

## Citation Analysis

Citation analysis is a subfield of bibliometrics. In citation analysis, relationships between citing and cited publications are examined. The citation analysis refers mainly to publications in journals (especially journals in the Citation Index), because there is a suitable data basis for this.

The informative value and accuracy of a citation analysis can be reduced by, for example:

- Citation agreements ("citation cartels")
- self-citations
- Errors in citation (e.g. wrong page references)
- Errors in automatic indexing

Therefore, a frequently cited publication does not necessarily have to be an outstanding work. Controversial publications can also be cited frequently in order to refute them.

With the help of citation analyses, statements can be made about relationships between author, institution, publication and subject area and their impact. Based on the citations and their distribution over time, it is possible to identify research foci over time, but also current foci as well as "basic publications".

In 2005, a new index was developed by Jorge E. Hirsch. This index is called h-index or Hirsch index and is defined as follows: "A scientist has an index  $h$  if  $h$  of his total  $N$  publications have at least  $h$  citations each and the other  $(N-h)$  publications have less than  $h$  citations."