

Publication in open access journals at a university of technology in South Africa

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Received: 25 June 2021

Accepted: 8 May 2023

Researchers in South Africa publish in journals that have a high impact factor and are accredited by the South African Department of Higher Education and Training (DHET) as this will bring financial support to the researcher and the affiliated Institution for continuous publication. Moreover, these researchers do so for possible ranking of their universities and to seek collaboration with international and national researchers. However, publishers make it difficult for researchers to publish because of the Article Processing Charges that increase annually. Therefore, the study's main objective is to propose general benefit guidelines for the use of open access by researchers. The unit of analysis was the university's Institutional Repository (IR) and Scopus, a database which the university subscribes to. The IR has a collection of research outputs that include peer-reviewed articles, conference proceedings, and datasets. Hence, a quantitative and qualitative research approach was selected, where content analysis was used to collect data whereby research output from 2016 to 2020 was identified from both the IR and Scopus. The study examined, investigated, and explored the hindrances and challenges faced by researchers when publishing in open access journals (OAJ) with specific reference to South Africa. The study drew from a few organised threads of confirmation which make up the current dialogue on OAJ, comprising of peer-reviewed literature, grey literature, and other forms of communication. A manual Systematic Literature Review (SLR) method was applied to collect data from Scopus and the IR. The ethical considerations for conducting the study included permission to use the university's IR and to collect primary data from academics in the selected university. The results show that publishers are making it difficult for researchers to publish in open access, because of the outrageous publishing costs involved.

Keywords: Article Processing Charges, Open Access Journals, Librarians, waiver programme, copyright, and licensing

1 Introduction

There are three economic models that are encountered by researchers when publishing, that is, subscription, open access and open access self-archiving (Houghton, 2010:42). Because the aim of writing this paper is to promote open access publishing, open access and open access self-archiving will be discussed. Open access is an alternative to subscription or closed access, and it offers the end user (a reader) free access to researched work. It was created because of rapid subscription increases to scholarly journals by publishers, that made it difficult for researchers and universities to access journals (Swan, et al. 2010). To improve the usability and visibility of South African publications, funding is required to assist with making print journals available online and accessible to anyone who wishes to use them (Zulu, 2020:57).

According to UNESCO (2017), South Africa is a leading figure in terms of open access policies, but due to the high fees that publishers charge, researchers struggle to publish in scholarly journals. However, the introduction of open access has enhanced the quality of research, as results can be validated quicker online. In America, there is strong support for researchers publishing in OAJ (UNESCO, 2017), as evident from the number of the open access repositories there. Furthermore, in the 2021 ranking Web of Universities (Webometrics, 2021), America is leading in terms of depositing their research work in open access repositories. Therefore, with the introduction of open access, researchers had high hopes that it would be easier to publish in scholarly journals to make their research results available online to anyone who needs it, and by doing so, help to remove the access challenges posed by subscription journals.

Authors write articles, hoping to be published. Those articles are not rejected or accepted by the employees of a publishing company, but by academic editors. Since academic editors come from universities, it would be better if

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universities had their own publishing departments, where a university would employ the editors and in doing so save a lot of money, instead of struggling to pay publishers to access its research work. Some studies suggest that at least 20% of journal articles are rejected annually, whereas Ray et al. (2000) mention that 68% of rejected articles are later published after a couple of months' revisions. The following article will discuss the Article Processing Charges and barriers associated with open access.

Following this introduction, the paper will present a review of the literature, followed by the theoretical framework on which the research question is based, and the research methodology used. Flowing from that will be the presentation and discussion of the results, followed by the conclusion and suggested areas for further research (Oluka, et al. 2021: 455).

2 Literature review

2.1 APCs

There are two reasons why APCs are paid. Firstly, to cover the publishing costs and disseminate information to readers, as the publishing process takes time and the costs involved to pay editors and reviewers. Secondly, to protect inexperienced researchers from falling victim to predatory journals³. Therefore, researchers should consider publishing in traditional and open access journals. Beall (2015) states that researchers do take chances by publishing in predatory journals for their own limited benefit. For any accredited journal to be published, it must go through the peer review process, unlike predatory journals. Cobey et al. (2018) confirm that predatory journals publish articles without proper peer reviewing, and charge researcher's enormous fees for publishing them. According to the DHET (2018:13), no researchers will receive a subsidy when publishing their research in predatory journals. Publishers should, therefore, consider reducing or waiving charges to researchers who cannot afford it.

2.2 Waiver Policy

It is argued that researchers who are affiliated to a university should not be paying such fees, especially when the university pays annual subscription fees to subscription journals. According to Springer Nature (2021), there are more than 500 universities that have partnered with Springer to help authors to receive discount on APCs. It is unfortunate that in South Africa, there are only two universities that benefit from such discount, namely the University of Cape Town (UCT) and the University of South Africa (UNISA). It is argued that UCT continues to rise in research rankings (UCT 2019) because they can afford to publish in any high impact journals.

The publishing industry is a very competitive business and therefore, publishers find it difficult to grant concessions to authors, especially when the article submission has not been editorially accepted. On top of that, individual waiver requests are considered on a case-by-case basis and may be granted in cases of genuine need. This might not work for researchers in South Africa to cover publishing charges because of low income (Makoni, 2020). According to Elsevier (2019), the APCs range from 150 to 6000 US Dollars, excluding tax, depending on the APC price list and journal homepages. Priority for this waiver programme is given to applications by authors from countries who are eligible. The following figure represents different funding options available for eligible authors.

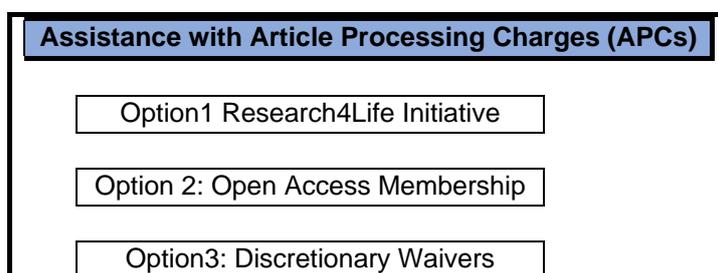


Figure 1: Discount and Waiver (Royal Society 2021)

Option 1 represents Research4Life initiatives. Unfortunately, South Africa is not eligible to make use of Research4Life, which is online access to academic and professional peer-reviewed content to institutions in lower- and middle-income countries. It is based on different criteria that can be accessed via The Royal Society (2021). Option 2 represents Open

³ Beall, J. 2015. Criteria for determining predatory open-access publishers. *Scholarly Open Access* (3):1–6. Available: <https://crescent.education/wp-content/uploads/2017/09/Criteria.pdf>. [12 December 2020].

Access Membership which is offered to any researcher on request. This programme offers 25% discount on each APC incurred by a researcher. Furthermore, for option 2, only open access in scholarly communication is encouraged. Lastly, option 3 represents a discretionary waiver that allows for consideration to waive APCs if all funds are exhausted and for authors who can demonstrate financial constraints.

Emerging researchers who are interested and passionate about research but who do not qualify for support may struggle to publish their articles on open access. Moreover, publishers are not interested whether researchers have funds or not; if an author wants to publish, it is a requirement that he or she should pay APCs. Researchers are generally interested in journals with a high impact index or high-quality journals, whether with open or closed access. University libraries are regarded as a support service to the core business of universities, and therefore should make sure research outputs are equally distributed amongst open access platforms.

2.3 Librarians

Librarians must collaborate with researchers in their faculties to advise them on the advantages of impact and visibility reports, especially if they want to publish in an Open Access journal (Mathe, 2017). Every year in October librarians at the Cape Peninsula University of Technology in Cape Town organise an open access week, where they assist researchers by creating a researcher profile account and importing their publications from Google Scholar to the IR (Tshetsha, 2019). During that week, librarians motivate academics to publish their research on the IR and Figshare, so that it can be shareable and cited, and to expose their scholarly work. There are various ways to enhance and promote the visibility and impact of university research outputs, such as creating a unique author identifier called ORCID, to distinguish researchers' work from others. This has a positive effect on researchers' visibility. However, not all research outputs can be uploaded on open access repositories because of copyright restrictions.

2.4 Copyright and Licensing

Open access involves gaining access to articles in full text without having to pay a license fee. However, this does not work for the majority of subscription journals with a high impact factor, since copyright and licensing agreements give them control over the use of researchers' work for a fixed period of time (University of York, n.d.). With open access, a reader can extract information from a researcher's work without the restrictions of copyright and fees. Copyright in countries such as the United States of America lasts 50 to 100 years, whereas in South Africa it lasts 50 years after the author's death (Collier-Reed, et al. 2012).

In South Africa, the most common licence is the Creative Commons licence, which permits the reuse of material under fair use and fair dealing. However, Creative Commons does not facilitate the commercial reuse of academic work (Eve, 2014). This means that the author(s) of an article preserves sole ownership of the work. As stated by Johnson (2019), there might be cases of copyright infringement that could not be defended by fair use, such as when a lecturer makes copies of a book and sells it to his or her students to make a profit.

Fair use will promote human rights (Flynn, 2019; Zulu, 2020). Fair use occurs when a reader or researcher wishes to use information from another source to criticise that source. Fair use also protects against piracy by defining which uses are permissible. As a result, students will benefit from the new Copyright Amendment Bill because lecturers will be able to create materials that are affordable to students. Keeping this in mind, copyright is a special right granted to the owner.

2.5 Barriers to Open Access

Any research paper is open access if it is electronically accessible to readers for free. This is why open access was established a few decades ago to remove price and permission barriers (Eve, 2013). In 2002, the Budapest Open Access was established to make research free online to anyone who wants to read it (Suber, 2013). This was favourable to researchers who wanted to share their knowledge with any person who wanted to read their work. Furthermore, because it was freely available online, it would expedite their research work. Moreover, the Budapest initiative aimed to remove price barriers, giving readers the ability to easily find research work and for researchers to increase their visibility and potential collaboration with other researchers in their field (Zulu, 2020).

3 Research Approach and Methodology

The study's main objective was to propose general beneficial guidelines for the use of open access by researchers. Therefore, the analysis of the data was performed on published documents on Scopus. The articles published on open access for review were the most appropriate sources for primary data collection. As a result, using Scopus was critical to gain a better understanding of the research problem and for extracting more data. Furthermore, Scopus is one of the largest

databases that provides sound content analysis per affiliation and has a tool that tracks research regardless of who published it. Data was drawn from it and analysed by using content analysis.

The study used journal articles identified on the Scopus database and the institution's IR. The search was limited to English journal articles published between 2016 and 2020, because the Cape Peninsula University of Technology (CPUT) researchers started publishing in open access journals from 2016. According to Nadkarni (2017:34), applying Systematic Literature review (SLR) is divided into three parts: data collection, analysis, and synthesis.

When Scopus and the university's IR were accessed in 2021, there were 3 422 documents published on Scopus by CPUT researchers (Elsevier: 2021) and 4 175 documents uploaded on the IR (CPUT: 2021). The types of documents included articles, conference papers, reviews and book chapters. The search was further limited to the subject type and year of publication. Figure 2. summarises the searched articles identified on Scopus.

According to Zulu (2020:38), Scopus is one of Elsevier's databases, and CPUT subscribes to it. Thus, the data was easily accessible for the study. Despite the fact that all institutions in the Cape Higher Education Consortium subscribe to Scopus, it was important for the study to limit the researchers to CPUT ones and documents exclusively published on the Scopus database. Because the attention was on the Scopus database for all researchers, the selected documents by subject area were between 2016 and 2020.

A requirement for this study was that the data be gathered, summarised, and analysed on an EXCEL spreadsheet. The spreadsheet was divided into Scopus and IR categories for the years 2016, 2017, 2018, 2019, and 2020. The study employed the qualitative and quantitative research approaches to answer the research question: "What is the publishing model preferred by researchers in publishing?" and to provide descriptions of the phenomenon being studied. Given that this is a qualitative study with some quantitative components, it was necessary to collect data from secondary sources using Scopus, to answer the research question. It was essential to include quantitative research approaches to gather and analyse data from Scopus. Therefore, a quantitative research approach was the way to convey quantities or amounts (Schwandt, 2015:60).

The study dealt with a limited number of researchers and documents published in either subscription journals or open access journals, and this is discussed in the next section.

4 Findings and Interpretation

The CPUT's, Faculty of Business and Management Sciences has its own peer-reviewed journal called "The Journal of Business and Management Dynamics (JBMD)". This journal is published annually as a conference proceeding in December by members of the faculty (CPUT, 2021). There are cost-saving benefits to be derived from publishing an in-house journal, such as lower publishing costs and the availability of peer reviewers at the university.

Mathe (2017:1), confirms that "when researchers publish in the university journal, they could save money on publishing costs". There are several factors to consider when publishing in-house. One of the factors is that the university will publish and manage its own research work, which is beneficial not only to the department but also to the university. Because most reviewers are academics, the university will save money by employing its own editors and reviewers. Researchers and supervisors will have an option of inviting guest lecturers, which may pave the way for future collaboration. Moreover, researchers and postgraduate students will also not have to wait long for responses from reviewers or publishers. As a result, if researchers from other faculties or universities can benefit from the in-house publication, they can save money on publishing costs.

University libraries promote open access by encouraging their researchers and postgraduate students to upload their research output on the university IR. Factors to take into consideration when a university has in-house journals are that the publishing process and the quality of the articles produced by the researchers will be controlled by knowledgeable and experienced staff.

Scopus and IR Records Identified					
	2016	2017	2018	2019	2020
Scopus	296	305	287	347	404
IR	370	328	346	64	11

Figure 2: Outcome of searched documents

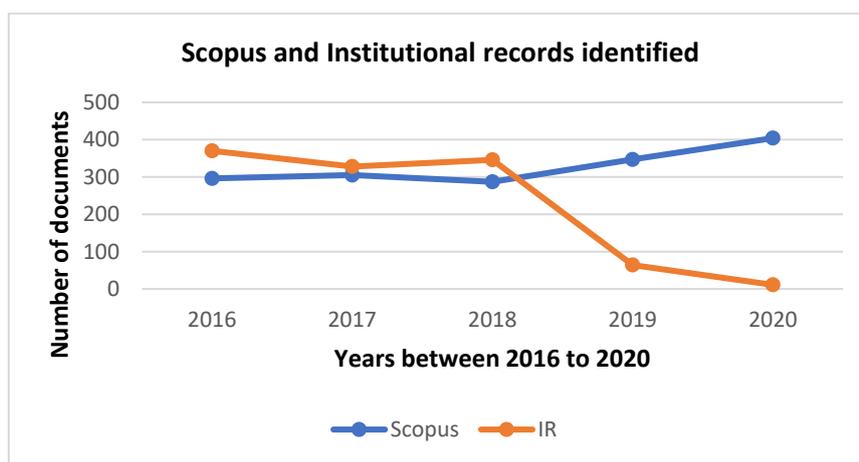


Figure 3: Research output from 2016-2020 on Scopus and IR

There are several reasons for the decline in IR research outputs. One reason is that not all researched output is uploaded onto the IR and not all researchers publish their work on Scopus. However, researchers continue to publish in open access journals as illustrated by the number of articles published in 2020, compared to previous years.

5 Conclusion and Recommendations

Open Access models were developed to make research freely available and accessible online. Most basic information about open access scholarly journals is contained in the Directory of Open Access Journals (DOAJ, 2021). However, some publishers still charge expensive APCs, making it difficult for researchers to publish their research. Universities benefit from owning an IR since it gives them control over the accessibility of their research. Despite this solution, they nevertheless face expensive publishing charges as well as accessibility challenges given the different publishing models. While the primary goal of IRs is to make research outputs freely available, they frequently include a mix of open access resources and embargoed full-text publications. These embargoes limit the visibility of research outputs inside relevant repositories, making it difficult to raise academics' profiles and highlight their work.

6 Limitations and Future Research

Since the study was limited to Scopus and an IR, it would be interesting to compare the results to other databases such as Emerald, Wiley, EbscoHost, Taylor and Francis, among others, to extract more rich data. A survey or questionnaire should also be extended to other researchers at the university to determine the publishing model preferred by all the institution's researchers.

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