Chapter 4
Evaluation of Web Resources
CHAPTER- 4

EVALUATION OF WEB RESOURCES

4.0 INTRODUCTION

This chapter explores the need for the evaluation of web resources. The need is inevitable owing to the current information scenario of information explosion on the web. Users are so overwhelmed by the amount of information that can be searched and retrieved on a single click of mouse to be actually bothering to evaluate the information. The chapter establishes the need and importance of information evaluation, highlighting the ambiguous nature of information on web. Moreover, it identifies evaluation as an integral element of information literacy, and considers the development of critical evaluation skills vital for succeeding in this age of ever expanding digital information. It also reviews the various established criteria that have been formulated and presented by various scholars over a period of time for the evaluation of information and suggests the criteria that should be considered for the proper and productive utilization of information retrieved through the web resources.

4.1 EVALUATION OF WEB RESOURCES

World Wide Web has opened up a world of limitless possibilities which is exceptionally multidimensional. One dimension of it presents intriguing, fascinating world to the users captivating their imagination, gratifying them with fathoms of information on a variety of topics on a single click, while the other aspect of it is challenging and demanding. Users are so entangled in the web that they find it hard believing that information on it can ever be inaccurate or erroneous. This facet of the web seems to be demanding, it demands the development of the critical information evaluation skills for the constructive and appropriate utilization of web as a tremendous information resource.

Evaluation of information is an integral part of any scholarly work, and a vital component of information search and retrieval. Rationale behind it is the fact that not every bit of information acquired through the web resources is accurate or to be relied or trusted upon. In an era where web seems to act as a global reference resource users are so inundated by the quantity of information available on the internet that they are least bothered about checking the quality of the information retrieved. The
phenomenal increase of information on the web has also raised concerns about the quality of information.

Although the web has surpassed the libraries in terms of the quantity of information resources it makes available, however the quality of information on the web has yet to surpass the quality of traditional print resources contained in the library.

According to Ajuwon et al. (2011) “The evaluation of information is the process of critically analyzing a document or information in order to establish its quality or value and decide the credit to give to it. The analysis is done by applying judgment criteria to establish its reliability, authenticity, credibility of the source, the reliability, the validity of the information”

4.2 NEED FOR THE EVALUATION OF WEB RESOURCES

There is considerable amount of difference between web resources and print information sources in their authority, accuracy, objectivity, currency, and coverage. Print sources generally have to go through rigorous peer review and editorial processes before getting published, while such processes are frequently missing in case of web resources where with the advent of web 2.0 the web has become more interactive than ever before making it very easy to publish anything anytime quite effortlessly on the web, though peer reviewed scholarly information remains an exception.

Users tend to possess a blind faith on search engines and it has gradually become the psychology of the internet users that everything they come across on the web is true and they are inclined to believe it irrespective of the fact that the web is a mix of information retrieved through different hosts, web sites, domains and from various other web resources some of them might be published by individuals on mediums such as blogs, personal web sites etc. which generally reflect their personal perception on a given topic and are likely to be biased, while commercial website present advertisement and entertainment material in such a manner that the users find it difficult to discriminate such information from the authentic, authoritative factual information.

Evaluation of the information sources is an important skill which the internet users must acquire in order to judge differentiate and critically evaluate the
credibility of all types of information sources prior to just blindly relying on them. Xie, Benoit and Zhang, H. (2010) opined that evaluation is an essential component for information search and retrieval. Metzar, Flanagin and Zwarun (2003) expressed concern over the potentially dubious nature of information on web also, highlighting the characteristics of the Internet such as, the lack of centralized control and regulation, the ease of content alteration and distortion making it susceptible to accuracy or credibility matters.

The need to evaluate information becomes more important in the context of plethora of online resources. This need arises because the Internet does not have an editorial board that controls and validates its content (Ajuwon et al., 2011). Growing importance of digital information in our lives, has guided researchers to study information access, utilization and evaluation (Eastin, 2008).

Determining the quality of information found on the web is a tricky task. Fitzgerald (1999) deemed evaluation to be an immensely difficult and complicated process and thought it to be an “Information Literacy Challenge”. Burbules (2001) believed that “web is not an ordinary reference system; it poses some unique and, in many respects, unprecedented conditions that complicate the task of sorting out dependable from undependable information”.

This problem of sorting out credible from unreliable deceptive information has intensified as the number of resources that are placed and distributed on the web without editors and fact checkers grow day by day in comparison to print publications where traditional gatekeepers and editors are present for monitoring the quality. Rieh (2002) considered making judgments of information quality and authority a difficult task owing to the overall dearth of quality control mechanism on the web. Sundar (2008) pointed that, the assessment of credibility of information on web is a much more complex process than traditional media because of the multiplicity of online sources available. Even though information access has become comparatively easier than the earlier times users still face challenges in judging and discriminating credible information from unfiltered information and in pertinent selection of information to their need. That is, because of the less rigorous quality control standards than traditional information sources on the Internet (Lim & Simon, 2011). Hjørland and Nicolaisen (2010) considered evaluation of information a crucial step for decision making and opined that “The use of information plays a central role in human
problem solving and decision making processes. The reliability and validity of the information used is critical for the outcome of these processes. The use of biased or incorrect information may well lead to problem solving failure and to poor decision making. The critical assessment of information and information sources is therefore a vital step in all problem solving and decision making”.

The need for the evaluation of web resources is further summarized in the following points:

a) The ease of publishing on web has made ways for anyone to put anything on it, because of the frequent lack of traditional editorial and review process and quality control mechanisms. (Flanagin & Metzger, 2000; Hung, 2004; Klein, 2003; Lim & Simon, 2011; Metzger & Hall, 2005; Rieh, 2000).

b) Information available on the web might not necessarily be always accurate, current, or credible. Information available on web can potentially be biased, distorted, or wrong.

c) The heavy influx of information on web has made it impossible to read all published documents. Thus making it worthwhile to evaluate and select the relevant ones that provide the most comprehensive understanding about a subject or topic (Ajuwon et al., 2011).

d) Information is more readily available and accessible presently than ever before. But the information available online is vague and sometimes difficult to ascertain (Burbules, 2001).

e) Stability of Internet sources is a matter of concern because web documents can be changed easily. And once changed, the original document is not found on the specified URL, unless specific efforts are made for its preservation. Web resources possess hyperlinks which sometimes turn out to be dead or broken and needs to be evaluated.

f) Lack of universal standards for posting information on the Internet. No centralized control mechanism and regulations for maintaining the quality of information (Metzger & Hall, 2005; Rieh, 2002).

g) Content of digital information may easily be altered (Metzger, 2003). Plagiarism from online sources has become a matter of concern (Jones & Madden 2002).
4.3 EVALUATION OF INFORMATION: IMPLICATION, IMPORTANCE, AND INFORMATION LITERACY

The right type of information, presented in the right form, available at the right time is a prerequisite for correct decision making. However, an important characteristic of Information is that it should be accurate, current, comprehensive, and relevant for being worthy to decision makers. An individual should be information literate i.e. he should possess the ability to identify the need for information and to be able to identify, locate, evaluate its credibility and appropriateness, and effectively use that information for accurate decision making.

Many renowned international organizations have emphasized evaluation as a valuable implication of information literacy, also an inseparable and important element of it.

American Library Association in the final report of its’ Presidential Committee on Information Literacy (1989) emphasized on the need of information literacy and proclaimed that “To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information”.

Chartered Institute of Library and Information Professionals (CILIP) in the year 2004 defined information literacy as “Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner”.

Alexandria Proclamation on Information Literacy and Lifelong Learning (2005) highlights that information literacy “empowers people in all walks of life to seek, evaluate, use, and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion of all nations.”

The United States National Forum on Information Literacy defines information literacy “as the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand”.

91
It is evident from the definitions presented above that evaluation of information is an integral and a very important part of information literacy. In order to prosper in this new digital information environment development of a critical set of competencies and prudent evaluation skills is vital for the effective searching, critical evaluation and better utilization, creation and dissemination of information.

4.4 CRITERIA FOR THE EVALUATION OF INFORMATION ON WEB

The evaluation of information resources and assessment of the credibility of information has always been a matter of consideration among scholars. Rieh (2010) stated that “The emergence of information technology, the Internet in particular, provided the impetus for improved and more formal understanding of the notion of credibility”.

Although, need for the evaluation existed even with the traditional print resources. William Katz in his book “Introduction to Reference Work” proposed six criteria for the evaluation of traditional print sources which are as following:

- Purpose
- Authority
- Scope
- Audience
- Cost
- Format

Since then many scholars have formulated and presented various criteria for the evaluation of information on the web. Some of these criteria are based on the criteria used for traditional print sources, while the others have evolved as a result of necessities and demands presented by the digital information environment on the Internet. Some of these criteria are reviewed ahead.

Kirk (1996) compiled a group of criteria for evaluating information found on the Internet they are:

i. Authorship

Authorship involves determining the author of the webpage, looking for the positive reviews about the author or links to the author’s Internet document from other trusted
authorities. Checking the availability of biographical information about the author including, the author's position, institutional affiliation and address.

ii. Publishing body

Evaluation of publishing body is an important criterion because of the ambiguity of the information published on the internet. Considers, whether the webpage is sponsored by an organization and, is the organization a recognized one in the area of study. Presence of any hints such as watermarks, header or footers that confirms the document to be a part of an official academic or scholarly web site also needs to be inspected.

iii. Point of view or bias

Another important consideration was to examine the provider of the information on the Internet and steps for evaluating bias or point of view based on authorship or affiliation were presented. Examining the URL of the website for finding out information about the host, i.e. if the website is hosted by a corporation it will provide only positive information about the corporation hiding its shortcomings. Likewise, a website hosted by a political party will project their point of view and bias. Presence of advertisement also needs to be checked.

iv. Referral to and/or knowledge of the literature

Author related this aspect of evaluation with the authors’ knowledge about his or her discipline and its practices. The proposed criteria involved checking the inclusion of bibliography. An indication of the appropriate treatment of subject by the author can be provided by the presence of theories, schools of thought, or techniques. Checking whether the author has discussed the value and/or limitations of a new theory or technique used as a basis for research.

v. Accuracy or verifiability of details

Author considered verification of data as an important part of the evaluation process, especially while going through work of an unfamiliar author presented by an unfamiliar organization. In case of a research document, author suggested checking the inclusion of research method(s), data collection, and analysis method. As well as, to examine the appropriateness of methodology used, and whether it will allow the
study to be duplicated for the purpose of verification. Looking for the links to other documents was also advised.

vi. Currency

Currency refers to the timeliness of information. Ascertain currency comprises inspecting the inclusion of a publication date, a date of copyright or a "last updated" date. Furthermore, to examine the occurrence of any information about the regularity of updates, i.e. whether the information is updated on a regular basis.

Kapoun (2000) formulated five criteria for web evaluation based on the criteria used for the evaluation of print resources, which included:

i. Accuracy

Involves, ascertaining the authors’ qualifications and looking for the ways of contacting the author.

ii. Authority

Deals with, checking the authors’ credentials and the URL domain of the site for e.g. (.edu, .gov, .org, or .net), as .gov, .edu sites are considered preferable and more credible.

iii. Objectivity

Related with, determining the goals and objectives that the web page meets, also checking the presence of any biases or advertisements.

iv. Currency

Considers when was the web document published and updated, examining the presence of dead or working links.

v. Coverage

Includes, looking for the balance of text and images. Finding out if the information is cited properly and, whether it is freely available or limited by fees. Whether there is a special requirement for particular browser technology or software for the better access of information.
Smith (2005) presented a set of seven criteria for the evaluation of internet information sources, which included evaluating scope, content, graphic, and multimedia, design, purpose, reviews, workability, and cost. These criteria were further subdivided into various other aspects:

i. **Scope**

Breadth, depth, time, and format were included as a part of evaluating scope. Breadth relates to the different aspects of subjects that are covered, examining depth of internet information sources includes how thoroughly and to what level of detail the information is provided. Evaluating time and format includes checking whether the information in the resource restricted to certain time periods and the exclusion or absence of certain kinds of Internet resources (for example PDF, FTP).

ii. **Content**

Content evaluation encompasses judging the accuracy, authority, currency, uniqueness, links made to other resources and quality of writing

iii. **Graphic and multimedia design**

Graphic and multimedia design involves looking, whether the presence of audio, video is distracting from the content, or substituting the content.

iv. **Purpose** and the intended audience

v. **Reviews** about the website from the other reviewing services

vi. **Workability** further classified into areas such as user friendliness, required computing environment, searching, browsability, and organization, interactivity, connectivity

vii. **Cost**

It included both the costs of connecting to the resource and the costs associated with the use of the intellectual property contained in the resource.

Tillman (2003) proposed the following criteria for the evaluation of web resources:

i. Stated criteria for inclusion of information

ii. Authority of author or creator

iii. Comparability with related sources
iv. Stability of information

v. Appropriateness of format

vi. Software/hardware/multimedia requirements

Beck (2009) discussed criteria for the evaluation of web sources in detail with examples and rationale behind the criteria of evaluation. The criteria formulated are discussed below:

i. Authority

It is important to determine the authorship of the web page by identifying the authors’ qualifications and looking for the links on the webpage that may provide some additional information about the author or the sponsor of the website. Determining the reputation of the sponsor is also necessary. Looking at URL, domain (e.g. .org, .com, .ac, .net etc.) of the website may provide useful hints for determining the authority. Rationale that the author provided for determining the authority was that, as anyone can publish anything on the web; it is often hard to determine the authorship of a web page. Qualifications of the author are not usually provided; also the sponsorship of the webpage is not always indicated.

ii. Accuracy

Evaluating accuracy deals with determining, whether the information on the website is verified or checked by any editor. Is the information reliable and error-free also needs to be checked. Rarity of editors or fact-checkers for the web resources, unlike that of traditional print resources and lack of any web standards to ensure accuracy were quoted as the important reasons for judging the accuracy of web sources.

iii. Objectivity

Author suggested for looking at the presence of any bias on the information on the website. Hyperlink to the website of Federation for American Immigration Reform was provided by the author as an example i.e. the website sponsored by a particular organization reflects their opinion or point of view and which may be biased to their ideology. Some websites are created to influence peoples’ opinion on a particular issue it was recommended to check if a website is designed to sway opinion or not. Hyperlink to the website of People for the Ethical Treatment of Animals (PETA) was provided as an example. Author further advised checking the
occurrence of any advertisement on the page. Rationale provided for doing so was the reason that goal and the purpose of creation of website are not frequently and clearly stated by the sponsors or the authors. Author compared web as a virtual “soapbox” offering users a platform to publish their thoughts on web making it necessary to check the objectivity of the website.

iv. Currency

Author proposed some points to be considered for checking the currency of a web source. Examining any indication of the date when the material was first placed on the website, inspecting when the web page was last revised or updated, does the website possess the current, working links, or they have expired or moved were some of the criteria that were provided by the author for evaluating the currency of a web source.

v. Coverage

While evaluating the coverage of a web resource, it was suggested that examining the coverage area or the topics that were covered, also taking into account its intrinsic value and looking at how comprehensively the information is covered is essential. Logic provided for evaluating the coverage of information source was the difference in the extent of coverage between print and web based resources. It is also preferable to check the presence of links to other web pages or print references.

Various criteria for evaluating information on web resource can be summarized as following:

i. Authority

Evaluating the authority of a web resource involves:

- Identifying the authorship of a web page.
- Checking the credentials of the author.
- Finding out author’s affiliations with any university, department or government organization, etc.
- Inspecting the provision of contact information about the author such as an email link, address, or phone number for the author.
- Examining whether any reputed publisher or organization is authority behind the information.
ii. **Accuracy**

Evaluating the Accuracy of a web resource deals with:

- Checking whether the web resource provides links to other reputable and reliable sites.
- Examining whether the web resource provides peer reviewed scholarly information.
- Provision of cross references to scholarly information.
- Determining the host of the website by analyzing the domain name such as .gov, .edu, .ac, .com, .org, net. As the information on websites with .gov, .edu, .ac domain name is believed to be more accurate.

iii. **Coverage**

Evaluating the coverage of a web resource includes:

- Checking the depth of the information
- Comparing the information with that present on other web and print sources.
- Examining the balance of text and images
- Checking whether the information covered is freely available or requires fee.
- Inspecting the inclusion of graphics, tables, maps or other tools that may help to better explanation of the topic if required.

iv. **Currency**

The currency of a web resource refers to how current or up to date is the information provided on it and involves:

- Checking the date of creation of the web page to examine the currency of information.
- Determining the date when the information was last revised or updated.
- Examining whether the hyperlinks are current leading to the up to date information or have they turned obsolete or dead displaying error messages.
v. **Purpose**

Evaluating purpose comprises of:

- Examining the motive behind creation of the web resource.
- Inspecting the intended audience for whom the resource has been created.
- Determining whether the resource is aimed at specialized or a general audience or it caters to the scholarly audience or experts or has it been created for general public or novices.
- Checking out whether the purpose of the resource is to provide factual information to the users, to persuade them to a particular issue, to entertain them or whether it is a commercial website with the purpose of selling things.

vi. **Objectivity/ Point of view or bias**

Evaluating the Point of view or bias of a web resource includes:

- Examining, the provider of information and their potential point of view or bias.
- Determining whether the provider of information is an organization, religious group, political party, academic institution etc.
- Finding out more about the provider to get an idea about their ideology or point of view.
- Checking the presence of advertisement on the webpage.

**4.5 CONCLUSION**

Trend of information search and retrieval has changed with the passage of time and so has the sources of information. The shift from the print information sources to web based information resources has made information access much easier than it was for earlier generation though, with an added responsibility that is, the responsibility of evaluating the information. Rapid and extensive influx of information on web has made it an outpouring source flooded with multiplicity of information on a variety of subjects and themes and hence quality of information remains uncertain. The need for evaluation is irrefutable, considering the ease of publishing and dearth of traditional editorial and review process for quality control of information on the Internet.
Researchers have put forward many criteria that can guide users in judging and evaluating the credibility of information on the web. The important ones that can be of help for this purpose include: authority, accuracy, coverage, currency, purpose, and objectivity. Users need to develop intellect and required skills for the correct evaluation of the information. A better level of awareness and information literacy will facilitate better and productive utilization of web resources.
References


Sundar, S. S. (2008). The main model: A heuristic approach to understanding technology effects on credibility. In M. J. Metzger & A. J. Flanagin (Eds.), *Digital media, youth, and credibility* (pp. 73-100). The MIT Press. doi: 10.1162/dmal.9780262562324.073
