Bibliometric mapping as a science policy and research management tool

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Part III New Developments in Science Mapping

In Part I the use and problems of map validation and utilization have been described. In Part II, the evolution of the science mapping tool for a science policy and research management, as developed at CWTS, has been depicted on the basis of six case studies. Each study has been used to illustrate a particular aspect or problem of this tool. In Part III the present developments of science mapping are further described. Although we are well aware of the fact that much still has to be developed, the procedures proposed in this part, are an important step ahead towards science mapping as a useful tool to evaluate science and its actors.

The 'state of the art' of science mapping as science policy tool is given by an analysis of our own field, being quantitative studies (scientometrics, informetrics and bibliometrics - SIB). The results of this study were made accessible on Internet, and could be evaluated by 'visitors' by means of a feedback form. In the discussion of the study, we incorporate these comments as well as the comments raised at the Science & Technology Indicators Conference 1998, at Cambridge University, where the study was presented. Thus, it was possible to evaluate the added value of the proposed improvements.

Furthermore, an opportunity for future improvement and application of science mapping is discussed. It relates to the procedure of selecting keywords from titles and abstracts for the purpose of structuring publication databases for science studies. With the advent of electronic publishing of scientific research, the role of scientific journals in the present form is at stake. Moreover, the creation and update of database-specific thesaurus terms will become problematic. As a result, it will become more difficult to maintain an overview of developments in a research field, let alone of science as a whole. The proposed method in Chapter 11, aims at identifying keywords and topics in a research field to be used to structure it. These keywords are filtered from titles and abstracts of publications delineating the field. Thus, science mapping becomes independent from publication databases and databases-specific facilities (e.g., classification schemes and thesauri).

In Chapter 12, the perspectives for evaluative bibliometrics, and science mapping in particular, are touched upon.