Web Credibility

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INTRODUCTION

Credibility evaluation processes on the World Wide Web are subject to a number of unique selective pressures. The Web's potential for supplying timely, accurate, and comprehensive information contrasts with its lack of centralized quality control mechanisms, resulting in its simultaneous potential for doing more harm than good to information seekers. Web users must balance the problems and potentials of accepting Web content and do so in an environment for which traditional, familiar ways of evaluating credibility do not always apply. Web credibility research aims to better understand this delicate balance and the resulting evaluation processes employed by Web users.

This article reviews credibility conceptualizations utilized in the field, unique characteristics of the Web relevant to credibility, theoretical perspectives on Web credibility evaluation processes, factors influencing Web credibility assessments, and future trends.

BACKGROUND

Credibility is one of several dimensions that influence message persuasiveness (Petty & Cacioppo, 1986), attitudes toward an information source (Sundar, 1999), and behaviors relevant to message content (Petty & Cacioppo, 1981). While credibility is largely viewed as a source characteristic, attitudinal assessments relevant to credibility, including those made on the Web, are directed at messages (content), sources (information providers), and media (the Web itself).

Conceptualizations of source credibility have traditionally focused on two primary source attributes, expertise and trustworthiness (Hovland & Weiss, 1951), and these conceptualizations have been influential in Web credibility research (Fogg & Tseng, 1999; Wathen & Burkell, 2002). Expertise refers to a source's perceived ability to provide information that is accurate and valid (based on attributes such as perceived knowledge and skill), while trustworthiness refers to a source's perceived willingness to provide accurate information given the ability (based on attributes such as perceived honesty and lack of bias; Hovland, Jannis, & Kelley, 1953). Thus, the underlying dimensions in conceptualizations of credibility predominantly refer to perceived qualities. Particularly with respect to interactive systems, including the Web, existing research has focused primarily on factors influencing the perception of credibility as opposed to factors predicting objective measures of accuracy.

Numerous related constructs have been investigated in the Web credibility literature, including believability (Flanagin & Metzger, 2000), which is arguably a synonymous construct of credibility (Tseng & Fogg, 1999); information completeness (Dutta-Bergman, 2004), referring to the extent to which necessary elements for confirming message accuracy are present; cognitive authority (Rieh, 2002), referring to the extent to which users believe they can trust the information; and reputation (Toms & Taves, 2004), referring to future expectations of information quality and credibility.

Attitudes toward messages that are relevant to credibility and its related constructs are determined at least by the characteristics of (and interactions amongst) the source, message, and receiver (Self, 1996; Slater & Rouner, 1996). Such assessments are often extensions of source credibility: Credible sources are viewed as likely to produce credible messages. Particularly when constraints such as limited time, lack of ability, or low motivation force the user to focus on surface or peripheral features of the message, source, or medium in processing Web content, one may expect source credibility to heavily influence perceptions of message accuracy and information quality (see Petty & Cacioppo, 1986).

In recognizing the frequent need for computer users to balance a range of information-seeking goals with the need for efficiency and productivity,

Fogg and Tseng (1999) have proposed four types of credibility in assessing interactive systems: presumed, reputed, surface, and experienced. *Presumed credibility* assessments are based upon general underlying assumptions about the system, for example, in assuming that Web sites in the dot-org domain are more credible than those in the dot-com domain. *Reputed credibility* assessments are based upon third-party reports or endorsements, for example, in finding pages linked to by a credible site as likely to provide accurate information. *Surface credibility* assessments are based upon features observable via simple inspection, for example, in using visual design or interface usability as an indicator of credibility. Finally, *experienced credibility* is based upon first-hand experience with the system, for example, in returning to a Web site that has previously provided information verified by the user to be accurate.

Conceptualizations and taxonomies of credibility recognize the construct as not only referring to source characteristics, but as referring to attributes relevant to the perceived likelihood of message accuracy and validity. In so doing, they distinguish credibility from another related construct: trust. Trust relates more properly to the perceived likelihood of behavioral intentions, reliability, and dependability rather than message accuracy, and as Fogg and Tseng (1999) point out, the word is often used in phrases referring to credibility, such as "trust the information" and "trust the advice."

Given a grounding in the credibility concept, Web-credibility researchers have set out to operationalize the construct in a number of ways. As Wathen and Burkell (2002) point out, credibility may be operationalized by either direct or indirect assessment methods, both of which have been applied to Web credibility research. Researchers employ direct assessment methods by asking users to rate the extent to which the source, message, or medium is described by the underlying dimensions of credibility. Indirect methods in the field include measuring attitude and behavior changes as a result of stimulus Web content. Moreover, the field is by no means limited in its range of methodological approaches. Experimental, quasi-experimental, and traditional and Web survey methods are all commonly employed. Qualitative analyses, including interviews, case studies, and thinking-aloud protocols, are also employed to investigate user reasoning about credibility.

UNIQUENESS OF THE WEB

The types of needs that trigger usage of the Web may be relatively similar to other media (Rieh & Belkin, 1998), and Sundar (1999) has found the underlying dimensions of Web and traditional media credibility assessments to be similar. Rieh (2002), on the other hand, has since found that the range of evidence Web users consider in making these assessments is much wider than for other media, and even in cases where the factors considered are similar, they may be weighed differentially across media (Payne, Dozier, & Nomai, 2001). Moreover, the Web may be less credible than print newspapers (Flanagin & Metzger, 2000), but in some cases, more credible than traditional media counterparts such as television, radio, and magazines (Flanagin & Metzger; Johnson & Kaye, 1998). Finally, Klein (2001) has found users to be generally aware of credibility differences between the Web and other media.

Given these differences, one may ask, What is special about the Web with respect to credibility? Researchers have theorized or empirically identified a number of ways in which features of the Web may give rise to differences between online credibility assessments and those made with traditional media. These explanations tend to focus on four general characteristics of the Web: (a) the relative lack of filtering and gatekeeping mechanisms, (b) the form of the medium, including interaction techniques and interface attributes either inherent to the Web and other hypertext systems or emergent from common design practices, (c) a preponderance of source ambiguity and relative lack of source attributions, and (d) the newness of the Web as a medium in conjunction with its lack of evaluation standards.

Filtering Mechanisms

Perhaps the most critical feature of the Web with respect to user credibility evaluations is its relative lack of centralized information filtering or quality

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