

# Mendeley Readership Counts: An investigation of DESIDOC Journal of Library & Information Technology

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**ABSTRACT:** Mendeley is a citation management tool and widely used by academics, educators and librarians around the world. It gives early impact data in relation to an individual academic's work, rather than citation data. The study reported in this paper aimed to investigate and characterize the presence of DESIDOC Journal of Library & Information Technology articles in Mendeley. Data were exported from Mendeley using Webometric Analyst software. A total 391 articles were found with total 6132 readership count. The results show that student and librarian groups are primary readers of the publications as compared to faculty, researchers, and other reader groups. There is a 0.3217 correlation between Scopus citations with Mendeley readers. It was also noted that all the 391 articles has at least one reader.

**Keywords:** Altmetrics, DESIDOC Journal of Library & Information Technology, Mendeley Readership, Readership

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## 1. Introduction

Mendeley was introduced in 2007 (Macmillan, 2012) and brought by Elsevier in 2013 (Parabhoi, 2017). It is a powerful citation manager with social network features that enable user to creates Group, join and collaborates research work with others (Parabhoi, Pathy, & Seth, 2017). In addition, users can register their names free of cost at their website in order to create research profile, add area of interests and upload research papers (Mendeley, 2019). It has been frequently used by academics for managing bibliographical data (Parabhoi, Sahu, & Bhoi, 2018). Due to its social network feature as well as other features such as job, alert hence, a6 million researchers have connected from around the world (Mendeley, 2019). Furthermore, it gives readership statistics (Pooladian & Borrego, 2017), which have been widely used for evaluating research performance of an article as well as researchers. It gives altmetrics data (Maflahi & Thelwall, 2016) and now it has been accepted as an indicator for research evaluations. Many commercial publishers have been used social media metrics such as Mendeley readership statistics, in their journals page and show different metrics like social media use and readership statics. Citation is a long-standing research indicator which gives information about how many times an article has been formally cited by other authors. However, due to the typical publishing cycle, it takes a considerable period of time for citations to be identified in articles. Altmetrics are increasingly being used to provide real time impact of an article, such as readership statistics, tweets, and shares in different social media platform.

## 2. Objectives

Social media tools have been widely used for dissemination of information's. It was noted that Mendeley has a social network feature that, enable user to invite and create group and share research work. As mentioned earlier that, Mendeley provides early impact of scientific publications. The objectives of the current study are to examine the growth of readership using statistics. Which paper has greater readership statistics? And also find out, which groups and disciplines are mostly

reading papers published in DESIDOC Journal of Library & Information Technology journal? Further study will the correlate between readership and Scopus citation.

### 3. Review of Literature

Counting citations of academic papers has been widely and commonly used as a measure of scholarly impact. However, the traditional publishing cycle means that it takes a long time to for a citation of an article to appear (Thelwall, 2015). Moreover it has some limitations such as only considered the impact on others academic publication and overall it measures some limited parameters (Zahedi, Costas, & Wouters, 2014). In addition to the traditional citation count, alternative indicators can give real time impact of scholarly articles. Mendeley gives early scholarly impact of research publications like readership statistics of an research paper, when it has published online (Thelwall, 2018). (Mohammadi & Thelwall, 2014) correlated citations and Mendeley readership count in social sciences and humanities publications. Mohammadi & Thelwall notated that overall higher correlation in social sciences discipline as compared to humanities. Similarly (Thelwall, 2017b) correlated early Mendeley readership counts with later citation counts. The study found moderate or strong correlations in 8 field out of 10 fields. Thelwall & Wilson, (2016) correlated Scopus citations with Mendeley readership counts of 45 medical fields with a sample of 332,975 articles. Likewise Thelwall, (2017a) reviewed 12 narrow subcategories of Arts & Humanities and compared them with Scopus citations. In this study, Spearman correlations were used. Thelwall suggested that rather than citation counts, Mendeley readership count can be used as an early impact of scholarly impact in arts and humanities. Riahinia et al., (2018) investigated the relationship between bookmarking and readership with citation count indexed papers in Web of Science and Essential Science Indicators. Zahedi et al., (2014) reviewed a random sample of 20,000 publications of all disciplines from Web of Science and compared these data with almetrics. Pooladian & Borrego (2017) reviewed 25 years of readership counts of published papers in the field of library and information science. They found that of the LIS publications published from 1995 to 2014. About 61 % were found in Mendeley. Another notable study was conducted by Shrivastava & Mahajan (2016). Of the top 100 papers published in Physics in from 2005 to 2010, they correlated citation counts with readership counts. The study found that 0.69 Pearson's correlation coefficient (r) published 100 papers in physics whereas 0.34 Pearson's correlation coefficient (r) found for papers published in 2005 for top 100 publications in physics. Sud & Thelwall (2016) investigated the correlation of literature related to Biochemistry published in 2011. Study found positive correlation between number of readers and the number of citations.

### 4. Methodology

Scopus is one of popular database and greater coverage in the field humanities and social science and DESIDOC Journal of Library & Information Technology is popular journal in library and information science published from Defense Scientific Information & Documentation Centre, India. As per SCImago ranking, the score of the journal was 027 (2018) (SCImago.2019). Bibliographical data and citations were exported from Scopus database from 2012 to 2018 on 19-03-2019. A total of 416 publications were found in the search published in DESIDOC Journal of Library & Information Technology. Furthermore only research articles were shortlisted from the raw data for this study and all other type of publications such as reviews, editorials and notes were removed from the list in scrutiny of the raw data. Finally, 391 publications were found and that was the sample size for this study. These data were run using Webometric Analyst software for exporting data from Mendeley via Application Programming Language (API) (Thelwall, 2017c).

### 5. Data Analysis

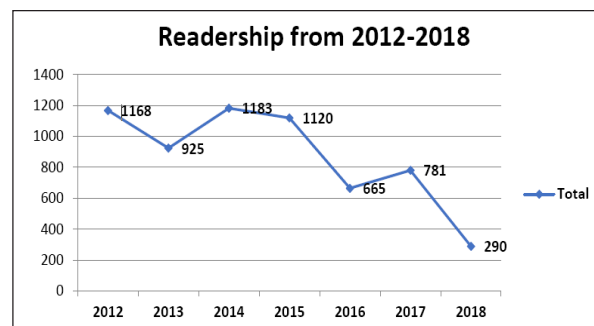


Figure 1. Readership from 2012 - 2018

Figure 1 provides information about readership trends of DESIDOC Journal of Library & Information Technology between 2012 and 2018. The highest 1183 number of readership count published paper in the year 2014 whereas lowest 290 readership count published paper in the year 2018. It clear that the readership count was not stable and it was found up and down mode. The older the paper, it is more likely to have more readers over time. It might be possible due to the paper published in 2012 had high quality research paper.

### 5.1. Top Fifteen Readership Papers

Table1 shows the top fifteen readership papers and number of times they have been cited. It was found from the data that the

Sl. No	Title	Authors	Cited by	Readers
1	Open source library management and digital library software	Kamble V.T., Raj H., Sangeeta	5	84
2	Bibliometrics to altmetrics: Changing trends in assessing research impact	Dhiman A.K.	2	74
3	Facilitating e-learning through national knowledge network	Geetha S.P., Cherukulath W.K., Sivakumar R.	0	58
4	An overview of mobile reading habits	Shimray S.R., Keerti C., Ramaiah C.K.	7	58
5	Indian government websites: A study	Chand B.B., Ramesha		55
6	Use of social media in marketing of library and information services in Bangladesh	Islam M.M., Habiba U.	2	54
7	Digital copyright protection: Issues in the digital library environment	Hombal S.G., Prasad K.N.	3	52
8	Research data management practices in university libraries: A study	Tripathi M., Shukla A., Sonker S.K.	1	51
9	Digital preservation of electronic resources	Gaur R.C., Tripathi M.	4	50
10	User satisfaction regarding quality of library services of A.C. Joshi Library, Panjab University, Chandigarh	Mohindra R., Kumar A.	6	49
11	Embedded librarianship: Librarian faculty collaboration	Sharma P., Kumar K., Babbar P.	4	49

12	Academic library's responses to the emerging trends in higher education	Kumbhar R. Nisha F., Senthil V.	5	48
13	MOOCs: Changing trend towards open distance learning with special reference to India	Nisha F., Senthil V.	6	47
14	Application of mobile technologies to libraries	Malathy S., Kantha P	6	46
15	Information literacy in India and Germany: University libraries as activators of life-long learning	Singh N., Klingenberg A.	0	46

Table 1. Ranking of paper of readership

title "Open source library management and digital library software" by Kamble V.T., Raj H. and Sangeeta had highest number of 84 readership counts followed by title "Bibliometrics to altmetrics: Changing trends in assessing research impact" by Dhiman A.K. with 74 readership counts. and "Facilitating e-learning through national knowledge network" by Geetha S.P., Cherukulath W.K., and Sivakumar R. with 58 readership counts. Furthermore, noticed that, there were no such kind of relationship found between the highest paper and readership count. As lowest cited papers also greater readership found.

## 5.2. Designation wise Readership Statistics

The readership statistics by designation are shown in Table 2. The data were sorted by frequency of readership count, from highest to lowest number of readers. The data reveal that the student group had the highest level of readership with 2705 (44%) while, lowest readership 118 (2%) found other category which was not assigned in Mendeley. Considerably, Librarian group were 1764 (29%) readership found followed by Faculty 883(14), Unspecified 334 (5%) and Researcher 328 (5%). It was noticed that, vast majority of readership came from Student and Librarian group about 73%. It can be said that, student is core area of research and they frequently read articles for their work and assignment, in case of librarian, may be read articles to be helping students and faculty find articles.

Sl No	Group	Readers	Percentage
1	Student	2705	44
2	Librarian	1764	29
3	Faculty	883	14
4	Unspecified	334	5
5	Researcher	328	5
6	Other	118	2
	Total	6132	100

Table 2. Contribution of Readership by Reader Group

<b>Sl. No</b>	<b>Discipline</b>	<b>Reader</b>
1	Social Sciences	2737
2	Computer Science	1149
3	Arts and Humanities	718
4	Unspecified	487
5	Business, Management and Accounting	304
6	Engineering	162
7	Medicine and Dentistry	112
8	Agricultural and Biological Sciences	80
9	Economics, Econometrics and Finance	66
10	Nursing and Health Professions	53
11	Psychology	52
12	Earth and Planetary Sciences	44
13	Linguistics	36
14	Design	34
15	Environmental Science	22
16	Chemistry	18
17	Decision Sciences	10
18	Philosophy	9
19	Physics and Astronomy	8
20	Mathematics	6
21	Pharmacology, Toxicology and Pharmaceutical Science	5
22	Materials Science	4
23	Neuroscience	4
24	Biochemistry, Genetics and Molecular Biology	3
25	Immunology and Microbiology	3
26	Chemical Engineering	3
27	Sports and Recreations	2
28	Energy	1
29	Veterinary Science and Veterinary Medicine	0
	<b>Total</b>	<b>6132</b>

Table 3. Contribution of Readership by Discipline

**5.3. Discipline Readership Statistics by Discipline**

Table 3 shows readership statistics by discipline. Mendeley identifies 29 broad discipline categories. The data revealed that the vast majority of readers are from the Social Sciences and lowest readership is from Veterinary Science and Veterinary Medicine groups with 0. Furthermore, data indicated that the second highest reader group is Computer Science 1149 followed by Arts and Humanities 718 readership. Since, the Library and Information Science subject comes under social science and also closely related to computer science discipline so that, majority of readers came from the two disciplines. In addition to, DESIDOC Journal of Library & Information Technology is purely related to library and information Science discipline.

**5.4. Pearman Correlations**

The Pearman Correlations was calculated using Webometrics Analyst. The data were correlated with citation and readership. It was found that there was positive 0.3217 correlations between citations and Mendeley readership.

**5.5. Average Number of Readers per Article**

Table5 illustrates the range of readership statistics and number of articles. The articles was divided in to 6 groups by range of readership statistics. It was found that majority of 150 articles had range between 1 and 10 readership group whereas, very few 8 articles found above 50 readerships. Moreover, data depicts that the second largest readership group of was between 11 > 20 readers with 148 articles found which slightly lower than first group 1 > 10. It was further followed by between 21 > 30 readers with 53 articles, 31 > 40 reader group with 11 articles, 41 > 50 readership group with 11 articles and only 8 found 50 > readership group.

Correlation All	Record Count All	Omitted Count All
0.3217	240	176

Table 4. Correlations between Citation and Readership

**5.5. Average Number of Readers per Article**

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SL No	No of Article	Range of reader
1	150	1>10
2	148	11> 20
3	53	21>30
4	21	31>40
5	11	41>50
6	8	50>
<b>Total</b>	391	

Table 5. Ranking of Articles and Readership count

### 5.6. Distribution of Mendeley Readership Statistics by Country

The Table 6 shows the number of readers of research papers by country. Mendeley gives geographical information of the user, however some data are missing and not always correct (Padhan, 2016). As per data collected from Mendeley, it shows that most of the readers came from India (237), followed by United States (91) and Spain (42). As, the DESIDOC Journal of Library & Information Technology journal published from India and published articles related to India. So that, most of reader came from India followed by United States.

SI No.	Country	Reader
1	India	237
2	United States	91
3	Spain	42
4	Brazil	16
5	Nigeria	15
6	United Kingdom	11
7	South Africa	11
8	Colombia	9
9	Indonesia	7
10	Poland	6
11	Peru	5
12	Zimbabwe	5
13	Belgium	5
14	Cuba	5
15	Saudi Arabia	5

Table 6. Ranking Readership by country wise

### 6. Conclusion

The results suggest that, all the articles published in DESIDOC Journal of Library & Information Technology had at least one reader. It is a good symbol that user are reading papers published by the journal. The readership of the articles increase and decrease it depends of quality of the paper and relevant to subject domain. Moreover, while readers from all disciplines categorized by Mendeley read the papers, there are low numbers of reader's for Veterinary Science and Veterinary Medicine disciplines. Furthermore, the results indicate that the paper published in 2014 had greater readership statistics as compeered to those published in later years. Significantly student and librarian groups read most of publications as compare to faculty, researchers, and unspecified and other reader groups. As, student is playing vital role in research and during their study. They have been reading various articles related to their study while, librarian plays an important role dissemination knowledge by



searching different databases provide relevant articles to their users. It was also noticed that the Social Sciences and Computer Science disciplines have greater readership statistics. It can be said that the Library and Information Science discipline is closely related to Social Sciences and Computer Science so that the readership statistics are higher than other disciplines. As mentioned earlier Mendeley readership statistics give a sense of early impact of publications. It was suggested that, to upload publication into Mendeley so that the early impact of readership can be count as well get cited in later stages.

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