LIBRARY HERALD
Vol 62 No 3
September 2024

Journal Impact Factor (JIF): A Study of Select LIS Journals

GEETHA C S*
MEGHANA M D**

The JIF is a supportive tool for assessing journals, and hence caution is required to be used. There is a massive amount of debate that encircles the Journal Impact Factor (JIF), which is recurrently expended to evaluate research and scholars. It is extremely controversial to the extent of the degree that the JIF is acceptable for assessing the caliber of a given article or publication, and particularly for assessing both individual and group research accomplishments. Citations and their quantity are often considered to be the foundation of the JIF. The present study is an attempt to calculate the Impact Factor of selected LIS journals which have the scope at both national and international levels. The results depict that journals having a broader scope and open access policy possess higher percentage of IF than others. The same has been presented in the form of tables and charts.

Keywords: *Impact Factor, JIF, LIS journals, Citations, DJLIT, JIL, EJKM, ITL, JILA, IJDL.*

0 INTRODUCTION

One of the most important sources of first-hand information for study or research is a journal. The quality of a journal to its profession is determined primarily by its Impact Factor (IF). The impact factor is a convenient and valuable system of measurement for judging a scientific paper due to its high impact with significant paraphernalia that have both monetary and career motivations that have been identified at both the individual and institutional levels. The impact factor of a journal gauges the average number of citations to articles appearing in journals, books, project papers, thesis & dissertations, conference proceedings, and also other documents posted online that have

* Guest Faculty, Department of Library and Information Science, Bangalore University, Bengaluru – 560056. geethamanu415@gmail.com.

** M. L. I Sc. Student, Department of Library and Information Science, Bangalore University, Bengaluru – 560056. mdmeghana35@gmail.com

been approved by certain governing bodies/agencies[1]. The Impact Factor can be calculated for a journal published after at least two years.

The concept of citations and the quantity provided by Eugene Garfield are the foundation of the Impact Factor. It is ferociously debated to the extent the IF is appropriate for rating the quality of a single article or publication, particularly for rating the achievements of individuals and group researchers. Garfield also quotes "JIF plays a major role in libraries to decide which journals to purchase and helps authors to decide where to submit their articles, because the majority of the time, the most esteemed journals nowadays are those with high impact factors[2]. The present study is an attempt to identify the impact factor with the following objectives for the selected esteemed journals in the field of library and information science, which are having the scope at both national and international levels.

1 OBJECTIVES

- To identify the year and volume-wise distribution of research articles published in the selected LIS Journals.
- To discover the number of citations and percentage of research articles.
- To calculate the impact factor for all the selected journals in the study.
- To compare and rank the impact factor of all selected journals.

2 REVIEW OF LITERATURE

A thorough investigation of the published literature in any format was the main objective of the literature survey, which was conducted to gather background knowledge on the study's theme and to commence work systematically. The comprehension of the subject's history and current developments is made easier by the review. It assists the researcher in understanding what has previously been done and what work has still to be done. Fischer and Fabry[3] analyzed the influence of the Impact Factor on the Journal of Medical Education. The study defines the JIF as the "average number of citations per article based on all published articles over the past two years." The result of this study recognized the necessity for improvements in various aspects, among several other major consents which is to enhance teaching and learning as well as the evidence-based aspect of education, training, and continuing education by contributing to scientific knowledge in German-speaking nations and worldwide. Anthony and Herzon[4] opined that, the impact factor should not encourage the mass fabrication of fake articles; rather, it

should represent the overall interest in the papers published by a journal. Okagbue et.al.[5] conducted a study to determine whether there was any relationship between the CiteScore and JIF of Computer science journals. Based on a sample of 212 LIS journals having a Scopus index and a CiteScore, the top quartile was compared to 43 LIS journals with the highest JIF scores. Erin et.al.[6] scrutinized the rate of recurrence and modes of usage of the Journal Impact Factor (JIF) in Review, Promotion, and Tenure (RPT) papers of a representative sample of institutions in the United States and Canada. The observations of the study support the use of the JIF in RPT assessments, particularly at research-intensive universities, and suggest that additional requirements to be done to prevent the possible abuse of measures like the JIF. Jalalian[7] conducted a detailed study on how some of the primary fake impact factors approached the academic community and how the author was able to identify them, since they employ titles like Cite Factor, Universal Impact Factor (UIF), Global Impact Factor (GIF), and false Thomson Reuters Company.

3 METHODOLOGY

The present study reports a set of conclusions from larger collections that deal with the calculation of the JIF (Journal Impact Factor). The research articles published in selected six LIS journals during 2019 and 2020 have been recorded and taken up for evaluation. The impact factor is calculated for the cited articles of 2019 and 2020 till June 2023, and the same has been presented in the following tables and graphs. For the present study, the researcher has selected six leading LIS journals, namely.

1. DESIDOC Journal of Library and Information Technology (DJLIT).
2. Journal of Information Literacy (JIL).
3. Electronic Journal of Knowledge Management (EJKM)
4. Information Technology and Libraries (ITL).
5. Journal of Indian Library Association (JILA).
6. International Journal on Digital Libraries (IJDL).

4 DATA ANALYSIS

YEAR AND VOLUME-WISE DISTRIBUTION OF RESEARCH ARTICLES

TABLE-1

41Year and Volume-Wise Distribution of Research Articles

S. No	Name of the Journal	Year	Vol. No.	Issue No	No. of articles published
1	DESIDOC Journal of Library and Information Technology	2019 & 2020	39 & 40	1-6	110
2	Journal of Information Literacy	2019 &2020	13 & 14	1-2	48
3	Electronic Journal of Knowledge Management	2019 & 2020	17 & 18	1-3	42
4	Information Technology and Libraries	2019 & 2020	38 & 39	1-4	59
5	Journal of Indian Library Association	2019 & 2020	55 & 56	1-4	69
6	International Journal on Digital Libraries	2019 & 2020	20 & 21	1-4	55
Total					**383**

The above Table 41 indicates the year and volume-wise distribution of research articles. Here a total of 383 research articles are identified. Firstly, the highest 110 journal articles were published in the 39th & 40th volumes of the DESIDOC Journal of Library and Information Technology, followed by 69 articles in the 55th & 56th volumes of the Journal of Indian Library Association. Information Technology and Libraries in Volumes 38 & 39 with 59 articles, International Journal on Digital Libraries in 20th & 21st volumes with 55 articles, Journal of Information Literacy in volumes 13 & 14th with 48 articles, and Electronic Journal of Knowledge Management in 17 & 18th volumes with 42 papers.

NUMBER OF CITATIONS AND PERCENTAGE OF RESEARCH ARTICLES

TABLE-2

42 Number of Citations and Percentage of Research Articles

The above Table 42 indicates the number of citations and percentage of research articles. A total of 3,453 citations are identified. The highest number of citations is found in International Journal on Digital Libraries with 1061 citations for 55 (14.36%) articles, followed by the DESIDOC Journal of Library and information technology with 937 citations for 110 (28.72%) articles, Information Technology and Libraries with 679 citations, The Electronic journal of knowledge management with 412 citations for 42 (10.96%) articles, Journal of Information Literacy with 253 citations for 48 (12.53%) articles, Journal of Indian Library Association with 111 citations for 69 (18.01%) articles. It is inferred from the table that the highest citations are received for the articles which are published in the open-access/ease-of-access journals than closed or subscription-based access.

CALCULATION OF IMPACT FACTOR FOR THE SELECTED JOURNALS

The idea that citation frequency is a reliable indicator of a journal's significance to its readers underlies the usage of the impact factor as a measure of journal quality. For journals, whose readers are largely researchers, the majority of them submit their proposals for publication. Researchers are essentially endorsing a publication by using its articles as references in their studies or submissions. With this background, by using the formula given by Thomson, the Impact factor for the year 2023 has been calculated for the selected six Library and Information Science journals.

$$\text{Impact Factor} = \frac{\text{Number of Times Cited}}{\text{Number of Published Items}}$$

DESIDOC JOURNAL OF LIBRARY AND INFORMATION TECHNOLOGY (2019 AND 2020)

TABLE-3

43 DESIDOC Journals of Library and Information Technology (2019 and 2020)

Year	Vol. No.	Issue No.	No of Articles	% of Articles	No. of Citations
2019	39	1	7	6.36	85
		2	12	10.9	144
		3	8	7.27	80
		4	9	8.18	73
		5	8	7.27	50
		6	12	10.9	93
2020	40	1	8	7.27	114
		2	8	7.27	37
		3	7	6.36	57
		4	9	8.18	81
		5	10	9.09	51
		6	12	10.9	72
Total			**110**	**100**	**937**

CALCULATION

$$IF_{2021} = \frac{\text{Total no of articles cited during 2019 \& 2020}}{\text{Total no of published articles during 2019 \& 2020}}$$

$$IF_{2021} = \frac{\text{Citations 2019 + Citations 2020}}{\text{Publications 2019 + Publications 2020}}$$

$$IF_{2021} = \frac{937}{110}$$

$$IF_{2021} = 8.52\%$$

Total No. of Articles Published During 2019 & 2020	110
Total No. of Articles Cited till June 2023	937
Impact factor of the journal during 2023 (937/110)	8.52%

ELECTRONIC JOURNAL OF KNOWLEDGE MANAGEMENT

TABLE-5

45 Electronic Journal of Knowledge Management

Year	Vol. No.	Issue No.	No. of Articles Published	% of Articles	No of Citations
2019	17	1	7	16.66	121
		2	6	14.28	53
2020	18	1	6	14.28	41
		2	9	21.42	61
		3	14	33.33	136
Total			**42**	**100**	**412**

CALCULATION

$$IF_{2021} = \frac{\text{Total no of articles cited during 2019 \& 2020}}{\text{Total no of published articles during 2019 \& 2020}}$$

$$IF_{2021} = \frac{\text{Citations 2019 + Citations 2020}}{\text{Publications 2019 + Publications 2020}}$$

$$IF_{2021} = \frac{412}{42}$$

$$IF_{2021} = 9.8\ \%$$

Total No. of Articles Published During 2019 & 2020	42
Total No. of Articles Cited till June 2023	412
Impact Factor of the Journal During 2023 (412/42)	9.8%

INFORMATION TECHNOLOGY AND LIBRARIES (2019 AND 2020)

TABLE-6

46 Information Technology and Libraries (2019 and 2020)

Year	Vol No	Issue No	No. of Articles Published	% of Articles	No of Citations
2019	38	1	10	17.00	113
		2	6	10.00	96
		3	9	15.50	57
		4	7	11.86	135
2020	39	1	7	11.86	93
		2	6	10.00	67
		3	7	11.86	71
		4	7	11.86	47
Total			**59**	**100**	**679**

CALCULATION

$$IF_{2021} = \frac{\text{Total no of articles cited during 2019 \& 2020}}{\text{Total no of published articles during 2019 \& 2020}}$$

$$IF_{2021} = \frac{\text{Citations 2019 + Citations 2020}}{\text{Publications 2019 + Publications 2020}}$$

$$IF_{2021} = \frac{679}{59}$$

$$IF_{2021} = 11.5\ \%$$

Total No of Articles Published During 2019 & 2020	59
Total No of Articles Cited till June 2023	679
Impact Factor of the Journal During 2023 (679/59)	11.5%

JOURNAL OF INDIAN LIBRARY ASSOCIATION (2019 AND 2020)

TABLE-7

47 Journal of Indian Library Association (2019 and 2020)

Year	Vol. No.	Issue. No.	No of Articles Published	% of Articles	No of Citations
2019	55	1	6	8.69	06
		2	6	8.69	13
		3	8	11.59	12
		4	8	11.59	20
2020	56	1	9	13.04	12
		2	8	11.59	10
		3	11	15.94	22
		4	13	18.84	16
Total			**69**	**100**	**111**

CALCULATION

$$IF_{2021} = \frac{\text{Total no of articles cited during 2019 \& 2020}}{\text{Total no of published articles during 2019 \& 2020}}$$

$$IF_{2021} = \frac{\text{Citations 2019 + Citations 2020}}{\text{Publications 2019 + Publications 2020}}$$

$$IF_{2021} = \frac{111}{69}$$

$$IF_{2021} = 1.6\%$$

Total No of Articles Published during 2019 & 2020	69
Total No of Articles Cited till June 2023	111
Impact Factor of the Journal during 2023 (111/69)	1.6 %

INTERNATIONAL JOURNAL ON DIGITAL LIBRARIES (2019 AND 2020)

TABLE-8

48 International Journal on Digital Libraries (2019 and 2020)

Year	Vol. No.	Issue No.	No of Articles	% of Articles	No of Citations
2019	20	1	9	16.36	96
		2	5	9.09	65
		3	6	10.9	81
		4	9	16.36	342
2020	21	1	7	12.72	126
		2	8	14.54	209
		3	6	10.9	49
		4	5	9.09	93
Total			**55**	**100**	**1061**

CALCULATION

$$IF_{2021} = \frac{\text{Total no of articles cited during 2019 \& 2020}}{\text{Total no of published articles during 2019 \& 2020}}$$

$$IF_{2021} = \frac{\text{Citations 2019 + Citations 2020}}{\text{Publications 2019 + Publications 2020}}$$

$$IF_{2021} = \frac{1061}{55}$$

$$IF_{2021} = 19.29\ \%$$

COMPARISON AND RANKING OF IMPACT FACTOR FOR SELECTED JOURNALS

An attempt has been made to compare the Impact Factors of all the selected LIS Journals considered for this present study without considering any affecting factor. Based on the Impact factor, the journals are ranked by arranging them in descending order.

TABLE-9

49 Comparison and Ranking of Impact Factor of all Selected Journals

S. No	Titles of the Journals	Year of Publication	No of articles	Journal IF till June 2023 in %	Rank
1	International Journal on Digital Libraries	2019 & 2020	55	19.29	1
2	Information Technology and Libraries	2019 & 2020	59	11.5	2
3	Electronic Journal of Knowledge Management	2019 & 2020	28	9.8	3
4	DESIDOC Journal of Library and Information Technology	2019 & 2020	110	8.52	4
5	Journal of Information Literacy	2019 & 2020	48	5.27	5
6	Journal of Indian Library Association	2019 & 2020	69	1.6	6

The Journal Impact Factor (JIF) is a measurement method of how often the average number of times a published paper from a particular journal has been cited or referenced or utilized in other studies in any particular year. In order to establish this, the current study is an effort to determine JIF for the chosen LIS journals. The same has been presented in the below.

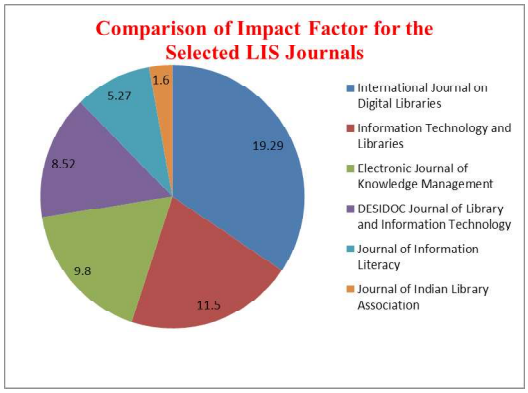

Fig.1 Comparison of Impact Factor for the Selected LIS Journals

5 DISCUSSION AND CONCLUSION

Scientific publications and journals have always been difficult to evaluate, and the effect they have on readers and clients is a highly indescribable suggestion for authors or researchers to publish their work/s. As Impact Factor (IF) is a measure of the frequency with which the average article in a journal has been cited in a particular year. It is used to measure the reputation or rank

of the journal by calculating the items its articles are cited. In this regard, six LIS journals were selected for study and the data has been collected by visiting the journal websites for the years 2019 and 2020, and Impact Factor was calculated during 2023.

As the result of this analysis, International Journal on Digital Libraries stands first with a JIF of 19.29% and Information Technology and Libraries stands in the second rank with a JIF of 11.5% followed by the Electronic Journal of Knowledge Management with 9.8%, DESIDOC Journal of Library & Information Technology with 8.52% of JIF for the year 2023. It is inferred from this analysis that, the journals which are broader in scope and accessibility (Open access or closed/subscription-based journals) of a particular journal will get the highest percentage of Impact factor than the others.

REFERENCES

1. ESPOSITO (M) (2009). The impact factor: Its use, misuse and significance. *European Journal of Oral Implantology*. 2 (2).
2. EUGENE (G) (2023). Journal impact factor: A brief review. *Canadian Medical Association or its Licensors*. 161 (8): 979-980.
3. FISCHER (M R) and FABRY (G) (2023). JME has impact beyond the impact factor. *GMS Journal for Medical Education*. 40 (1).
4. ANTHONY (C B) and HERZON (R W) (2023). Distortion of journal impact factors in the era of paper mills. *Molecular Therapy*. 31 (6): 1503-1504.
5. OKAGBUE and others (2020). Analysis of percentiles of computer science, theory and methods journals cites core versus impact factor. *DESIDOC Journal of Library & Information Technology*. 40 (1): 11-17.
6. JALALIAN (M) (2023). The story of fake impact factor companies and how we detected them. *Electronic physician*. 7 (2): 1069–1072.
7. SCULLY (C) and LODGE (H) (2005). Impact factors and their significance: Overrated or misused. *British Dental Journal.* 198: 391–393.
8. DAVISON (R) and LOWRY (P B) (2023). ISJ Editorial: Addressing the implications of recent developments in journal impact factors. *Information Systems Journal* (ISJ). 33 (3): 419-436.