

# Online submission and peer review systems

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# *Online submission and peer review systems*

In the last ten years, electronic publishing of the results of scientific research has developed from being a novelty to being accepted as the normal method of publishing.

# *Online submission and peer review systems*

Systems for online submission of articles, for peer review and for transmission of approved articles into the production workflow systems which manage both print and electronic publishing are now commonplace.

# Overview

- review the technologies which have made this transition possible
- ALPSP survey
- the impact of these systems on authors' and peer reviewers' experience of publishing and on the timeliness of peer review and publishing.
- SCI case study
- the impact of preprint servers

# *Modern systems*

Modern online submission and peer review systems combine a web interface with a database.

The web interface allows authors and referees to upload their submissions and reviews, and other users such as editors and editorial staff to interact with the system.

# *Modern systems*

The database stores the manuscript files (if necessary in various stages of revision), together with the article metadata. It also stores details on the journal's editors and referees, and tracks the progress of the submitted article through the submission and peer review process

# *Goals of early adopters*

## Goals

- concerned with efficiency and convenience
- tactical goals

## Benefits

- increased speed
- reduced costs (e.g. post, courier, fax, copying)
- reduced administration time

# *Strategic approach*

As publishers have gained experience of online systems, and the systems themselves have become more sophisticated, publishers have started thinking about online submission and peer review more strategically.



# ***New considerations***

## **Supply chain management:**

- how the system could reduce other costs, and how quality could be built into the process as early as possible.

## **Customer relationship management:**

- authors (and referees) are key ‘customers’ of the journal.

## **Editorial intelligence and/or enrichment system:**

- how can journals add value through editorial quality (e.g. attracting better authors) and new types of content (e.g. ‘value-added’ material such as news and reviews, as well as research papers).

# Current systems concepts

**Role-based access** allows the journal to limit functions to appropriate users and restrict access to sensitive data. The main roles typically used are author, referee (or reviewer), editor and staff (although these can be sub-divided).

**Workflow** is the largely predetermined path that an article will take through the system, and will vary from journal to journal

**Queues** are the lists of items requiring attention, which will vary according to the role in use for example, an individual can have separate queues in the roles of author and referee

**Actions** are the allowable things that can be done at any stage, such as moving an article to a new status or creating a piece of correspondence.

# *Configuration requirements*

Systems need to be configurable in terms of:

- the roles used the workflow (which will vary by article type even within a particular journal)
- the various parameters that are associated with the workflow and the actions (e.g. how many days to allow a referee before chasing)

# *Approaches to configuration*

- the workflow is fully configurable by the publisher at any time
- the workflow is discussed between the journal and the vendor, and then implemented by the vendor prior to launch
- the vendor offers pre-built workflows covering the common variants and the journal chooses the one nearest to its situation.

# Automated functions in sophisticated systems

## Reference parsing and linking

- Links can be created to external databases such as PubMed, or directly to other publishers' sites via CrossRef. This provides a degree of reference checking for the author and offers benefits for the editor and referee.

## Reference re-formatting

- It is possible to integrate automatic reference formatting software into the processing of the manuscript. This parses references and then reformats them into the journal's house style.

# Automated functions in sophisticated systems

## Image-quality checking

- ‘Pre-flighting’ software can analyse image files and highlight those that are unlikely to be of sufficient quality for print reproduction.

## CIF file validation

- Crystallographic data is deposited with the article as a supplementary file in an internationally agreed format, the Crystallographic Interchange Format (CIF). Software exists for validating these CIF data files.

## Security

- Checking for viruses and worms is essential if the integrity of the system is to be maintained

# Important factors to consider

- ease of use
- configurability and providing the closest match to the existing workflow
- continuity of the application
- ability of the vendor to demonstrate understanding of the peer review process

# Important factors to consider

- ability of the system to support the strategic objectives discussed above
- long-term viability of the vendor
- support and training
- support for the publisher's brand
- conformance to technical standards.



# Other factors to consider

- formats available for article submission by author (e.g. Word, PDF, other)
- conversions carried out by the system
- handling of graphics files
- security
- migration aspects

# *ALPSP survey*

In December 2004, The Association of Learned and Professional Society Publishers (ALPSP) commissioned a study on 'Online submission and peer review systems' and the report of this study was published by ALPSP in April 2005 (ISBN 0-907341-29-2)

# *ALPSP survey*

The aim of the ALPSP study was to ascertain:

- What is involved in specifying and installing such a system
  - Advice on choosing a system
  - Factors to consider when configuring a site
  - Implications on change of publisher, etc
  - Pros and cons of having a in-house system versus an external service
  - Future planned developments (e.g. onscreen markup)
- Reactions of end users (authors, editors and referees)
- Effect on the journal (e.g. pattern or quantity of submissions, other effects such as graphics quality)

# *ALPSP survey - authors*

In general, the large majority of authors are very happy with online systems:

- most (81%) agreed or strongly agreed with the statement '*All else being equal, I prefer to use online systems rather than other means of submission*',
- while 36% even said that the lack of online submission would influence them against choosing a journal for their work.

# *ALPSP survey - authors*

- authors tended to perceive that online systems gave them a faster response (62%) and shorter refereeing times (49%)
- they valued the ability to check progress and to access the system from anywhere with an internet connection (67%)

## ***ALPSP survey - editors***

The majority of the editors were happy with online systems (despite reporting much higher levels of problems than authors)

- 91% agreed that online systems made it easier to do their jobs
- 77% said the lack of an online system would be a negative factor in considering the offer of another editorial position

# *ALPSP survey - editors*

- a large majority (88%) agreed that these systems allow them to offer an improved service to their authors
- the proportion who agreed that online systems allowed editors to better support their referees was lower (57%)
- this perception of the systems offering rather more benefit to authors than referees appears to mirror the responses of authors and referees themselves

## ***ALPSP survey - editors***

Two-thirds of editors (68%) reported that submission volumes increased following introduction of online submission, with 31% reporting no change

The median percentage increase reported was 25% (mean 37%)



## ***ALPSP survey - editors***

- A majority of respondents (54%) said that submissions became more international following introduction, while 46% reported no impact.
- These figures are very similar to those for the publishers' survey.
- Substantial increases were more frequently reported for submissions from China, Asia and the Indian subcontinent.

# *Online submission and peer review systems*

- AllenTrack (<http://www.allentrack.net/>)
- Bench>Press  
(<http://benchpress.highwire.org/>)
- EdiKit (<http://www.bepress.com/>)
- Editorial Express  
(<http://gemini.econ.umd.edu/e-editor/>)
- Editorial Manager  
(<http://www.editorialmanager.com/>)

# *Online submission and peer review systems*

- EJPress  
(<http://ejournalpress.com/products.shtml>)
- EPRESS (<http://www.epress.ac.uk/>)
- ePublishing Toolkit  
(<http://www.zim.mpg.de/projects/toolkit/index.html>)
- ESPERE (<http://www.espere.org/>)
- FontisWorks  
(<http://www.fontismedia.com/media/works/index.html>)

# *Online submission and peer review systems*

- Journal Assistant  
(<http://www.journalassistant.com/>)
- Journal Management  
(<http://www.dbpub.com/prp.html>)
- Journal Management System  
(<http://spo.umdl.umich.edu/tools.html>)
- JournalSoft (<http://www.journalsoft.com/>)
- Manuscript Central  
([http://www.scholarone.com/products\\_manuscriptcentral.html](http://www.scholarone.com/products_manuscriptcentral.html))

# *Online submission and peer review systems*

- Open Journal Systems (<http://www.pkp.ubc.ca/ojs/>)
- Rapid Review  
(<http://www.cadmusknowledgeworks.com/products/rapidReview.asp>)
- SmartPublishing  
([http://www.mirasmart.com/smart\\_publishing3.htm](http://www.mirasmart.com/smart_publishing3.htm))
- Temple Peer Review Manager  
(<http://peerreview.temple.edu/>)
- XpressTrack (<http://www.xpresstrack.com/>)
- Zope (<http://www.zope.org/>)

# Case study – SCI journals

The Society of Chemical Industry (SCI) publishes four learned journals in partnership with John Wiley & Sons:

- *Journal of Chemical Technology and Biotechnology*
- *Journal of the Science of Food and Agriculture*
- *Polymer International*
- *Pest Management Science*

# Case study – SCI journals

- in late 2001, SCI decided to replace existing paper-based manuscript handling and tracking system (RMTS)
- recommendation was made in late 2002
- new system rolled out for one journal per quarter in 2003

# SCI project plan

- Define aims and objectives
- Define requirements
- Compare products on the market
- Shortlist
- Perform final analysis and make decision
- Obtain committee & governance approval
- Implementation



# SCI project outline

- Confirm aims of the project
- Set out requirements for each journal
- View demonstrations of different systems to find one that suits the work flows
- Compare systems on the market by
  - cost
  - support
  - security
  - training
  - how user friendly they are
  - suitability to workflow
  - company profile

# SCI journal and departmental requirements

## Must haves:

- Minimum level of security and protection against viruses
- Support for users worldwide
- User-friendly interface
- Source code held in ESCROW
- Compliance with the Data Protection Act 1998
- Access to data controlled by user type, relevant only to user
- Work flow similar to the one currently in use
- Ability to create relevant reports and statistics
- Training for all staff involved

# Perceived benefits to SCI?

- decreased 'receipt to decision' times
- reduced review costs and administrative overheads
- worldwide access 24hrs a day for editors, authors, administrators and reviewers
- make the journals more competitive
- extend the journals' international reach
- help attract more authors
- increase the number of papers the system can handle

# SCI Project summary

- compared 8 systems
- organised demonstrations of 6 systems
  - Manuscript Central
  - Editorial Manager
  - ESPERE
  - Rapid review
  - Bench>Press
  - FontisWorks
- shortlisted 3 systems
  - Bench>Press
  - Editorial Manager
  - Manuscript Central

# SCI project decision

## Manuscript Central

- market-leading system
- comprehensive support for all users
- quick and easy to implement
- transition was part of service offered to SCI journals by John Wiley & Sons
- low cost, low risk

# SCI project implementation steps

- Agreed project implementation plans with Wiley
- Demonstrations and training for editors and SCI staff
- Transfer of data from RMTS to new system
- Run 'dummy' papers through system
- Run systems in tandem
- Phase out use of RMTS gradually
- Fully convert to new system

# *Impact on one SCI journal*

## *Polymer International*

Receipt to decision (days)

2001	141
2002	123
2003	50
2004	31.7

26% increase in manuscripts submitted

55% increase in submissions from Asia

# *Preprint server systems*

Preprint servers use the same underlying technology as online submission and peer review systems but, in addition, all users have the ability to submit comments and corrections to an article as if they were performing the roles of editors and reviewers. Authors may upload multiple versions of an article and associated files.



# *Chemistry Preprint Server*

In August 2000, ChemWeb.com launched the Chemistry Preprint Server (CPS), which was the first preprint server to cover the entire field of chemistry. The CPS was officially launched at the fall ACS National Meeting on 21 August 2000 in Washington, D.C. Some 700 articles were submitted before the CPS closed in May 2004.

# *Chemistry Preprint Server*

- Although the technology worked well, authors were discouraged from submitting preprints of articles by the attitude of some chemistry publishers to preprint servers.
- There was relatively little discussion of preprints online.

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