Invited plenary talk

“WISER Webometrics”

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Webometrics in information science is currently dominated by link analysis and strongly influenced by citation analysis because it is typically applied to scientific documents. The WISER project was an EU-funded consortium tasked with exploring the potential of the internet to yield a new generation of scientometric indicators. This talk describes some of the findings of this project and discusses the wider potential for link analysis research in scientometrics.

The WISER consortium was lead by Andrea Scharnhorst and Paul Wouters, now of the Virtual Knowledge Studio (VKS - KNAW) in Amsterdam, and the other members were Isidro Aguillo’s team in Madrid (CINDOC), Hildrun Kretchmer, working from Amsterdam, and Sylvan Katz (SPRU) and Mike Thelwall and Viv Cothey (Wolverhampton) in the UK. The experience of the team included information science, sociology, science policy, indicator development and computer science. The list of publications below gives an idea of the wide range of findings produced by the consortium, and the following generic framework for link
analysis in social sciences research, developed in the WISER project, illustrates one of the outcomes that others may find useful (Thelwall, 2004).

1) Formulate an appropriate research question, taking into account existing knowledge of web structure.
2) Conduct a pilot study.
3) Identify web pages or sites that are appropriate to address a research question.
4) Collect link data from a commercial search engine or a personal crawler, taking appropriate safeguards to ensure that the results obtained are accurate.
5) Apply data cleansing techniques to the links, if possible, and select an appropriate counting method.
6) Partially validate the link count results through correlation tests.
7) Partially validate the interpretation of the results through a link classification exercise.
8) Report results with an interpretation consistent with link classification exercise, including either a detailed description of the classification or exemplars to illustrate the categories.
9) Report the limitations of the study and parameters used in data collection and processing (stages 3 to 5).

Although the WISER project has demonstrated the potential of link analysis, there are many potential future research directions, including the following.

- Investigations into why links are created, particularly in academic contexts.
- Time series analyses.
- Applying social network analysis measures to information collections.
- Supporting wider social sciences research.
- Developing new visualisation methods.

Wiser Publications

Books

Edited special issues

International and national peer reviewed journals


47. Kretschmer, H. (2005) Web indicators of evaluation and collaboration tested in Europe and in India (accepted for publication in *Journal of Information Management and Scientometrics*).

**Chapters, contributions to monographs, proceedings**


