General Information about Bibliometric Profiles (Summary Version)
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Introduction
The generated bibliometric profiles are custom-tailored for each professor according to individually relevant aspects and to the accepted publication culture in the according discipline. They provide a quantitative analysis of the researcher’s publication output in the last ten complete years (usually five years before and after professorial appointment), and are based on publications indexed in renowned international data sources, primarily the Web of Science Core Collection Citation Indexes also including the Conference Proceedings and Book Citation Indexes (WoS-CC). Due to the fact that not all disciplines are equally well covered in WoS-CC, alternative data sources such as Scopus or relevant subject specific databases (e.g. Chemical Abstracts, Mathematical Reviews) are also used for complementary analyses. Google Scholar (GS) is additionally considered as a bibliometric source because of its higher coverage concerning specific publication types (e.g., monographs, book chapters, reports), which are especially relevant in the social sciences and the humanities. Occasionally, GS data are retrieved via ‘Publish or Perish’.

The bibliometric profiles consists of three main parts: 1) Activity analysis according to the number of publications in the data sources, 2) Visibility analysis according to the journals used as publication channels by the scientist with consideration of the assigned journal impact factor (IF), if available (WoS-CC & Journal Citation Reports), and 3) Impact analysis according to citations attracted by each publication in WoS-CC and other data sources.

All underlying data for the bibliometric profiles are available on request.

1. Activity: publication output
First, in order to put the bibliometric analysis in context of the overall publication output by the researcher, a coverage analysis is performed, i.e., the full publication list provided by the researcher or via u:cris is compared to the publications indexed in WoS-CC and in any other considered data sources. Since the bibliometric profiles report on the researcher’s publication output, but are entirely based on data from sources that usually do not contain all publications, it is crucial to know to what extent publications are actually indexed.

Second, the annual number of publications from the report period included in the data sources is given considering citable items and all document types, respectively. Citable items are journal articles, reviews, proceedings papers and book chapters (if also considered as journal articles or reviews in the data sources). The main objective is giving an overview of the researcher’s productivity and thereby

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1. Note that citations are only used as a proxy for the impact (and not for the quality) of the publications.
2. Analyses in GS should be taken with a pinch of salt. GS is rather a search engine than a database, and therefore indexing remains non-transparent and documentation is lacking.
3. ‘Publish or Perish’ is a software programme that retrieves and analyses academic citations. It uses GS to obtain the raw citations (see also: http://www.harzing.com/pop.htm)
4. Most recent edition available when the report is compiled.
5. u:cris is the official current research information system of the University of Vienna (see also: http://ucris.univie.ac.at).
identifying peculiarities, e.g., increase or decrease of productivity, or strong fluctuations in the annual number of publications.

Third, affiliation information in WoS-CC is also checked for correctness, because only correct affiliations can enhance individual as well as institutional visibility and result in more favourable positioning in university rankings (most of them relying on data from WoS-CC or Scopus).

2. Visibility: publication channels

This part sheds light on the researcher’s publication strategies and addresses major questions such as: Which journals are used as preferred publication channels? How are these journals ranked according to the IF in the corresponding subject categories?

It should be stressed that a visibility analysis is by no means useful for the assessment of scientific quality or impact of individual publications. It is rather intended to assess the reputation or impact of the journals, in which original research was published. The analysis is usually performed for citable items only.

First, an overview of the publication channels indexed in WoS-CC is given, focusing on the top journals by the number of publications.

Second, the distribution of publications according to the IF quartiles assigned to the corresponding source titles is given for the whole reporting period as well as for the periods before and after the professorial appointment. The IF quartiles (Q1 = top 25%, Q2 = top 25-50%, etc.) are calculated based on the IF in the corresponding WoS Category. Note that visibility is considered to be higher with an increasing number of publications in the top quartiles (Q1 and Q2).

3. Impact: citation analyses

The citation analyses provide an assessment of the impact (number of citations) at publication level.

First, a citation analysis in all data sources is performed for citable items only as well as for all document types. It includes all basic absolute citation indicators: total number of cited publications, total number of citations, mean and maximum of citations per publication, h-index and iX (usually i10 and i50). The calculation of the h-index and iX is exclusively based on the years of the reporting period.

The citation window is always specified in the bibliometric profile.

Second, normalized citation indicators including percentiles data are retrieved from the analytical tool InCites for citable items indexed in WoS-CC. The data are often based on a slightly smaller set of publications compared to WoS-CC due to an indexing delay in InCites. The consideration of normalized citation indicators is particularly important to accommodate the publications’ diverse citation windows ranging from a few months up to ten years. Citations normalized by publication year,

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6 Note that an IF cannot be assigned to all publications indexed in WoS-CC, but only to those published in journals included in JCR. Therefore, publications in conference proceedings and book series cannot be considered in the analysis of IF quartiles.

7 It needs to be stressed that citations are only used as a proxy for the impact (and not for the quality) of the publications in the ‘publish or perish’ community, i.e., the scientists who are committed to publishing their results.

8 The definition of the h-index is that a scholar with an index of N has published N papers each of which has been cited at least N times.

9 Number of publications with at least X citations.
research field and publication type provide benchmarks for the researcher’s impact. However, the results for the second period should still be taken with a pinch of salt. Normalized citation indicators are the ‘Category Normalized Citation Impact’ (CNCI) and the total number and percentage of publications in the top 1% and top 10% most cited publications of the corresponding WoS Category and in the same publication year (percentile scores). The CNCI provides the citation impact (citations per paper) normalized for subject, year and document type. A publication with a CNCI value of 1.20 is 20% over the world expected citation rate in the corresponding WoS Category and in the same publication year, and a publication with a value of 0.80 is 20% below the world expected citation rate. For a collection of publications, the mean value of all CNCI is calculated and it is also named ‘Crown Indicator’. Percentile scores are calculated according to the baselines published in InCites for the corresponding WoS Categories. The percentiles represent the citation count threshold for different percentile cuts for each field and year. E.g., the 10th percentile represents the number of the top 10% most cited papers in the corresponding category and for the current publication year. Top 10% is usually considered as a measure of ‘excellence’.

Further analyses
Following additional analyses are performed (usually for citable items only):

A) **Documents citing the researcher’s publications** indexed in WoS-CC according to several criteria (e.g., countries, institutions, source titles) in order to demonstrate the wider impact of the researcher’s publications.

B) **Co-publication analysis** at different levels including countries, institutions and authors. The co-authorship analysis provides information about following measures and their progress in time before and after the professorial appointment: 1) the average number of co-authors; 2) the number and percentage of single authored publications, and 3) the author’s publication role (number and percentage of publications where the researcher is first, last and/or corresponding author)\(^\text{10}\). Potential ‘co-author dependence’ (i.e., percentage of publications with the same co-author) is always pointed out, especially when it exceeds 75%. Moreover, the percentage of publications assigned to ‘International Collaboration’ in WoS-CC for the periods before and after the professorial appointment is given, as well as the most collaborative countries and institutions according to the number of shared publications.

C) **The reference analysis** in WoS-CC focuses on the top most-cited source titles and their IF quartiles as well as the age (publication year) of the cited references. The given ‘Aggregate Citing Half-Life’(s) of the primary WoS Category(s) shows how far back articles in this category are citing. The researcher’s citations are state-of-the-art if half the cited source titles were published within the last Y years with Y being the corresponding Aggregate Citing Half-Life. The reference analysis should be compared with the results of the visibility analysis.

\(^{10}\) The succession of authors is mostly determined by the degree of contribution, but can also be alphabetical in some fields (different publication habits). The initial interview with the researcher under evaluation sheds light on this issue, and all provided information is easily corroborated by the bibliometric analysis.