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Title: The obsolescence of Polish-language and English-language scientific publications in the Earth sciences domain in the perspective of scientists' citation behaviour

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Summary

The phenomenon of scientific literature obsolescence, which is also called a scientific literature ageing, has been a subject of bibliometric investigation since the beginning of the twentieth century. The broad theoretic and epistemological context for this kind of research is a general theory of citing within which there are two major stands: normative and interpretative. The stands offer a different and mutually exclusive explanations as to the reasons, motives and the meaning of a citation process. Within the course of the development of the bibliometrics as a research field it has been convincingly shown that scientific publications become obsolete with the passing of time. That is to say that in general the vast majority of documents, e.g. books, book chapters or periodicals that are published in any scientific domain cease to be cited by members of scientific community as they grow old.

This thesis' aim is to contribute to the analyses of scientific publications life-cycles and especially to the recognition of ageing characteristics of Polish-language documents in comparison with English-language documents within Polish scientific environment. The environment has been restricted to the Earth sciences domain for the reason of particular bibliometric characteristics of this domain literature as well as the way that Polish Ministry of Higher Education has defined this subject area.

A comparison between documents published in the form of four different types has been made and the mentioned types were articles, books and book chapters, conference proceedings and so-called 'special collections' category which encompasses mainly maps, standards, patents, theses, government publications etc. As a result it has been found that Polish-language publications of all types become obsolete faster than English-language ones and, on the other hand, the maturing phase of English-language documents is generally shorter and more dynamic than the same phase of reception of the Polish-language publications. The interpretation of the identified patterns has focused on the Polish authors' citation behaviour and the structure of Polish sphere of the Earth sciences domain. The interpretation took shape of a description of a dynamics of development of Earth sciences domain and type of relationship between Polish and international sphere of the domain. As to the first part of the mentioned interpretation it was stated that this dynamics is somewhat more intense than expected and, at the same time, than it is usually ascribed to the Earth sciences domain. The meaning of the latter interpretation has been explained with the use of categories such as an unidirectional influence of the worldwide Earth sciences sphere which is exerted on the much narrower Polish research front. Moreover, it has been stated that there exist a wide range of pragmatic factors that also played some role and affected the observed citation distributions. It was hypothesized that the main factors of this kind were (i) the amount and

proportions of Polish-language to English-language literature available for the scientists during preparation of their articles, (ii) the degree of completeness of Polish libraries, (iii) the authors' citing habits and their perception of the norms of 'good scientific practice' etc. It was also found that with regard to the sheer amount of literature used, the Polish-language documents (articles, books etc.) seem to be more popular and more often exploited source of information. It means that the idea of excluding Polish-language means of scientific communication from the scientific environment and replacing them by English-language ones does not seem desirable in the light of the information needs of the members of the community themselves.

The results of empirical research which was performed according to the objectives of the thesis can be useful also for librarians. The obtained results can be treated as an aid in the planning a collection management strategy, i.e. during a stage of acquisition (stock building), weeding and printed or electronic resources subscription. One more result which has been obtained within the frame of the thesis is the conclusion indicating that the annual ministerial scoring of the scientific periodicals is not related to the scientific rank (value or quality) of the periodicals. Furthermore, the predictive analysis of the rate of development of six disciplines that can be distinguished within the whole Earth sciences domain has been performed. The goal of this part of analysis was to formulate an assessment of the future prospects of the all separate disciplines which is considered to be favourable from the practical point of view. To be precise, the identified rate of development of the disciplines can be of interest for the scientists themselves and for science policy makers as well. The first ones can make use of this kind of information in order to engage in the most prospective research directions that have the largest scientific potential whereas the second one can take advantage of this knowledge during making decisions regarding funds allocation. The third area of the possibility of practical application of the information provided is the evaluation of scientific activity and the length of citation window employed for evaluating of scientific periodicals, for which it takes time to achieve their full strength of impact.

To sum up, the obsolescence of scientific literature is the research question that has many potential areas of application. It is also a well established subject of investigations that belong to the science of sciences domain. It should be however stressed that the issues covered in the presented thesis by no means exhaust the whole potential of scientific literature ageing analyses but instead of this it is an example of the vast possibilities that are created by undertaking the problems of publications' life-cycles, their rate of obsolescence, their meaning and the underlying processes or occurrences.

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