



RAFAEL BALL, DIRK TUNGER:
Bibliometric Analyses – Data, Facts and Methods
Basic Knowledge in Bibliometrics for Scientists,
Science Managers, Research Institutions, and
Universities (in German)
 Forschungszentrums Jülich GmbH, 2005, 81 pp.
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BOOK REVIEW

■ Background

Germany is one of the leading countries in scientific research, and has to stand a stiff competition with its European neighbours UK and France, on one hand, and with USA and Japan, on the other hand. According to the *Science Citation Index Expanded™* of Thomson – ISI (Philadelphia, PA, USA), Germany has the world's fourth largest publication output in the sciences: At present German scientists publish more than 8% of the world's scientific papers. Germany's gross domestic expenditure on R&D exceeded EUR 53 billion in 2003 making up 2.5% of GDP.

Besides the stiff international competition, above all decreasing public funds for research, increasing outsourcing and the demand for more transparency brought quantitative methods of research evaluation into the centre of interest. Scientific institutions have to demonstrate their productivity, efficiency and competitiveness in research. Moreover, statistics on publications and citations have already become components of national funding formulas (cf., Butler, 2004, Debackere & Glänzel, 2003). As a consequence, bibliometric methods gained increasing importance not only in the evaluation of research but also in allocating funds. Two reasons for their growing importance are obvious in this context: the efficiency and objectivity of science indicators and, of course, the possibility of their standardisation and comparability.

However, lacking experience in practice on the part of users outside the community has sometimes lead to uninformed use of bibliometric results, and has brought bibliometrics in discredit. Moreover, possible repercussions based on policy use and misuse of bibliometric data might distort scientists' communication behaviour, and might make the acceptance of bibliometrics as evaluation tools among the concerned scientists even more difficult (cf. Glänzel & Debackere, 2003). Science managers and scientists, who see themselves as objects (some even as victims) of evaluation, have recognised this deficiency (Ball, 2003). Users also complain that bibliometricians should focus more on applicability of their results, and issue guidelines for the use of indicators (cf. Frick, 2004). However, pitfalls can hardly be understood and limitations in application cannot properly be communicated without the possession of necessary background information. Sophisticated methodology developed by bibliometricians during the last two-three decades, and communicated in a specific technical jargon is contrasted by the demand for robust, comprehensible and easy-to-use indicators on the part of science policy. As a consequence, the gap between bibliometric research and application by users has deepened.

■ The handbook

In order to contribute to bridging this gap, the Central Library of the Research Centre Jülich has taken up this key-problem by publishing a small handbook entitled “Bibliometric Analyses – Data, Fact and Methods” in German language. On not more than 80 pages Rafael Ball and Dirk Tunger communicate bibliometric basic knowledge and elementary techniques with scientists and potential users in scientific institutions, science policy and research management. The primary objective of this unique endeavour is to assist users in conducting their own bibliometric analyses and in preparing methodologically sound and reliable studies. The organisation clearly supports this objective. The first chapter

Unfortunately, the strength of the book also implies some shortcomings. The methodological part in Chapter 5 is based on research conducted at the Central Library in Jülich. This relatively extensive part results in a slightly ill-balanced presentation of methodology. The reader misses other important issues such as an appropriate description and discussion of bibliometric indicators and their use for the evaluation of research. The extremely short description of basic indicators, partially based on CWTS’ terminology, remains superficial. The interested reader might wish to learn more about problems in using bibliographic databases for bibliometric studies, about the correct use and limitations of ISI impact factors, about pitfalls in



following the introductory part provides a concise and comprehensible but nonetheless profound introduction to the history and background of bibliometrics. This is followed by an overview of main variants of bibliometric analyses. Chapters 4 and 5 form the methodological centre of the book; basic knowledge necessary to conduct these analyses is presented here. All techniques are illustrated by examples. As throughout the book, important facts and interesting details are highlighted here in special textboxes. After brief reflections on the role of libraries and future perspectives in bibliometrics, the rest of handbook turns into a user’s manual. Useful checklist and templates for planning and designing bibliometrics analyses as well as a “troubleshooting” section with suggested solutions are presented here. The book is concluded by a concise overview of literature, relevant scientific journals, a list of research groups with contact addresses and a short glossary.

subject classification based on journal assignment, about the choice of appropriate citation windows in citation analyses, etc.

Without any doubt, the book is addressed to scientists and decision makers in Germany. It is not the German language alone that emphasises this target group; the book is also an immediate reaction on the ongoing discussion in Germany (cf. *Ball, 2003, Ball & Tunger, 2005*). Nonetheless, it is somewhat disappointing to find so little information about the experience gained by bibliometric centres and research groups outside Germany. Many of them are operational for two or three decades. ISI in Philadelphia (USA), ISSRU in Hungary, CWTS in the Netherlands, CINDOC in Spain, OST in France, the research groups in Scandinavia, REPP in Australia and NISTADS in India – just to mention some of them – have developed versatile bibliometric tools, and have prepared numerous evaluative studies supporting

decision-making in science policy. I sincerely hope that the authors intend to publish an extended, more comprehensive English version of this book drawing on the experience gained by those research groups. Bibliometricians as well as users all over the world await with interest an English edition of guidelines such as these, where the focus is not anymore exclusively on Germany.



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“You’re a selfish bastard, Lewis..! Those stem cell lines were meant for people who’ve LOST an organ!”

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