

## Why are Researchers Still Hesitating to Publish in Open Access (OA) Journals?

Yunhua Luo\*

Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, University of Manitoba, Winnipeg, Canada

Open Access (OA) is a novel publishing model in contrast to the traditional closed-access (CA) and subscription-based publishing model. OA has emerged in the last two decades with advances in the internet technologies [1]. The ultimate principle of OA is to make research outcomes, especially those from publicly funded projects, available to any interested readers via internet without any financial charge. Two primary operating mechanisms, i.e. the gold model and the green model, and their variations have been practiced to achieve the goals of OA. In the gold model, the authors pay the publication fee, mostly via their research grants or institutional financial support. In the green model, the authors archive their research outcomes such as journal articles and research reports in open repositories at either institutional level or national subject domain level. It is generally agreed that OA has a number of advantages and benefits over the traditional CA model [2], for example, speeding up the knowledge transfer process, providing both individual researchers and industrial corporations with convenient access to the most up-to-date information, enabling scientists in poor and less developed countries to access more information which otherwise might be too expensive to afford for them, etc. In addition, even in the developed countries, rising costs of CA journals and shrinking in library budgets have resulted in considerable cutting in the number of journal subscriptions. As a result, OA publishing has experienced a rapid development in recent years. Nevertheless, data from a recently completed large-scale survey [3] conducted under the SOAP (Study of Open Access Publishing) project and supported by the EU (European Union) revealed an interesting phenomenon: although 90% of the respondents (total approximately 40,000, all of them had published at least one peer-reviewed research article in the last five years) agreed that OA is beneficial to their research projects and to their research fields [4], only about 8%-10% of peer reviewed papers were published in OA journals in 2010 [5]. The above survey results indicate that, from a reader's point of view, OA is very welcome by researchers for the mentioned advantages and benefits. However, as authors, researchers are still hesitating to publish in OA journals.

Then, what are the major barriers that prevent researchers from publishing in OA journals? By carefully analyzing the benefits and advantages offered by OA publishing, it can be found that most of the benefits are offered to 'readers'. Very few of them are for 'authors'. Although it was claimed that articles published in OA journals may have earlier and more citations over those published in CA journals [6,7], other studies have shown that the difference is trivial [8,9]. In addition, the barriers that are discussed in the following are on the 'authors'. Most researchers have both of the 'reader' and 'author' identity. This may explain why although most researchers are in favour of OA publishing model but they still hesitate to publish in OA journals. The SOAP project [3,4] has revealed a number of reasons why most researchers are still hesitating to transfer their academic publication from the traditional CA to OA. The top two barriers are: lack of financial support for OA publication fee (39%) and perceived low quality of OA journals (30%). By further investigating into the survey data, it can be concluded that OA publication fee may not be the biggest barrier, while

perceived quality of OA journals is the real number-one barrier. Several evidences are provided in the following: 1) Publication fee is not unique for OA journals. Many traditional CA journals also charge publication fee. 2) 50% of OA journals do not charge publication fee [4]; 3) more than 80% of the respondents participated in the SOAP project indicated that their OA publication fee were paid either via their research funding or by their institutional support [3]. Therefore, publication fee may be an issue for under-developed countries, but not for the developing and developed countries. The above conclusion may be even more obvious if the 39% respondents (who chose publication fee as the biggest barrier) are further categorized based on their regions or countries: developed, developing and under-developed. The perceived quality of OA has a number of negative effects on researchers' attitude toward publishing in OA journals; although it absolutely does not mean that all articles published in OA journals really have low quality. It is fair to say that in both CA and OA categories, there are more prestigious and less popular journals and the published articles are also at different quality levels. However, CA publishing model has a much longer history, and the peer-reviewing and quality managing systems are generally and relatively well developed. OA journals are perceived to have low quality for a number of reasons: 1) they are new and the quality indicators such as H-index and G-index are less popular to researchers compared to the impact factors used for the traditional CA journals; 2) With the co-existence of several models of copyright for OA journals [10], authors are confused and have concerns about the handling of their published articles; 3) Some OA journals do not yet have a rigorous peer-reviewing system compared with the traditional prestigious CA journals; maximizing economic benefit for the publisher may become an incentive for accepting lower quality articles; 4) For university researchers, they may have concern that the perceived quality of OA journals (not the quality of their articles) is used in tenure and promotion evaluation; 5) Traditional prestigious publishers are slow in transferring to OA publishing model.

Obviously, some of the issues will be resolved with more time, for example, regulation of OA copyright, popularity of OA journals especially new ones among researchers. The trend of publishing industry transferring from CA to OA is speeding up. The numbers of OA journals yearly added to the Directory of Open Access Journals (DOAJ) in the last five years (starting from 2007) are respectively 541, 839, 760, 1462 and 1539 [11]. Many prestigious publishers and academic associations

\*Corresponding author: Yunhua Luo, Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, University of Manitoba, Winnipeg, Canada, E-mail: [luoy@cc.umanitoba.ca](mailto:luoy@cc.umanitoba.ca)

Received July 26, 2012; Accepted July 28, 2012; Published July 31, 2012

Citation: Luo Y (2012) Why are Researchers Still Hesitating to Publish in Open Access (OA) Journals? J Aeronaut Aerospace Eng 1:e109. doi:10.4172/2168-9792.1000e109

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are also transferring their publishing model to OA. More than 1,200 Elsevier journals now offer authors the option to sponsor open access to their articles [12]. A number of new OA journals have also been added into the Elsevier's journal list. After a major global review with over 35,000 engineering researchers from academia and industry to gauge their appetite for open access, the Institution of Engineering and Technology (IET) announced the launch of a comprehensive, online-only open access journal [13]. IET is the first engineering, not-for-profit publisher to adopt an OA publishing model. IET will also add OA option to its existing 26 journals. OA publishers are endeavouring to clean the barriers for researchers so that they are more willing to publish in OA journals. OMICS Publishing Group has taken important steps in this direction. A unique and rigorous peer-reviewing and quality managing system has been adopted by OMICS, which integrates advantages from both the traditional CA and the new OA publishing models. After a manuscript is received, the most relevant editor in the board is first identified from the database. Then, the editor looks for potential reviewers which are kept blind to the authors. With the barriers removed, it can be expected that OA will become the primary publishing media for most researchers in the near future.

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