

Asian Resonance

Evaluation of Internet Resources Useful in Research: Nature and Types

Abstract

"Internet resources have given us the power to get information timely and manage information more effectively. But information is everywhere on the internet, existing in large quantities and continuously being created and revised. This Information exists in large variety (facts, opinions, stories, interpretations, statistics) and is created for different purposes (to inform, to persuade, to sell, to present a viewpoint, and create or change an attitude or belief). This paper discusses and evaluates the usefulness of cost-free, reliable, quality online content to academics in studies and research purposes. The paper also highlights the nature and types of internet resources and concludes that more awareness about internet resources and training in use is to be provided to the library professional".

Keywords: Internet Resources, Electronic Resources, Evaluation Criteria, Research

Introduction

One of the fundamental ways of improving the quality of research work is to facilitate and support the processes of creating, accessing and using information and knowledge. The world of scholarship has changed dramatically in the last decade. Internet resources have given us the power to get information timely and manage information more effectively and also the means to dissolve barriers and offer equity of access to information. Further, internet resources can meet the instant desire of users to have an access to information. These can be used for efficient retrieval and meeting information needs. Thus, libraries are moving towards e-resources and services, which are found to be less expensive and more useful for easy access.

The Internet, particularly its biggest component, the World Wide Web, has surpassed most libraries in the quantity of information it makes available. However, the Web has not surpassed libraries in the overall quality of information it makes available. Traditionally, a main component of library collections has been print (paper) materials. Today, however, many online resources are being added to supplement collections, replace printed (paper) items, or improve access. Although online sources are accessible via the Internet or Web, most originated in paper form and follow the same publication criteria. Therefore the quality of print and online information sources is similar and will be considered the same in this paper.

For print sources, quality control is sought through critical evaluation during the publication process. However, on the Web, anyone with access to the Internet can publish. Web pages are easy to create with little or no training. And there is no overriding organization or governing body ensuring the validity of Web page content. There is a good deal of high-quality information on the Web, but there is also much that is of questionable quality. Do not assume that information on the Web is more current or accurate. Each web page will have to be examined critically. It is the user's responsibility to evaluate information sources, in print and on the Web, that they find during the research process before using it in a paper or other presentation.

Nature of Internet Resources

Internet resources could be of varied nature. Broadly, we could categorise them as follows:

Primary Sources of Information

These include electronic conferences, electronic journals, electronic pre-prints and e-prints, electronic theses and dissertations, patents, standards, technical reports, project reports including status

Parveen Kumari

Librarian,
P.K.R.Jain Vatika Senior Secondary
School, Ambala,
Haryana

Asian Resonance

reports of current ongoing projects, news, software courseware, tutorials, manuals and the like.

Databases, Data Sets and other Collections

These include abstracting and indexing databases; digital collections comprising images, audio, video; scientific data sets comprising numeric, properties, structural databases; library catalogues; virtual libraries; museums and archives, etc.

Electronic Books

Such as Net Library (<http://www.netlibrary.com/>); E-brary (<http://www.ebrary.com/>) etc. Generally online book selling and print-on demand features also facilitated. for instance Net Library has entered into print-on-demand marketplace. Similarly Amazon.com (termed as the largest library though it is not a library in true sense of the word) facilitates online book selling (<http://www.amazon.com>).

Reference Sources

Such as dictionaries; encyclopaedias; biographies; handbooks; thesauri and the like.

Organisations People

Information about organizations and people ranging from funding agencies to libraries; information centres; research institutes; and experts; directories of people of varied nature (scientists; archaeologists, etc.)

Meta Resources

Resources that facilitate easier access to network based resources in a defined subject area and a plethora of such resources under various names available on the Internet, such as subject gateways; virtual libraries; clearing house; pathfinders and the like.

Types of Internet Resources

The resources can be grouped under two broad categories as follows:

General, Information Resources

General Search Sites

Google: <http://www.google.com>,
Meta Crawler: <http://www.metacrawler.com>,
Hot-Bot: <http://www.hotbot.com>,
Alta Vista: <http://altavista.digital.com>,
Yahoo: <http://www.yahoo.com>

People's E-mail Addresses/Web pages:

Search for someone's E-mail Address, the following sources could be tried.

Yahoo; People Search: <http://www.people.yahoo.com>,
Internet Address Finder: <http://www.iaf.net>, The White
Netpages: <http://www.aldea.com/whitepages/white.htm>
I,Who where ? E-mail Addresses :
<http://www.whowhere.com>, Bigfoot.com:
<http://www.bigfoot.com>

Search for Someone's Telephone Number

The following site is useful to search for someone's telephone number.

Switchboard: <http://www.switchboard.com>,
AOL International Directories:
<http://www.aol.com/netfind/international.html>,

College and University Web Pages

To search for college and University web Pages the following site may be tapped:

SearchEdu.Com: <http://www.searchedu.com>,

Academic Institutions Web pages-Christina Demello's List of Colleges and Universities: <http://www.mit.edu:8001/people/cdemello/univ-full.html> Search for Listserv Lists, Web Forums, and News Groups

Locating peers is possible through Online Discussion Groups or Usenet newsgroups or use net on the www which is supported by browsers line-Netscape Navigator and Internet Explorer. Although some academic disciplines prefer Newsgroups over Listserv-type email groups as their scholarly forum, Newsgroups tend to be popular. The best tool for locating newsgroups at present is 'Google Groups'.

For Finding Mailing Lists

Tile.Net/Listserv: <http://www.tile.net/listserv/is> the best tool others are: Liszt Directory of Email and Discussion Groups: <http://www.liszt.com> Impulse Research Corp.'s E-mail Discussion Groups/Lists: <http://webcom.com/impulse/list.html> Forum One's Forum Finder: <http://www.forumOne.com/Stephanie da Silva's Publicly Accessible mailing Lists:> <http://paml.alastra.com/Deja News Research Service:> http://www.dejanews.com/home_ps.shtml

Specific Information Resources

Under the specific resources we shall be touching upon subject-specific resources under the three broad subject categories: Science, Technology and medicine (STM) Social Sciences Humanities

Science, Technology and Medicine (STM)

Elsevier Science (<http://www.elsevier.com/>) or (<http://www.sciencedirect.com>) Springer Science Online (<http://www.springer.de/>) Blackwell Scientific Journals (<http://blacksci.co.uk/uk/journals.html>) Social SciencesWorld Wide Web virtual Library-Social Sciences (<http://vlib.org/SocialScience.html>) Register of Leading Social sciences E-Journals (<http://www.clas.ufl.edu/users/gthursby/socsci/ejournal/html>) ECONbase-Elsevier Science (<http://www.elsevier.com/homepage/sae/econworld/menu.html>) Academic Press Journals (<http://www.apnet.com/journals>) Current Contents /Arts and Humanities (<http://www.isinet.com/isi/products/cc/editions.ccah/>)

Humanities

Technical Documentation from HW Wilson Humanities Index/Abstracts with Full-Text Journal List (<http://www.hwwilson.com/Databases/humani.html>) Social Sciences and Humanities Electronic Journal-UCSD Libraries (<http://libraries.ucsd.edu/sage/ejournals/socialsciencesandhumanities.html>).

Evaluating Information

The Tests of Information Quality

You may have heard that "knowledge is power," or that information, the raw material of knowledge, is power. But the truth is that only some information is power: reliable information. Information

Asian Resonance

serves as the basis for beliefs, decisions, choices, and understanding our world. If we make a decision based on wrong or unreliable information, we do not have power--we have defeat. If we eat something harmful that we believe to be safe, we can become ill; if we avoid something good that we believe to be harmful, we have needlessly restricted the enjoyment of our lives. The same thing applies to every decision to travel, purchase, or act, and every attempt to understand.

The CARS Checklist for Research Source Evaluation:

The CARS Checklist (**Credibility, Accuracy, Reasonableness, Support**) is designed for ease of learning and use. Few sources will meet every criterion in the list, and even those that do may not possess the highest level of quality possible. But if you learn to use the criteria in this list, you will be much more likely to separate the high quality information from the poor quality information.

Credibility

Trustworthy source, author's credentials, evidence of quality control, known or respected authority, organizational support.

Goal

An authoritative source, a source that supplies some good evidence that allows you to trust it.

Accuracy

Up to date, factual, detailed, exact, comprehensive, audience and purpose reflect intentions of completeness and accuracy.

Goal

A source that is correct today (not yesterday), a source that gives the whole truth.

Reasonableness

Fair, balanced, objective, reasoned, no conflict of interest, absence of fallacies or slanted tone.

Goal

A source that engages the subject thoughtfully and reasonably, concerned with the truth.

Support

Listed sources, contact information, available corroboration, claims supported, documentation supplied.

Goal

A source that provides convincing evidence for the claims made, a source you can triangulate (find at least two other sources that support it).

Getting Started: Screening Information

Pre-Evaluation

The first stage of evaluating your sources takes place before you do any searching. Take a minute to ask yourself what exactly you are looking for. Do you want facts, opinions (authoritative or just anyone's), reasoned arguments, statistics, narratives, eyewitness reports, descriptions? Is the purpose of your research to get new ideas, to find either factual or reasoned support for a position, to survey opinion, or something else? Once you decide on this, you will be able to screen sources much more quickly by

testing them against your research goal. If, for example, you are writing a research paper, and if you are looking for both facts and well-argued opinions to support or challenge a position, you will know which sources can be quickly passed by and which deserve a second look, simply by asking whether each source appears to offer facts and well-argued opinions, or just unsupported claims.

Select Sources Likely to be Reliable

Becoming proficient at selecting sources will require experience, of course, but even a beginning researcher can take a few minutes to ask, "What source or what kind of source would be the most credible for providing information in this particular case?" Which sources are likely to be fair, objective, lacking hidden motives, showing quality control? It is important to keep these considerations in mind, so that you will not simply take the opinion of the first source or two you can locate. By thinking about these issues while searching, you will be able to identify suspicious or questionable sources more readily. With so many sources to choose from in a typical search, there is no reason to settle for unreliable material.

But Wait a Minute

Remember that to locate fair, objective material; you must be fair and objective, too. A major error that too many researchers make is to look only for sources whose ideas, findings, or arguments they already agree with. It's fine to have a sense of where you think you are going, but you should be open to opposing ideas and not discount them just because you don't like them or because they conflict with your planned direction. The best researchers usually don't start out "to prove X." Instead, they start out "to find out about X." Be careful not to fall into that circular reasoning trap by thinking, "Books expressing that view are unreliable."

Criteria for Evaluating Internet Resources

The World Wide Web offers information and data from all over the world. Because so much information is available, and because that information can appear to be fairly "anonymous", it is necessary to develop skills to evaluate what you find. When you use a research or academic library, the books, journals and other resources have already been evaluated by scholars, publishers and librarians. Every resource you find has been evaluated in one way or another before you ever see it. When you are using the World Wide Web, none of this applies. There are no filters. Because anyone can write a Web page, documents of the widest range of quality, written by authors of the widest range of authority, are available on an even playing field. Excellent resources reside along side the most dubious. The Internet epitomizes the concept of Caveat lector: Let the reader beware. This document discusses the criteria by which scholars in most fields evaluate print information, and shows how the same criteria can be used to assess information found on the Internet. For this brief introduction to evaluating resources, we will use a list of critical criteria. You might want to remember **AAOCC** (**A**uthority, **A**ccuracy, **O**bjectivity,

Asian Resonance

Currency, and Coverage), if for no other reason than you might be asked to list these criteria and describe them briefly. The same basic questions should be asked of **all** information sources: books, journal articles, web pages, blogs, videos, sound recordings and e-books.

Authority

Who is the author or creator (who is responsible for the intellectual content) and what are his or her credentials? Is there any indication of the author's education, other publications, professional affiliations or experience in the topic written about?

Is there a note or paragraph in the back of the book or on the jacket (cover, jewel case, or supplementary brochure) describing the author's credentials?

Is the author's e-mail address, postal address or phone number provided?

Has the author been cited in other bibliographies?

Sometimes information about an author is available in sources other than the document at hand. Instructors assigning research topics might focus on a particular author. Many authors can be looked up in such resources as:

Checking the Writer's Authority

Use biographical dictionaries and critical essays to investigate the author.

Search appropriate databases for works that cite the article.

Read articles that cite/critique the article (and other works by the author).

Find out if the author has written other articles, reports, etc. on the topic.

Check the online home page for the periodical or its sponsoring organization.

For Web Sites

Be sure to distinguish between the author of the information and, if separate, the Webmaster who put it up.

In the case of Web material provided by committees, organizations, businesses, or government agencies (rather than individuals), similar questions concerning the authority of these bodies need to be asked. Be sure to consider whether information provided by corporate bodies is likely to be objective, factual and carefully researched or whether it is biased toward the particular objectives of those bodies or the causes, movements or agendas they support.

Analysis of the URL provides some indication of identity of the web site sponsor.

Look for an "about us" or "FAQ" (frequently asked questions) page.

Content Reliability/Accuracy/Quality

Is the information provided specific?

For research on any topic dealing with things and events in the real world, accuracy is, obviously, of highest importance. Data and information must be based on observations, measurements, analyses, interpretations and conclusions agreeable to intelligent and relatively unbiased human beings. In the arts, humanities and

religion where imagination is the primary creative force, accuracy is still important in recording names, dates and places that creative works, ideas, and opinions originated from.

In all cases, with all information materials, accuracy appropriate to the topic at hand should be **verifiable**, whether in the nature of the presentation, with available supporting documentation, or both.

1. Are conclusions based on research or actual figures that can be checked in other sources?
2. Are methods of research explained in such a way that it could be reproduced?
3. Are sources of information listed in foot/end notes, bibliographies, or lists of references?
4. How reliable are the cited sources?
5. Are methods of research explained in such a way that it could be reproduced?
6. Are sources of information listed in foot/end notes, bibliographies, or lists of references?
7. How reliable are the cited sources?
8. Are critical reviews available (for books, films, literature, music, art)?

Checking Accuracy and Reliability

Examine the text for evidence of careful research.

Check if data, statistics, and facts are documented (and current).

Double-check information in the article with other sources.

Read critiques and analyses in reputable sources.

Determine if the periodical is peer-reviewed, editor-reviewed, etc.

Examine the quality of items listed in the bibliography, if one is present.

Check the publisher: academic, commercial, non-profit, etc.

For Web Sites

High-quality writing, including good format, grammar, spelling and punctuation, can enhance the appearance of accuracy and bolster a reader's confidence in the accuracy and reliability of a Web document.

Objectivity

Authors often have their own agendas, whether to sell products, influence legislation or capture converts. There probably is no absolute objectivity upon which everyone could agree. When using any information resource, you must decide whether the information is sufficiently objective for the topic and purpose at hand or whether it is biased. Of course a highly biased presentation can be considered in objective scholarly research as long as that bias is described and weighed against alternative views or interpretations.

Is there any advertising (including solicitations for donations) associated with the source?

Does the author provide more than one point of view?

Does the writing use inflammatory or biased language.

Asian Resonance

Checking Objectivity

Examine the writer's claims. Are they logical and reasonable?

Examine the evidence presented. Is it adequate and credible?

Read critical essays about and responses to the article.

Notice the presence/absence and types of advertising.

Currency

Currency is especially important in the sciences where new developments occur frequently.

In the arts and humanities, currency needs to be judged as appropriate. In some cases, a study written years ago may be essential to understanding.

Consider whether or not the timeliness of the information will affect its usefulness.

In all cases, there should be some indication of the date of the material. If research results are given, consider not only the date of the publication but also when the research was actually conducted.

Checking Work's Currency

Check dates on references, if any are given.

Check dates given for any data presented in the text.

Compare the information with that presented in other sources.

Check the publishing history (date on the periodical, footnotes about previous publishing, presence in databases, etc.).

For Web Sites

Obviously it is important for information found on the Web to be up-to-date. However, its appearance on the Web is not a guarantee it is.

There should be some indication of the date of the material, as in the "last updated" statement at the end of many Web documents. Be aware that the "Last updated" date of the web page may differ from date of the intellectual content of the page. This may mean checking three dates, the date the page was last updated or posted to the web, the date of publication, and the date of the research or statistics used.

Coverage

Decide whether the information source adequately covers the topic. It is too easy to go with one or two documents that seem otherwise to be of value but which really cover the topic only partly or marginally. Unless one has already a good sense for the breadth of a topic, one should invest a little more effort toward assuring the material at hand adequately covers it.

Consider how coverage from one source compares with coverage by other sources.

Look for a statement describing the purpose or coverage of the source and consider if the information is in-depth enough for your needs.

Does the information source leave questions unanswered (ask the "five W's and H" to check: who, what, when, where, why and how)?

Checking Coverage

Examine the introductory paragraphs and editor's notes about the article.

Analyze the breadth of content. Does it meet expectations?

Read articles that discuss or analyze the article in question.

Compare the article with similar works.

Look at the article's length. Is it long enough to adequately cover the topic

Design/Presentation

Is the information presented in a logical manner?

Is the text readable? Does colour or a background inhibit use?

Is navigating the site intuitive?

Do the graphics serve a purpose? Do they help communicate the message?

Is there an appropriate use of multimedia?

If frames are used, do you know where information is coming from?

Is there a text-only option?

Is the site useful in a non-graphical browser environment?

Affiliation

Who is the sponsor of the Web site?

Is the author affiliated with a reputable institution or organization?

Does the information reflect the views of the organization, or only of the author? If the sponsoring institution or organization is not clearly identified on the site, check the URL. It may contain the name of a university (U of T Mississauga's includes Toronto) or the extension .edu, which is used by many educational institutions. Government sites are identified by the extension .gov. URLs containing .org are trickier, and require research: these are sites sponsored by non-profit organizations, some of which are reliable sources and some of which are very biased. Sites with the .com extension should also be used with caution, because they have commercial or corporate sponsors who probably want to sell you something. The extension ~NAME often means a personal Web page with no institutional backing; use such sites only if you have checked on the author's credibility in print sources.

If you can answer all these questions positively when looking at a particular site, then you can be pretty sure it's a good one; if it doesn't measure up one way or another, it's probably a site to avoid. The key to the whole process is to think critically about what you find on the Net; if you want to use it, you are responsible for ensuring that it is reliable and accurate.

Purpose & Audience

What is the article's purpose? Is the purpose stated or implied? Does that matter?

1. Does the article try to persuade, inform, or prove something? How so?
2. Is the article a primary or secondary source?
3. Who is its intended audience? How might this influence its content?

4. What type of periodical published the article (scholarly, popular, trade, etc.)?

Checking Purpose and Audience

Read the purpose/mission statement for the periodical.

Read the article submission guidelines.

Notice the tone and terminology used in the article.

Note the presence/absence and types of advertising and announcements.

Examine the types of information, evidence, and examples used.

Find out about the periodical using Genamics JournalSeek and Magazines for Libraries (a reference work available in most libraries).

Conclusion

Electronic resources solve the entire problem of the staff as well as users in the present library system. The easy accessibility make e-resources popular among the library professionals and research scholars. The flood of information and duplication create the problem in front of scholars but due to e-resources it become easy to cope with the respective field and also know what is latest happening in the desired field. The availability of massive amount of information on the internet require expertise for improving the quality of searches from the standard information resources.

Information is at the core of research but getting relevant, pinpointed and exhaustive information from any source is not an easy task, internet resources are only solution which are useful to fulfil the actual information need of researchers by providing different kind of electronic resources discussed above. There is a need to provide training on the use of internet so that the researchers use the appropriate search tools and techniques than just relying on popular search engines and elementary search techniques to obtain information.

References

1. Ali, Amzad. "Internet and University Libraries." *University News*. Vol. 39, 17 (2001): 6-10.
2. Grassian, Esther. "Thinking Critically about World Wide Web Resources." 20 Feb 1997. Available online
3. WWW:<http://www.library.ucla.edu/libraries/college/instruct/web/critical.html>
4. Harris, Robert. "Evaluating Internet Research Sources." 17 November 1997. Available online WWW:
http://www.vanguard.edu/faculty/R_Harris/evaluate.html
5. Kaminer, N. "Scholars and the use of the Internet. *Library Information Science Research*, 19, 4(1997): 329-45.
6. Khan, Abbas. "E-resources: e-books and e-journals. *E-Libraries: Problems and perspectives*. New Delhi Allied Publishers, 2007.
7. Kirk, Elizabeth E. "Evaluating information found on the Internet." 1996. Available online WWW:
<http://milton.mse.jhu.edu:8001/research/education/net.html>
8. Silberg, William M., Lundberg, George D., and Musacchio, Robert A. "Assessing, Controlling, and Assuring the Quality of Medical Information on the Internet," *JAMA: The Journal of the American Medical Association*, 227:1244-1245, April 16, 1997. Also online at:
<http://www.ama-assn.org/public/journals/jama/ed7016x.html>
9. Singh, Rajesh, S.C. Jindal, "Promoting the use of e-resources in Teaching, learning and Research: A case study of DULS", 7th International CALIBER-2009. Pondicherry University, Pandicherry, Feb. 25-27, 2009.
10. Tillman, Hope N. "Evaluating Quality on the Net." 18 May 1997. Available online WWW:
<http://www.tiac.net/users/hope/findqual.html>
11. Yuan, Haiwang, Kmetz, T, and Werrell, E. "Evaluation of Sources." 1 July 1999. Available online WWW:
<http://www.kcvu.org/cvl/infolit4.nsf/>