

A Study on Contribution of Open Access Journals on Robotics in Directory of Open Access Journals (DOAJ) Platform

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Abstract

Open access movement enhances the researchers to access good number of resources. The freely available content has created a great impact on accessing many journal articles in various subject disciplines and enriches the academic community with widespread knowledge. The present study attempts to analyze the open access journals and articles listed in the Directory of Open Access journals (DOAJ) on Robotics. The study results that 49 journals and 12311 articles are listed in DOAJ as on 15 September 2021. 34 journals have articles on Technology, 13 on Science. 22% journals are not charging any article processing charges (APC). A majority of 22 journals have CC BY license. MDPI AG are the most predominant publishers, United Kingdom is the most productive country (8) in Robotics and English is the predominant language of publication (86.49%). 45% journals in Robotics in DOAJ follow blind Review process followed by 14% journals follows Double blind review process. The journal “Sensors” has published 1069 articles. A majority of 6266 journal articles are published in DOAJ in the year 2021.

Keywords: *Directory of Open Access Journals, Open Access, Robotics*

Introduction

Open access movement is a boon for the academic community which provides unrestricted, free online access to articles and journals which permit the users to read, download, print, copy, distribute and link to the articles without any financial, lawful and technological barriers. The main objective of open access is to project the intellectual output of the researchers, academicians and institutions more visible, accessible, searchable by any of the potential users over the internet. Open access also eliminates the price barriers such as subscription, licensing and authorization barriers such as copyright and intellectual rights.

Directory of Open Access Journals is a community curated comprehensive online directory which indexes and provide access to peer reviewed journals in high quality. All kind of data is open to users at free of cost and contains 16500 peer reviewed open access journals covering all the domains of science, arts, humanities, social sciences and technology. It is financially supported by many libraries, publishers and academic institutions.

Review of Literature

Walter (2011) attempted to study the attributes of 663 Open Access (OA) journals in biology, computer science, economics, history, medicine, and psychology and resulted that 29% of Open Access journals charge publication fees. Moreover OA journals in the fields of biology and medicine are larger than that of the others and the OA journal has the high degree of influence by a few key publishers and journals

Loan, Rather and Shah (2008) conducted a study on Indian contribution to open access literature based on DOAJ and open DOAR and resulted that the position of India with respect to number of journals in the Directory of Open Access Journals (DOAJ) is seventh across the world .

Scope and Objective

The study focuses on the journals on Robotics archived in the Directory of Open Access Journals as on 15 September 2021. The major objective of the study is as follows

- To find out the number of journals and Journal Articles available on Robotics in DOAJ
- To figure out the year wise contribution of journals added on Robotics in DOAJ
- To assess the distribution of Journals as per APC Charges
- To figure out the distribution of Journals as per Licensing in DOAJ
- To analyze the subject category of journals in DOAJ
- To find out the language of journals on Robotics in DOAJ
- To trace the Publisher distribution of Journals on Robotics

Methodology

Directory of Open Access Journals (DOAJ) Platform available at www.doaj.org (as on 15th September 2021) has been used as the data source. A total of 49 journals extracted on Robotics with the relevant metadata such as title of the journal, journal URL, ISSN, country of publication, language, year added in DOAJ, APC charges of journals, publisher, Journal license and license attributes were incorporated in Ms Excel spreadsheet and analyzed to achieve the objectives of the study.

Results and Discussion

Journal vs articles

Table 1: Journal Vs Articles

S.No	Type of Source	NOS
	Journals	49
	Articles	12,311

Table 1 shows that 49 journals and 12,311 journal articles on Robotics are listed in DOAJ.

Date of addition

Table 2: Year wise Addition of Journals

YEAR	NO OF JOURNALS	PERCENTAGE (%)
2021	6	12
2020	7	14
2019	6	12
2018	7	14
2017	6	12
2016	4	8

2015	7	14
2014	1	2
2013	1	2
2011	1	2
2010	1	2
2008	2	4
	49	100

Table 2 shows that a majority of 14 Robotics journals are added to DOAJ each in 2020, 2018 and 2015 each, followed by 12 journals each in 2017, 2019 and 2021. 8 journals in 2016 and 4 journals in 2018. While 2 journals were added each in 2019 and 2017, 5 journals were added in 2016. Even one journal is added in the year 2014, 2012, 2005 and 2003.

Article processing charges

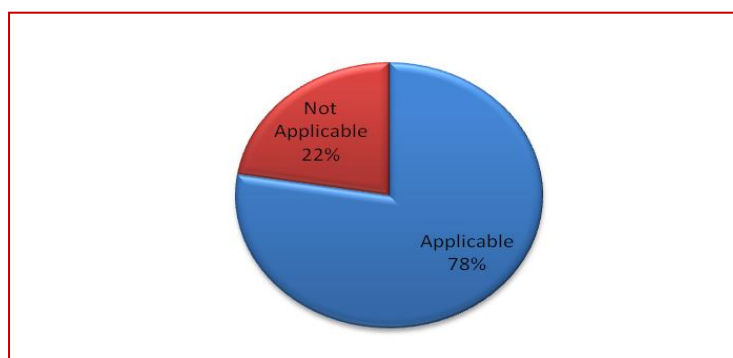


Figure 1: Applicability of Article Processing Charge for Journals

Figure 1 depicts that majority of (22%) journals don't charge any article processing charges while 78% journals require payments for publications.

Journal license pattern

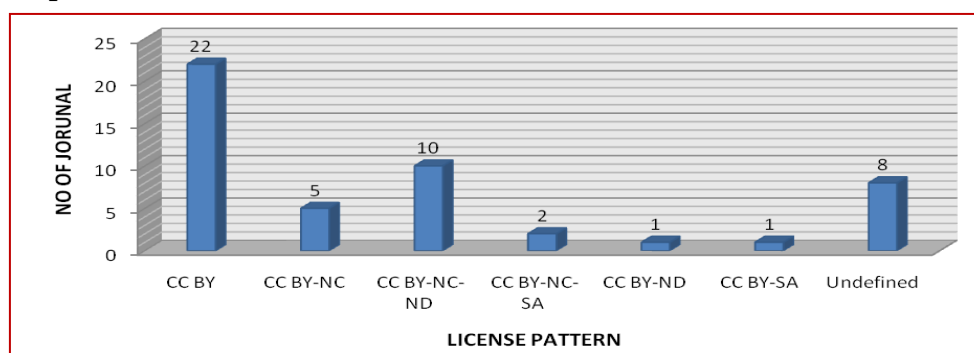


Figure 3: Robotics Journals Licensing Pattern in DOAJ

Figure 2 shows Licensing a journal with a Creative Commons (CC) License is an optimum way of showing exactly the type of attribution of journal in Open Access. It clearly reveals that a majority of 22 journals have CC BY license followed by 10 journals with CC BY-NC-ND and 5 with CC BY-NC. Remaining 8 journals comes under undefined category.

Subjectwise distribution

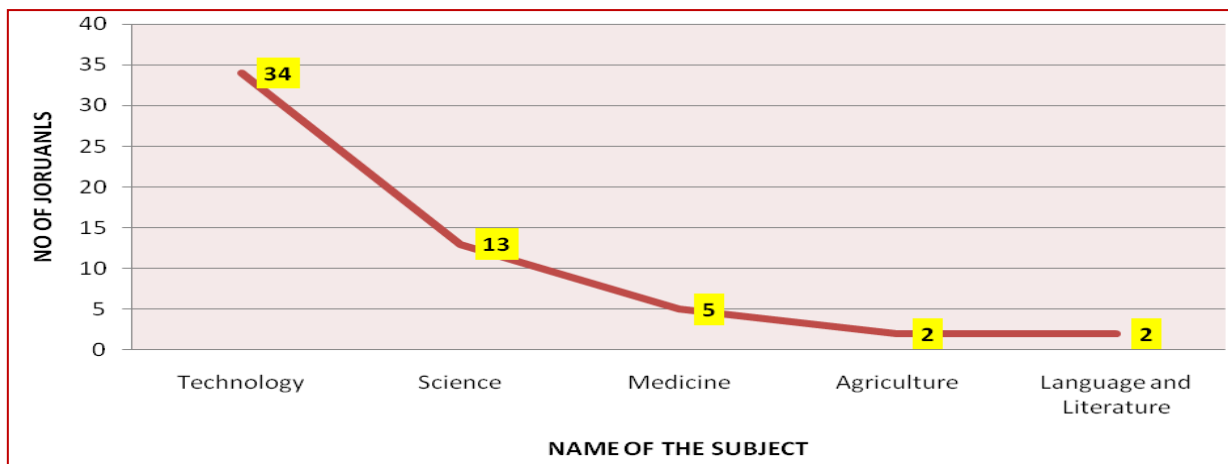


Figure 4: Subject wise Inclusion of Journals

Figure 4 shows that out of 34 journals on Technology, 13 journals have articles on Science, followed by Medicine (5), Agriculture and Language and Literature (2).

Languageswise journals

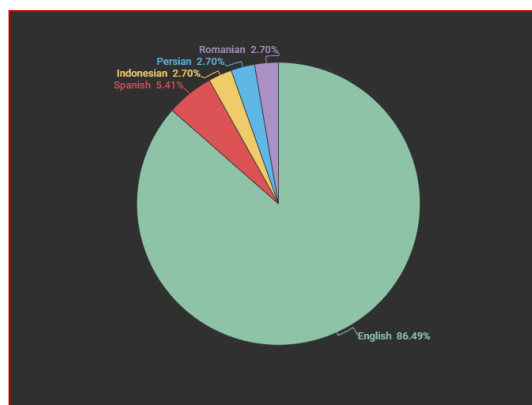


Figure 5: Languages Wise Journals

Figure 5 shows that out of 49 journals on Robotics listed in DOAJ, a majority of 86.49% journals are in English followed by 5.41% journals in Spanish and 2.70% journals each in Indonesian, Persian and Romanian.

Predominant publishers

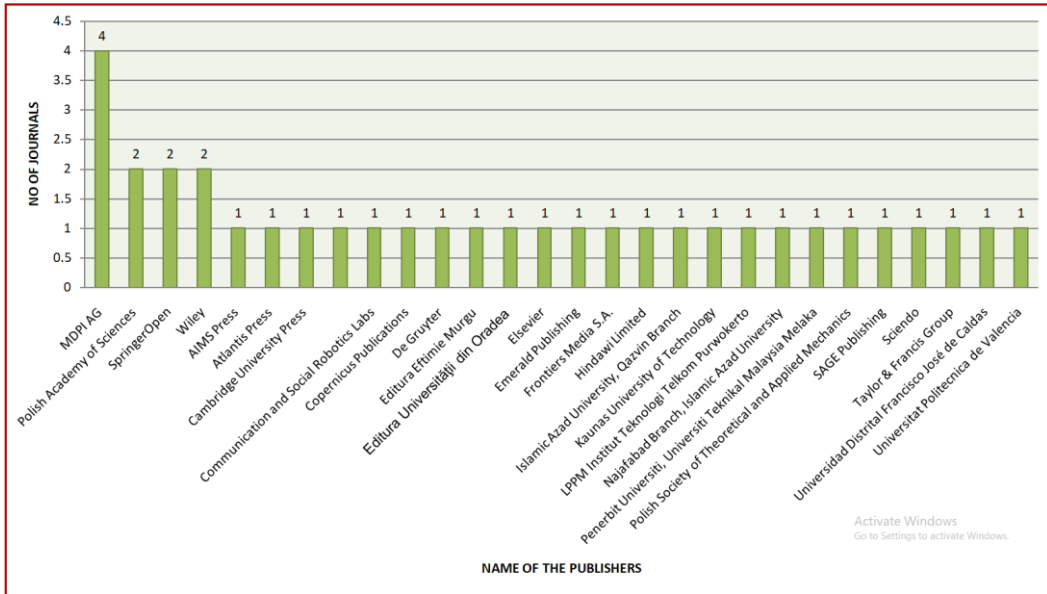


Figure 6: Predominant Publishers on Robotics in DOAJ

Figure 6 shows the predominant publishers on Artificial Intelligence in DOAJ. It is evident that MDPI AG are the predominant publishers with 4 journals followed by Polish Academy of Sciences, SpringerOpen and Wiley publishes (2) each. Remaining other publishers publish single journals each.

Productive countries

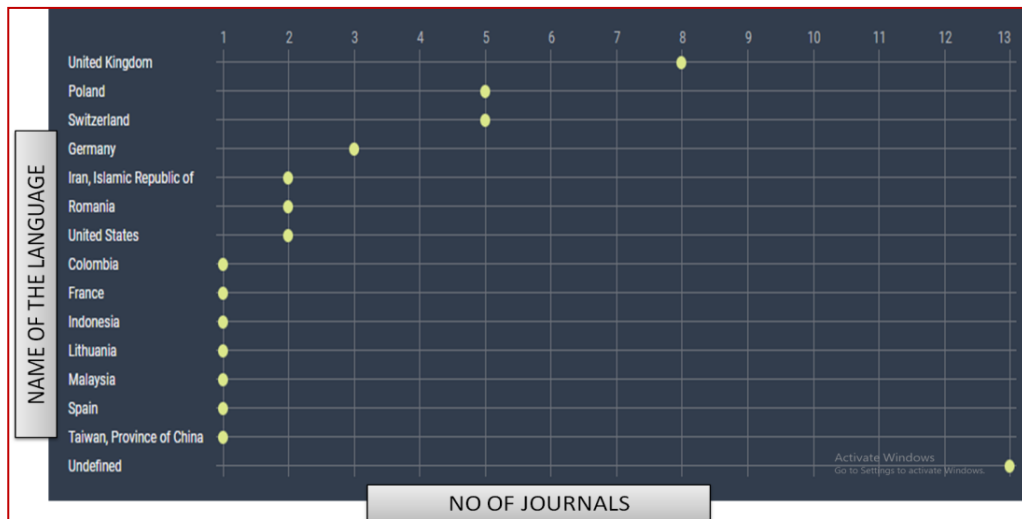


Figure 7: Most Productive Countries on Robotics Journals in DOA

Figure 7 clearly shows that there are 8 journals published from United Kingdom followed by 5 journals from Poland and Switzerland. While Germany has 3 journals on Robotics; Iran, Romania and United States have 2 each on Robotics.

Review system of journals

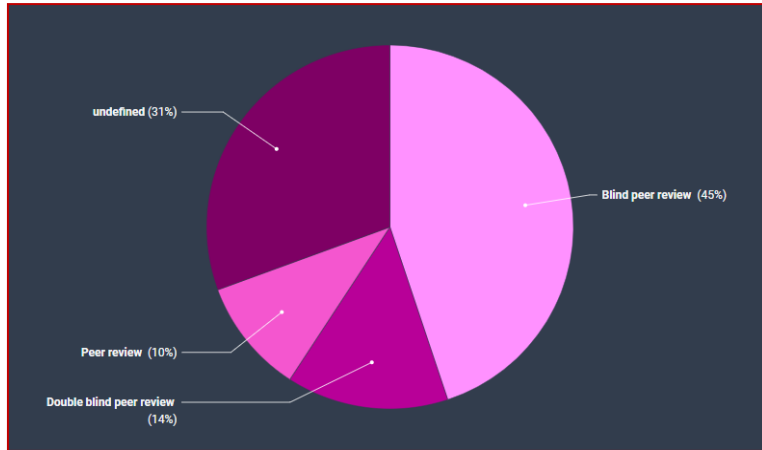


Figure 8: Review System

Figure 8 reveals that 49 journals on Robotics in DOAJ follow peer review system while 45% journals follow blind peer review, 14% journals follow double blind peer review system and 10% follow peer review. Remaining 31% Undefined.

Article level analysis

Predominant journals vs number of articles



Figure 9: Top 10 Journal Titles

Figure 9 shows that the journal ‘Sensors’ has published 1069 articles followed by ‘Frontier in Robotics and AI’ with 994 articles followed by ‘IEEE Access’ with 920 articles and ‘Applied Sciences’ with 505 articles.

Yearwise publication of articles

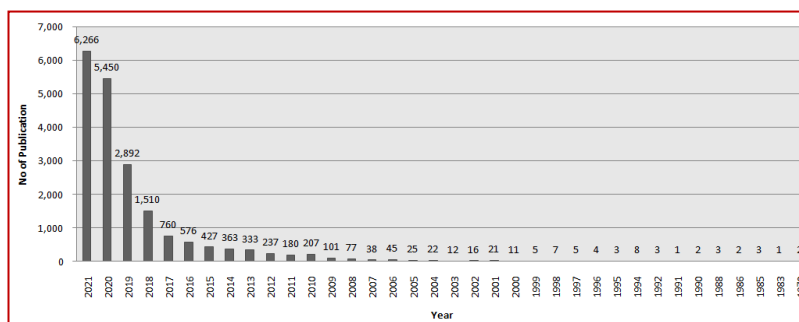


Figure 10: Year wise Publication of Journal Articles

Figure 10 reveals that year wise journal articles published in Robotics. A majority of 6266 journal articles published in 2021 followed by 5450 in 2020 and 2892 journal articles of 2019. It is evident that there is increase in the number of articles published in DOAJ. In the last 6 years it is traced that there is an incremental increase in the publication of journal articles in the field of Robotics.

Conclusion

Based on the Budapest Initiative, Directory of Open access journals facilitate free access to scholarly scientific articles and journals with the high standard peer review system. DOAJ majorly helps to improve the research impact and visibility to the scholars in their respective domain which really meant for improving the citation analysis. It helps to find the appropriate journals for the concerned domain research and prompted to choose the right source with the proper review system. DOAJ is also one of the best identifier to find out the predatory journals or cloned journals in the subject domain. Directory of Open Access Journal is a boon and vital in this current situation to find out the right source to publish and increase the visibility.

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