2012. "Google Scholar Metrics: An Unreliable Tool for Assessing Scientific Journals." *El Profesional de La Informacion* 21 (4): 419–27. <https://doi.org/10.3145/epi.2012.jul.15>.
3. Ezema, Ifeanyi J, and Cyprian I Ugwu. n.d. "Measuring Research Impact of Library and Information Science Journals: Citation Verses Altmetrics," 10.
4. Fire, Michael, and Carlos Guestrin. 2019. "Over-Optimization of Academic Publishing Metrics: Observing Goodhart's Law in Action." *GigaScience* 8 (6). <https://doi.org/10.1093/gigascience/giz053>.
5. Fisher, Thelma. 2019. "LibGuides: Research Publishing & Impact: Journal Metrics." 2019. https://otago.libguides.com/research_publishing_impact/journal_metrics.
6. Noruzi, Alireza. 2005. "Google Scholar: The New Generation of Citation Indexes." *LIBRI* 55 (4): 170–80. <https://doi.org/10.1108/eb049978>.
7. Phillips, Angus. 2010. "Blog to the Future?" *Journal of Scholarly Publishing*, October. <https://doi.org/10.3138/jsp.42.1.16>.
8. Powell, Douglas A., Casey J. Jacob, and Benjamin J. Chapman. 2012. "Using Blogs and New Media in Academic Practice: Potential Roles in Research, Teaching, Learning, and Extension." *Innovative Higher Education* 37 (4): 271–82. <https://doi.org/10.1007/s10755-011-9207-7>.
9. Wouters, Paul, Zohreh Zahedi, and Rodrigo Costas. 2018. "Social Media Metrics for New Research Evaluation." *ArXiv* abs/1806.10541.
10. Zarifmahmoudi, Leili, Jamshid Jamali, and Ramin Sadeghi. 2014. "Google Scholar Journal Metrics: Comparison with Impact Factor and SCImago Journal Rank Indicator for Nuclear Medicine Journals" 23 (1): 7.

