INSTURIMENTAL TOOLS OF THE PLATFORM FOR DETERMINING THE H-INDEX OF SCIENTIFIC JOURNALS

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ANNOTATION

The H-index is the level of author measurement aimed at measuring efficiency and quotations in author's publications. the H-index is based on the collection a scientist has the most citations and the number of citations he has received in other literature. The index can also be applied to the effectiveness and impact of a scientific journal on a group of teams of scientists, as well as to the likes of a department, university or country. The index was recommended in 2005 by San Diego physicist George Hirch for the purpose of using it as a tool for determining the relative quality of theoretical physicists, which is also sometimes referred to as the Hirsch Index or Hirsch number.

The H-index is defined as the maximum value of H. To do this, a journal or author that has been published h times must have been quoted in other journals at least h times. The index was designed with the aim of improving simple computation of general citations or articles. The index can only work correctly to compare scientists working in the same field. The conventional differences of quotations tend to be greater in different areas.

Score

Formally, if f is a function corresponding to the number of citations per publication, we calculate the H index as follows. First we

command the F values from the largest to the lowest value. We then look for the last case of f greater than or equal to the position (we say that position h). For example, we have a researcher with 5 quotations a, b, c, D and E in the Article 10, 8, 5, 4 and 3. He has an H index of 4, as his fourth paper has 4 citations, and his fifth paper has only 3 citations. Conversely, if similar articles contain 25, 8, 5, 3, and 3 citations, then the H index is 3 because the fourth article has only 3 citations.

f(A)=10, f(B)=8, f(C)=5, f(D)=4, f (E)=3 → h-index=4

f(A)=25, f(B)=8, f(C)=5, f(D)=3, f (E)=3 → h-index=3

Having an ordered function in order that decreases from the greatest value to the lowest, we can calculate the H index as follows:

h-index (f) = {\displaystyle \max _{I}\min(f(i),i)} \max _{I}\min(f(i),i).

The Hirsch index, similar to the Eddington number, is the same as the previous measurement used to assess cyclists. the H-Index serves as an alternative to factor measures regarding traditional journal effects when evaluating the work of a particular researcher. Because only the article with the most citations can participate in the H-index, its identification is a simple process. Hirsch demonstrated that a scientist has a high predictor for winning titles such as National Academy membership or Nobel Prize. The H-Index indicator is based on the fact that quotes are collected, and therefore it grows depending on the "scientific age" of the researcher.

The H-index can be manually defined using indicator databases or automatic tools. Subscription-based databases such as Scopus and Web of Science provide automatic computing tools. Harzing's Publish or

Perish program calculates an H-index based on Google Scholar entries. As of July 2011, Google began providing h-indices and i10-indices, which were automatically computed from its own account.

In the last decade, the use of metrics for research evaluation has become an integral part of the academic landscape. The adverse impact of this "audit culture" is well documented (see e.g. Adler & Harzing, 2009). However, the reversal of this trend is unlikely. Therefore, it is important for academics to be aware that the use of different research metrics can affect their perceived research performance. This blog reviews the h-index and the individual annualised h-index (hIa) and compares three sources of citation data: the Web of Science, Scopus, and Google Scholar.

h-index: correcting for one-hit wonders & salami slicers

Unless you have been hiding under a stone in the last ten years, you will probably have heard about the h-index. It is defined as follows (Hirsch, 2005:16569):

A scientist has index h if h of his/her Np papers have at least h citations each, and the other (Np-h) papers have no more than h citations each.

The h-index combines an assessment of both quantity (number of papers) and an approximation of quality (impact, or citations to these papers). An academic cannot have a high h-index without publishing a substantial number of papers. However, this is not enough. These papers need to be cited in order to count for the h-index.

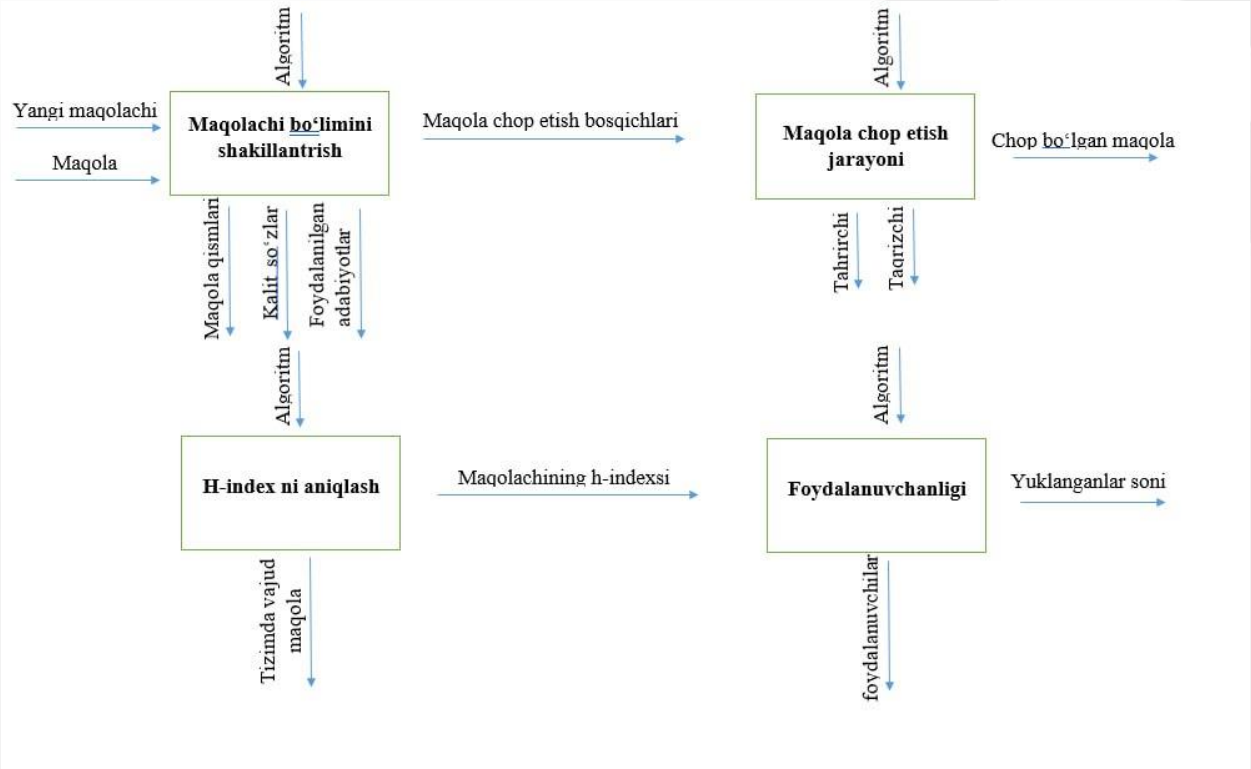
As such the h-index is said to be preferable over the total number of citations as it corrects for "one hit wonders", i.e. academics who

might have authored (or co-authored) one or a limited number of highly cited papers, but have not shown a sustained and durable academic performance. It is also preferable over the number of papers as it corrects for academic who write many papers that are not or rarely cited. Hence the h-index favours academics that publish a continuous stream of papers with lasting and above-average impact.

Career length & disciplinary differences in citation metrics

A shortcoming of the h-index is that it cannot be used to compare academics at different career stages or academics that work in different disciplines. It is obvious that there will be large differences between junior and senior academics in terms of the h-index as papers of junior academics have not yet had enough time to accumulate citations. Especially in the Social Sciences and Humanities it might take more than five years before a paper acquires a significant number of citations.

However, it might not be obvious that there are also large differences in typical h-values between disciplines. Part of the differences between disciplines are caused by the fact that academics in the Life Sciences and Sciences typically publish more (and shorter) articles, and also publish with a large number of co-authors. Academics in the Social Sciences and Humanities typically published fewer (and longer) articles (or books) and publish with a smaller number of co-authors.



hI,annual (hIa) provides a fairer comparison

Therefore, a metric that corrects for these differences provides information that the h-index cannot deliver. Harzing, Alakangas & Adams (2014) introduced such a metric, namely the hI,annual (or hIa for short). This index corrects the h-index for both career length and differences in the level of co-authorship. It is calculated as follows and is one of the standard metrics reported by Harzing's Publish or Perish (2007):

hIa: hI norm/academic age, where:

hI norm: normalize the number of citations for each paper by dividing the number of citations by the number of authors for that paper, and then calculate the h-index of the normalized citation counts

academic age: number of years elapsed since first publication

The hIa-index thus measures the average number of single-author equivalent h-index points that an academic has accumulated in each year

of their academic career. A hIa of 1.0 means that an academic has consistently published one article per year that, when corrected for the number of co-authors, has accumulated enough citations to be included in the h-index. Someone who co-publishes with others will not need to publish more articles to achieve the same hIa as an academic who publishes single-authored articles. However, the co-authored articles will need to gather more citations to become part of the hIa as the article's citations will be divided by the number of co-authors.

REFERENCES

1.Mardonov R. THE ROLE AND PLACE OF UNIVERSITIES IN THE" KNOWLEDGE SOCIETY" //Galaxy International Interdisciplinary Research Journal. – 2022. – Т. 10. – №. 9. – С. 317-325.

2.Mardonov R. Philosophy of education in modern conditions of society development //Asian Journal of Research in Social Sciences and Humanities. – 2021. – Т. 11. – №. 10. – С. 103-114.

3.Mardonov R. HUMANIZATION AND HUMANITARIZATION OF HIGHER EDUCATION IN THE CONDITIONS OF THE INFORMATION SOCIETY //Conferencea. – 2021. – С. 21-28.

4.Mardonov R. Eastern Philosophy Of Education And Educational Policy: Features And Priorities //The American Journal of Social Science and Education Innovations (ISSN–2689-100x) Published: February. – 2021. – Т. 28. – С. 288-294.

5.Mardonov R. FEATURES OF EDUCATIONAL SERVICES IN MODERN CONDITIONS //Archive of Conferences. – 2021. – Т. 22. – №. 1. – С. 100-103.