

22 Open Access Research: Bridging the Gap Towards Global Research Improvement

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The Quacquarelli Symonds (QS) World University Rankings has recently released its most-anticipated annual list for 2018. Expectedly, Massachusetts Institute of Technology (MIT) has emerged on top, as it has consistently done for the sixth straight year now. MIT garnered an overall score of 100%, obtaining 99.9% for the criteria of citations per faculty. Needless to say, one key factor in maintaining a premiere university ranking for institutions such as MIT is by heavily investing in research. For the fiscal year 2016, it has reportedly totaled about \$2.5 billion in expenditures for both sponsored and unsponsored research. This surely entails cutting-edge research facilities, complete academic journal subscriptions, the ability to conduct highly relevant research, and of course, increased capability to publish in academic journals. From the viewpoint of sustaining current research projects, more publications means more opportunities for research funding, and the cycle continues. This probably plays a big role in maintaining MIT's premiere ranking through the years. Way down the ranking list is University of the Philippines (UP), my undergraduate university, which ranked 367th this year. It has roughly 45,000 students, about four times that of MIT. Belonging to a developing country, UP has obviously much less research funds to dispose. For example, the total budget for research activities in 2014 for all state universities and colleges, where UP falls under, is about \$20 million [1]. Only a small fraction of which, of course, is solely allocated to UP. Likewise, this shortage of research budget translates to a lack of research facilities, lower numbers of published papers, and insufficient funds for academic journal subscriptions. Putting issues of government budget allocations aside, there is one question that needs to be addressed—are there measures that can be undertaken in order to help lower-ranked universities bridge the gap towards improving the current state of their research?

Imagine a world of only open access journals. Surfing the internet probably feels like walking into a global library with an infinite number of free-to-use references. New knowledge is served fresh daily, with just a few clicks and a set of appropriate keywords, to anyone who wishes to get a taste. From professors to early career researchers to undergraduate students, the available resources from the

most fundamental topics to the recent state-of-the-art works can be readily accessed. From the researchers' perspective, open access research would remove the barrier from being updated in the recently published papers on their specific field. It will allow them not only to deepen their knowledge, but also to get fresh ideas for their own research. They get to look at their research from different points of view, something that paid access journals have restricted them from doing. This could inspire them to publish their own works. For authors, open access publication directly translates to greater exposure for their work, which is followed by higher number of citations. An increased author h-index usually paves the way for more research funding, which leads to more opportunities to expand the author's research, and more contributions to the research community. In addition, open access journals enable researchers from all over the world to be aware of the experiments that have already been tried or copyrighted. More often than not, unintentional replications of previously published methods occur as a result of lack of means to conduct intensive research. As a result, rejection of publication happens due to non-originality. Finally, there will not be a need for downloading subscription articles from illegal sites.

However, in reality, in order to enjoy the above-mentioned benefits of open access publication, one literally has to pay a hefty price. Nature Communications, for example, which is one of the top tier open access multidisciplinary journals with a 2016 impact factor of 12.124, charges about \$5200 per article [2]. Naturally, only well-funded research groups are capable of publishing with such journals. As an indirect effect, some publishing companies are even stigmatized as utilizing extremely high open access article processing charges (APCs) as income-generating schemes. An ideal solution is to drive the article processing charges (APC) down to more affordable rates. Actually, there are publishing companies that offer open access publication at low APCs; but these journals have yet to improve on visibility and impact factor. But these can easily be overcome if researchers and publishers work hand-in-hand. Publishers can work harder on promoting affordable open access journals, in order to attract both readers and authors alike. Researchers, on the other hand, need to patronize these journals by reading and submitting to them, as well as citing their currently published papers. Through this, the true purpose of journal publication will be served—making new knowledge accessible to interested readers, regardless of financial status.

The key to globally improving the state of research is to allow lower-ranked universities to afford open access publication, as it is probably the best choice when it comes to showcasing one's new academic findings. It is important to keep in mind that new knowledge can emerge anytime and anywhere, irrespective of the

level of sophistication of one's facilities. In this era of the Internet and automation, the capability to expose one's work to a wider audience has to be more of a right than a privilege. As Kurt Vonnegut puts it in his masterpiece *Breakfast of Champions*: "New knowledge is the most valuable commodity on earth. The more truth we have to work with, the richer we become".

References

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