

Editorial

A new president will be inaugurated in Brazil a few days after we publish this edition. Since we live in a funding crisis (even though something permanent hardly configures a crisis per se), we need to rethink the way science is funded in Brazil.

The best case scenario would be one in which government spending in this field would be dramatically increased and all funding needs would be met. Nevertheless, this is highly unlikely and we need to consider how to distribute insufficient money among equally deserving persons and projects.

The first thing to do is consider how we measure our science. I wrote a paper once, describing how the way we measure science in Brazil tends to create a different dynamics in the organization of universities and research groups¹. This editorial is not the place to discuss such a complex issue, so we will assume that this will not change. We will consider the status quo as unchangeable and discuss only the way journals are qualified in the realm of Computer Science.

Journal qualification is extremely important. Researchers need to publish in journals of a certain rank in order to qualify for promotions, grant distributions and so on. Hence, they tend to concentrate in the upper echelons of the published journals. Therefore, the rank a journal is assigned will cause a large impact in the number of submissions and, eventually, in its survival itself.

Nowadays, the Computer Science area ranks on the curve. That is, all eligible journals (those included by the graduation programs) are ordered according to their impact factor or a similar metric and then the x% best are A1, the y% next are A2, and so on.

There are many problems with this approach. First and foremost, any metric can be proved to be a fallible one. For instance, few highly cited papers in a journal can cause it to have a better impact factor. This is valid for all metrics. There is no way that one single metric will capture the whole dynamics of quality.

The impact factor is even worse, because Thomson-Reuters, who calculates it, refuses to enroll journals at its discretion. I can tell from personal experience: they refused ours, because we are too small to be considered. Besides, we cannot apply again for three years, according to their rules.

Hence, we have a pernicious dynamic that says that we cannot have a calculated impact factor because we are too small and we cannot grow, because we don't have an impact factor and do not receive a large number of submissions.

This could be remedied with the creation of a new method to evaluate that relies on process, besides the numbers. We just needed to extend the graduate programs system to include the reviewers for each journal and a grade each one of them would give to the process itself (in terms of process, reviewer freedom, rigor, etc). This number is a rough substitute to the

personal research, but the latter is not feasible because of personnel and money restrictions. This reviewer data could be then compounded with the impact factor and then a number that would comprise both dimensions would be a better descriptor of the real quality of a journal.

The way described here is not the only way to measure the quality of a process. There are many others, which I am sure will be better suited than this one. I am only describing a way that is feasible and would not require a lot of time or money to implement.

The important part is that we need to measure better. The measurement stick affects the production and the way researchers direct their efforts. This is neither illegal nor immoral: it is just real life.

Brazilian journals are important - no one is going to start publishing in IEEE or Science. We need rigorous papers that will allow students and young professors to publish. High quality vehicles that have stern reviewers, but accept papers from starting level researchers will foster their growth and, in the end, make Brazilian science stronger and tougher.

If we are going to live by the numbers, let us at least make them more realistic and adequate to our goals.


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Editor in chief

¹ <https://link.springer.com/article/10.1007/s13278-017-0463-0>