

THE SCIENTIFIC, TECHNICAL AND MEDICAL INFORMATION SYSTEM IN THE UK: A REPORT PUBLISHED BY THE ROYAL SOCIETY, 1993

AN ALTERNATIVE ANALYSIS

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The report

The current UK STM information system, a combination of learned journals, books, structured discussions and informal communication, is described and the main issues clearly presented under five headings: the nature of the system; users; the changing role of libraries; economic aspects, and problems and changes. These five chapters are a comprehensive summary of all the debate that has taken place for twenty years or more but with the addition of a large amount of data from questionnaires and interviews which were carried out as part of the study. Analysis of these findings adds substance to the debate and provides evidence for many of the statements which have become accepted truths about the UK information system.

Contradictory evidence

Unfortunately the presentation of this wealth of facts has dominated the report with the result that important contradictions between some of the main points, made on the basis of the survey data, are not examined, and fundamental characteristics of the problems facing the present system are not confronted.

By examining these contradictory statements this alternative view addresses two essential questions: "What basic need should the information system satisfy?" and "What is the cause of the two debilitating problems which threaten the information system - cost and quantity?" Answers to these two questions reveal the true nature of the current system and give meaning to the reports number one recommendation, which requires that "Scientific researchers should become more aware of the nature and problems of the STM system and take greater responsibility for its health and effectiveness".¹

A system revealed

At the root of the contradiction is the finding that dissemination is researchers' main purpose for publishing and that the printed journal is the main information source. Statements from the study itself show the two findings to be mutually incompatible. A core assumption of the study is that "money spent upon research without subsequent dissemination of the findings is money

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wasted"² and users are seen to be "concerned that the structure gives rapid and widespread visibility to the results of their work"³.

In reality the prime method of dissemination, the printed journal, addresses, above all, the second of the users' concerns because "in some cases the gist of the outcome of a project might be known up to two years before publication but publication (in printed form) is seen as an essential part of the validation of the work"⁴ and "there is abundant evidence that only a fraction of the scientific information entering the archive in a given year is consulted during the following four years"⁵. Information that is perhaps two years old on publication and then not used within the next four years can scarcely be considered essential to the well-being of scientific research.

Such material probably forms the bulk of what is published and bought by libraries and, if a speaker at a recent conference in Bielefeld, Germany, is to be believed, is of little importance to researchers who have already received the information direct from the originators and for whom grey literature is a more fruitful source.

A publicity exercise

Throughout the study there is support for the belief that the current system is concerned with publicity rather than with the timely transfer of information and that this concern is a root cause of high costs. The study found that "although publications are necessary to establish the worth of the scientist, the importance placed on publications by assessment regimes fuels the volume of published science"⁶. In fact, "the pressure to publish was seen to lead to 'salami slicing' (multiple papers where one would do)...repetitious publishing and the continuance of some journals of dubious quality"⁷. An earlier survey by Schauder⁸ found that thirty two of the UK respondents had published essentially the same material in more than one format over the past three years showing that the reward-promotion system increases the volume of published material.

The creative users

Thus it is the users themselves who create the volume, perhaps unnecessary volume, of information with which the system has to cope

and indirectly cause higher prices because increased volume means increases in the fixed costs which form 70% to 80% of the cost of journal publishing. Support for this conclusion is to be found outside the report in two contrasting statements which have appeared in print since the publication of the report.

A leading American learned society, has stated in the *Newsletter on serials pricing issues* that it is the contributors and editors of the journals who sustain the existing system not only by providing the raw material but also by demanding that libraries in their institutions stock the resulting journals.

In a lighter, but no less relevant, vein Laurie Taylor in the *Times Higher Education Supplement* justifies his reluctance to interrupt his writing by telling his wife that: "...articles are vitally important. Unless I write at least six articles a year our department won't be able to improve its research ranking from three to four. And if we can't do that then there's no chance of ever being able to move up to five before all those departments which are already five start producing even more articles than they did before so that those who aren't five already will never be able to catch up. This is what academic life is all about. What could possibly be more important?"

The users' influence

That the contributors, editors and users are one and the same is a feature of the system. That the study will understate the users' influence on the character of the existing system is made clear on page one of the report, where it is assumed that "the user community may not be able to control the changes"⁹. So rather than questioning the continuing validity of the spiralling increase in the volume of information and costs, the study assumes that this will be a feature of the information system in the future and seeks ways of managing and funding the increases. Attention is consequently focused on the output side, with "especial concern that authors, users and beneficiaries - the researchers...may become handicapped unless...structures, funding and user practices can be improved"¹⁰, whilst the problems are caused largely on the input side. It is on the input side that the solutions to the problems

might be found by answering the question about the need that the system should satisfy.

The purpose of the system

In the introduction to chapter 2 it is stated that the intention of the study was to inform publishers and librarians about the working habits, needs and perceptions of the average scientist using replies to questionnaires and interviews. By relating the replies to the problems it is has been shown above that working habits and perceptions have taken precedence over real needs and the result is the current unaffordable system.

According to the study "an inefficient STM system means that much research effort is wasted by unintended duplication of effort or by neglect of highly relevant findings"¹¹. In essence the system should provide researchers with timely information about current research and an archive of past research in order to prevent duplication and as a source of stimulation for new ideas. Given the acknowledged time lag in publication, it is difficult to see how the primary journals provide information in time to avoid duplication. It is more likely that there is an informal communication system which meets this basic need and the journal then has a purely archival/publicity role.

A parting of the ways

By the study's definition the basic requirements of an efficient STM system are simple and could be met by the researcher having timely access to a well organised current awareness system with abstracts and the supply of full text documents on demand. This might be looked upon as the standard service, with a separate deluxe service for the additional elements currently available through the printed journal.

If the timely dissemination of information is as important to the national well-being as the study implies then a strategy needs to be developed for the gradual separation of the standard service from the profit making, publicity-providing sector and its transfer to a more cost effective system. Learned publishing has its origins in the exchange of letters by the early researchers. The

first journals were in essence collections of open letters to anyone with an interest in the topic. There are indications that letters, this time electronic ones, are again becoming the medium of dissemination and the collecting of these electronic documents into electronic journals could provide the cost effective system which is required.

Conclusion

Users have a major influence on the structure of the information system in the UK and could control the direction taken in the future.

Had the study accepted and emphasised the incompatibility of the two distinct elements, dissemination and publicity, it could have provided the information community with a starting point from which to evaluate current technology in relation to the two different purposes. In doing so it could have given direction to the future strategy for information provision and fulfilled its potential. As it stands the debate continues....

References:

1. *The scientific, technical and medical information system in the UK*. London, The Royal Society, 1993. (British Library R&D Report No. 6123) ISBN 0854034773, price £15, p.62 96.2
2. above p.1
3. above p.5^ab
4. above p.13.(a)
5. above p.59.(b)
6. above p.21.(a)
7. above p.21.(a)
8. Schauder, D. 1993 Attitudes of academic staff to reading and publishing professional articles in electronic form: first preliminary report. In 6th Australian conference and exhibition for information online and on disc 93.
9. *STM information system in the UK*, p.1
10. above p.1
11. above p.1, (105)