Web of Science: Science trapped in a spider's web

Success in science today is commonly measured by one magic index, comprehensively used in nearly all fields of science: The ISI Web of Science® (WoS) Impact Factor (IF). Since the concept of IF is easy to understand and the IF simple to calculate, its usage has widely spread: uncomplicated evaluation of the quality of scientific journals using the ISI *Journal Citation Reports*®, assessment of competitors' performance, productivity of research departments, efficiency of investments in research and performance of different fields of research. Many important decisions in science are made on the basis of WoS: Which is the most suitable journal for the next paper? Who is most qualified to join our research team? Who should get/how much incentives? Even scientific programmes, directions of scientific efforts, and scholarly topics are strongly directed by the outcomes of WoS[1].

But, what is WoS? It is the most profitable product of Thomson Scientific, a world leading information provider. WoS covers 250 scientific disciplines with approx. 8700 peer-reviewed journals, a rather impressive number. However, seminal works in influential books, special issues in non-listed journals or other important sources are hardly tracked. Calculation of the IF as such is rather problematic too: journals publishing large proportions of non-citable sections can artificially increase their IF[2]. Furthermore, calculation of personal and department IFs is not standardized, which leads to selective usage of current journal IFs or those of the corresponding publication year.

Last but not least: What does scientific impact, mean? First of all, scientific impact should be defined as the penetration of the scientific community, which means that the distribution of publications should neither be hindered by means of copyright restrictions[3] nor should the search for such publications be limited by selective offers of journals listed by WoS. Second, the definition of a commercial company could be an anchor point, but should by no means be the gold standard. Tools such as IFs or h-index[4] can be valuable if we understand them properly, use them unequivocally, and apply them cautiously. Otherwise, science is trapped in a spider's web.

1. Adam, D., *Nature*, 2002, **415**, 726–729.
2. Hopkins, K. D., Gollogly, L., Ogden, S., and Horton, R., *Nature*, 2002, **415**, 732.
3. Carbon, C. C., *Science*, 2008, **319**, 1483.
4. Ball, P., *Nature*, 2005, **436**, 900.

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