

# Preliminary Findings on Developing a Scale for Credibility Assessment on Interactive Web Platforms

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## ABSTRACT

This poster introduces an ongoing project to develop a scale for measuring information credibility on current and newly emerging interactive web platforms. The poster reports on preliminary findings from an initial phase in the project to generate an item pool based on an analysis of existing scales for credibility ( $n = 3$ ) and empirical studies in the library and information science literature on web credibility assessments in the social media context ( $n = 19$ ). Results show that in most papers analyzed (16 of 19; 84.2%), credibility was conceptualized as a one-dimensional construct and often measured with only one item (e.g., credible, believable), despite the common view among scholars that credibility is a high-level, multifaceted concept. The analysis also identified 59 semantically distinct items as an initial pool, which will be validated and tested with empirical data in subsequent project phases.

## KEYWORDS

information credibility, web credibility, scale, social media, social platforms

## INTRODUCTION

Web credibility assessment on social media platforms can be defined as an individual's judgment of the likelihood of a web-based information object, such as a post or the online community, being a source of high-quality information. Adopting the widely accepted two-dimensional model of credibility by Hovland et al. (1953), web credibility is determined by the perceived goodness and morality (i.e., trustworthiness) and perceived knowledge, skill, and experience (i.e., expertise) of the information object as a source of online information (Fogg, 2003; Rieh, 2017). Web credibility assessment is a crucial aspect of online information behavior, particularly on social media platforms, where anonymous users create and circulate information on a wide range of topics (Choi et al., 2023).

Given the abstract and perceptual nature of credibility (Rieh & Danielson, 2007), a validated psychometric instrument is needed to measure credibility, which would improve knowledge on how web users judge the credibility of online information and how that judgment is associated with their information behaviors on the web, such as selecting an online source over alternatives, accepting advice on the web, and sharing online information with others (Choi et al., 2022). Although some credibility scales have been developed, mainly in the interpersonal communication context (e.g., Gaziano & McGrath, 1986; McCroskey & Teven, 1999; Meyer, 1988), there is lack of research on developing and validating a scale for measuring information web credibility on interactive social platforms, such as peer-knowledge production communities (e.g., Reddit, Wikipedia, Stack Exchange), microblogs (e.g., Twitter), and image- and video-sharing sites (e.g., Instagram, YouTube). Furthermore, measurements in the web credibility literature often mixed up reflective and formative indicators, blurring the conceptual relationship between the underlying dimensions of credibility (i.e., reflective indicators) and elements that contribute to the perception of credibility (i.e., formative indicators). As part of a larger project to develop a scale for measuring users' perceptions of information credibility on web-based interactive platforms, this poster reports on preliminary findings from efforts to generate a pool of items that will be tested in subsequent phases. Specifically, results of an analysis of existing credibility scales and the literature on web credibility assessments in the social media context are discussed.

## METHODS

We analyzed the literature to survey how web credibility in the social media context has been measured in prior studies in library and information science. We searched articles in Web of Science under the Information Science and Library Science category using two keywords—credibility and social media—in the author keyword and title fields. Our last search in May 2023 identified 31 articles. We reviewed the full text of each article to determine relevance for further analysis based on inclusion and exclusion criteria: Exclu were included; reviews, non-English papers, and studies that did not use any measurements of credibility were excluded. As a result, 19 articles remained.

To analyze each included article, we developed an initial coding scheme by mapping the indicators (items) used in validated scales (Gaziano & McGrath, 1986; McCroskey & Teven, 1999; Meyer, 1988) based on semantic similarity

(Figure 1). Using the initial coding scheme, we coded the dimensions of credibility identified in included papers by either mapping the associated items to the relevant ones in the coding scheme or adding new items if none of the

Items	1-dimension scale (Gaziano & McGrath, 1986)	2-dimension scale (Meyer, 1988)	3-dimension scale (McCroskey & Teven, 1999)
Fair/fairness	Credibility	Believability	
Unbiased	Credibility	Believability	
Tells the whole story	Credibility	Believability	
Accurate	Credibility	Believability	
Trustworthy/Can be trusted/trustful	Credibility	Believability	Trustworthiness
Respects people's privacy	Credibility		
Watches out after readers' interests	Credibility	Affiliation	
Concerned about the community's well-being	Credibility	Affiliation	Goodwill
Concerned about the public interest	Credibility	Affiliation	
Separate fact and opinion	Credibility		
Factual	Credibility		
Trained/Well-trained	Credibility		Competence
Patriotic		Affiliation	
Informed/knowledge/knowledgeable			Competence
Competent			Competence
Intelligent			Competence
Expert			Competence
Bright			Competence
Honest			Trustworthiness
Moral			Trustworthiness
Honorable			Trustworthiness
Ethical			Trustworthiness
Genuine/authentic			Trustworthiness
Cares about me			Goodwill
Concerned with me			Goodwill
Has my interests at heart			Goodwill
Not self-centered			Goodwill
Sensitive			Goodwill
Understanding			Goodwill

existing items in the coding scheme could be mapped.

**Figure 1. Initial Coding Scheme Developed by Mapping Items across Validated Credibility Scales**

## RESULTS

Twelve of 19 included papers (63.2%) examined credibility issues on Twitter, Facebook, or both. Other types of social media studied included Instagram (3; 15.8%) and YouTube (2; 10.5%).

Sixteen papers (84.2%) measured credibility as a one-dimensional construct, two papers (10.5%) used a three-dimensional credibility measure, and one (5.3%) used a two-dimensional measure. In total, 59 semantically distinct items were identified, including those presented in Figure 1. The number of items used in individual studies ranged from one to 18, with a mode of three (7 papers; 36.8%), followed by one item (5; 26.3%) and eight items (2; 10.5%). Frequently used terms (adjectives) to phrase the items included trustworthy or trustful (11; 57.9%), followed by expert (6; 31.6%), knowledge or knowledgeable (5; 26.3%), reliable (5; 26.3%), and accurate (4; 21.1%).

## DISCUSSION AND FUTURE DIRECTIONS

Despite the common view of credibility as a multifaceted concept among scholars from various fields (Choi & Stvilia, 2015; Rieh & Danielson, 2007), most of the empirical studies we analyzed measured credibility as an unidimensional concept, with many using only one item phrased as the concept itself (i.e., “credible”) or a synonym (e.g., “believable”). These findings indicate the need to develop and test a scale that can effectively capture the multidimensional nature of credibility in the web context. The immediate next steps in the current project will involve expanding the item pool by further analyzing related literatures and evaluating the validity of items through expert and user reviews, as suggested by established guidelines for scale development and validation (DeVellis & Thorpe, 2022). The validated items will then be used to create a scale, which will be tested with empirical data on various types of interactive web platforms that serve as useful sources of online information, including current social media sites and newly emerging generative AI-based platforms.

## CONCLUSION

Developing such a scale can provide researchers with a validated tool to quantify users' perceptions of web credibility, thereby serving as a crucial component in their study models of statistical associations among variables of interest. Additionally, the indicators (items) included in the scale can be used to develop a coding scheme for analyzing qualitative data on users' perceptions and behaviors associated with their assessments of web credibility.

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