Back to basics: what is the e-journal?

As we move further into the first decade of a new century, it seems a good point to reflect on where the e-journal has come from, the position it is at now, and where it might be going in the immediate and long-term future. My concern within this article is to look backwards and forwards and consider this revolution in serials publishing, and the impact it has had on different user groups from the traditional academic audience to the general internet-savvy population.

This article will therefore be structured in the following way: first, I will be looking at the birth of the e-journal, and the development of technologies through the last twenty years which influenced it; then move on to consider popular models of electronic serial publishing; to consider whether 'born digital' content is really in the long-term an advantage; to discuss the impact of new publishing models; and finally to look at where the e-journal fits as a source for support, and an outlet, for scholarly research. In conclusion I will present some thoughts on future development for this form of information sharing.

The birth of the e-journal

The birth of the e-journal is an interesting place to start. A good starting point for any study is to find a definition we can work with for the remainder of this article; however, the electronic journal, or e-journal, or

even ejournal, as it is becoming popularly known, proves elusive in the major reference dictionaries.

In my information literacy teaching at the University of Leeds I generally focus on the wide-ranging definition offered by the Colorado Alliance of Research Libraries[1]:

“Electronic serials may be defined very broadly as any journal, magazine, e-zine, webzine, newsletter, or type of electronic serial publication which is available over the Internet. Within this broad definition, the titles can be electronically accessed using different technologies such as the World Wide Web (WWW), gopher, ftp, telnet, email, or listserv.”

This gives some structure and form to a study of what the e-journal was, is, and will become, and during this article I will consider most of the forms mentioned in the Colorado definition in detail.

The Oxford English Dictionary does not yet consider the e-journal worthy of a definition in its own right, surprising when e-zine (a much more ephemeral form of electronic serial) is defined[2].

The OED tells us a journal is “any periodical publication containing news or dealing with matters of current interest”, and that the prefix e- means “exchange of information in an electronic format, to be displayed on a

computer screen or a hand-held device". With this as a basis, an e-journal can be just about anything – in addition to the Colorado definition we could add personal web pages discussing items of current interest, blogs, and digests bringing a number of publications together.

I would like to take a look now at where the e-journal started its journey, and where this fast-expanding form came from.

The earliest e-journals date from the late 1980s, in plain text format, and some of them can still be viewed in their original form today[3]. Not surprisingly one of the first to appear concerned the price of serial publications, and others mushroomed in the areas of librarianship and information science, and in the arts.

A good example of this early form of e-journal is 'Postmodern Culture', founded in 1990 and continuing to this day under the umbrella of Johns Hopkins University Press. This journal appeared just as the Internet was being established, as the culture was changing to allow mass viewing of material from home computers. It took advantage of the infant browsers – not yet capable of sophisticated interfaces or the presentation of multimedia content – and contributed to the development of an audience for journals which followed.

In the early 1990s there were still alternative technologies to the World Wide Web form of accessing content – ftp and gopher sites were

popular, if primitive in the way they looked. They even had their own search engines: 'Archie' retrieved ftp content, 'Veronica' gopher sites[4]. All of this encouraged an audience for armchair digital content which could only increase with the passing of time. Despite the internet originally being seen as a medium for scientific and academic organisations to develop their global presence; a small but loyal popular audience for digital content was certainly developing.

An Open Journals Framework Project report by Hitchcock et al stated that there were 115 e-journals in existence in 1995[5]. Later research by the same authors found an increase to 1,300 within the next three years[6]. During these three years, academic institutions had taken on board the need to organise, evaluate and promote this content, through initiatives like the Superjournal project[7].

My personal involvement with e-journals began in 1999, when the University of Leeds provided access to around 300 titles, mainly in the STM area - still one of the most profitable growth areas for e-content five years on. These titles were not really monitored for use and there was no defined mechanism for organising or promoting the titles to users; this suggests that in the first few years of e-journals the titles gained their audiences through peer word-of-mouth than information management.

By early 2004 Leeds provided access to just over 12,000 titles, across all subject areas and including a large proportion of content which has

never appeared in a printed, physical format. This brought its own administration issues such as organisation and promotion, metadata, and training.

The number of e-journals available rose to 10,000 by 1999 – in 2004 the most recent estimates more than treble this total[8]. The rise of this information source has been unprecedented and quite possibly unexpected in terms of publishing development. Factor into this the different purchasing models for this content (and the rising cost of favouring these titles over print versions, Nature being a prime example[9]), and the situation becomes unmanageable without the knowledge and aptitude of serial management specialists within academic libraries.

It is still the case that whatever the e-journal might achieve in technical excellence it does not yet have the long-term reliability to guarantee it permanence in the academic literature market, and will require considerable innovation and involvement by information specialists as well as commercial producers to ensure it achieves its promise so far.

The growth of the e-journal in terms of sheer numbers has been staggering to witness, not only with the major publishers taking the strategic decision to digitise their content, but with the growth of innovative publishing models such as open access and open archiving[10].

Little e-journals: the rise of popular models

I would like to move on to look at the more ephemeral and popular forms of online digital content, which could be considered as little e-journals. The rise of popular models, if you like, which embraces the e-zine, webzine, and other less established forms of digital publication.

The e-zine developed out of the culture of social print fanzines of the stapled and photocopied variety, and has become a fixture in the popular e-journal scene. These are often hobby or niche titles: for example the Free Directory of E-zines[11] lists over 1,000 titles in this area. On a recent spot check on this directory, however, there were many broken links listed, indicating the probable transience of this set of resources.

A main difference between the e-journal and e-zine, apart from its target audience, is a lesser degree of content monitoring; where most e-journals have a peer review system to filter out unsuitable content, the e-zines generally have a more inclusive philosophy. In some subject areas this may be seen to be beneficial and to encourage a higher degree of debate and discussion.

Popular titles viewed on the Ezine dot net[12] site have included Sax Tips Ezine Newsletter[13] (for saxophonists), the Leader Ideas Newsletter[14] from the Leader's Institute, and e-Book News[15.] The e-zine movement is a fast developing area, especially in creative areas such as writing, music, and

popular culture. For some areas of research these publications may be just as valid as larger, more established titles.

Should we, as librarians, be tracking and linking to ezines? Is there enough of an overlap to justify classing them in the e-journal pot, a sort of child of the big shots?

What about some of the listservs who really qualify as small scale e-journals? The ICAAP site even lists a couple of email groups on Yahoo! as valid e-journal titles; despite their obvious structure as forums for email debate[16].

The listserv started in the early days of the web when it was more likely to be referred to as a bulletin board; here geographically separated internet users could swap opinions and initiate debates on a whole range of topics.

Definitions of both the listserv and the bulletin board can be sourced on the internet; the listserv is “a program that automatically redistributes e-mail to names on a mailing list”[17]; while the bulletin board is “an area of a web site where users can post messages for other users to read”[18].

Many of these have become as regulated and distinctive as journals of current interest; some, indeed, have the look and feel of a journal rather than a discussion forum. If we can accept journals which are distributed by email; should we not consider web space where multiple emails are stored by topic to be just as valid?

We should also consider that many established academic titles now include forums and other means of processing reader comment and opinion. Allowing comment on articles waiting to be published or on recent content has also become more common, particularly in scientific disciplines.

Perhaps we should also be looking at the newest kid on the block - the blog. Defined in the Glossary of Internet Terms[19]:

"A blog is basically a journal that is available on the web. Blogs are typically updated daily software that allows people with little or no technical background to update and maintain the blog".

This is, in effect, a definition of an interactive e-journal. Indeed, some blogs, such as Open Access News, present themselves as a fully-fledged e-journal, with ISSN, although they retain the general structure of a personal weblog[20].

NetLingo, the Internet Dictionary[21] adds a narrower definition; "a frequent, chronological publication of personal thoughts and web links." This sounds less like the area we are looking at and more like the usual personal home pages that take up a large proportion of the internet.

My feeling is that the jury remains out on the academic value of the blog, but that it can not be dismissed entirely: it may well be that this group of digital files are the next big thing to hit electronic publishing[22].

Born digital, born disadvantaged?

If an e-journal is ‘born digital’, is it born disadvantaged with regard to both its long-term viability and its target audience?

Research in 2000 by Rauber and Aschenbrenner[23] considers the problems of acquiring, storing and preserving digital information on the web, from an Austrian perspective. I would argue that this extends to 'electronic only' content appended to the online version of a dual format journal (including multimedia files, Excel spreadsheets, sound and video, and moving illustrations and figures[24)].

If the acquisition of content in e-journals depends on the purchase and/or upgrade of various types of software, there is a danger that this information, cutting-edge though it may be, becomes less accessible to its target audience.

Who can access is one problem; who takes care of it when it is no longer accessible is another: out of date formats, the end of a web space lease, the sale of a journal, the lack of interest and momentum in sustaining a born digital title all contribute to what is becoming a key issue.

The Copyright and Licensing for Digital Preservation project at Loughborough University considered several issues around the long-term archiving and

preservation of content, including what to do with information only available through outdated formats[25]. The speed at which technological advances are currently changing and developing has accelerated during the last five years and this looks likely to persist, perhaps to the detriment of these publications in the future.

Is the title which is 'born digital' or with online-only items therefore disadvantaged in the scholarly research market long-term? As institutions are increasingly trapped in leasing models for e-journals, rather than purchase of print volumes they can retain indefinitely, how can they be sure they can still find the references and articles that are useful to their researchers in 10, 20, 50 years time?

Academic institutions have historically purchased and amassed physical collections going back centuries; digital content, largely available for limited leasing periods, presents a far different situation. Stricter licensing agreements have also contributed to a restriction on information dissemination from these publications, as well as the rising cost of making them accessible – more PCs for customers, for example.

New publishing models: the open access movement

A fairly new development in the world of e-journals is the open access movement, a reaction of the academic community to the scholarly communication crisis[26].

Institutional libraries are increasingly unable to fund journal title subscriptions, limiting the dissemination of academic research. Since the Association of Research Libraries-supported meeting at Tempe in March 2000[27], where principles were agreed including the use of electronic capabilities to provide wide access to scholarship, the importance of guarding the peer-review and archiving processes for electronic journals, and the importance of copyright remaining with academic authors to allow them to make their research available as widely as possible, there have been a number of new journals created, and much discussion in the academic and professional press[28].

This then puts a new group of e-journals into the mix - strong, peer-reviewed titles with high-profile editorial boards (many moving en masse from commercial journals and setting up in direct competition with them).

Initiatives such as SPARC[29], Public Library of Science[30], and a recent collection of titles, the Directory of Open Access Journals[31], are increasingly making an impact; while the increase of open archiving of pre-prints and post-prints (given a boost through projects such as RoMEO and SHERPA[32]) allow academics to make their work available to the widest possible audience. Open access of course works on the principle that all costs are covered by the authors or their institutions, rather than being a drain on departmental budgets through ever-rising subscriptions.

Free access e-journals may or may not fall into this model. It has been estimated by SHERPA that there are approximately 600 true open access titles[33]; although the number of freely-available titles on the web is much higher. These range from free online versions of subscription print titles; 'shop windows' with selected content of print titles; and true 'born digital' titles such as Electronic Journal of Sociology[34]. There are also a number of smaller niche titles in subject areas such as media and fashion, and these take advantage of the new technology to the full.

At present these journals are low impact but may well be attracting a sizable audience. They cannot be disregarded: indeed, with increased publicity to raise their impact factors, they could present a serious challenge to more commercial models.

Scholarly support: the rise of academic models

To consider the development of the e-journal as a central source and outlet for scholarly research, we need to consider the pros and cons of the format, with particular emphasis on what the evolving medium means to the reader.

Naturally, the print format remains core to student research, with the ease of photocopying, sharing information, and ease of browsing.

In favour of the digital publication are such advantages as more than one person able to view an article within a collection at the same time (with the exception of publishers which impose user limits on downloading text); instant delivery of the journal on screen, wherever the reader may be, thus freeing important time for further study; assumed 24 hour access for remotely available content; ability to quickly search content for specific points, and follow hyperlinks to other items of interest; and technological advances allowing additional information in a range of file formats to be incorporated into a published piece.

Conversely, technology can not always been relied upon to deliver the exact results a reader might want; there can be server problems and broken hyperlinks; there may be a need for specific software to read articles, or article files may be corrupted or in hard-to-handle formats; there may be content in the printed journal excised from its electronic version; and there is an assumption the reader has the technological expertise to browse and navigate content in several different interfaces.

At the stage we are at now in 2004 the e-journal has become slightly less complicated for the reader at least, although the problems of setting up access often remain.

Future developments

As a professional librarian working in the field of e-journal management, I am interested in how the technical developments in particular will evolve over the next few years, and whether the spiralling costs we have seen to acquire this digital content will become an accepted part of library budget or prohibit the development of adequate collections to support departmental research.

The e-journal looks set to continue in its present ‘journal’ form for some time – however, initiatives such as pay-per-view, preprint and postprint archiving, and open URL developments (allowing articles to be accessed via abstracting and indexing databases without necessarily visiting a full publisher or aggregator service), have made a speedy impact on the targeted end-user.

There will be massive advances in multimedia capability and real-time interaction, to develop a living archive of research material totally unprecedented in print journals of the past. Print of course will continue but there will an increase in ‘electronic supplementary content’: it will also be the case that e-journal subscriptions will continue to exist independently of their print versions, allowing further development and innovation by editorial boards and academic contributors.

Meanwhile the popular end of the market will continue to develop, ensuring the e-journal and its less established forms make further inroads into general culture. The development and take-up of digital television will necessarily have an impact on supporting written content available on text services or the web[35]. E-journals will have a knock-on impact on not just serial publications, but monograph texts too as e-books become the growth market of the 21st century for all groups of user.

In conclusion, then, the e-journal looks set to continue as a healthy alternative to its print cousin, existing in tandem for the most part. In the future 'born digital' content will continue to increase, gaining stature and acceptance amongst the likely contributors; while these same contributors will embrace the philosophy of open archiving to obtain the largest possible coverage for their completed research. As student numbers increase within universities, courses outside of the traditional academic disciplines are likely to require a far wider spread of sources for teaching and research; and this is where the more ephemeral formats will come into their own. These will all be interesting developments to watch, and debate will continue to brew on the more contentious aspects of digital publication, preservation, and propagation.

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