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The SAGE Encyclopedia of Online Education

E-Journals

E-journals, also known as electronic journals or online journals, are scholarly journals that can be accessed electronically, usually via the Internet. Access is often limited to "subscribers," which can be either individuals or institutions (e.g., libraries) that pay a fee, usually via an annual subscription cost or a pay-per-view model. Most e-journals are online versions of their original print journal counterpart, converted and delivered as articles in PDF (portable document format) form, which is an electronic image of the print journal and maintains the same text formatting and graphics as the analog version. Some e-journals only offer or also offer HTML (Hyper Text Markup Language) versions of their articles. This entry first discusses the background of e-journals and package subscriptions for e-journals. It then discusses archiving and access policies for e-journals and the future of e-journals, including open access.

Historically, the HTML version of an article was not preferred, as it often included only the text and did not include graphics, such as images, charts, or graphs. This has changed in recent years, with HTML versions of articles now often including graphical content, but this is still not always the case. Also, in recent years, some journals have moved to only being produced online with no print equivalent. These journals are known as "born digital."

Advent of E-Journals

As early as the 1960s, the U.S. scientific community began experimenting with the delivery of electronic journals. Organizations such as the National Science Foundation and the National Library of Medicine contributed funding to information retrieval systems such as the Chemical Abstracts Service and the American Psychological Association and began computerized typesetting operations. For example, the American Chemical Society published three journals using computerized typesetting. Another method, called computerized composition, which is the use of computers to automatically perform the functions of hyphenation, justification, and page formatting, emerged in the 1960s as well.

Many of these early attempts at electronic journal publishing ultimately failed due to issues related to text input and display, concerns around efficiency of processes, lack of access to WANs (wide area networks) by users, and the cost of electronic publication, which required economies of scale. For example, according to Carol Tenopir and Donald W. King, in the 1970s, only 2% of journal publishers published 10 or more journals, and 86% published only one journal.

It was not until the early 1990s that e-journals as we currently envision them really came to be. Access to the Internet greatly increased, easy-to-use Web browsers were created, and new Web protocols were developed that allowed transmission of formatted text and graphics. Also, the journal publishing landscape began to change with the consolidation of publishers that resulted in large numbers of journals being published by a relatively small number of publishers. Elsevier, a Dutch firm, was publishing more than 2,500 journals as of early 2015, and in 2010, it reported revenues of $3.2 billion. Springer, a German firm, was reported to have sales of $1.1 billion in 2011, and as of early 2015, it was publishing more than 2,900 journals. The large publishers allow for an economy of scale that was lacking in the 1970s.

Increasingly, many print journals are being published simultaneously in print and online. According to a search in Ulrich's Web Global Serials Directory, of the 115,768 scholarly journals published in 2014, approximately 46,997, or about 41% of those scholarly journals, are available as e-journals. Some 8,970 scholarly journals are only available online.

The Big Deal

With the advent of e-journals and more journals consolidated to fewer publishers, many journal publishers began offering their journals in packages, known in library collection parlance as "The Big Deal." "The Big Deal," as defined by Kenneth Frazier, is an aggregation, package, or bundle of online journals, often the entire collection of a commercial publisher, licensed to libraries for a set term, via a contract negotiated at a standardized price.

There are many advantages of bundling e-journals together into publisher collections. First, bundles provide increased access to more journals for the library's users than most libraries could afford if subscribing to each journal individually. Second, purchasing bundles is more cost-effective as annual price increases on bundles are usually capped at a rate that is lower than regular inflation, which also makes budgeting more predictable. Last, bundles are easier to catalog and maintain than large numbers of individual journals as vendors provide libraries with MARC (machine-readable cataloging) records and the ability to add entire packages to ERMS (electronic resource management systems) invoicing and claiming systems and to link resolvers (software that parses OpenURL data and uses these data to direct users to holdings at their respective institution) for seamless access to the full text. Drawbacks to bundling can include libraries subscribing to some titles they might not have subscribed to otherwise, as well as cutbacks in subscriptions to nonbundled journals to maintain bundled subscriptions.

Since 1986, according to Martha Kyrillidou, expenditures on serial publications have gone up 402%. Because costs of serials increase annually, and inflation for serials is so high, libraries may eventually be forced to cut journal subscriptions or reallocate funds from other collection materials, such as books, in order to maintain current subscriptions. This becomes more challenging as now more libraries subscribe to packages of journals or bundles and so cannot always pick individual titles to cancel but instead must consider the entire bundle.

Archiving and Access

Access to e-journals can be stand-alone, which provides access and searching to content from only one journal directly, or access may be via an aggregator database such as JSTOR or Proquest Research Library, which brings together a collection of online journals that are indexed and searchable through the aggregator's platform.

As more libraries cancel their print journals in favor of electronic journal access, archiving of the e-journal content and access to that archive have become important considerations given the potentially ephemeral nature of online content. Some nonprofit organizations have developed to safeguard e-journal content for the future. Two examples that have stood the test of time are (1)JSTOR and (2) the HathiTrust. JSTOR provides an archive of journal issues; this archive often goes back to the first issue of a journal. Its archive uses a "moving wall" system where nothing current (within the past 3 to 5 years) is offered, but full archival back files are available online for subscribers. Although a nonprofit, JSTOR is not free. Fees are charged only to cover the costs of archiving the content. HathiTrust is a digital preservation repository and access platform for long-term preservation and access services for public domain and copyrighted content from a variety of sources but with a focus on providing preservation and access to digitized book and journal content from the HathiTrust's partner library collections. The materials in HathiTrust are available to all to the extent permitted by law and contracts, providing the published record as a public good to users around the world.

A third option is Portico, which provides access to archived content to its library participants when specific conditions or "trigger events" occur, specifically if a journal title is no longer available from the publisher or any other source. Portico provides an archive of the content for access to subscribers to ensure that the content that was paid for is never "lost."

Future and Open Access

A distinct challenge to researchers not affiliated with large well-funded research libraries is that electronic access to the literature is not assured. Closely related to the issues regarding cost, access, and archiving is the emergence of open access (OA) e-journals. An OA e-journal is a journal that is online, free of charge, and free of most copyright and licensing restrictions. OA removes price barriers (e.g., subscriptions, licensing fees, pay-per-view fees) and permission barriers (most copyright and licensing restrictions).

Although resources such as the Directory of Open Access Journals, a clearinghouse for users of OA journals; Beall's List, a list of potential, possible, or probable predatory scholarly OA publishers based on strict evaluation criteria; and Sherpa/Romeo, a resource to check for copyright/self-archiving policies by journal, are a step in the right direction, there have been serious questions raised about the quality of some OA e-journals. There is a need to educate scholars and researchers about predatory journals and how to distinguish them from legitimate OA e-journals.

See also Libraries, Online University; Libraries, Traditional University

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