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Observation and Adoption of Publishing Best Practice among the Open Access Journals in Education Discipline

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The academic community highly prefers scholarly journals for communicating their research work. There has been enormous growth in the publishing of scholarly journals, especially online e-journals. E-publishing has accelerated journal publishing, enhanced read coverage, 24x7 availability of the content and increased impact of the research output. Many of the e-journals are released under the open license popularly known as Open Access (OA) journals. The DOAJ is one of the most popular online directories that index scholarly open access journals. Based on the DOAJ data this study is focused on the observation and adoption of publishing best practices among the open access journals in the education discipline. The efforts have been made in the study to explore the level of openness, economic model, best practice and copyrights, licensing of the OA journals under study.

Keywords: *Scholarly Journals, Open Access, Journal Evaluation, Open Access Journal*.

1 INTRODUCTION

In recent decades, all of us are witnessing a fundamental change in the publishing industry. There has been a greater transformation especially with the economic affordability and advancement of ICT technology and the internet. These changes have led to the emergence of electronic publishing, popularly

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known as e-publishing, further resulted in the rise of open access publishing. The Open Access (OA) publishing aimed to provide access to scholarly knowledge free of any barrier (i.e. priced, medium, type, format, etc.). The academic community had several doubts and prejudice that what could be put under the OA. Any kind of information whether it is a research article, dataset, related metadata, thesis, dissertation anything can be made available to the knowledge seekers. Many of the funding agencies have made it mandatory to provide access to the research output under open access, as a result, society is moving towards open science. The outcomes of this are conflict of interest between authors and funders, the unethical practice adopted by the publishers and authors, the rise of predatory publishers, the new economic model of publishing, i.e. Gold Open Access (payment of charges by the author to publisher their output under open access in paid journals). Therefore, many myths and questions exist among the peer community and one of the very common discussions is whether the open access journals are of good quality.

As a user, one should know what makes a journal truly an open-access journal; what are the best publication practices; what are the tools for the assessment of the quality. The Open Access Scholarly Publishing Association (OASPA) has given Principles of Transparency to assess the quality of OA journals i.e. an OA journal should have its *website* mentioning the *name of the journal*. The process of *peer review, ownership, and management* of the journals, journal *Governing Body*, journal's *Editorial team/contact information, Copyright, and Licensing* under which journal is publishing, *Author fees* if any. The *Process for identification of and dealing with allegations of research misconduct*, prescribed policy of *Publication Ethics, the Publishing schedule* should be properly disclosed. The condition of the journals *Access, j*ournal *Archiving* policy and backup, the *Revenue sources*, journal *Advertising* policy, and provisions of the *Direct marketing* are the sixteen prescribed parameters of OA journals quality assessment.

2 REVIEW OF LITERATURE

Bjork[1] et. al. examined the openly available full-text articles accessible over the web by employing the random sampling technique for the data collection of the study. The findings of the study revealed overall 20.4% of the OA content, especially in the scientific disciplines. They concluded a positive impact of OA content. Fernandez[2] stressed that developing countries are fascinated by the visibility of their research via open access. In her study, she identified information professionals of registered repositories of India from the Registry of Open Access Repositories (http://archives.eprints.org) and conducted semi-structured interviews to identify the best practice followed by them. Hoorn and Graaf[3] surveyed to understand the author's perspective and attitude in UK and Netherland for open access. The survey was concentrated

on the issues of copyright and resulted in the adoption of new copyright models (Creative Common licenses) by half of the respondents as compared to the commercial license. Graf, *et.al.*[4] had examined the publisher perspectives with regards to the OA publishing. They have explained Blackwell Publishing's best practice guidelines on publication ethics. Their study stressed the dependency of editors on peer reviewers to have fair assessments in the peer-review process. Eysenbach[5] analysed the OA and non-OA articles published in the "*PNAS: Proceedings of the National Academy of Sciences*" to compare the citation impact of both cohorts. The findings of the study confirmed the potential of OA for greater impact and visibility as the OA articles obtained a higher amount of citations as compared to the non-OA articles. Misra and Agarwal[6] discussed the scientific publishing phenomenon regarding the Indian context. They observed that however, India contributes a significant amount to the global OA publishing the OA movement in India is largely supported by the government funding and facing many challenges. Baker, Larkin, and Kraus[7] observed significant growth of OA journals as well as printed journals. OA journals offer information visibility to a larger extent in comparison to print journals. In the commentary, they have described various strengths, weaknesses opportunities, and threats of the OA journals and their publishing models. Ray[8] presented a different approach to ascertain the authoritativeness of open access publications. It has been discussed the necessity of the quality evaluation of the emerging journals to ensure the benefits of OA for society. Systematic reporting of research findings in an expeditious manner should not affect the reliability, quality, inclusivity, review processes, submission.

Laakso[9] adopted a systematic method for examining the growth of selected 5000 OA Journals based on the DOAJ data published during 1990-2009. He observed expeditious development of the OA journals from 1993 to 2003 and from the year 2000 onwards the rate of journal development was 18%. Further, he categorised the OA publishing period into three spans: the pioneering years, the innovation years, and the consolidation years. MacCallum and Parthasarathy[10] in their editorial explained that OA journals get immediately published, recognized, read, and cited in comparison to the non-OA articles. They highlighted that non-OA of PNAS remained under delay for six months delay known as "toll-access" before being available for the readers. MacCallum[11] in her editorial highlighted that since the launch of PLoS Biology there has been a magnificent development of OA Journals. Even subscription-based journals are also providing publishing articles under OA mode when the author pays the fee or funding agency, so there has been a shift from fee-based to free publishing leading the unrestricted. Wicherts[12] stressed the need for having a transparent peer-review process of OA and traditional journals to ensure quality. He developed a tool to assess the degree of transparency among the journals to ensure quality instead of impact factor.

Christopher and Young[13] described that many of the prospective authors may not be able to understand the difference between authoritative and predatory journals. Their study explored the level of awareness of OA and predatory journals in the future authors through author's workshops, awareness of DOAJ Journals, and Beall's list. They revealed that 64.5% of the respondents mentioned that predatory journals are poor journals but not predatory. Mccabe and Snyder[14] have expressed their opinion that most of the OA Journals either generate revenue from the authors or run on institutional support. Their study sample revealed that publishing under open access instead of paid journals increases the average citations upto 8%. Rodrigues, Abadal, and Araújo[15] examined the identification, characterization, and provision of article processing charges of the DOAJ Seal awarded journals. They find that Springer (35%) titles and PLOS (more than 20%) articles are having the largest share. Xin Bi[16] in his article described the selection criteria of the DOAJ and the registration process. He has explained the preparation and adoption of best practices required by the editors of the journal. He has mentioned that most of the registration requests are from the Journal editors of Asia. Most of them are not much aware of the 58 point questionnaire for DOAJ inclusion. Yan and Li[17] examine the impact of the closed and open access journals on specific parameters by applying the CiteScore to assess scientific impact over the large longitudinal dataset. They noticed a notable difference among the OA and non-OA journals. OA journals in the medical discipline are more preferred compared to the non-OA journals of Social Sciences. Hansoti, Langdorf, and Murphy[18] examined the publishing domain of medical sciences. They have used various criteria for data collection and identified 150 journals for the study. The study proposed criteria to identify legitimate and predatory journals.

3 OBJECTIVES

The objectives of the study are as follows:

(i) To know the extent or degree of information /openness and accessibility of the OA Journals. (ii) To explore the level of compliance in the adoption of quality-related best practices by the Journals. (iii) To understand the Economic Model OA Journals. (iv) To understand the OA Journal Copyright, Licensing, and Usage Rights.

4 SCOPE AND LIMITATIONS

The data for the study was collected from the Scimago Journal and Country Rank (SJR) (https://www.scimagojr.com) during April 2021.While downloading the data the two parameters were applied a) "Only Open Access Journals" and b) Only WoS Journals. As a result, 184 Open Access (OA) Journals were identified for the study. To obtain the qualitative data of these

journals the Directory of Open Access Journals (DOAJ) website (https://doaj.org/) was explored. It was found from the results that only 142 journals are indexed by the DOAJ out of the 184. The rest of the 42 journals are not covered by the DOAJ. Hence, to make a holistic analysis the websites of the 42 journals not covered by DOAJ were explored to get the qualitative data about the journals. Therefore, the study is only restricted to the analysis of identified 184 OA journals.

5 RESEARCH METHODOLOGY

The Scopus-powered database Scimago Journal and Country Rank (SJR), was identified to retrieve the data. It allows users to refine the results based on controlled parameters (i.e. *only open access journals* and also *only WoS journals*) and resulted in 184 OA Journals. The qualitative data of the 184 journals were explored from the DOAJ. It was observed that 42 journals are not covered by the DOAJ. Hence, qualitative data of the remaining 42 journals were obtained by visiting their websites for a holistic analysis.

51 TOOLS, TECHNIQUES, AND PROCEDURE OF DATA COLLECTION

The journal's data was collected in the Excel sheet format from the SJR (www.scimagojr.com) online portal. The narrow down approach was applied to obtain the desired result among all subject areas education domain was selected for all regions and countries in data related to all types of categories of publications were downloaded. The qualitative metadata of the Journals was downloaded from https://doaj.org. The datasheet was downloaded in the form of Spreadsheet (CSV/Excel sheet) format. The MS Excel files of the datasets were further used for analysis and interpretation of the Data.

6 DATA ANALYSIS AND INTERPRETATION

The data analysis and interpretations consist of two main parts, analysis of the acquired data and its interpretation in the light of the set objectives of the study. Although both of them seem to be the same but each of them is different. In simple words, the process of data analysis involves the application of computational methods and techniques to ascertain the mathematical measurements of various data groups. However, data interpretation refers to the process of reviewing or interpreting the analyzed data in the light of the objectives of the study, so that a logical conclusion can be obtained.

To know the extent or degree of information /openness and accessibility of the OA Journals.

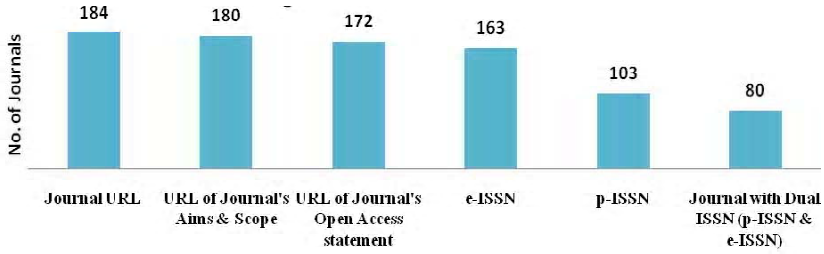
Many best practices are being followed by scholarly OA journals across the globe. The best practice guarantees the journal is truly scholarly and reliable in terms of open access and complying with the standard procedures. The

various best practice parameters of OA journals have been discussed below are Journal URL, ISSN, URL for the Editorial Board Page, and Authors Instruction.

Journal URL and ISSN: When a web resource is created a Uniform Resource Locator (URL) is also assigned to the web resource to find it over the internet. An URL specifies the location of that particular web document on a computer network to retrieve it among the numerous similar web resources available over the network. Therefore, for easy retrieval and search, it was observed that all the scholarly open access journals were having the URL. This makes the journal findable. Users can access the details of a particular journal through the URL. Further, to be clearer and more precise 180 journals have mentioned their aims and objectives and dedicated URL have been assigned. The Open Access policy followed by the journal is another important factor for the authors while selecting a journal. The journal's Open Access (OA) statement reveals to its users the step-by-step procedures of the OA policy followed by the journal. Presently 172 journals have mentioned their Open Access statement through URL.

The International Standard Serial Number (ISSN) is another important unique journal identifier. An ISSN distinguishes a journal from other documents i.e., books, monographs, reports, etc. having similar kinds of identifiers. The ISSN is a dedicated number allotted to the serial/journal publications only. These are of two types: p-ISSN for print Journals and e-ISSN for electronic Journals. As per the data, it was found that 103 journals were having the ISSN for the print version and 163 Journals were having the dedicated e-ISSN for the online version of the journals. On further analysis, it was found that 80 journal titles were having both p-ISSN for the print version and dedicated e-ISSN for the electronic version of the journals. Fig. 1: Journal URL and ISSN Number represent the graphical presentation of the Journal URLs and ISSN Numbers.

Fig. 1: Journal URL and ISSN



URL for the Editorial Board Page and Authors Instruction: The URL stands for the Uniform Resource Locator. An URL is a string that is attached to a webpage or website. It is the web address of the referenced source. The editorial

board is a group of academicians and peers of a particular discipline or subject. This group of subject experts ensures the evaluation and compliance of the standards of the Journal determined to be followed in journal publishing as per the journal editorial policy. As the study is focused on the Online Open Access Scholarly Journals, it is quite normal that the OA Journals will have the dedicated URL for the editorial board. According to the data of table 1 (URL for Editorial & Authors Instruction**),** it is observed that all the 184 journals have a dedicated URL for accessing the Journal online. 183 journals are found to be having the URL for showing the journal's instructions for authors to its prospective authors. Some of the journals are having multiple names that make the journal to be found out by many others. A set of 64 journals are found to be having alternative titles.

Table 1 : URL for Editorial and Authors Instruction

URL for the Editorial Board page	No. of Journals	URL for journal's instructions for authors	No. of Journals	Alternative title	No. of Journals
YES	184	YES	183	YES	64
NO	0	NO	0	NO	0
NA	0	NA	1	NA	120

To explore the level of compliance in the adoption of quality-related best practices by the Journals.

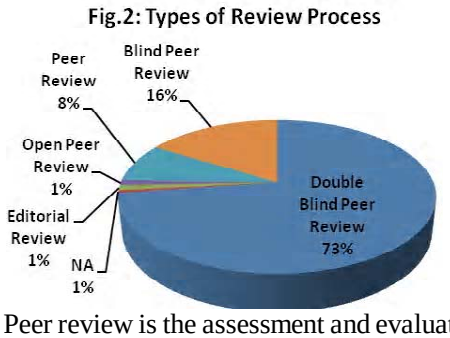
The policy of Screening for Plagiarism: The act of plagiarism is the use of others' work and ideas, resulting from the intellects of an individual, without prior permission and due credit to them and presenting them as own work. In the academic world, plagiarism is regarded as misconduct and unethical as it leads to misleading the readers, reviewers, editors. Plagiarism also has legal implications as the intellectual works are protected by various copyrights and IPR Laws, therefore the open access journals have developed policies for the detection of plagiarism. The plagiarism can be detected using Google or detection software (i.e. iThenticate, Turnitin, or Urkund). The plagiarism screening policy guides the journal's administrator when cases of plagiarism are detected. Whether to reject the work, revise the work, or accept the work with modification, etc. Some journals tend to reject articles when more than 20-25% of the article content is detected to be plagiarized. The rejection and acceptance in the journals depend on their policy of screening for plagiarism. In India University Grants Commission (UGC) has come up with the Regulations, 2018 on Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions. These regulations are serving as the guidelines for academic integrity and dealing the plagiarism. Recognizing the importance of a policy on screening the plagiarism the data given in table 2, it was observed that about 59% (108 journals) were having the defined Journal Plagiarism Screening Policy while 41% (76 journals) have not

mentioned Journal Plagiarism Screening Policy. To make their publication process more transparent the dedicated URL for the Journal plagiarism screening policy it was observed that about 61% (113 journals) were having the defined Journal Plagiarism Screening Policy

Table 2: Journal Plagiarism Screening Policy and URL

Journal Plagiarism Screening Policy	No. of Journals	Plagiarism Information URL	No. of Journals
Yes	108	Yes	113
NA	76	NA	71
Total	184	Total	184

Fig. 2: Types of Review Process



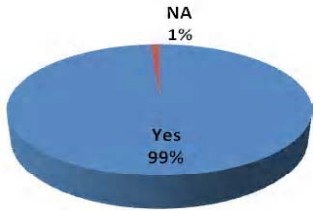
Review Process: Peer review is the assessment and evaluation of the article by the peers or subject experts of a particular discipline. The review of the research paper by the peers is intended to improve the quality of the submitted paper, evaluate the methodology applied, validate the research findings, analysis the research gap, and provided feedback to the authors on the suitability for publication in the form of constructive feedback. Therefore, a peer review is very important for the compliance of the journal publishing policies. The peer review performed by the external experts leads to transparency (normally by the 1-3 reviewers). It is evident from table 3: Types of Review Process data that among the OA Journals of the Education domain the Double-Blind Peer Review (134 Journals) is highly practiced, this is because of the high rate of objectivity is observed in the review process. The Blind Peer Review (30 Journals) is the second most popular review because during the process a high rate of objectivity is being observed. The Peer Review is being followed by the 15 journals. However, open review has higher transparency but still, it is not popular in the educational discipline as only two journals are following the open review.

Table 3: Types of Review Process

S. No.	Types of Review Process	No. of Journals
1	Double Blind Peer Review	134
2	Blind Peer Review	30
3	Peer Review	15
4	Editorial Review	2
5	Open Peer Review	2
6	NA	1
	Total	**184**

The Editorial review is the lowest standard of journal compliance only restricted to copy-editing and proofreading for mistakes. Only two journals are complying with the editorial review. Fig 2: Types of Review Process represents the data in the form of the pie chart. The process of review is very cumbersome and time-consuming there are many occasions when the journals take much time. It could be one month to many months when we submit a manuscript in reputed journals. The delay is much higher in the high-impact factor journals.

Fig. 3: Review Process Information URL



After review, there are possibilities that sometimes the paper gets rejected after a long time without assigning the proper logical reason. This makes authors doubtful about the manuscript review process. The data analysis resulted in the fact that 182 journals have a dedicated URL about the Review process to inform the authors.Fig.3: shows the information of the URL for the Review process.

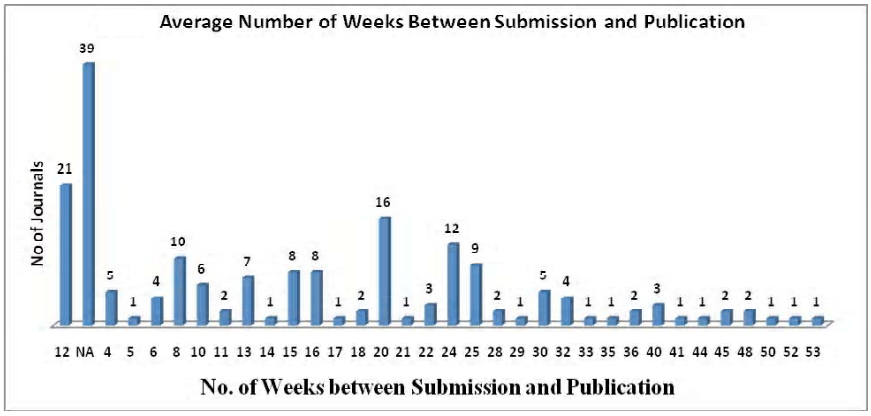
The average time between Submission and Publication: Timely publication of an article is an important aspect of the quality of OA Journal publishing. Instant publishing is one of the biggest attractions in the academic world as compared to print journals, where it takes many months to be published**.** Excess time taken for publishing may result in the obsolescence or perish of the article in the ever-changing academic domains. This phenomenon is widely happening in the scientific domains. Table 3 shows the data of the average number of weeks between submission and publication. According to the data, 39 journals have not mentioned the average number of weeks taken between article submission and publication. The 49 Journals take 3 months to complete the

submission and publication process, which means quite an expedited process. The 59 Journals take about 6 months for the submission and publication process, which is a reasonable duration, but 37 journals take more than 6 months to one-year time to complete the process. For instant publishing, one can opt journals taking less than twelve weeks.

Table 3 : Average Number of Weeks Between Submission and Publication

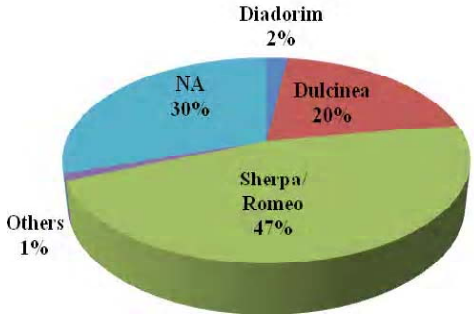
S. No.	Average Number of Weeks Between Article Submission and Publication	No of Journals	S. No.	Average Number of Weeks Between Article Submission and Publication	No of Journals
1	NA	39	**18**	24	12
2	4	5	**19**	25	9
3	5	1	**20**	28	2
4	6	4	**21**	29	1
5	8	10	**22**	30	5
6	10	6	**23**	32	4
7	11	2	**24**	33	1
8	12	21	**25**	35	1
9	13	7	**26**	36	2
10	14	1	**27**	40	3
11	15	8	**28**	41	1
12	16	8	**29**	44	1
13	17	1	**30**	45	2
14	18	2	**31**	48	2
15	20	16	**32**	50	1
16	21	1	**33**	52	1
17	22	3	**34**	53	1

Fig. 4: Represents the average number of weeks between submission and publication in the form of a bar chart.



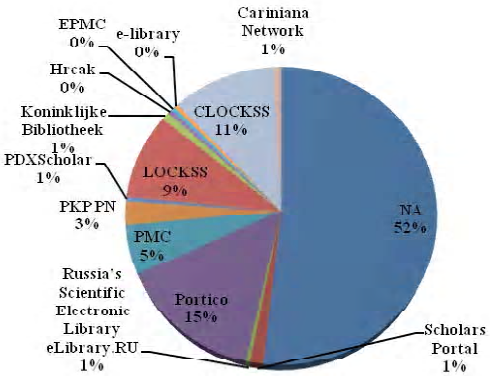
Article Curation Practices**:** We have heard the term curation, which is practiced in the museums, but in the case of OA Journals, it means the digital curation of the articles. This process requires selection, preservation, maintenance, collection, and archiving of digital assets. Digital curation supports the long-term availability of information with regards to the changing technological environments to mitigate obsolescence via adding value to articles. Many technological systems have been developed to ensure the perpetual availability of the digital document because it's and challenge for the publishers to keep the document available over the internet 24x7, 365 days across the globe. Therefore, various preservation programs/models have been developed. To fulfill this objective, data related to the following four parameters: 1) Deposit

Fig. 5: Deposit Policy Directory



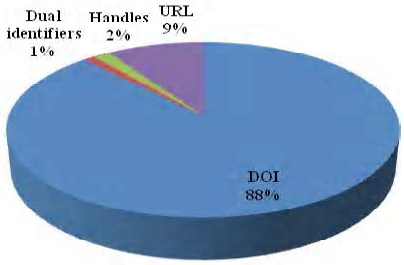
Policy Directory, 2) Preservation Services 3) Persistent identifiers were analyzed. The publishers have to register their deposit policy under any depository directory (i.e. Sherpa/Romeo, Dulcinea, Diadorim). As per the data the UK based Sherpa/Romeo is the first choice for the publishers to get registered their depository policy which is 47% in share, Spain based Dulcinea is the choice of the 20% of publishers and Brazilian Diadorim is the choice of the 2% publishers, while 1% publishers prefer other platforms. However, it was very surprising to know that significant portions of journal publishers (about 30%) have not mentioned deposit policy. This can be observed from Fig. 5: Deposit Policy Directory.

Fig. 6: Preservation Services



Preservation Services**:** To get the digital material safe and available publishers are required to deposit their digital content on the external platform to ensure curation practices of the OA journal therefore, the publisher has to register on the external platform providing the preservation and digital curation services. One of the greatest advantages of the OA Journal is that an individual can access the archived articles as well. This required ingestion of metadata, preservation of digital content, continuous maintenance, and archiving of the digital collection. It was observed during the data interpretation that more than half of the portion (52%) of the open access journals have not mentioned the preservation services program or still have to follow a preservation services program. Among the rest of the preservation services program *Portico* is preferred by the 15% publishers *CLOCKSS* by the 11 % publishers, *LOCKSS* by the 9% publishers, *PMC* by the 5% publishers, and PKP PN by the 3% publishers respectively. Rest other popular preservation services programs are *Scholars Portal, Koninklijke Bibliotheek, Cariniana Network, Russia's Scientific Electronic Library eLibrary.RU, PDXScholar, Hrcak, EPMC, e-library* are preferred by less than 1% of publishers respectively. Fig. 6: Preservation Services show the preferences of the various preservation services.

Fig. 7: Persistent Identifiers



Persistent identifiers**:** To search and identify the desired piece of information among the millions of digital documents is a challenging task. Another important aspect of the curation is the long-term availability of the articles, which can be supported by adopting the permanent article identifiers. A permanent article identifier (i.e. DOI, URL, Handles) is a unique number provided to a digital resource that ensures the perpetual availability of the digital object. Moreover, a permanent article identifier supports easy retrieval of the articles among the numerous items. All the journals were using persistent identifiers like Digital Object Identifier (DOI), Universal Resource Locator (URL), Corporation for National Research Initiatives (CRNI) handle System and two journals even using the dual identifier. Among the persistent identifiers preferences, about 88% of journals were using the DOI as the permanent article identifiers, whereas 9% of journals preferred the URL as permanent article identifiers technologies, CRNI Handle system was being used by 2% of journals and 1% were using dual identifier system. Fig.7: Persistent identifiers show the graphical presentation of the Persistent identifier's preferences in adoption by the journals as shown below.

Does the journal allow unrestricted reuse in compliance with BOAI: The Budapest Open Access Initiative (BOAI) is one of the breakthroughs in the history of the Open Access (OA) Movement. The leaders of the OA movement in response to the growing demand to make research free and available to anyone provided the guidelines for the public for unrestricted free access to scholarly research—much of which is publicly funded. The recommendations are the result of a meeting organized by the Open Society Foundations to mark the tenth anniversary of the Budapest Open Access Initiative, which first defined Open Access. The recommendations include the development of Open Access policies in institutions of higher education and in funding agencies, the open licensing of scholarly works, the development of infrastructure such as Open Access repositories, and creating standards of professional conduct for Open Access publishing. The recommendations also establish a new goal of achieving Open Access as the default method for distributing new peer-reviewed research in every field and every country within ten years. To achieve open access to scholarly journal literature, BOAI recommended two complementary strategies.

- Self-Archiving**:** First, scholars need the tools and assistance to deposit their refereed journal articles in open electronic archives, a practice commonly called, self-archiving**.**
- Open-access Journals: Second, scholars need the means to launch a new generation of journals committed to open access, and to help existing journals that elect to make the transition to open access.

Fig. 8: Journal Allow Unrestricted reuse in Compliance with BOAI

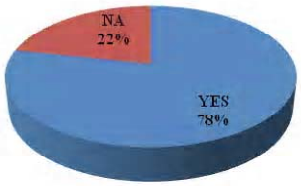
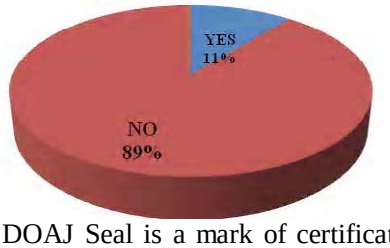


Table 5: Do these OA journals in Education allow unrestricted reuse in compliance with BOAI, reflects that a significant portion of journals is complying with the BOAI guidelines. A sum of 144 journals was allowing unrestricted reuse of the published articles in compliance with BOAI. However, 40 journals were not having clear guidelines about the unrestricted reuse of the published articles. Fig 8: Journals that allow unrestricted reuse in compliance with BOAI shows that about 78% of journals are allowing unrestricted reuse in compliance with BOAI as compared to the 22% who do not have mentioned anything about allowing the unrestricted reuse in compliance with BOAI.

Table 5 : Does this journal allow unrestricted reuse in compliance with BOAI?

S.No.	Does the journal allow unrestricted reuse in compliance with BOAI	No. of Journals
1	Yes	**144**
2	NA	**40**
	Total	**184**

Fig. 9: DOAJ Sear



DOAJ Seal: The DOAJ Seal is a mark of certification for open access journals, awarded by DOAJ to journals that achieve a high level of openness, adhere to best practices, and have high publishing standards. To receive the Seal, the journal must comply with the following 7 conditions: using of the permanent identifiers (DOI), article with metadata; complying with a long term digital preservation or archiving program; embedding of machine-readable CC licensing information in articles; allowing generous reuse and mixing of content, following a CC BY, CC BY-SA or CC BY-NC license; having a deposit policy registered with a deposit policy registry; allowing its author to hold the copyright without restrictions. Undoubtedly, it can be revealed from the table 23 data regarding the DOAJ Seal, that a major share 89% of the journals does not receive the DOAJ Seal. Hence it is observed from the fig. 9 that OA journals in the education domain do not fully fit on the scale of the actual OA scale as

defined y the DOAJ for getting the DOAJ Seal based on the seven criteria, as compared to the 11% journal share only. Table 6: DOAJ Seal, show 164 Journals do not fulfill the DOAJ Seal criteria whereas only 20 Journals fulfill the DOAJ Seal criteria.

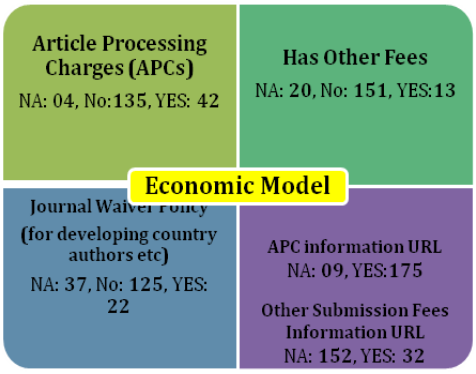
Table 6: DOAJ Seal

S. No.	DOAJ Seal	No. of Journals
1	No	164
2	Yes	20
	Total	**184**

***RO*3:** To understand the Economic Model OA Journals.

Economic Model: The academic world of scientists, researchers, faculty, and students is struggling to get access to published research because of escalating subscription rates and dwindling budgets of the libraries. Every year publishers increase the subscription charges of the paid journals to get the profit out of the publishing. Moreover, taxes and shipping charges make the condition worst when it comes to managing the finance. Thus, Open Access (OA) Publishing has gained importance, as the core objective of the OA Journals was to provide knowledge without cost to everyone. But a genuine question that comes to mind is, whether the knowledge is really free of cost? The answer to this question is yes for the readers but it requires money to publish an open-access journal for the Publishers. The major share is spent on the technological infrastructure, editorials, and maintenance of services. When this question pertains to the authors, sometimes authors have to pay the publishers for publishing their knowledge free of cost in open access mode. Therefore, when readers are accessing open knowledge, someone is paying the cost (it may be the author or publisher), which is contrary to the subscription/fee-based journals where readers have to pay for accessing the knowledge. Various funding agencies support publishing in OA. The data were analyzed to explore whether the Journals are charging Article Processing Charges (APCs) and do the Journals have a waiver policy (for developing country authors etc).

Fig 10: The Journal Economic Model



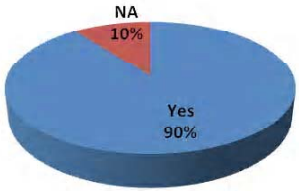
The fig. 10: The Article Processing Charges (APCs) and Journal Waiver Policy (for developing country authors etc). It can be observed that 135 Journals (about 73%) were not charging any fee towards Article Processing Charges (APCs).Which means that authors will not require paying any amount in these journals. The probable reason for this is that most of the journals are sponsored or published by the Learned Organization, Educational Institutions, or Not for Profit Organizations. It is further observed that 42 Journals (about 23%) were charging APC to support the open access publishing. Four journals haven't mentioned anything about APC on their website through a dedicated URL. Apart from the APCs journals do have other charges like language editing, proofreading, editorial, review, etc. the data shows that 151 journals (82.06%) are not charging any other fees. However, 20 journals haven't mentioned any other fees.

Yes, 13 journal titles have mentioned the charging of the fee other than the APCs. To make the journal policies more transparent 175 have mentioned regarding the payment of APC (whether chargeable or not) and for this purpose, they do have a dedicated URL, while 9 Journals haven't any URL of APCs. Among the 184 titles, 152 journals have mentioned Other Submission Fees applicable on their website. Only 32 journals have not been assigned any URL for informing about the Other Submission Fees application via dedicated URL.A set of 22 Journals were following the APC waiver policy (for the authors especially from the developing countries etc). This was a motivation for the authors to publish in the scholarly open access journals. As evident from the data 125 journals don't have any policy because most of them are not charging any APC, which is a significant portion to 68% wherein, 37 journals haven't mentioned anything about Journal Waiver Policy

To understand the OA Journal Copyright, Licensing, and Usage Rights.

Licensing and Usage Rights: A license is a set of written guidelines under which specific usage rights are assigned to the user of Intellectual Property. The intellectual properties include copyrights, trademarks, patents, design, trademarks, etc. which are the results of the intellectual. Broadly licenses can be categorized as commercial licenses and open licenses (like Creative

Fig. 11: No of Journals having URL for licence Terms

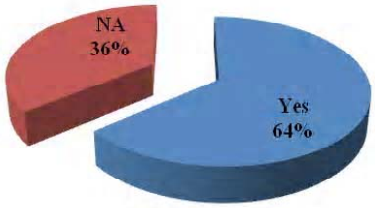


Commons, BC Commons, General Public License, etc.). Most of the open access scholarly journals are covered under the Creative Commons (CC). The

CC license allows various levels of freedom of use of open content. It was tried to ascertain whether journals have mentioned the details of the license under which journal is being published but it was found that 165 journals (90%) have mentioned the terms of the licenses for publishing through a dedicated URL, while 19 journals (10%) haven't mentioned about the license terms. Fig. 11 shows the journals having URLs for license Terms.

Machine-readable CC licensing information embedded or displayed in articles: Machine-readable data (computer-readable data), is regarded as the structured data that can be processed, decoded, or read by the machines (i.e. computer). In the United States, the Open Government Data Act of 14 January 14 2019 defines machine-readable data as "*data in a format that can be easily processed by a computer without human intervention while ensuring no semantic meaning is lost.*"

Fig. 12: Machine-Readable CC Licensing Information Embedded or Displayed in Articles



The CC licenses incorporate a unique and innovative "three-layer" design. Each license begins as a traditional legal tool, in the kind of language and text formats that most lawyers know and love. We call this the Legal Code layer of each license. Taken together, these three layers of licenses ensure that the spectrum of rights isn't just a legal concept. It's something that the creators of works can understand, their users can understand, and even the Web itself can understand. It was concluded from the data analyzed in table 7: Machine-Readable CC licensing information embedded or displayed in articles shows that almost 64% of journals have embedded or displayed machine-readable CC licensing information in articles. About 36% of journals don't have embedded or displayed machine-readable cc licensing information in articles. Fig. 12represents the information about the journals that are embedding or being displayed the machine-readable CC licensing information in articles.

Table 7: Machine-Readable CC Licensing Information Embeded or Displayed in Articles

S. No.	Information Embedded or Displayed in Articles	No. of Journals
1	NA	66
2	YES	118
	Total	184

(a) CC BY (Attribution): The CC BY grants an unrestricted license to use the respective content. Table 17: type of journal license shows that CC BY is being adopted by the 67 journals. Among the CC license, the CC BY license is the most adopted.

(b) CC BY-NC (Attribution-Non-Commercial): the CC BY-NC reserves the right to use the content commercially. Apart from that, the license is identical to CC BY and therefore subject to the same obligations. Table17: type of journal license shows that CC BY-NC is being adopted by the 28 journals.

(c) CC BY-NC-ND (Attribution-Non-Commercial-No Derivatives): The CC BY-NC-ND is the most restrictive CC license. Neither modifications nor commercial uses are permitted. Table 17: Type of Journal License shows that CC BY-NC-ND is being adopted by the 50 journals. This was the second most adopted CC license.

(d) CCBY-NC-SA (Attribution-Non-Commercial-Share Alike): The CC BY-NC-SA combines the Non-Commercial and the Share-Alike features. Therefore, the work can be adapted, and adapted versions can be shared under the conditions referred to in paragraph 2 above. Table 17: Type of Journal License shows that CC BY-NC-SA is being adopted by the 12 journals.

(e) CC BY-ND (Attribution-No-Derivatives): The CC BY-ND license does not permit adaptations of the work. To protect its integrity, only verbatim copies may be distributed and shared. Table 17: Type of Journal License shows that CC BY-ND is being adopted by the one journal. This was the least adopted CC license.

(f) CC BY-SA (Attribution-Share-Alike): The CC BY-SA is one of the most important and widespread CC licenses. The only difference between CC BY-SA and CC BY is the Share-Alike clause. Under the CC BY-SA, binds the adapter to the terms of the original license. Table 17: Type of Journal License shows that CC BY-SA is being adopted by the 4 journals. This was the second most adopted CC license.

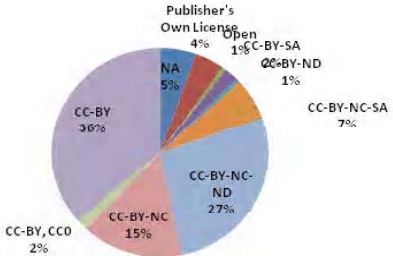
(g) CC0 (No Rights Reserved):CC0 (aka CC Zero) is a public dedication tool, which allows creators to give up their copyright and put their works into the worldwide public domain. CC0 allows re-users to distribute, remix, adapt, and build upon the material in any medium or format, with no conditions. CC0 is adopted by the three journals.

(h) Open License: The open license is being adopted by one journal publisher.

(i) Publishers License: While submitting the article for publishing the authors has to execute the license agreement assigning the copyrights

to publishers. The copyright agreements specifically define the authors, publisher, and reader to use the intellectual product.

Fig. 13 : Type of Journal License

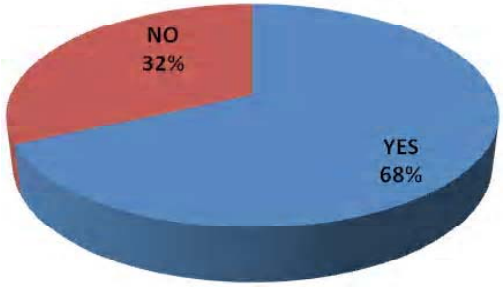


The copyright license agreement may differ from publisher to publisher. Table 8: Type of Journal License shows that various publishers were not following the CC license. They were in the practice of their own publishing licenses, which were being adopted by the eight journals. Ten journals haven't mentioned anything about the adoption of the license they are following. Fig. 13: Type of Journal License represents the data in the form of the pie chart. The chart shows that CC-BY is the most preferred CC License by the journals (67 Journals) adopted by the 36% OA Journals. CC-BY-NC-ND is the second choice for the publishers adopted by the 50 OA Journals. CC-BY-NC is the third choice for the publishers adopted by the 15 Journals (28 titles). However, 10 journals haven't specified anything about journal licensing. Instead of CC Licensing 8 Journals are following publishers' own license.

Table 8: Type of Journal License

S. No.	License Type	No. of Journals
1	NA	10
2	Publisher's Own License	8
3	Open	1
4	CC-BY, CC0	3
5	CC-BY	67
6	CC-BY-NC	28
7	CC-BY-NC-ND	50
8	CC-BY-NC-SA	12
9	CC-BY-ND	1
10	CC-BY-SA	4
	Total	**184**

Fig. 14: Copyright Information URL



Copyright: The copyright is a specific and exclusive right that allows its users to use the intellectual property. To protect intellectual property there are various exclusive conditions (i.e. Copyright, Trademark, Patents, Design, etc.) to protect the misuse of the various kinds of intellectual property. Therefore, the authors need to have prior knowledge about the various copyright terms and conditions. Whether journal demands for full transfer of the ownership under the copyright or whether it allows its authors to redistribute, reproduce, reuse, preserve and curate the article. Does the journal allow the authors to hold the copyright without or without any restrictions or does the publishing rights are given without restrictions. Therefore, it is assumed that an identical open access scholarly journal should inform its author of various conditions of the copyrights to be signed by the authors. The data analysis revealed that 68% of journals (125 titles) have an URL for the Copyright Information, whereas, 32% of the journal (59 titles) do not have any URL showing the Copyright information. Fig.14 shows the Copyright information URL through a pie chart.

Copyright without restrictions: The authors need to check the policy of the journal in which they are submitting or publishing to establish their rights. The author(s) holding the copyright without restrictions is an important issue and must be ensured before publishing. Some of the journals allow their author(s) to hold the copyright without restrictions and will retain publishing rights without restrictions. An author can do anything whatever s/he wishes to do with the version of the article s/he has submitted to the journal. Once the article has been accepted for publication, the author may post the accepted version of the article on their personal website, the department's website, or the repository of their institution without any restrictions. The author may use the published article for her/his own teaching needs or to supply on an individual basis to research colleagues, provided that such supply is not for commercial purposes. The author may use the article in a book authored or edited by the author at any time after publication in the journal. This does not apply to books where you are contributing a chapter to a book authored or edited by someone else. The data presented in table 9: represents that the present landscape of

holding copyright without any restrictions by the authors is 50:50. It was observed that 50% portion of the journals (92 Journals) are not allowing the authors to hold the copyright without restrictions, this means that the author may publish and curate her/his articles on the various platform of he/his choice,whereas50% (92 Journals) are allowing the author to hold the copyright without restrictions. Fig. 15 presents the data of the author holding the copyright without restrictions**.**

Fig. 15: Author holds Copyright without restrictions

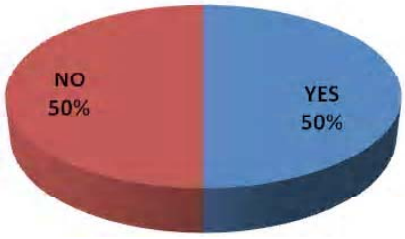


Table 9: Author holds copyright and publishing rights without restrictions

S.No.	The author holds the copyright without restrictions	No. of Journals
1	No	92
2	Yes	92
	Total	**184**

7 FINDINGS

As per the objectives of the study, the major findings are as follows:

One of the findings of the study was that more than 93% of the journals has dedicated URL for journal open access statement, aims, and objectives. It was observed that 163 journals have dedicated e-ISSN for the online journals, while 80 journal titles were having both p-ISSN and e-ISSN. All the 184 OA journals have dedicated URLs for accessing the Journal online where they have mentioned information of editorial board and author's instruction

It was observed that about 59% were having the defined Journal Plagiarism Screening Policy while 41% have not mentioned about it. About 61% of journals have dedicated URLs for disclosing Journal Plagiarism Screening Policy. It is evident from the analysis results that the Double-Blind Peer Review Process (134 Journals) is highly practiced, this is because of the high rate of objectivity is observed in the review process. The data analysis resulted in 99% of journals having a dedicated URL for informing about the review process. There is a variation in the average timing of article submission and publication from three months to more than six months. For article curation, the UK-based Sherpa/Romeo is the first choice for the publishers to get registered their depository policy, which is 47% in share. It was observed during the data

analysis that more than half of the portion (52%) of the OA journals has not mentioned the preservation services program. Among the persistent identifiers preferences, about 88% of journals were using the DOI as the permanent article identifiers. A significant portion of journals is complying with the BOAI guidelines. The major shares 89% of the journals do not receive the DOAJ Seal.

It is evident that 135 Journals (about 73%) were not charging any fee towards Article Processing Charges (APCs). It is further observed that 42 Journals (about 23%) were charging APC to support the open access publishing. To make the journal policies more transparent 175 have mentioned regarding the payment of APC (whether chargeable or not) and for this purpose, they do have a dedicated URL. Among the 184 titles, 152 journals have mentioned Other Submission Fees applicable on their website. Only 32 journals have not been assigned any URL for informing about the Other Submission Fees application via dedicated URL. A set of 22 Journals were following the APC waiver policy (for the authors especially from the developing countries etc). As evident from the data 125 journals don't have any policy because most of them are not charging any APC, which is a significant portion to 68%. However, 37 journals haven't mentioned anything about Journal Waiver Policy.

It was found that 165 journals (90%) have mentioned the terms of the licenses for publishing through a dedicated URL. As per the analysis result, 64% of journals have embedded or displayed Machine Readable CC licensing information in articles. The data types of the journal license represent that CC-BY is the most preferred CC License by the journals (67 Journals) adopted by the 36% OA Journals. Copyright is a specific and exclusive right that allows its users to use intellectual property. The data analysis revealed that 68% of journals (125 titles) have an URL for the Copyright Information. The data analysis revealed that the present landscape of holding copyright without any restrictions by the authors is 50:50.

8 CONCLUSION

Recent advances in ICT and its adoption by academia have spurted the domain of scholarly communication. Therefore, the publishing houses are also making their publishing process following the advanced technologies. In recent years, online publishing phenomenon has become very popular. Thus, it has given birth to e-Journals. The e-Journals are a very popular source of scholarly communication among academicians. A significant portion of OA journals is being published in developed countries. However, third-world countries need to upgrade their technological infrastructure.

Therefore, a set of 184 quality scholarly OA journals covered by both Scopus and Web of Science were identified for the study. As far as the adoption of best publications practices is concerned: it is concluded that a significant portion of 30% (42 journals) titles are not covered by the DOAJ. Most of the OA Journals has dedicated URL and ISSN. A significant portion of OA Journals follows a well-defined Plagiarism Policy and dedicated URL for this. The double-blind peer-review process was highly practiced by OA Journals with a dedicated URL for this. The publication process of OA journals is much faster as 59% of journals publish articles in less than six months duration. For article curation, the UK-based Sherpa/Romeo is the first choice for the publishers. The Digital Object Identifier (DOI) is most adopted by the OA Journals. Most of the OA journals are following the BOAI guidelines. The economic model of the OA journals revealed that OA journals do not charge for accessing the content but some of the publishers do have publishing charges, but that is too small in number (23%). Most of the journal publisher has disclosed article processing charges policy, other charges involved, waiver policy via dedicated URL. More than 90% of the OA Journals have mentioned the terms of the licenses for publishing through a dedicated URL. However, 64% of the journals have embedded Machine-Readable CC licensing information in articles for easy identification. The CC-BY is the most preferred CC License adopted by the 36% OA Journals. The present landscape of holding copyright without any restrictions by the authors is 50:50. These are the indicators of good quality and best practices widely followed by the OA journals of Education discipline. However many journals need to comply with the DOAJ indexing criteria to obtain the DOAJ Seal

REFERENCES

1. BJORK (Bo-Christer) *et al*. (2010). Open Access to the Scientific Journal Literature: Situation 2009. *PLoS ONE*. 5 (6).
2. FERNANDEZ (Leila) (2006).Open Access Initiatives in India: An Evaluation. *Partnership: The Canadian Journal of Library and Information Practice and Research*. 1(1).
3. HOORN (Esther) and GRAAF (Maurits Van Der) (2006). Copyright Issues in Open Access: The Authors' Perspective. *D-Lib Magazine*. 2(12).
4. GRAF (Chris) *et al*. (2007). Best Practice on Publication Ethic: A Publisher's Perspective. *International Journal of Clinical Practice: Supplement*. 152(61): 1-26.
5. EYSENBACH (Gunther) (2006). Citation Advantage of Open Access Articles. *PLoSBiology*. 4 (5).
6. MISRA (Durga Prasanna) and AGARWAL (Vikas) (2019). Open Access Publishing in India: Coverage, Relevance, and Future Perspectives. *Journal of Korean Medical Science*. 34(27).

7. BAKER (Eileen F.) *et al. (2019*). Open Access Medical Journals: Promise, Perils, and Pitfalls. *Academic Medicine*. 94(5).
8. RAY (Margaret) (2016). An Expanded Approach to Evaluating Open Access Journals. *Journal of Scholarly Publishing*. 47(4): 307-327.
9. LAAKSO (Mikael) *et. al*. (2011). The Development of Open Access Journal Publishing from 1993 to 2009. *PLoS ONE*. 6(6).
10. MACCALLUM (CJ) and PARTHASARATHY (H) (2006). Open access increases citation rate. *PLoSBiol*. 4(5).
11. MACCALLUM (CJ) (2007). When is open access not open access.*PLoS Biol*. 5(10).
12. WICHERTS (JM) (2016). Peer Review Quality and Transparency of the Peer-Review Process in Open Access and Subscription Journals. *PLoS ONE*. 11(1).
13. CHRISTOPHER (MM) and YOUNG (KM) (2015). Awareness of "predatory" open-access journals among prospective veterinary and medical authors attending scientific writing workshops. *Frontiers in Veterinary Science*. 2(22).
14. MARK J. (Mccabe) and CHRISTOPHER M. (Snyder) (2014). Identifying the Effect of Open Access on Citations Using A Panel Of Science Journals. *Economic Inquiry*. 524:1284-1300.
15. RODRIGUES (RS) *et. al*. (2020). Open access publishers: The new players. *PLoS ONE*. 15(6).
16. YAN (Erjia) and LI (Kai) (2018). Which domains do open-access journals do best in? A 5-year longitudinal study. *Journal of the Association for Information Science and Technology.* 69(6):844-856.
17. HANSOTI (Bhakti) *et. al. (2016).*Discriminating Between Legitimate and Predatory Open Access Journals: Report from the International Federation for Emergency Medicine Research Committee. *Western Journal of Emergency Medicine*. 17(5).
18. BI (Xin). Quality open access publishing and registration to Directory of Open Access Journals. *Science Editing*. 4(1): 3-11.