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INFORMATIONAL RESOURCES IN THE FRAMEWORK OF ENGINEERING SCIENTIFIC RESEARCH CASE STUDY WITH RESPECT TO THE ENGINEERING SCIENTIFIC DATABASES

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ABSTRACT
Documentation stands for the starting point of every scientific research. Informational society places at our disposal manifold informational resources, both traditional and electronic. The paper presents a case study upon the assessment of engineering scientific databases from the point of view of the content, of the access, of the display, of the facilities during exploitation as well as the easy way of accomplishing bibliographic research. There is forwarded an optimized solution of research through indexing and classification in the field of engineering.
Key words: research, indexing, classification, engineering, educational system

1. ENGINEERING VILLAGE
It represents the leader platform as regards online scientific research, coming to meet the information need of the engineers' community. Combining powerful search tools with an intuitive interface and with essential content sources, Engineering Village has become a worldwide resource for engineers, students, in the field of engineering and research.

Available resources
1. **Compendex**
2. **Inspec**
3. **Geobase**

1.1. Compendex
- It probably is the database the most detailed and the most easily acceptable for the interdisciplinary literature, available for engineers;
- Over 9 million records, from more than 5000 academic journals and magazines;
- A vital resource in order to get acquainted with the information about state-of-art products and technological predictions;
- Provided with an online dictionary of technical terms which would help you optimize the results of your search;
- It covers more than 35 years of technical literature (1969-up to the present);
- It comprises 175 disciplines pertaining to engineering;
- Publications from more than 80 countries;
- Over 600.000 articles added every yearly;

- Weekly updated.

- The most comprehensive engineering database covering <u>all fields</u> of engineering. In total 175 engineering disciplines are covered!
  - General engineering (11%)
  - Civil engineering (15%)
  - Chemical engineering (15%)
  - Electrical engineering (35%)
  - Mining engineering (12%)
  - Mechanical engineering (12%)
  - >5,000 journals / 1,500 conference proceedings → **Global coverage**
  - **> 10,771,810** records / 1969+ / weekly updates

- **Expert Indexers** enhance bibliographic information with intelligence
  - Digest articles and classify by concepts and importance
  - Classification is driven by the need of the end user engineer, not a universal look at the "true nature" of the article
  - Records are designed for engineering retrieval
- **Selection** is value creation
  - List of most qualified and influential sources developed in conjunction with industry experts (scope and coverage committee)
- **Vocabulary** generation is content creation
  - Compendex has created the proprietary taxonomy of engineering

1.2. Inspec

- It is an essential search resource for researchers providing information from the technical and scientific literature in the fields of physics, electrical engineering, electronics and automation.
- Produced by the Institute for Technology Engineering (IET);
- It comprises more than 9 million articles;
- It covers more than 35 years of technical literature (1969-present);
- It contains more than 4000 magazines and serial titles;
- It also comprises 2000 journals of the scientific conferences, reports, dissertation papers and books;
- Weekly updated.

1.3. Geobase

It is a multidisciplinary database;

1. It offers bibliographical information and abstracts for the Earth Sciences, Ecology, Geomechanics, Human Geography and Oceanography;
   a. Human Geography (25%)
   b. Environmental Sciences (23%)
   c. Physical Geography (22%)
   d. Geology (20%)
   e. Oceanography (8%)
   f. Geomechanics (2%)
2. It comprises approximately 2000 international periodical publications;
3. Among the materials included there are scientific works, magazines, articles from magazines in the field, product presentations, directories and any other materials of relevance;
4. GEOBASE is also characterized by a unique coverage of the materials which have not been written in English and of publications difficult to reach by the readers, including books, conference materials and reports.

ACCES

<u>www.engineeringvillage.com</u>

2. MEASURING SCIENCE

2.1. Importance and Value of the Assessment of Science

- **Measuring Science - *Scientometrics***
  - Highly Important in Industrialized and Non-Industrialized Countries
  - Better Use of Research Funds

- Provides Quantitative Data that Controlling Agencies can understand. We always want to count – be they feathers in the cap, or aces up ones' sleeves.

2.2. Ever Changing and Evolving Landscape of Science

- **Estimated 20,000 Papers Published Daily**
- **Staggering amount of information for the scientist**
  - Demands a Systematic Methodology for Collecting and Analyzing Trends in Science
  - A Global View is imperative
  - Comprehensive Analysis based on hard statistical data

2.3. Citations

- Imitation is the best form of flattery – Citation is the best form of peer recognition.
- Conceptual Association of Scientific Ideas
- Embedded in the form of presentation
  - Explicit Linkages between current research and prior work
  - Intellectual transactions or intellectual debt to the work of others
  - Tools for navigating the literature through spatial relations between research fronts
  - Provide a distribution or map to depict significant areas of research

2.4. Citations in Science or The Science of Citations

- While the number of papers published by a scientist provides a measure of their productivity, it says nothing about the quality of their work.
- The number of citations received by a scientist is a better indicator of quality, but co-authoring a handful of articles that are cited widely could "inflate" the reputation of a scientist.

2.5. What do you mean by Citations?

- According to Merton, citations are intimately connected with the reward system of science.
- Cozzens: "Citation is only secondarily a reward system. Primarily, it is rhetorical-part of persuasively arguing for the knowledge claims of the citing document."
- Cronin: Citations are "frozen footprints in the landscape of scholarly achievement which bear witness to the passage of ideas".
- Glänzel and Schoepflin: Citations give "a formalised account of the information use and can be taken as a strong indicator of reception at this level."

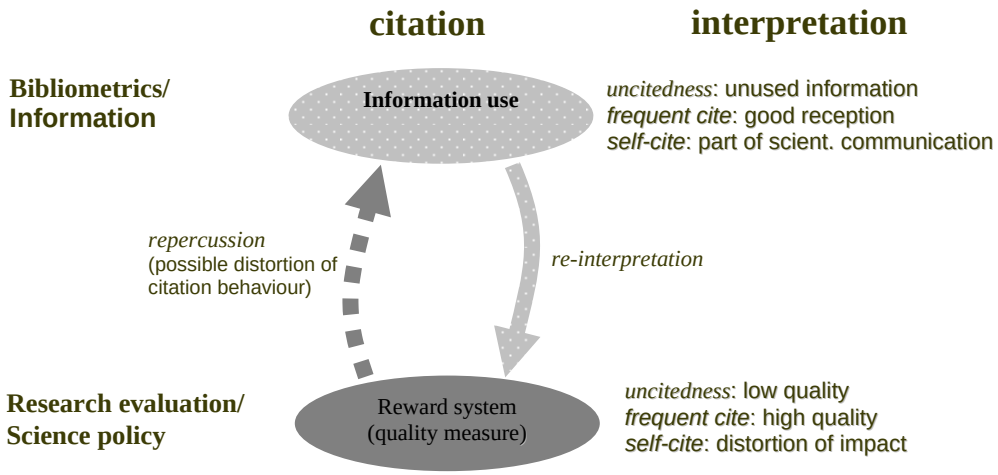


Figure 1. The process of re-interpreting the citation and its consequences

2.6. h-Index

- HIRSCH (2005) has proposed the h-index as a single-number criterion to evaluate the scientific output of a researcher.
- The h-index depends on both the number of a scientist's publications, and their impact on his or

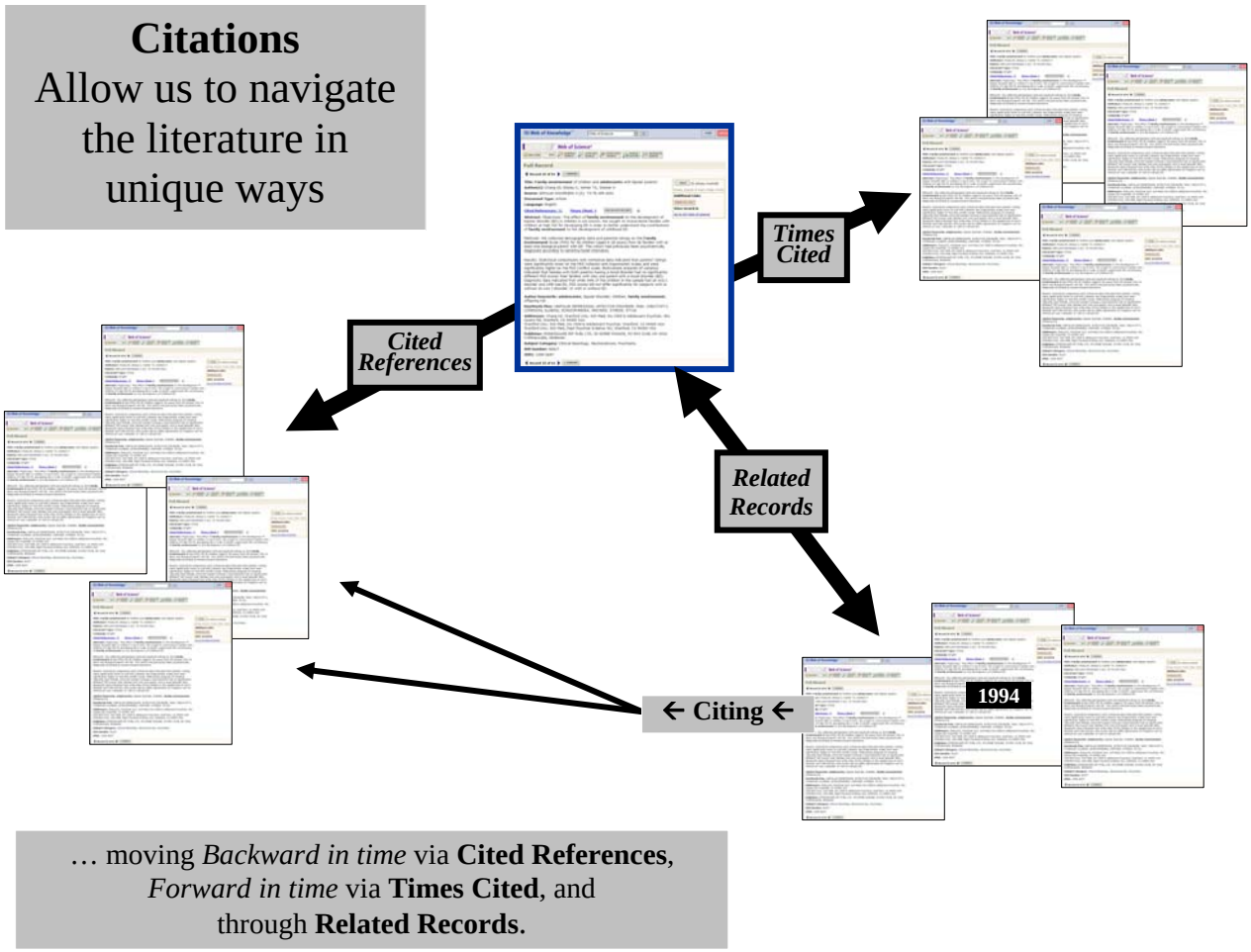
her peers.

2.7. How to find h-index?

- It usually can be found very easily, by ordering papers by 'times cited' in ***Scopus*** or ***Thomson ISI Web of Science database*** or may be with some efforts from ***Google Scholar***

2.8. Link live to Scopus

www.scopus.com



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