

Analysis tools: Journal Citation Reports

InCites Journal Citation Reports (JCR) is a common tool used for the evaluation of scientific journals, based on the [Web of Science](#) (WoS) database. Both JCR and WoS are paid [Clarivate](#) databases. The WoS database includes articles, conference publications, patents and books from many different fields of science. The JCR database compiles the citation information on articles in WoS and calculates various journal indicators based on them. In addition, some field-specific indicators are available from the JCR database. The most commonly used indicator value in the JCR database is the [Journal Impact Factor, IF](#). In addition to the IF value, users can search the JCR database to find indicators such as the total citation counts of journals, citation distributions, quantities of OA publications, information about organisations publishing in journals and the way the citation numbers of a journal are distributed within a certain field of science. Using the metrics responsibly also requires that a sufficient period is allocated to accumulating citations. In different fields of science, citations accumulate differently and this is demonstrated by the Cited half-life and Citing half-life metrics for journals.

Notes about using the service

IF value is perhaps the most criticised individual quality indicator of science. The citation rates of journals are affected by the number of volumes, the citation practices of the field of science and the type of journal. The number of citations is often higher for journals covering expansive topics and publishing review articles than for specialised journals with a small volume. The number of citations is used as a tool for evaluating research, especially in natural and medical sciences, where research results are often published in international scientific series and citation practices are well-established. However, the number of citations is not an appropriate tool for evaluating research in scientific fields where most publications are written in the national languages or that publish many monographs, as WoS mainly classifies international scientific journals it has deemed as high-quality publications. Due to this large variation between the fields of sciences and publication types, indicator values based on the number of citations should not be used for the academic evaluation of individual researchers, research organisations or articles.



Responsible use of the Impact Factor indicator

The concerns about Impact Factors were raised in the San Francisco Declaration on Research Assessment as early on as in 2012. The declaration drew attention to the fact that the Impact Factors were originally developed as a tool for selecting journal acquisitions, not for assessing the scientific quality of journals or articles.

Impact factor is one of the most recognised bibliometric indicators and it has been widely used for a variety of purposes, including some that are inappropriate. There have also been attempts to manipulate impact factors: for example, some journals try to increase the impact factor by unethical means. This is possible because the impact factors also take self-citations into account. When calculating the annual impact factors, attention may be drawn to the exceptionally high self-citation rate of the journal, or the citations may raise the suspicions of a citation cartel (certain journals start to systematically cite each other). Such journals will not be removed from the JCR database, but new impact factors will not be calculated for them until the anomalous citation activity has been resolved.