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Journal Impact Factor: Expectations and Hopes

In the modern digital era, June is a month of anxiety for everybody involved with publishing in sciences. June is the moment for divulgation by the Journal Citation Reports of the new impact factors and certainly we want to fly to the blue skies. High expectations and hopes may be a source of motivation, but they may act as a nest for frustration and disillusion.

It is important to have quantitative data in science and frequently Lord Kelvin is quoted by stating that "I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science, whatever the matter may be".

Most of us with a background in exact sciences and working in this area tend to agree with this view, but of course we must be careful in the evaluation of numbers and in the understanding of the history behind. On the other hand, in analytical chemistry we are trained to understand that all data contain errors and we should strive to improve them.[1]

Let us make an exercise about the impact factor of the Journal of the Brazilian Chemical Society.

Starting in 2008 and going through 2012, the JBCS has reached the following impact factors: 1.438, 1.458, 1.334, 1.434, and 1.283. Do you see a half-full glass of water or a half-empty glass of water? Are we stuck? Where are we going to?

However, a critical point to stress is that the number of published papers in the JBCS has increased 20% starting in 2010 as a result of the change in the periodicity to one issue per month and of course this change has a huge impact in any data critically dependent on this parameter.[2]

Combining these data, we may say that the JBCS impact factor has decreased only 10% despite our 20% increase in the number of published papers. It is worth remembering that the impact factor of 2012 is calculated by dividing the sum of citations in 2010 and 2011 by the number of papers published in these same years, i.e. 766/597. Just for comparison sake, in 2009 we had 571/428. In other words, the number of citations has increased 34%, but the number of published papers has increased 39% when comparing these two periods.

It seems like we are attending our community and its increasing demand for publishing high quality papers without negatively affecting the JBCS impact. A great point is that we reached this impact with only 8% of self-citations. It is a good indication of our health, and eventually it may be even considered as too low.

Despite agreeing with Lord Kelvin, it is important to highlight that all indicators have good points and bad points. It is worth the efforts to have simple indicators for evaluating science and economic outputs; however each one of them has its particular weaknesses and show only part of the picture. For instance, it is known that even for well-consolidated scientific periodicals the citations are related to a relatively reduced number of papers.

In an Editorial published in 2005 Nature had already emphasized that "The most cited *Nature* paper from 2002–03 was the mouse genome, published in December 2002. That paper represents the culmination of a great enterprise, but is inevitably an important point of reference rather than an expression of unusually deep mechanistic insight. So far it has received more than 1,000 citations… Our next most

cited paper from 2002–03 (concerning the functional organization of the yeast proteome) received 351 citations that year. Only 50 out of the roughly 1,800 citable items published in those two years received more than 100 citations in 2004. The great majority of our papers received fewer than 20 citations.

These figures all reflect just how strongly the impact factor is influenced by a small minority of papers — no doubt to a lesser extent in more specialized journals, but significantly nevertheless. However, we are just as satisfied with the value of our papers in the 'long tail' as with that of the more highly cited work."[3]

When citing this Nature's editorial in Wikipedia it was pointed out that "…about 90% of Nature's 2004 impact factor was based on only a quarter of its publications, and thus the importance of any one publication will be different from, and in most cases less than, the overall number."

So, think again and go deeper in your analysis. Of course we want to move ahead, but we want to stay trekking on a safe road. It is a long journey and the arrival point will be critically dependent on your continuous support. We do appreciate all your efforts and we do count on them!

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References

1. Senise, P. E. A.; *Quim. Nova*, **1983**, *6*, 112.
2. Nóbrega, J. A.; Hatje, V.; *J. Braz. Chem. Soc.* **2013**, *24*, 1.
3. *Nature*, **2005**, *435*, 1003.