

UNDERSTANDING INFORMATION MANAGEMENT: AN ANALYSIS UPON WEB-BASED INFORMATION CREDIBILITY

Cezar VASILESCU

Regional Department of Defense Resources Management Studies, Brasov, Romania

Abstract: *The plausibility of Internet information is a challenging and actual analysis subject. This paper analyses what the term credibility means in an online environment, the factors that influence the credibility assessment of online information and the skills Internet users need to undertake such an evaluation. The paper also offers recommendations and proposes strategies to put in practice online credibility testing methods needed to locate credible, relevant, and useful information on the Internet.*

Keywords: *Internet credibility, trust assessment, information verification.*

MOTTO: "Of course it's true; I got it on the Internet."

1. INTRODUCTION

Beside the traditional sources of printed information available since the typographies were invented, the Internet integrates more and more in our lives as an important source of information. Most of people judgment processes and decisions are influenced by web-based information easily available online. Digitization and Internet related technologies decreased the cost of information spreading while increasing accessibility to the information.

The wealth of websites raises the issues of plausibility and quality of the information found online. Unlike traditional print publishing, digital information might be created and posted online anonymously and may be easily altered or plagiarized. The search for information never stops and since all of it has the same level of accessibility to Internet users one could think that all authors (web sites, blogs) have the same level of credibility.

Before attempting to assess the relative level of online information credibility, it is appropriate to consider exactly what the word *credibility* means. It is utilized in a variety of domains, from business, marketing and information science to journalism, sociology

and linguistics. We can start defining credibility by citing its Latin root *credere* - which means "to believe". The Merriam-Webster dictionary mentions that credibility means "*the quality or power of inspiring belief*". A second definition of credibility refers to "*the objective and subjective components of the believability of a source or message*" (Wikipedia).

According to Tseng and Fogg (1999:41-42), there are four types of credibility:

- a. presumed credibility - belief based on general assumptions;
- b. reputed credibility - belief based on a reference from a third party;
- c. surface credibility - belief based on what we find on simple inspection;
- d. experienced credibility - belief based on first-hand experience.

In attempting to determine the level of credibility/believability of web based information, it is highly recommended that users consider all of these types of credibility. In practice, surface credibility is the prime criterion for most users due to the fact they use a search engine that retrieves lots of results.

Users tend to consider the first sources retrieved. In those few seconds before clicking on the next site retrieved, the appearance and design of a website is decisive in judging the

credibility and value of information - "...looking good is often interpreted as being good - and being credible" (Fogg *et al.*, 2002:31). A study on websites credibility revealed that 46.1% from the total number of participants mentioned design look as the decisive judging factor. They also add credibility to the information based on the search engine they are using (presumed credibility), reputed credibility if the website belongs to a reputable organization or known person, and experienced credibility if they had previous positive experience with the website.

2. PLAUSABILITY OF INTERNET INFORMATION

The plausibility of Internet information is a challenging and actual analysis subject. Its challenging nature derives from the limitations induced by: the size of the problem analyzed (the volume of the www); the increasing speed of Internet information growth and change; the fact that the web is a self-sustaining reference system (we rely on other information from the Internet to judge the credibility of what is of interest for us) and the rapid rate of information dispersion.

For understanding the different plausibility degrees of web-based information, an analysis of search engines plays an important role. Search engines like Google or Yahoo are lately major players in information search technologies and tend to substitute more and more traditional sources of information like printed papers from libraries and book stores. A 2004 statement "*Let us accept that this (Internet driven) change is profound, accelerating, transforming and unpredictable*" (DeRosa, 2004) is more contemporary than we like to admit. All of these changes, however, have led to another, more troubling, statement, "*Of course it's true; I got it on the Internet*".

"92% of Internet users say the Internet is a good place to go for getting everyday information" (Fallows, Rainie, 2004). It's clear that those users utilize Internet frequently, for significant purposes in order to be informed or just to find certain information to meet immediate curiosities. The features of search engines are constantly changing in

order to improve the interface, algorithms and to provide a better user experience. Early search engines like AltaVista were based on text relevance and link analysis to return results matching the key words from the search engine's query-field. The new Web 2.0 search technologies are using many different methods of information retrieval, because the search process became more complex, dealing with text, video and sound files embedded in web pages.

The search engines task got even harder just because the Internet includes not only the Web (html pages) but also a wide variety of digital information in formats including emails, blogs, wikis, RSS, podcasts, streaming audio/video, photos and videos, etc. accessible through personal communication devices. The credibility of the information available on the Web is a major issue for all sources of electronic information, regardless of the format or distribution path. It is a fact that the quantity scale of available information is huge, but the prevailing perception of users is that the information quality could be often improved.

Most Internet users rather resort to a search engine than a specific website in their quest for particular information. The limited time available and the feeling that something better is always on their fingertips leads to the following behavior: most searchers use fewer than three query terms, do not look past the first few results (or view only the first search engine results page), do not use plus, minus signs (or Boolean operators), and do not use the advanced search features (Lewandowski, Hochstotter, 2008:351).

The final goal should be not only to index millions of websites but also to provide search results from sources that are trustworthy. Web search engines routinely retrieve millions of items, but are these items credible, relevant, and useful? A common situation on Internet is the availability of false, inaccurate or outdated information. Additionally, users tend to ignore plausibility issues and make little or no attempt to crosscheck the accuracy information from one site on other websites. This leads to the need to somehow categorize the sources of web-based information in

plausible, less plausible and false. Unfortunately it is not possible to regulate, filter, eliminate, or ban all misinformation on the Internet, so the burden to discern “white from black” leans on users’ rationality.

3. THE USERS AND WEB-BASED INFORMATION CREDIBILITY

In most cases, the background or expertise of users affects the way they evaluate the credibility of information. Experienced Internet users are normally more critical on the believability of the information found on a certain website, while less experienced users often accept the trustworthiness of any information and made almost no attempt to verify the accuracy of it. The issue is how users can effectively and efficiently assess the credibility of the information they retrieve from search engines. Three main components affect this ability (Byerly, Brodie, 2005:4):

(1) *Skills* - including information literacy and related literacies that users must possess to be effective in an information environment;

(2) *Tools and technologies* - that are designed to allow users to navigate information; and

(3) *Institutions* - such as libraries and schools that transfer these skills and prepare individuals to be critical thinkers and consumers of information.

Developing the skills to evaluate Web-based information credibility is crucial for Internet users. These skills are more or less the same as for evaluating information found in other sources of communication. To evaluate web-based information users could use the checklist approach using the following criteria (Harnack, Kleppinger, 2003; Metzger, 2007):

Table 1 Criteria of evaluation

1.	Authorship / Authority	Who is the author and what are his credentials; May be assessed by noting who authored the site and whether contact information is provided for that person or organization, what the author’s qualifications, and affiliations are, and whether the Web site is recommended by a trusted source.
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2.	Coverage or Scope	Refers to the comprehensiveness or depth of the information provided on the site.
3.	Objectivity/ Knowledge	Seek out other sources to see if the author has considered enough alternative views.
4.	Accuracy	Refers to the degree to which a Web site is free from errors, whether the information can be verified offline, and the reliability of the information on the site.
5.	Currency	Refers to whether the information is up-to-date. When the site was last updated?

Here are some examples regarding the above mentioned criteria:

- *Currency*: “Does the site provide information about when the information was posted or updated?”

- *Accuracy*: “Does the web site list contact information such as a phone number or address?”

- *Objectivity*: Consider whether the views represented on a site are facts or opinions

- *Authority*: Check to see who the author of the web site is; Verify the author’s qualifications or credentials; Check to see whether the contact information for the author or organization is provided on the site and look for an official “stamp of approval” or a recommendation from someone you know.

The degree to which Internet users follow the recommended criteria to evaluate the credibility of the information they find online was analyzed in several studies (Metzger *et al.*, 2003). One of the most puzzling findings was that users are not always willing to check the accuracy of web-based information. They obtain higher scores on actions that are easiest to perform and that require their opinion and lowest on the recommendations that are more time consuming and require effort to perform.

4. CONCLUSIONS

The checklist approach to credibility assessment is more an academic theory and is not examining what factors people really use to determine online information believability.

In practice, the main criteria to estimate the believability stress on the identity of the source and quality of the data presented on a website. People heavily rely on design elements that appear to be also a primary factor in making credibility judgments. The judgment is based on whether:

- the source is an official authority
- the page cite scientific references
- the site is professionally designed and easy to use, and
- the site is written in a language easy understandable.

Another finding was that different users use different processes at different times in order to evaluate the credibility of online information.

User motivations additionally influence the degree to which users critically evaluate online information. Of course not all websites need a thorough examination, which ultimately depends upon the purposes and intent of the user of the information. Clearly, when people are motivated due to personal factors (willing to understanding some issues) they are likely to pay put more effort in evaluating the information. Users will go beyond the design of the web page to examine the information content and its author or source, taking a more rigorous approach to credibility assessment. Users who are less motivated to find credible information may not analyze credibility at all.

In conclusion, the analysis upon web-based information credibility shows that in general credibility assessments should not be left to the latitude of users, because they will not exert enough effort to verify the credibility of such information. A possible solution could be the development of automated tools that make the assessment for users, in conjunction with a training offering on how to use those tools or systems.

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