

TOOLS FOR DIGITAL RESEARCH MANAGEMENT: AN OPEN ACCESS STRATEGY FOR THE COMMUNITY OF SCIENTIFIC RESEARCHERS

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ABSTRACT

The lifecycle of developing, publishing, and preserving scientific papers has seen several innovations thanks to digital publishing of scientific articles. Digital research management tools play a crucial part in the generation of scientific knowledge communication, and new forms of publishing, such as peer reviews, online citation indexes, and social media platforms, will help to increase an individual's research output. Up until now, commercial academic publishers have not only successfully defended but even increased their market share. This paper primarily focuses on digital research management systems used to maintain the research community and effectively improve research productivity.

Keywords: Open access tools, research management, digital research, open access software.

INTRODUCTION

In the age of the Internet, libraries and information centres have evolved into virtual knowledge management hubs that offer a variety of pertinent open-source tools to meet the needs of the academic research community and help them stay current. As a result, each individual research footprint is extremely significant, and the citation of research articles will be beneficial to another researcher conducting additional research. Digital research management solutions facilitate the management of research article bookmarking, the discovery of literature, and the exploration of the millions of research articles that are currently available by the research community. Your reading experience will be improved by article visualisation tools, which make it easier for you to move between papers, while curators and search engines help researchers find articles of interest and maintain a current understanding of the research's information.

Open access resources are ones that may be accessed without many additional barriers, regardless of time or location, are available for free, and facilitate the rapid discovery of research literature.

ABOUT DIGITAL RESEARCH MANAGEMENT TOOLS

Virtual technologies are being used in every discipline of information, there has been a real explosion of digital tools to collect, analysis, preserve, share and granular information without any hurdles in research process, e-research has considerably moved beyond the use of particular instrument to capture data. 'Growing Knowledge' the growth of research is an exhibition held in London from 12 October 2010 to 16 July 2011 organised by British Library focus on innovative projects – chosen from wide range of disciplines – use new technologies in research to reveal new types of knowledge.

Digital Scholarship has seen plenty of changes in last two decades as technological innovations has transformed almost every aspect of how academic do research, publish, cooperate and teach, this especially true when focusing on side of research. The contribution and share of scientists in open virtual mode publishing process has increased significantly.

APPROACH FOR DIGITAL RESEARCH MANAGEMENT TOOLS

1. Planning and describing data related to the particular task before it get published
2. Archiving your data so, others can trace and understand it.
3. Preserving the data safely during the project
4. Depositing it in trusted and authenticated repository or archive at the end of the project.
5. Linking publications to the datasets that underpin them

OPEN ACCESS SCIENTIFIC DATABASE

Bio hunter: It assist you to find relevant articles for your innovative research and it is especially designed for biomedical sciences, here you can download full text articles from reputed journals at free of cost at your smart phone or desktop and it's also useful for data statistics on given population, it will suggest you journal based on your query.

Get CITED: It is powerful search tool for discovering scientific literature based on your need, it is one stop platform that offers everything related to your academic publications such as chapters, conference papers, reports and presentations. The 2 most outstanding features of this academic search engine consists of 'a descriptive database' and 'discussion forum' and also it supports the patron to search by bibliographies in an article.

Bio line International: It is most authenticated and trusted database of academic journals published in developing nations in Africa, Asia and South America on public health, food and nutritional security, medicine and biodiversity and founded in 1993 by Leslie Chan.

Directory of Open Access Journals (DOAJ): It is another open access directory of journals for scientific and scholarly resources with coverage of 8000 journals available on various scientific disciplines and it is maintained by Infrastructure services for open access and setup by Lund University in 2003 as discussion took in Nordic conference on scholarly communication in 2002. It has collection of open access peer-reviewed scientific journals available at free of cost.

PLOS ONE: It is open access scientific literature platform, launched in 2006 and the articles before publishing in this platform going through strict peer-reviewed process. This

academic database has the lot of meticulous process for publishing a journal and it has rich collection of scientific articles. As per 2016 it has published 22,054 articles.

. **Science and technology of Advance Materials:** It is peer-reviewed academic journal, launched in 2008. It provides free access to academic journals in major areas of science and technology, this academic directory provides easy and simple access to plenty of information related to scientific literature.

New Journal of Physics: It is scientific academic journal database with Physics as core subject and provides access various number of scientific research articles in full text at free of cost. This is founded in 1998, it is co-founded by Institute of Physics and Deutsch Physikaliache Gesellschaft.

Science Open: It is a freely accessible search and scientific resource discovery platform that puts research in context and founded in 2013 by Alexander Grossmann. Smart filters, topical collections and input from the academic community assist you to trace the most relevant articles in your field and beyond, it allows you to setup a personal profile based your ORCID and network to other scientists.

Un paywall: It is an open access database, which covers large scholarly articles from various publishers and it harvests open access content from 50,000 publishers and repositories, it's easy to discover and use to access large number of open access scholarly literature.

. **PubMed:** It is an open access database particularly related to biomedical scientific literature, launched in 1996 by national library of medicine, U.S at national institute of health and it provides access to MEDLILNE bibliography and abstracts on life sciences. In addition to this PubMed also provides references to print version of Index Medicus (1951) and it has own citation styles known as 'PMC Citations' and for uses the medical list of subject heading (MESH) for deriving the keyword to the its publications.

Research Gate: It is global professional network for scientists to portion, trace and discuss research, the ambition of it is to connect world of science and make research visible to all, founded in 2008 by Dr. Ijad Madisch and Dr.Soren Hofmayer. In this academic network you can share your research publications and access million of publication of others at free of cost and provides data about your articles has how many time by other researchers.

MyScienceWork: It serves to international scientific community and promotes easy access to research publications and open science, founded in 2010 by Virginie Simon, a biotech engineer and Tristan Davaille, financial engineer. It is descriptive database consist of greater than 90 million research publications and 12 million patents and will foster data sharing among science organisations

Scientific open access databases	Url
Biohunter	https://www.biohunter.in
Getcited	http://www.getcited.org
Bio-online	http://bioline.org
DOAJ	http://www.doaj.org
PLOS	http://www.plosone.org
Science and technology of Advance Materials	http://iopscience.iop.org/1367-2630
New Journal of Physics	https://iopscience.iop.org/1367-2630
ScienceOpen	https://www.scienceopen.com
Unpaywall	http://unpaywall.org
Pubmed	https://pubmed.ncbi.nlm.nih.gov
ResearchGate	https://researchgate.net
MyScienceNetwork	https://www.mysciencework.com

Open access scientific databases

OPEN ACCESS DATA VISUALISATION TOOLS

Wizdom : It is open source web and mobile based research management software, designed by University of Oxford and developed by colwiz.Ltd. It incorporates reference management, collaboration and networking tools, as well as productivity features like it allows patron to search, read and share research publications, archiving of publications can be done in customised folder of its library. The Wizdom import wizard can automatically publications to its library from other general reference libraries like Mendeley, Zotero and End Note and also other file supporting file formats like(PDF, BibText and RIS). It support browsers like Mozilla Firefox, Google Chrome and Safari and at last it enhance quality of research providing visualisation tool like various graphs and charts of various research done particular subject by institutions ,nations and individual.

eLife: It is an initiative from research funders to transform research communication through progress science publishing, technology and research culture. It provides a novel of looking content on the web.

PaperHive : It discussion forum of research papers embedded in regular workflow, here researchers can attach the questions, corrections, formulas and tables and further literature code or data directly to original research paper. It is licensed under CC-BY-4.0 thus allowing reuse while proper attribution of the author.

Pubreader : It is an alternative web presentation offers another, more user-friendly experience to read articles in PMC and BookShelf and it has designed especially for boosting reading

experience on tablet and other small screen devices. Its main aim is that discover scientific literature in most comfortable way.

Ref-N-Write : it is wonderful research instrument for researcher at primary phase and non-native English speakers, This MS Word add-in tools allow researchers to import articles in to word and while writing research paper, it assists you search related document similar like Google Search engine and it has 20,000 scientific/academic phrases and templates and it useful to check duplicate paragraph or self plagiarism after import document in this to avoid misconduct.

Data visualisation tools	Url
Wizdom	https://www.wizdom.ai
eLifescience	https://elifesciences.org
Paperhive	https://paperhive.org
Pubreader	https://www.ncbi.nlm.nih.gov/pmc/about/pubreader
Ref-N-Write	https://www.ref-n-write.com/trial

Data visualisation tools used to enhance quality of research

OPEN ACCESS BIBLIOGRAPHY MANAGER AND SOCIAL BOOKMARKING TOOLS

Bibsonomy: It is blue social bookmark and publication sharing system and an easy way to handle scientific publications and bookmarks and assist you to collaborate with your colleagues and explore new interesting material for your research.

CiteULike : It is free online web based bibliography manager and social bookmarking service, it allows you to post, view and organise scientific papers, many journal services having this option and at one click allow to you for saving references and it also allows to post links on variety of social networking sites like facebook, twitter etc., and it's useful to share reference lists publicly.

Zotero: It is an open-source citation management software to manage bibliographical data and related research literature. The attractive features consist of web browser integration, online syncing, generation of in-text citations, footnotes and bibliographies utilised with MS Word, Libreoffice writer and Google Docs. It has also launched the online bibliography tool ZoteroBib in May 2018, here patrons can generate bibliographies without installing or creating account in Zotero. It can import data from Google Scholar, Web of Science and Scopus to offer bibliography service.

JabRef : It is open source reference management software typically used for LaTeX and the name Jabref stands for Java, Alver, Batada, Reference and supports 15 citation formats and offers powerful search tools . It can import bibliographic the data from Arxiv, CiteseerX, Google scholar, Medline, IEEE Explore and Springer and many online scientific databases. Retrieval of scientific literature and citation information based on ISBN, DOI, PubMed and arXiv-ID. It can search, filter and detect duplicate citations.

Docear : It is an open source and free academic literature suite, helps to organizing, creating and discovering literature A one user-interface that allows you to organize your literature in descriptive manner. With Docear, you can sort documents into categories; you can sort annotations (comments, bookmarks, and highlighted text from PDFs) into categories; you can sort annotations within PDFs; and you can view numerous annotations of multiple documents, in multiple categories at one. It combines several tools in a single application (pdf management, reference management, mind mapping). This allows you to draft your own papers, assignments, thesis, etc. And suggest papers which are free, in full-text, instantly to download, and tailored to your information need.

Mendeley: It is open-source academic social network and reference management software allows researchers to collaborate online with others and automatic extraction metadata from PDF files and supports all operating systems and file formats.

BibTex : It is web based bibliography management program used for typesetting in conjunction with Latex software and organize your citations and build bibliography within article created with Latex. In this platform, bibliographies can be preserved in any general citation manager and output in this format for addition to your Bibtex reference file.

Open-source citation tools	Url
Bibsonomy	https://www.bibsonomy.org
CiteULike	https://www.citeulike.org
Zotero	https://www.zotero.org
JabRef	https://www.jabref.org
Docear	https://www.docear.org
Mendeley	https://www.mendeley.com

Open-source citation and social bookmarking sites

CONCLUSION

The scientific research academics can utilise these tools to effectively plan their studies, improve the calibre of their output, and boost the number of citations for their publications. These tools help scientists find, gather, analyse, assess, publish, and share data for research operations. They also help researchers get past obstacles in locating and gathering relevant scientific literature to a problem and avoid information gaps in the process of research so they can stay current in their fields of study.

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