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The legitimacy and advantages of electronic publication

V Grech*

* Editor-in-Chief, Images Paediatr Cardiol

Contact information: Dr. Victor Grech, Editor-in-Chief, Images Paediatr Cardiol, Paediatric Department, St. Luke's Hospital, Guardamangia - Malta ; Email: victor.e.grech@magnet.mt

Abstract

This article discusses the diverse challenges that online publication has created for academic institutions, authors, journal editorial boards, publishers, libraries and readers.

MeSH: Internet, Publishing

Introduction

Electronic publishing has only become possible in recent years due to rapid advances in information technology. Many journals in the sciences and in other branches of knowledge are now published regularly (and sometimes exclusively) on-line, on the World Wide Web. This publishing medium challenges academic institutions, authors, journal editorial boards, publishers, libraries and readers.

Academic institutions

Electronic publishing exclusively is much cheaper than conventional paper publishing, and published papers can be made available for free or at a greatly reduced price. Academic institutions must realise that supporting and developing electronic publishing is therefore to their great advantage, as otherwise, these very institutions will continue to pay twice for research; once to fund and produce it, and once to purchase it back in print journal format from publishers, with profit for middle men.

Authors

Scholarly publication differs from other forms of publications in that readers know that they are accessing (on paper or online) articles created by authors and finally accepted by journal editorial boards after the conventional peer-review process following the advice of independent referees, with appropriate revisions. Authors must realise that the publications within an electronic

journal that processes papers in this manner are as legitimate as paper publications. There is no reason to change this modus operandi when converting from print to electronic formats.
Moreover, the internet is spreading rapidly to almost all countries so researchers in developing countries will have access to publications that are unavailable to them in print format.

Journal editorial boards and publishers

Conventional print journals must decide whether to go online or not. At this point in time, the mass availability of journals on the Internet simply dictates that such a step is inevitable for all journals. Editorial boards and publishers must then decide whether to continue print versions and somehow absorb the additional cost of maintaining a journal online, or go for an exclusively online format and slash prices.
New journals launched in electronic format *must* have professional editorial boards that review manuscripts for submitted for potential publication as detailed above.

Libraries

Librarians must develop new methods for handling and processing electronic publications, and in the process, must develop a fair degree of proficiency in information technology. The effort will be well repaid – literally. Since the 1980s, library subscription prices have increased at aboùt 10% per year, while the number of scientific and technical journals doubles every 30 years or so. An individual subscription to the Lancet, New England Journal of Medicine, and the BMJ costs over $400, which is more than the per capita income in many developing countries.[1] This collection alone accumulates rapidly, requiring large volumes of space for storage, and may eventually be discarded. The electronic publishing medium is much cheaper for libraries.[2] Indeed, some journals are entirely free, and a list is available at www.freemedicaljournals.com and http://amedeo.com.[3]

Readers

Readers must have access to a computer connected to the internet. Articles may be read on screen or downloaded to floppy or compact disc, and read later. Selected articles only, and not necessarily the entire journal, may be printed, with or without modifications using ordinary software such as word processors. The issue of copyright is thorny and has been briefly discussed in an earlier article.[4] Access to publications is faster than with a conventional printed journal, and readers can respond via email in minutes. In contrast, a response to a printed journal article takes months to materialise. In addition, cheaper library purchasing of journals means cheaper access for readers.

PubMed Central

A centralised online database containing all journals, preferably for free, would be ideal. The physics community has such an Archive (http://xxx.lanl.gov),[5] and this database handles over 25,000 submissions per year at a cost of about $15 per paper, and has over 35,000 users daily.[6]
A similar database for the biomedical community, initially called E-Biomed, was first proposed in 1999.[7] This was proposed to be a direct and free extension of the National Library of Medicine's PubMed service, which provides papers' citations and abstracts. Funding would continue to be via the

US National Institutes of Health (www.nlm.nih.gov) and access to articles in their entirety would be for free. The concept has progressed rapidly and is up and running as PubMed Central.[8]
At this juncture, journals may opt not to publish themselves in PubMed Central, but it will be difficult for print journals not to make full length articles available electronically as well in the very near future, and eventually, for free.

Conclusion

Economic and technological factors will ensure that the electronic publishing trend will continue, and it is likely that virtually all print journals will move in this direction.

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