Introduction to the Research Tools Mind Map

Nader Ale Ebrahim

Introduction to the Research Tools Mind Map

Nader Ale Ebrahim
Research Support Unit, Centre of Research Services
Institute of Research Management and Monitoring (IPPP)
University of Malaya, Malaysia
aleebrahim[at]siswa.um.edu.my

With the increasing use of information and communications technology (ICT), researchers are able to use computer software tools to find, organise, manipulate, analyse, and share relevant information. However, there are hundreds of such tools to select from, for various research-related uses. I have collected over 700 tools that can help researchers do their work efficiently. It is assembled as an interactive Web-based mind map, titled *Research Tools*, which is updated periodically. Created using the *MindMeister* software platform, *Research Tools* provides a convenient interface with zoom in/out, screen drag, and other user-friendly features.

Being a mind map, *Research Tools* consists of a hierarchical set of nodes. It has four main nodes: (1) Searching the literature, (2) Writing a paper, (3) Targeting suitable journals, and (4) Enhancing visibility and impact, and six auxiliary nodes. In the mind map, each parent node has several child nodes associated with it, which can be accessed by clicking on the plus (+) sign. Several free tools can be found in the child nodes. Some paid tools are also included.

The four main nodes are described below, listing some tools as examples. In the mind map, a green tick sign indicates my preference for some tools. Users can access the tools by clicking on the arrow sign that appears next to the tool title.

1. Searching the Literature

Tools under this node would assist first-year research students and other early-stage researchers in expanding their knowledge base and developing a research focus (Ale Ebrahim, 2013). A sample of these tools is given below, grouped under the specific purposes for which these tools might be used:

(a) Find keywords: Google AdWords, Google Trends, Springer Realtime, KwMap
(b) Develop a new keyword/phrase: Microsoft Adcenter Lab, keyword density analyser, Free Keyword Tool
(c) Find research materials: Web of Science, Scopus®, ProQuest, Research Papers in Economics, Munich Personal RePEc Archive (MPRA)
(d) Evaluate a paper: Publish or Perish, Readermete, Microsoft Academic Research
(e) Access databases: Social Science Research Network, Refdoc, iSEEK Education, Database of Electrical Engineering & Computer Science
(f) Compare resources: Top 30 Web Tools to Search, 100 Useful Tips and Tools to Research the Deep Web
(g) Search visually: Kartoo, Redz

2. Writing a Paper

Several tools on research writing have been assembled under this node. These tools help researchers in various aspects of scientific and scholarly writing. Here is a sample of such tools:

(a) Write and edit: Ginger, Spell Checker, Plagiarisma, Springer Exemplar
(b) Analyse and summarise texts: Smmry, Tools 4 Noobs, Free Summarizer
(c) Search desktop: DtSearch, Copernic Desktop Search
(d) Write collaboratively: Google Drive, Adobe acrobat professional
(e) Synthesise and visualise information: MindMeister, MindMaple, Text2mindmap
(f) Manage bibliographic data: Mendeley, EndNote, Zotero
(g) Build and share article collections: Bibliogo, WizFolio
(h) Detect and avoid plagiarism: Viper, The Plagiarism Checker, Turnitin, Paper Rater

3. Targeting Suitable Journals

Sometimes, researchers are not sure about the journal they should target for publishing their research papers. They would like to evaluate a journal's visibility and credibility before submitting their papers. Researchers can use a range of tools to identify, assess, and select appropriate journals with a view to enhancing their publication profile (Ale Ebrahim, 2010).

(a) Identify potential journals: Elsevier journal finder, JANE (from The Biosemantics Group), Springer journal advisor
(b) Detect relevant journals: Google Alerts, My Citation Alerts (from Web of Knowledge)
(c) Evaluate journal quality (impact factor and journal ranking): Journal Citation Report (Thomson Reuters), SJR (Scimago Lab), Eigenfactor® (University of Washington)

4. Enhancing Visibility and Impact

Publishing a research paper in a scholarly journals is necessary but not sufficient for receiving citations in future. We need to ensure that the paper is visible to the relevant users and authors. There are tools that help in enhancing the visibility and readership of research papers. Effective use of these tools can result in increased citations and, thus, improve the h-index of the author (h-index shows the author's influence as a researcher, see Ale Ebrahim, 2012; Aghaei Chadegani et al., 2013). Here is a sample of tools to increase the visibility of one's published papers:

(a) Create an online CV: ResearcherID, Publications List, ORCID, Google Scholar My Citations, A visual resume
(b) Create an online repository: CiteuLike, Getcited, PubZone, Social Science Open Access Repository, arXiv, HAL
(c) Share bookmarks: Diigo, Delicious, BibSonomy, ScienceWISE
(d) Publish and share information: Scribd, Docstoc®, figshare, Udemy
(e) Network with other researchers: ResearchGate, Academia, LinkedIn

5. Auxiliary Nodes

Research tools which could not be categorised under the above four main nodes have been placed under six auxiliary nodes. The auxiliary nodes are: Survey, Links, Keeping up-to-date (Alert service), h-index, General, and Download. The tools under these nodes can assist researchers in keeping track of their research interest and activities in various ways.

(a) Stay current with research: Science direct alerts, MIT press, PubMed, Conference Alerts, WikiCFP

(b) Collect data: SurveyMonkey, Formsite, Survey share, Google Docs, eSurveysPro, Free Online Survey, KwikSurvey
(c) h-index: Prediction scientific h-index, Finding h-index in Web of Science, Optimizing your article for search engines, 10 Ways to Increase Usage and Citation of your Article Using Social Media

6. Conclusion

We can save plenty of research time by using specific tools for specific purposes. This can facilitate quick progress and early completion of research projects. In my experience, research students who use these tools are able to complete their literature review in less than 3 months.

Acknowledgement

References

Aghaei Chadegani, A., Salehi, H., Yunus, M. M., Farhadi, H., Fooladi, M., Farhadi, M., & Ale Ebrahim, N. (2013). A comparison between two main academic literature collections: Web of Science and Scopus databases. *Asian Social Science*, *9*(5), 18-26. Retrieved from http://dx.doi.org/10.5539/ass.v9n5p18

Ale Ebrahim, N. (2010). *Target ISI journals: How to write/publish ISI papers* [Presentation material]. Retrieved from http://works.bepress.com/aleebrahim/1/

Ale Ebrahim, N. (2012). *Publication marketing tools: Enhancing research visibility and improving citations* [Presentation material]. Retrieved from http://works.bepress.com/aleebrahim/64/

Ale Ebrahim, N. (2013). *The effective use of research tools and resources*. [Presentation material]. Retrieved from http://works.bepress.com/aleebrahim/73/