Panoramica degli strumenti analitici e delle metriche relativi ai dati di Web of Science Core Collection

Adriana FILIP
Solutions Consultant EMEA
Settembre 2019
The literature research workflow
The Web of Science Group supports the entire research workflow

**Web of Science**
The world’s largest and highest quality publisher-neutral citation index.

**InCites**
Analyze institutional productivity and benchmark your output against peers worldwide.

**ScholarOne**
Simplified submission workflows and peer review for scholarly publishers and societies.

**Essential Science Indicators**
Reveals emerging science trends as well as influential individuals, institutions, papers, journals, and countries across 22 categories of research.

**Journal Citation Reports**
The world’s most influential and trusted resource for evaluating peer-reviewed publications.

**EndNote**
A smarter way to streamline references and write collaboratively.

**Kopernio**
Fast, one-click access to millions of high-quality research papers.

**Converis**
One flow to let institutions collect, manage, and report on all research activity, working seamlessly with an institution’s existing systems.

**Web of Science Author Connect**
Reach leading researchers in the sciences, social sciences, and arts and humanities.

**Publons**
Supporting researchers through documenting their peer-review and journal editing contributions, providing guidance and best practice for the peer-review process, as well as increasing the overall visibility of their research and its impact.
Due metodologie per la valutazione della qualità dei risultati della ricerca accademica:

1. **Qualitativa**: Peer review - giudizi soggettivi da parte di esperti

2. **Quantitativa**: Metrice - misurare quantitativamente le reazioni di altri accademici in base al loro comportamento.

### Diversi livelli

<table>
<thead>
<tr>
<th>documento</th>
<th>ricercatore</th>
<th>facoltà/dipartimento</th>
<th>università</th>
<th>paese/rivista/campo di ricerca</th>
</tr>
</thead>
</table>

Misure del web of science group
**Productivity**
- How do I retrieve my published work in Incites? I have an ORCID/RID profile.
- How many papers have I published?
- How many papers do I publish each year (publication trend)?
- What is my h-index?
- Which are my top performing papers and which indicators can I use to measure paper performance?

**Research Excellence**
- In which areas of research do I have an above average/below average performance?
- What are the trends in my research area? How can I identify key research I should look at?

**Collaboration**
- Who do I already collaborate with (co-authors and organizations) and what is the performance of my collaborations?
- Are there collaborations I should nurture/discontinue?
- How can I find new experts in my research area to collaborate with?

**Funding**
- Which funding agencies are funding my research?
- How can I demonstrate return on investment?
- How can I discover new funding opportunities?

**Publishing**
- How can I identify key journals in my research topic?
Bibliometric Indicators for measuring Research Impact
Paper citation counts

The number of times a paper has been cited by other publications. A citation count is a measure of impact rather than quality: an article may be cited in order to refute its conclusions, or as an example of poor practice.

• Identify the articles which have had the highest impact in your field.
• Find out who is citing your work. Has your research proved beneficial? Or perhaps someone has challenged your findings.
• Create an alert to new citations, in order to keep up to date with the latest developments.
• Compare articles in different fields, using normalized indicators.
The usage count is an indicator of the level of interest in an article. It can provide useful information about newer articles which haven't yet been cited. But be aware that the data is platform-specific: when an article is available on multiple platforms, no single measure of usage can be treated as definitive.

The **Usage Count** is a measure of the level of interest in a specific item on the Web of Science platform. The count reflects the number of times the article has met a user’s information needs as demonstrated by clicking links to the full-length article at the publisher’s website (via direct link or Open-Url) or by saving the article for use in a bibliographic management tool (via direct export or in a format to be imported later).

The Usage Count is a record of all activity performed by all Web of Science users, not just activity performed by users at your institution. Usage Counts for different versions of the same item on the Web of Science platform are unified. Usage Counts are updated daily.
Publication and citation rates

Citation distributions can show you whether citations increase or decline over time.
Author (or group) level indicators

Publication and citation data can be influenced by many factors such as a researcher's age, career stage or discipline. Therefore it can be difficult to "measure" the impact of an individual researcher or a research group on the discipline or society.

• Comparing citation counts for individuals within the same subject area and at approximately the same career point.
• Determining if an individual is producing at an equivalent or better rate than in previous years.
Author (or group) level indicators
H-INDEX

+ combines productivity (number of documents) and impact (number of citations)
+ can be applied to any level of aggregation
+ encourages large amounts of impactful research work

- highly time-dependent measure
- ignores the researcher’s age
- does not account for field differences

A researcher has an h-index, if he/she has at least h publications for which he/she has received at least h citations.

<table>
<thead>
<tr>
<th>Example</th>
<th>Total Publications</th>
<th>Total Citations</th>
<th>Citation Impact</th>
<th>h-index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher A</td>
<td>1</td>
<td>50</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>Researcher B</td>
<td>10</td>
<td>200</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Researcher C</td>
<td>10</td>
<td>200</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>
**Organization level indicators**

**Track the performance of institutions** over time and **compare institutions** on the basis of a wide range of performance measures. **Collaborations**: identify an organization's most frequent collaborators and assess the quality of the research that is produced.

**Institutional Profiles** provide quantitative data for a large number of performance indicators, including:
- Income
- Number of staff and students
- Teaching and research reputation

**Global Institutional Profiles Project**
Join the effort to build more accurate and comprehensive resources on institutional activity.

**World University Rankings**

Ranking world universities – data used might include the number of alumni and staff, number of highly cited researchers, number of articles published in journals, etc.
2018 Impact Factor
Journal Impact Factor

Disparities in Categories
Highly Cited Papers & Hot Papers (ESI)

A class of selected indicators measuring scientific excellence and top performance which can be used to benchmark research performance against field baselines worldwide.

<table>
<thead>
<tr>
<th>Level of Aggregation</th>
<th>Citation Percentile</th>
<th>Data years examined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Cited Papers</td>
<td>1%</td>
<td>10</td>
</tr>
<tr>
<td>Hot Papers</td>
<td>0.1%</td>
<td>2</td>
</tr>
<tr>
<td>Researchers</td>
<td>1%</td>
<td>10</td>
</tr>
<tr>
<td>Institutions</td>
<td>1%</td>
<td>10</td>
</tr>
<tr>
<td>Journals</td>
<td>50%</td>
<td>10</td>
</tr>
<tr>
<td>Countries</td>
<td>50%</td>
<td>10</td>
</tr>
</tbody>
</table>
### Field Baselines

Baselines are annualized expected citation rates for papers in a research field.

**Citation Rates** are yearly averages of citations per paper.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL FIELDS</td>
<td>24.42</td>
<td>22.79</td>
<td>20.25</td>
<td>17.96</td>
<td>15.53</td>
<td>13.23</td>
<td>10.48</td>
<td>7.34</td>
</tr>
<tr>
<td>AGRICULTURAL SCIENCES</td>
<td>17.60</td>
<td>16.85</td>
<td>14.72</td>
<td>13.11</td>
<td>11.50</td>
<td>9.02</td>
<td>7.09</td>
<td>5.69</td>
</tr>
<tr>
<td>BIOLOGY &amp; BIOCHEMISTRY</td>
<td>34.66</td>
<td>31.09</td>
<td>27.06</td>
<td>24.06</td>
<td>20.29</td>
<td>16.88</td>
<td>12.84</td>
<td>8.88</td>
</tr>
<tr>
<td>CLINICAL MEDICINE</td>
<td>25.86</td>
<td>23.56</td>
<td>20.80</td>
<td>18.39</td>
<td>15.75</td>
<td>13.23</td>
<td>10.50</td>
<td>7.18</td>
</tr>
<tr>
<td>COMPUTER SCIENCE</td>
<td>13.23</td>
<td>12.47</td>
<td>12.28</td>
<td>10.08</td>
<td>9.37</td>
<td>8.49</td>
<td>7.15</td>
<td>5.14</td>
</tr>
<tr>
<td>ECONOMICS &amp; BUSINESS</td>
<td>18.93</td>
<td>17.18</td>
<td>14.85</td>
<td>12.17</td>
<td>10.33</td>
<td>8.28</td>
<td>6.13</td>
<td>4.01</td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>15.57</td>
<td>14.83</td>
<td>13.52</td>
<td>12.07</td>
<td>11.08</td>
<td>9.74</td>
<td>8.12</td>
<td>6.07</td>
</tr>
<tr>
<td>ENVIRONMENT &amp; COLOGY</td>
<td>29.12</td>
<td>27.31</td>
<td>23.73</td>
<td>21.18</td>
<td>17.64</td>
<td>14.56</td>
<td>11.42</td>
<td>7.82</td>
</tr>
<tr>
<td>IMMUNOLOGY</td>
<td>38.50</td>
<td>34.71</td>
<td>38.41</td>
<td>25.60</td>
<td>22.75</td>
<td>10.96</td>
<td>14.49</td>
<td>10.16</td>
</tr>
</tbody>
</table>

### Differences in Average Citation Rates

Citation Impact can vary significantly across different disciplines and time periods.

Cannot be compared without some form of normalization to allow for the differences in fields and time.
Highly Cited Papers & Hot Papers (ESI)

Fixed point theorems in partially ordered metric spaces and applications
By: Bhaskar, T. Ghana; Lakshmikantham, V.
NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS Volume: 65 Issue: 7
Pages: 1379-1393 Published: OCT 1 2006

Web of Science Categories: Mathematics, Applied: Mathematics

Comparison of multiple amber force fields and development of improved protein backbone parameters
By: Hornak, Viktor; Abel, Robert; Okur, Asim; et al.
PROTEINS-STRUCTURE FUNCTION AND BIOINFORMATICS Volume: 65 Issue: 3
Pages: 712-725 Published: NOV 15 2006

Web of Science Categories: Biochemistry & Molecular Biology

Times Cited: 440
Citing References: 11

Times Cited: 2,687
Citing References: 72

Differences in Average Citation Rates
InCites Benchmarking & Analytics
Responsible use of Biblometric Indicators: a “Basket” of Indicators – No Magic Recipe Fits All

**PRODUCTIVITY AND IMPACT**
- Web of Science Documents
- Times Cited
- Citation Impact
- % of documents cited
- H Index

**NORMALIZATION**
- Category Normalized Citation Impact
- Category Expected Citations
- Journal Normalized Citation Impact
- Journal Expected Citations

**TOP PERFORMANCE**
- % Documents in Top 1%
- % Documents in Top 10%
- Average percentile
- Highly Cited Papers
- Hot Papers

**SCIENTIFIC COLLABORATIONS**
- % Industry Collaborations
- % International Collaborations
- Collaborations with Organizations
- Collaborations with Countries
- Collaborations with Authors

**JOURNAL RANKING INDICATORS**
- Journal Impact Factor
- Impact Factor w/o Self Cites
- 5 year Impact Factor
- Immediacy Index
- Eigenfactor
InCites Benchmarking & Analytics

Normalization

good or bad?

CONTEXT IS EVERYTHING

INDICATORS MUST BE PUT INTO CONTEXT TO BE USEFUL: CATEGORY, JOURNAL, PEERS, GLOBAL

- NORMALIZED INDICATORS — for relative performance comparisons
- PERCENTILES — where does it fall in the range of values?
- BENCHMARKS — how does it compare with a group or globally?
**InCites Benchmarking & Analytics**

**Normalization**

**CATEGORY**
citation patterns differ by subject category

e.g. nanotechnology vs law

**TIME**
citations accumulate over time and at different rates depending on article age and category

e.g. new articles may accumulate citations quickly, older ones more slowly or not at all

**DOCUMENT TYPE**
citations differ by document type within a journal

e.g. reviews are generally more heavily cited than articles, and editorials, book reviews etc. may go uncited

NORMALIZATION PUTS DATA INTO CONTEXT
IS AN ENTITY DOING BETTER OR WORSE THAN WOULD BE EXPECTED IN A CATEGORY?
CALENDARIO E LINK PROSSIMI TRAINING
http://clarivate.libcal.com/calendar/wos-incites-training/

SCOPRI TUTTO SUI DATI DI FINANZIAMENTO DISPONIBILI IN WEB OF SCIENCE
Lunedì 30 settembre – ore 15:00

Mostreremo le fonti di finanziamento in Web of Science e come il nuovo processo di unificazione permette un'analisi approfondita e accurata delle fonti di finanziamento. Scopri come esplorare le fonti di finanziamento e come analizzare oltre 1.000 finanziatori unificati.

WEB OF SCIENCE PUBLISHER ANALYTICS REPORTS: USING DATA TO DRIVE YOUR PUBLISHING STRATEGY (in inglese)
Martedì 1 ottobre – ore 15:00

Questo webinar presenta la nostra nuova gamma di dashboard e report che aiutano i nostri clienti editoriali ad acquisire informazioni sui dati e le analisi di Web of Science per comprendere meglio le prestazioni di una rivista, come si confronta con altri titoli e su cosa si basa tale performance. In questo webinar esploreremo i dati disponibili in ciascuno dei nostri quattro report e i modi pratici in cui possono essere utilizzati per fornire informazioni chiave su ciò che effettivamente guida le prestazioni di una rivista.
More resources

Clarivate Libguides
http://clarivate.libguides.com/home

Web of Science You Tube Channel
https://www.youtube.com/user/WoSTraining

Want more resources, tips and guidance to help you research smarter?
Sign up for our newsletter at www.webofsciencegroup.com.
Grazie

Adriana FILIP
Adriana.Filip@clarivate.com
+ 44 7920 331891
webofsciencegroup.com