

E-JOURNALS IN AN INDUSTRIAL ENVIRONMENT

Ian Bell and Fytton Rowland

Paper presented at the UKSG seminar 'Learning to live with e-journals: some practical solutions', London, November 1996

Surveys of both Information Services staff and research staff at a large pharmaceutical company have revealed considerable enthusiasm for the use of electronic scientific journals. Research staff seemed more knowledgeable about electronic journals than Information Services staff thought they were, and perhaps more so than some Information Services staff themselves were. This finding contrasts with the situation found in universities. Research staff tended to prefer the electronic versions of established journals to newly founded electronic-only journals. Despite some concerns among Information Services staff about their future status, research staff expressed firm support for a continuing gatekeeper role. Both groups of staff agreed that journals would probably continue to be funded through Information Services, but differed on continued visits to the library.

*Ian Bell, British Tourist Authority,
and Fytton Rowland,
Loughborough University
j.f.rowland@lboro.ac.uk*

Introduction

The work that forms the basis of this paper was undertaken by one of us (I.B.) at Glaxo-Wellcome during the Spring and Summer of 1996¹. This was an apt time to undertake such a study, since several of the major publishers of scientific journals had started to make their established journals available in parallel electronic form from the beginning of 1996. The other of us (F.R.) supervised the work at Loughborough University, where there has been an interest in user studies of electronic journals going back over several years^{2,3}. Hazel Woodward, in an accompanying paper⁴, also discusses some of the projects we have undertaken within the university. The present work provides an interesting contrast and comparison with user studies in an academic environment.

Glaxo-Wellcome was created from a merger of two well-known British pharmaceutical companies, both of which separately could claim to have been in the forefront of development in computer-based information handling over many years. An earlier research project at Loughborough University⁵ had looked at the information-seeking behaviour of biological researchers in university, government and commercial environments, and had found the pharmaceutical company covered was the most sophisticated of the sites in terms of its use of electronic information sources. Thus both Information Services staff and laboratory research staff at Glaxo-Wellcome could be regarded as computer- and information-literate groups, and it was, therefore, of considerable interest to see what level of usage of electronic journals occurred there.

Surveys at Glaxo-Wellcome

Surveys were undertaken with two groups within the company: among Information Services staff, the information intermediaries who are nevertheless themselves users - skilled ones - of the scientific literature; and among research staff, who in a pharmaceutical industry context are the end users, very skilled in

the science itself but perhaps slightly less skilled in terms of familiarity with the literature. The surveys were of two kinds in both cases: a structured interview with a senior manager and a questionnaire survey among a number of staff.

Information Services survey

Interview with the Director of Information Services for Glaxo-Wellcome in the UK

At present, hard-copy and electronic information sources take up approximately equal amounts of the Information Services (IS) budget, the electronic sources being mostly secondary databases accessed online or subscribed to inhouse. In the short term, hard-copy journals will still be bought, and if the electronic versions are to be subscribed to as well, an increase in the IS budget will be needed. In the longer term, if electronic access is to replace print, it will have to be cheaper — Glaxo-Wellcome will not make the transition if it is not. IS does not wish to supplant the role of subscription agents, since they could not cope with the additional administration, and so are looking for electronic subscription management to be handled by an outside agency just as print subscriptions are. Their own role is to spend their time helping users, not working with suppliers. They are also unhappy about the idea that the library, as a physical location, might disappear. Use of the library is going up at present; it is a convenient point for users from different departments to meet each other, and provides a quiet environment for study away from the interruptions of the office.

Information Services questionnaire

After asking for personal details such as job title, gender and age, the questionnaire first asked whether the staff had access to the Internet or to the Glaxo Wellcome Intranet from their own PC or one to which they had easy access. It then asked what electronic services were made available to users; how these are provided (mediated, self-service, or both); whether the respondent used electronic journals; whether they would like to be taught how to use them; which titles they used; how they found out about them; and whether they

would like to see more electronic journals in use. They were asked whether they made most use of reference journals, abstracts journals, tables of contents journals or full text journals in electronic form. They were asked what improvements they would like to see in the electronic journals, and what advantages — for themselves and for their clients — they saw in using electronic journals. Given equal price, they were asked whether they would prefer electronic or print journals, and which alternative they thought their clients would prefer. If clients switch to accessing journals from their desktop, they were asked whether this would in their opinion reduce the usage of the paper journals in the library, and if so, whether their role as information provider would alter, and in what way. They were asked what they thought were the main barriers to adoption of electronic journals - budgetary, technological or human constraints; and whether they thought that in the long term electronic journals would be hosted by their publishers, by subscription agents, in-house at Glaxo-Wellcome machines, or would be on CD-ROMs. They were also asked how they thought electronic journals would be paid for - by the library or by the user department, by subscription or by 'pay-per-view'.

Information Services survey results

The IS respondents were exactly half male and half female, they represented a cross-section of the different information professions, and none was under 26 years old, which suggests that they had been undergraduates before the advent of the World Wide Web (WWW). Three-quarters were permitted access to the Internet, and all could access the Glaxo-Wellcome Intranet. Not surprisingly, the minority who did not have access to the Internet were less well informed about electronic sources of information than the Internet users were.

Of the respondents, 57% said that when a client used an electronic service, they worked with the client; 14% said that the IS staff member worked alone on clients' queries, and 14% said that the client worked alone. Just under half of the respondents had either retrieved electronic journal articles for a client or shown a client how to do so.

Currently, 43% made some use of electronic journals and of these respondents 79% had found out about the electronic journals from electronic mail discussion lists; 86% said they would like to see more electronic journals available. The major improvement that they would like to see in electronic journals was speed of delivery, with quality of the interface in second place.

Figure 1 shows that, of all IS staff responding, half would buy the electronic version of a journal in preference to the printed version if there was no price differential. Most of those who preferred paper were in the older age-groups, and one commented "Old habits die hard". However, as Figure 2 shows, 72% of the respondents thought that the clients would

prefer the paper version. Slightly inconsistently, 57% thought that library usage would drop as users retrieved articles electronically at their own desks, and 64% thought that their role as information professionals would change, moving towards end-user training and a sifting and filtering role.

Half of the respondents felt that there were technological constraints on the use of electronic journals (Figure 3). Presumably this answer referred to the adequacy of the hardware, software and networks available.

Figure 4 shows that IS staff were split on the question of payment - should IS bear the full cost of electronic journals, or should some part of the costs be borne by user departments? IS staff (in contrast with their Director - see above)

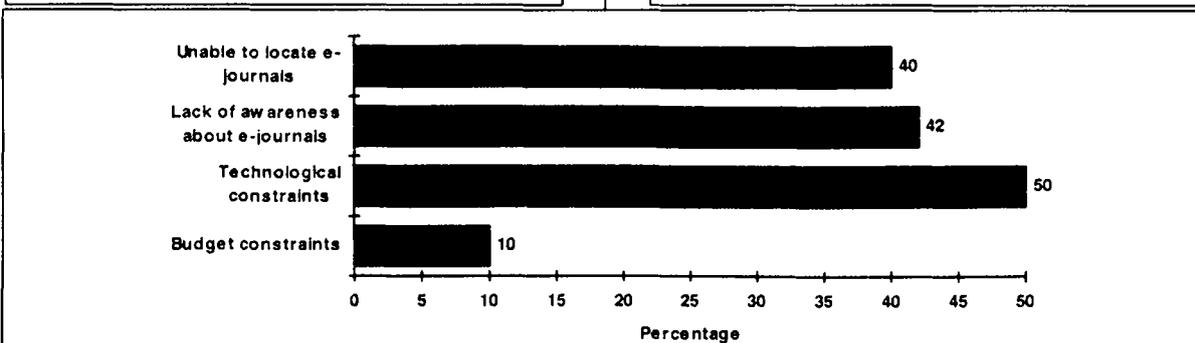
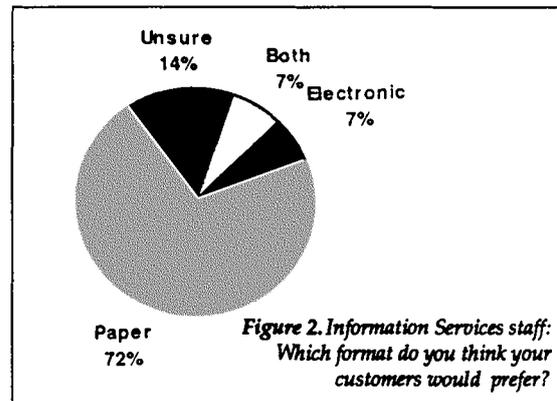
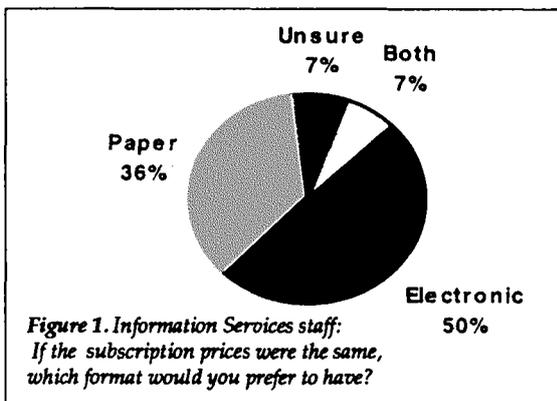


Figure 3. Information Services staff: Please indicate which of the above you have found to be a barrier to using electronic journals

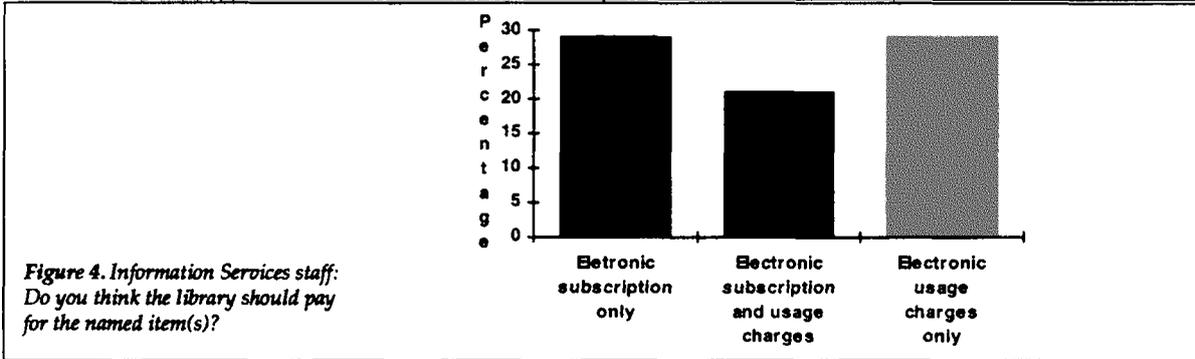


Figure 4. Information Services staff: Do you think the library should pay for the named item(s)?

could not see a future role for subscription agents in supplying electronic journal services, and they were evenly split on the question of whether it was preferable for electronic journals to be accessed from the publisher's WWW site or mounted internally on a Glaxo-Wellcome server.

Regardless of what their own opinions on the matter might be, most IS staff regarded increased use of electronic journals in the future and a change in their own roles as very likely (Table 1).

Table 1

Information Services staff: Do you feel that these changes will come about?

	Yes (%)	No (%)	Unsure (%)
Greater use of electronic journals	86	-	14
Change in the role of librarians	93	-	7
Change in the role of publishers	86	7	7
Change in the role of subscription agents	64	-	36
Access to library literature from users' desktops	93	-	7
End-users, not library, paying to view journals	29	7	64
Electronic archives replacing paper titles	50	14	36

Research departments survey

Interviews with two Research departments' managers

Both agreed that the role of electronic journals will increase. They envisaged IS staff helping to filter the available information, and research staff keeping personal electronic archives of materials relevant to their own work. There was concern that research staff would be tempted to spend too much time "websurfing"; their job is mainly to generate new research data, not to sift through old data. In parallel to published journals on the Internet, Glaxo - Wellcome may decide to put its own internal reports on its Intranet.

Both managers felt strongly that purchase of information products should continue to be a central function, and thought that the buying power of a large international organization would result in advantageous licensing agreements being negotiated with publishers. They also thought that the most heavily used journals would still be purchased in print form, but that paper subscriptions to more peripheral titles would probably be cancelled.

They felt that it was IS's job to keep research departments informed of new information developments. They wished to see IS staff sifting and filtering electronic journal articles on behalf of research staff, as researchers do not have much time available for browsing, and there is a belief that Internet use is rather inefficient at the moment. This suggests an obvious training role for IS as well.

In future they expected that most information-seeking activity would take place on the PC on the researcher's own desk, rather than entailing visits to the library. This view contrasts with that of the Director of Information Services, mentioned above, that the library would continue to be popular as a quiet place for uninterrupted study.

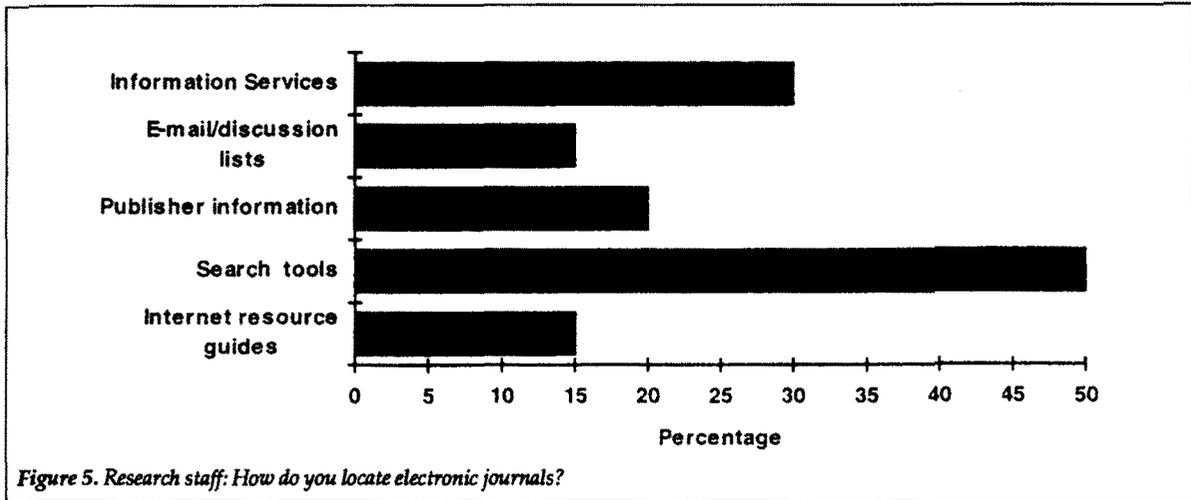
Research workers' questionnaire

The questionnaire used with research workers was a little different from that used with IS staff; though many of the questions were similar, they were phrased from the end-user's rather than the intermediary's standpoint.

Research workers' survey results

The respondents in this case were 60% male, and the 26-35 age group predominated. No correlation could be found between technophilia/technophobia and either gender or age. A range of different scientific disciplines was represented.

At present, 60% of the respondents use printed journals daily and all of them do so at least monthly. However, 40% of them said that they never use electronic journals. This was not due, though, to lack of enthusiasm for electronic information sources generally: 80% said that they browse the WWW daily, and 85% said that they would like to receive training in the use of



electronic journals, an impressively positive result.

Those who do use electronic journals generally find them through the use of WWW search tools (Figure 5); Yahoo! was the most popular, followed by Alta Vista and Lycos in joint second place. Nevertheless, 75% said that they had difficulty in using the Internet as a source of information, and of that 75%, 60% specifically said that they had difficulty locating information on the WWW. Of research staff responding, 75% said that they sometimes sought help with information searching, 5% from immediate colleagues and 70% from Information Services.

Of the research respondents, 80% would like there to be more electronic journals. This agrees with the Loughborough University findings that a "critical mass" of electronic journals is needed (Woodward, 1997), and perhaps helps to explain the relatively low usage of electronic journals despite the obvious enthusiasm for them.

Table 2

Research staff: Which of the following media do you prefer to use? (Please rank them in order, 1 = most preferred, 4 = least preferred)

Rank order	1 (%)	2 (%)	3 (%)	4 (%)
Paper journals	60	20	20	0
Journals on the Internet	25	25	10	40
Journals on CD-ROM	0	20	25	55
Journals on Glaxo-Wellcome Intranet	20	35	40	5

However, 60% of respondents still said that they preferred paper journals (Table 2), but they do see advantages in electronic ones (Table 3),

Table 3

Research staff: Please indicate whether you agree or disagree with the following suggested advantages of electronic journals

	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
Speed of publication	50	40	10	-	-
24 hour access	25	30	40	5	-
Easy feedback	10	10	70	10	-
Reduced paper use	20	45	25	-	10
Ease of searching	30	35	20	5	10
Multimedia	35	15	40	10	-
Affordability	5	10	75	10	-

of which speed of publication is paramount. The perceived disadvantages of electronic journals were more scattered (Table 4): 'poor quality' and 'lack of refereeing' refer, presumably, to the newly founded electronic-only journals since the electronic versions of existing printed journals are refereed. 'Unfriendly interfaces', on the other hand, may apply to any type of electronic journal.

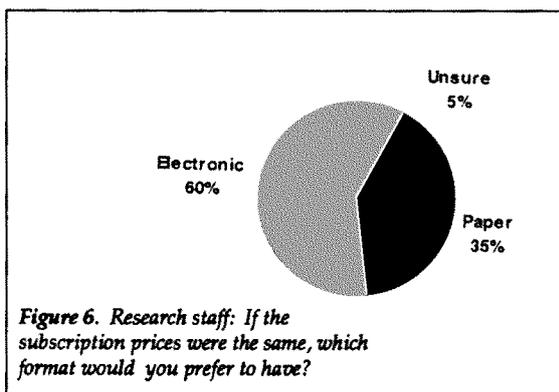
Despite their current low level of usage of electronic journals, and their majority preference for the paper versions, the researchers, like the IS staff, would buy the

Table 4

Research staff: Please indicate whether you agree or disagree with the following suggested disadvantages of electronic journals. (Some respondents did not answer all the questions, hence some lines sum to less than 100%.)

	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
Poor quality	5	15	35	25	20
Lack of refereeing	-	30	50	5	5
Copyright concerns	-	30	50	10	10
Need training to use	-	30	10	30	30
Special equipment	5	25	25	25	20
Unfriendly interfaces	20	-	50	25	5
Costly access	5	15	50	20	-

electronic version, if both were available at the same price (Figure 6). This seems to contradict the majority expectation among IS staff (see Figure 2) that users would wish them to retain the paper versions.



On the vexed issue of payment, research workers, like their managers, thought that either IS or Glaxo-Wellcome central management should pay for electronic journals. Overall, the research workers seemed progressive in their attitudes to electronic journals: they welcomed them, wanted more of them, and wanted to be trained to use them.

Conclusions

This is a fast-moving field, and research performed even a few months ago may now be

out of date. If, however, it can be assume that the results this survey are still valid, we find that in this science-based, technologically advanced company, the research staff - laboratory chemists and biologists - seemed to be better informed about electronic journals, and keener to use them, than the Information Services staff thought that they were, and perhaps more interestingly, than the Information Services staff were themselves. Given that Glaxo-Wellcome's information staff have a high reputation, this may suggest that in industry, in contrast with the University results given by Woodward⁴, the end users are better placed than the information staff to deal with electronic journals.

Secondly, the staff in both sections at Glaxo-Wellcome were more likely to depend on an electronic journal that already existed in print than on a brand-new electronic journal. This is understandable given the importance scientists place on the reputation of journals: one said, "Greater convenience is not sufficient justification for threatening the quality of our research enterprise". This is a view with which the present authors agree. Both groups of staff agreed on the importance of a training programme for both intermediaries and end users on electronic journals; a conclusion with which we in the academic world would also agree.

There seemed to be considerable doubt within the company on how to pay for electronic journals. Printed journals are covered by the Information Services budget and the Director of Information Services would like this to apply to electronic ones too, but as searching may be undertaken by researchers without any intermediation by Information Services staff, it is unclear whether research departments will be expected to pay for this service. There was some unease among Information Services staff about a loss of job prospects and security for themselves in the long term, in this event. Again, this epitomizes a more widespread malaise, perhaps, among librarians around the world and especially perhaps in the USA.

Nevertheless, there is a lot of enthusiasm for electronic journals at Glaxo-Wellcome, and - encouragingly for the information professionals perhaps - a realization among research staff that

