

USER-CENTERED EVALUATION OF THE QUALITY OF BLOGS

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Blogs serve multiple purposes, resulting in several types of blogs that vary greatly in terms of quality and content. It is important to evaluate the quality of blogs, which requires appropriate evaluation criteria. Unfortunately, there are minimal studies on framework and the specific criteria and indicators for evaluating the quality of blogs. Moreover, quality is related to user perception, and should therefore be evaluated by the receivers.

This dissertation examines the criteria and indicators that blog users consider important for evaluating the quality of blogs, and develops a user-centered framework for evaluating quality by conducting user surveys and post-survey email interviews. The personal characteristics that affect the users' choices of criteria to evaluate the quality of blogs are examined as well.

The study's findings include 1) the criteria that users consider important when evaluating the quality of blogs are content quality, usability, authority, and blog credibility; 2) the indicators that blog users consider most important for evaluating the quality of blogs are understandability, accuracy, believability, currency, ease of use, and navigation; and 3) gender, education level, age, profession, purpose of use, and specific interests affect the user's choices of criteria for evaluating the quality of blogs.

Future research may involve exploring and applying the framework developed in this study to build automatic quality blog identification system for the purpose of assisting web users and information specialists to identify quality blogs.

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CHAPTER 1

INTRODUCTION

Background

The evolution of the Internet has offered new tools for interpersonal communication. One of the latest popular tools for Internet communication is a blog (short for weblog)—a user-generated, frequently updated website containing entries and comments about a certain topic that is displayed in reverse chronological order.

Blogs have gained popularity since the end of the 20th century. User-generated content by blogging has remarkably increased in the past three years. According to Kargar, Ramli, Ibrahim, and Azimzadeh (2008) and Technorati report (2009), 120,000 new blogs and 1.6 million posts are created daily, which is approximately 18.6 blog posts per second. Every six months the number of blogs increases by 100%. Blogs are rapidly growing because of how easy they are to create; the fact that no special technical skills are required to create and update a blog, or even create an online community, make blogs a growing phenomenon. Blogs have made publishing content online extremely simple because blogging tools automate the publishing process. Also, the cost of publication is minimal or even free. Professionals and hobbyists alike can become content creators. Blogs have become a tool for web-based communication, collaboration, and knowledge sharing.

The primary motivations people blog are to document their lives, provide commentary and opinions, express emotions, present ideas through writing, and maintain community forums (Nardi et al., 2004). Not only do people use blogs to

communicate but also as an information exchange platform (Chang & Kao-chi, 2008). People share their personal ideas, opinions, and experiences in life and work through blogs in the form of conversations. Therefore, blogs reflect the personality and beliefs of their authors, or bloggers—people who maintain blogs.

Consequently, blog contents and forms are rich and diverse. Bloggers can freely add or change a blog according to their individual preferences, so there are no limits to the content. As a result, blogs vary greatly in terms of quality, content, and objective (Walker, 2003), and they address a range of topics from scholarly issues to family and children's daily lives. A blog can be a journal or a personal diary of daily activities, a memo, or a serious commentary about important issues.

Although the contents of blogs are user-generated and diverse, they are an exceedingly effective tool for sharing and communicating information (Aqil & Siddique, 2010) worthy of preservation. Actually, blogs are an invaluable source of insight into bloggers' opinions towards important world and local events (Ulicny & Baclawski, 2007). These opinions (what people are thinking or feeling about an issue over time) and comments make blogs more interesting and useful. Blogs therefore can be considered an important source of information (Shang, Chen, & Chen, 2007; Mayzlin & Yoganarasimhan, 2008; Jaiswal & Tseng, 2008).

Statement of the Problem

Blogs are widely used and vary greatly in content and quality. Because of the rapid increase in the number of blogs, analyzing everything that goes on in the blogosphere is impossible (Agarwal & Liu, 2008). Consequently, it is difficult for

searchers to locate blog posts that are interesting and relevant to them. In fact, some efforts—such as topic discovery, trend analysis, and content ranking—that are applied to separate the large amounts of information are futile due to the sheer number and variety of blogs (Sriphaew, Takamura, & Okumura, 2008). For example, the blogrank algorithm, developed by Google, ranks blogs and can help users select blogs. Unfortunately, this system does not cover many blogs. It is quite complicated for blog consumers to search and identify high quality blogs (Chang & Yeh, 2008).

The quality of blogs varies widely. The varying format and structure of most blogs disqualifies them from being an important source of information (Cassidy, 2007). Some bloggers focus on generating a high number of posts (Mayzlin & Yoganarasimhan, 2008; Kargar et al., 2008), meaning they might publish impetuous, ill-considered messages, or even contents plagiarized from other bloggers (Chang & Yeh, 2008). Besides, blog posts are often written informally, have poor structure, and frequently contain common errors in spelling and grammar (Java et al., 2007).

To solve the high quality blog identification problem, it is important to evaluate the quality of blogs. Distinguishing the useful blogs from the useless blogs is crucial (Viégas, 2005; Mayzlin & Yoganarasimhan, 2008), since the value of blogs as a source of important information increases as the quality of such blogs increase (Ikeda, Takamura & Okumura, 2008). The power of blogging not only affects bloggers' lives but it also affects people, companies, and products connected to the bloggers. Research on quality evaluation, including concept, criteria, and indicators is essential to the quality evaluation of blogs.

Few studies have been conducted on blog evaluation. Some existing research focuses on the quality of blog content or information. For example, Sriphaew, Takamura, and Okumura (2008) used credibility indicators as clues for identifying “cool blogs,” i.e. blogs with interesting or noteworthy contents. Kargar et al. (2008) introduced a framework for evaluating the quality of information on blogs. However, for users of social media, content quality assessment alone is not enough to determine the quality of blogs.

Du and Wagner (2006) argued that blog success depends on the blog’s value to its users. The blog’s characteristics that play important roles in blog success are blog content value, built-in capability, and blog social value. The information on blogs can appear to be anonymous, leading to the question of the information’s validity. Accordingly, some studies have examined blogs in terms of credibility or believability. For example, Rubin and Liddy (2006) proposed four main categories of criteria for assessing the credibility of a blog: 1) the blogger’s expertise and the amount of offline identity disclosure; 2) the blogger’s trustworthiness and value system; 3) the information quality; and 4) the appeals of a personal nature. Some studies even focused on content quality and credibility of blogs without a practical or complete framework for evaluating the quality (Chai, Potdar, & Dillon, 2009).

Apart from the literature on quality assessment, an area of related research that is particularly relevant to the present study is a body of work exploring quality assessment of other types of websites. The findings from quality assessment studies of other types of websites can be used as a starting point for blog quality assessment. . As

a type of website, blogs can be evaluated for quality in a similar way. It was found that the most frequently cited criteria were those dealing with content and usability.

Usability is vital for evaluating the quality of websites; however, no prior work has been conducted on the usability of blogs. Moreover, rich sets of quality assessment frameworks, tools, dimensions and indicators for evaluating other types of website are relatively available. Still, there are no specific quality assessment criteria or indicators for evaluating the quality of blogs; blogs are unique from websites, they provide regularly updated information and personal comments about a particular topic.

The current study defines quality blogs as blogs that provide accurate, up-to-date, useful, interesting, and credible information that possess social value; demonstrate an appropriate amount of words; produce a high frequency of blog posts, visitors, and comments; are well-written by credible authors; and are easy to use. However, quality is related to perception and should be judged by the receiver (Bideh, 2008). Users' perception of quality varies—what one user considers excellent quality might be considered poor quality by another user (Chai, Potdar, & Dillon, 2009). A number of studies have listed criteria that ask users to assess the quality of online information resources; however, consumer surveys and interview analyses revealed that consumers might use quality indicators that have not been included in the literature (Stvilia, Mon & Yi, 2009). Moreover, the current accepted view for assessing information resource quality involves understanding it from the user's point of view. It is important to investigate the criteria for assessing quality of blogs from the users.

Evaluating blog quality requires appropriate evaluation criteria. Unfortunately, there are a few studies on framework or specific criteria and indicators for evaluating the quality of blogs. Therefore, the present study aims to address the issue of blog evaluation and identify practical criteria and indicators for assessing the quality of blogs based on the users' perceptions of quality. The perceived quality of a blog is based on the user's opinion regarding the blog's ability to fulfill his or her expectations.

Purpose of the Study

The goal of this study is to develop a user-centered framework for evaluating the quality of blogs. The currently accepted premise for assessing information resource quality involves understanding it from the user's point of view. Moreover, there are no specific criteria or indicators for evaluating the quality of blogs, even though there are various dimensions of criteria for assessing the quality of other types of websites. Previous studies used only minimal criteria, such as credibility and information quality, to evaluate blogs.

To pursue the study goal, the current study identified criteria and indicators that users considered important when they evaluated the quality of blogs. Since the study sought to identify such evaluation of the quality of blogs from the users' point of views, the study further investigated the personal characteristics that affected the users' choices of criteria for evaluating the quality of blogs.

Research Questions

The research questions in support of the study's goals are

1. What criteria do users consider important when they evaluate the quality of blogs?
2. What are the indicators of a quality blog from the users' point of views?
3. What are the personal characteristics that affect the users' choices of criteria to evaluate the quality of blogs?

Methodology

The literature analysis on the quality of information resources has been completed in order to compile a list of common dimensions and indicators of quality. The possible criteria to evaluate the quality of blogs were identified. Criteria are concept level, so identifying indicators is crucial for making quality more measurable. Each criterion can have several sub-criteria and indicators. The set of quality criteria, indicators, and metrics from the literature analysis were transformed into the hypothesized framework. The proposed framework for assessing the quality of blogs is not tailored to any specific domain or demographic.

Due to the fact that the attributes of quality can vary and the judgment of quality may use different evaluative criteria depending on community values and context and audience in particular (Kargar et al., 2008; Yang, 2007), Kargar et al. (2008) suggested that quality should be judged by the receiver—in this case, the blog readers or consumers—because quality is a matter of perception and difficult to measure objectively. Indeed, according to Johnson and Kaye (2004), most blog users

are heavy Internet users; therefore, they know what they can trust, even though they may use differing criteria. To gain better insight into blog quality evaluation and to identify the criteria that people consider important when evaluating the quality of blogs, the present study surveyed blog users in the U.S., using the University of North Texas as a case study, on multiple data collection methods.

These methods include an online survey, email survey, and face-to-face survey that asked participants to rate the importance of indicators from the proposed framework on a five point scale ranging from 1 (*not important at all*) to 5 (*extremely important*). To better understand participants' backgrounds and the reasons behind their choices, a qualitative component was used by conducting a post-survey email interview. Univariate statistics were used to determine the importance of indicators and the difference in the importance of criteria by independent variables. Exploratory factor analysis was conducted to discover the pattern of intercorrelations among variables. The result of the exploratory factor analysis helped identify a representation of variables by components and which variables should be retained as individual variables. The results of the present study provide a concrete framework to assess the quality of blogs.

Significance of the Study

The purpose of the current study was to develop a user-centered quality evaluation framework for blogs. The study would extend the existing knowledge and understanding of blogs. Theoretically, the study established a user-centered evaluation framework for blog quality. Practically, the framework may guide users to select quality

blogs. The identification of quality blogs will result in users' satisfaction by finding useful blogs for personal situations that better meet users' expectations.

The study would also help develop automatic quality blog identification systems. Automatic blog identification systems can employ quality indicators of the framework in order to identify quality blogs. As a result, automatic blog identification systems can improve their system performance.

This study is devoted to guide blog selection for professionals who can preserve blogs or create a blog repository. For example, a librarian, whose mission is to preserve valuable information, may need guidance for storing this information in the form of a blog.

Finally, this study may guide blog authors in creating higher quality and more popular blogs. Bloggers should consider the information they write before they publish it. Blog quality assessment encourages bloggers to produce more valuable blogs. In other words, blog quality assessment provides a context for controlling blog quality. Ultimately, this motion will improve the quality of the entire blog system.

Definitions of Terms

Basically, "quality" determines how good or bad something is; quality can be poor, good, or high. According to Rieh (2002), quality refers to a user criterion related to the "excellence concept" (p. 146). In fact, relative quality is used to differentiate similar things from one another. For a web page to be considered good quality, that web page must be easy to use, which differentiates it from a poor quality web page that is difficult to use.

Specifying quality requirements for Web 2.0 applications, Olsina, Sassano, and Mich (2008) emphasized that concept of quality is multidimensional and relative. Attributes and entities are abstract concepts for assessing quality in common practice. “[Q]uality and its sub-dimensions, called characteristics and sub-characteristics in the ISO 9126-1 standard is an abstract relationship between attributes of an entity and a specific information need, with regard to its purpose, context, and user’s viewpoint” (p.57).

Quality is related to perception, and is therefore difficult to measure objectively. Quality is defined as “fitness for use” (Wang & Strong, 1996). In terms of quality assessment of information resources, “quality” means that a resource is useful and provides good, relevant, accurate, up-to-date, and credible information to the users. Also, the system providing the information should be easy to use and support the users’ needs. Therefore, quality is ultimately judged by the users.

Summary

In summary, blogs are popular as an interpersonal communication medium and an information exchange platform. Clearly, blogs are an important source of information. However, due to the wide variety of content in blogs, their quality is diverse. Criteria that users consider important to the quality of a blog were investigated, and a user-centered framework for evaluating the quality of blogs was created. The study should help users and information system developers to select blogs to read and be collected in a blog repository.

CHAPTER 2

LITERATURE REVIEW

Introduction

Weblogs (blogs) are continually updated, Internet-based conversational media, which use opinion-based methods to communicate (McPherson, 2007). In 1997, John Barger coined the term "Weblog," defined as a webpage where webloggers log web pages they find interesting, where the latest content automatically appears on top (Luján-Mora & de Juana-Espinosa, 2007). However, modern blogging tools are far more dominant than they used to be. Blogs have become a media that people use to interact with others and publish information. Bloggers and blog readers can freely express and publish their opinions and thoughts on the Internet. Blog content can cover any topic that the author chooses to write about, ranging from thoughts on everyday life to an area in which the author has special expertise.

Blog entries are regularly updated in reverse chronological order and allow readers to leave comments. Bloggers can easily create blogs and keep them current over time. Unlike websites, blogs can be created at minimal cost to the author, and bloggers do not need to understand HTML code. The writing style of blogs is generally less formal than websites or traditional publications like magazines, journals and newspapers (Mercado-Kierkegaard, 2006 as cited in Chue, 2007).

Chapter 2 first discusses blog characteristics and the role of blogs, followed by quality assessment, particularly online information resources. After that, the possible

indicators for assessing the quality of blogs and the proposed framework, including criteria and indicators, is discussed.

Blog Characteristics

The major characteristics of blogs are that they are personalized, frequently updated, can link to other blogs and external websites (non-blogs), and can be easily published by basic user interface. A typical blog is a mix of text, images, and links to other blogs and web pages (Agarwal, 2008), or even other media objects— graphics, multimedia, Microsoft Office documents, and Adobe PDFs. The tools that support a blog's features are widely available and easily used, such as commenting, archives, permanent links, blogroll, links, time stamps, trackbacks, and syndication feeds (Boyd, 2006). Blogs are dynamic because bloggers regularly update content, and many blogs allow readers to add comments.

Each blog consists of a set of blog posts or a series of entries, with the number of posts varying significantly from one blog to another. The current generation of blogging tools enhances interactive blog activities and social networks among bloggers. Links, therefore, are important to many blogs since they enrich interactive content and provide information. Blogging tools facilitate several types of links, such as links to other blogs, links to other sites to draw upon the information of the entire World Wide Web, blogrolls (links between blogs that are akin to links between people), links in blog posts, and interaction links in comments and trackbacks (Mishne, 2006). Readers can subscribe to the content via RSS protocol as well.

According to Kargar et al. (2008), blogs have four features in common: blog posts, comments, archives, and templates. Every time an action occurs on a blog, a timestamp marks the date and time that the post was made or altered.

1. Blog posts consist of a subject title and a body. The length of a blog post can be from one or two sentences to multiple paragraphs. Each post receives a timestamp in order to indicate time and date of the post.

2. Comments are a thread where blog readers can respond to a blog post through a written comment or feedback link. Bloggers can also respond to a blog readers' comments. Each comment also receives a timestamp.

3. Archives are a compilation of past blog posts, which bloggers store so that they—and their readers—can access and search for past blog posts. Past blog posts can be organized by month, week, number of posts, and sometimes by subject matter.

4. Templates are a presentation tool that allows bloggers to choose their blog appearance and layout. Even bloggers with the minimal technical expertise can customize and personalize their blogs using templates. Essentially, the basic layout of a blog consists of a title, a header, a side bar (a column of links to archives and related sites), and a profile link (the author's basic information) (Cassidy, 2007).

Blogs can be created for the individual or the community. Individual blogs are usually authored by one person. This person initiates and leads the discussions by recording their thoughts, expressing their opinions, and offering suggestions or ideas. Community blogs are multi-authored blog sites (Agarwal, 2009). According to Herring et

al.'s (2005) study, blogs are usually created and maintained by an individual. Most blogs link to outside contents or other websites.

When compared to personal home pages, blogs contain less guestbooks, search functions, graphics, and advertisements. Nonetheless, blogs demonstrate features that personal home pages lack. For instance, archives and badges (small icons in the sidebar), and headers or footers to advertise a product or group affiliation, are all major structural features of blogs. Blogs appear to be less likely to contain a calendar in the sidebar.

From Herring et al. (2005)'s analysis, blogs are not fundamentally new or unique. Blogs construct a de facto bridge between multimedia web documents and text-based computer-mediated communication. Specifically, blogs constitute a hybrid genre drawing from multiple sources and other internet communication genres. Significantly, blogs "have been characterized as link-centered, highly interconnected, filters of web content" (Herring et al., 2005, p.162). Additionally, the linguistic properties of blog content differentiate blogs from other types of web content. The language used in blogs is unique and informal, containing both monologue and dialogue. In fact, many blogs use a hybrid of formal and informal language. This is reflected in their vocabulary, which may contain jargon or specialized language in addition to informal colloquialisms (Mishne, 2006).

Blog Content

Generally, bloggers have complete control over the contents of their blogs. As a type of user-generated content media, bloggers may write about any topic of their interest, and these interests can shift over time (Agarwal, 2009). Consequently, the topics of blog posts are very diverse. Drezner and Farrell (2004 as cited in Yang, 2007) stated that functions of blogs could include political analyses, personal diaries, computer advice, money, romance, and other topics.

Pederson and Macafee (2007) classified blogs' content into personal, opinion and politics, criticism, information technology, creative work, work and business, religion, sexuality, and links. Recently, Technorati (White, 2009) reported that personal and professional blog topics are equally popular. Sun, Suryanto, and Liu (2007) classified blogs using tags (words that represent the content); they found that tags could lead to better accuracy of blog classification. Popular tags and category names were personal, internet, general, humor, entertainment, computers-tech, business, technology, art, politics, travel, music, health, religion, sports, life, photo, and food-drink. Personal/lifestyle, technology, news, and politics were the four most popular topics (Goldsborough, 2008).

Blogs contains the author's personality, passions, and points of view (Nardi et al., 2004). Bloggers frequently concentrate on narrow topics that appeal to a unique group of users' interest; many bloggers become "*de facto* watchdogs and self-proclaimed experts" on the specific topic of their blogs (Grossman et al., 2004 as cited in Yang, 2007).

Blog Types

Blogs serve different purposes, resulting in several types of blogs. Smudde (2005 as cited in Mack and Blose, 2008) listed 4 major types of blogs: 1) personal blogs, which express personal convictions, observations, and suggestions; 2) topic or industry blogs, which are related to a particular subject area or industry; 3) publication-based blogs, which might be edited by editors, reporters, or freelancers; and 4) corporate blogs, which are personal blogs authored by corporate board members or executives.

Professional journalists in traditional media consider blogs as alternative sources of news and public opinion (Lasica, 2001). According to Yang (2007), because news-related blogs perform the same function as professional journalism—instantly critique news reported in newspaper and on television that report immediately and in-depth about the latest events—news-related blogs are seen as a form of online journalism.

Cassidy (2007) categorized blogs into four types: newspaper or journal, professional, academic, and personal. Personal blogs that are related to the bloggers' personal life and experiences are the most popular types of blogs (Gunter et al., 2009). Concurrently, Herring et al. (2005) found that most blogs were personal journals, focusing on the bloggers' activities and emotions.

According to Blood (2002), bloggers strive to give readers new material to read every day. The prototypical blog is thus concentrated on links to other sites or blogs of interest with brief comments on the item from the blog author. This type of blog is called a filter. Filter blogs are the earliest blogs. They are link-driven sites, where bloggers pre-surf the web and select blogs or contents to direct their readers to. Filter

blog contents, such as world events and online happenings, are external to bloggers. Blood also notes two other basic types of blogs, personal journals and notebooks. Notebook blogs are distinguished by longer and more focused essays; their contents can be either external or personal.

Krishnamurthy (2002 as cited in Herring et al., 2005) proposed a classification of blogs into 4 basic categories regarding 2 dimensions: personal vs. topical and individual vs. community. Herring et al. (2005) entitled blogs in which educators and business people share knowledge as k(nowledge)-logs. Luzón (2008) calls those blogs "research blogs," which consists of several genres including political blog, pure research blog, and blogs about academic life. They have been developed for scholars, who use them to communicate, record, and share research and ideas. Furthermore, blogs that concentrate on disseminating information and expressing opinion have become excellent sources of secondary information, called professional blogs (Bar-Ilan, 2008).

The blog types listed above are classified according to content. The other approach to classifying blogs is motive-based classification, which Nardi et al. (2004 as cited in Chang & Kao-chi, 2008) used to identify five major blog types: life records, comments, emotion expression, thought clearing, and idea exchange. De Moor and Efimova (2004) also categorized blog posts regarding purposes of blogs or blog conversations, consisting of four types of blog posts: 1) opinion posts, where a topic is defined and contains links; 2) vote posts, where bloggers agree or disagree with one another; 3) reaction posts, where a blogger responds to a post on another site; and 4) summation posts, where a blogger summarizes other blogs.

The Roles of Blogs

Technorati conducted a survey that found the top 3 reasons for blogging were speaking bloggers' minds on areas of interests, sharing bloggers' expertise and experiences with others, and meeting and connecting with like-minded people, respectively (Goldsborough, 2008).

Approximately 63 million Americans have visited health-related blogs and online community support groups (Stvilia & Mon, Yi, 2009). Obviously, blogs have become a vital part of online culture (Hsu & Lin, 2008). Distinctively, blogs have become a new form of personal communication for publishing, establishing networks or building relationships, and exchanging knowledge and information. Blogs have changed the way people communicate with others and how information is produced and distributed in society (Shang, Chen, & Chen, 2007). For example, Shang, Chen, and Chen (2007) found that the socialized need is the key reason people blog. Furthermore, as the primary tool for online communication, blogs are used in teaching and learning environments and other knowledge-building communities, such as web-based learning (Nguyen-Ngoc & Law, 2009).

Blog as a Communication Medium

Blogs are an instantaneous method of communication. They allow immediate information distribution, and they can be a form of peer-review (Krol, 2006 as cited in McPherson, 2007); therefore, blogs are a valuable form of communication. Basically, people use blogs as a medium for communication to establish an online community of people with similar interests (Chang & Kao-chi, 2008).

Other than personal communication, corporate blogs are used to interact with customers to build brand loyalty (Kullin, 2004 as cited in McPherson, 2007). Businesses profiles in online communities help encourage visibility and accessibility by creating two-way communication. Corporations can promote trust in the business and its product by supporting, building, and maintaining brand loyalty. Businesses also use blogs as a valuable and low-cost source for market research. Specifically, businesses create and maintain blogs in order to attract new customers, which enlarges market share.

Blogs are also a good way for businesses to disseminate information about their products and services and to acquire opinions from customers and experts in a particular blog community (McPherson, 2007). In fact, using blogs as a mode of marketing communication can support word-of-mouth or communication between consumers (Mack & Blose, 2008), enlarging the business market. Boyd (2006) stated that blogs would continually shift the communicative and social assumptions that ground everyday life.

Blog as an Information Exchange Platform

Blogs are a major way to share knowledge (Hsu & Lin, 2008). Information exchange is based on sharing topics of interest, matching of information needs, and availability of information. Typically, bloggers and blog readers are dynamically involved in the process of information exchange. For instance, researchers use blogs as a platform to record and organize their thoughts, facilitate interaction, and exchange information, which makes discipline-specific topic discussion much easier. Blogs facilitate scientific inquiry in two ways. Firstly, they help to disseminate information as

well as access and manage content. Secondly, they facilitate interaction, discussion, and collaboration, for example, forming communities and facilitating connections between researchers (Luzón, 2008). Consequently, blogs can be a crucial instrument in knowledge management. In fact, blogs can be useful for knowledge creation because each blog serves as a link that connects different communities, developing cross-disciplinary connections (De Moor & Efimova, 2004).

Hsu and Lin's (2008) study indicated that knowledge sharing (altruism and reputation) was positively related to blogging attitude. People shared knowledge, thoughts, and experiences with others; they enjoyed helping each other as well as reaping external rewards, such as reciprocal benefits, anticipated reciprocal relationships, and an online reputation.

Blogs are an invaluable source of insight into people's opinions toward important world and local events (Ulicny & Baclawski, 2007). Consequently, the importance of blogs in news context is increasing. Emerging as news resources, blogs are "citizen-based" journals. Blogs offer a wider range of opinions and perspectives than traditional media, and can help journalists become aware of new stories or initiate stories. Currently, people increasingly explore blogs as alternative sources of analysis of news stories (Gunter et al., 2009).

Quality Assessment

Quality is a difficult concept to illustrate or comprehend; it is inherently situational and has a dual nature. Quality is of a transcendental quality (essence) synonymous with excellence (Fink-Shamit & Bar-Ilan, 2008), “an essence that is neither mind nor matter, but a third entity independent of the two”...and “[e]ven though quality cannot be defined, you know what it is” (Pirsig, 1974 as cited in Fink-Shamit & Bar-Ilan, 2008). “At the same time, quality is a precise and appraised quality that may be looked upon as a product” (Garvin 1988 cited in Fink-Shamit & Bar-Ilan, 2008).

Quality assessment is required for any system, such as an information system, Web 2.0 application, and websites. If a high-quality system is identified, the author should be rewarded in order to provide motivation to continue producing high-quality output. By contrast, if a low-quality system is identified, the author can be educated on how to improve the blog’s quality.

Librarians and other informational professionals use four methods to substitute a quality control system (Fink-Shamit & Bar-Ilan, 2008):

1. The guideline or the checklist method, which measures the quality by checking whether the system has listed indicators.
2. The fact checking method, which assumes that credibility and quality of any information can be proved by corroborating with other sources.
3. The contextual approach, which first locates quality sources on the Web, then compares and corroborates the information with other sources.

4. The common sense approach, which assumes that a learning process allows users to assess the quality of information.

Basically, various dimensions of criteria for assessing quality, such as content, type, interface, and audience can be categorized by their applicability. For information resource assessment, Naumann and Rolker (2000 as cited in Knight and Burn, 2005) emphasized that information resources should be assessed by using a three-fold assessment, which are subject, object, and process. This is because they believe that the user, information, and retrieval system are all involved in the information retrieval process; the quality of information is impacted by the perception of the user, the information itself, and the process of accessing the information. In their quality assessment, quality scores are assigned for information resources, and then are employed to create metadata, and finally each information source obtains a pagerank.

Quality Assessment on the Internet

A large amount of information is available on the Internet, especially user-generated content, which has remarkably increased in the past three years. This information is interactive, modifiable, and provides highly customized content (Newhagen and Rafaeli, 1996 as cited in Mack & Blose, 2008). Furthermore, many the internet sites select and review online information resources, which rely on subjective values of style and "coolness," not information content (Smith, 1997). For example, the Six Senses Review, a site that evaluates the Internet resources, focuses on the coolness of websites. Thus, the quality of information, authoritativeness, and trustworthiness of online information sources may vary (Mack & Blose, 2008).

Existing online information varies greatly in quality and reliability, ranging from excellent to awful and including every shade in between (Harris, 2007). The Internet is an environment for information exchange; people constantly engage in the vast amount of diverse information, which lacks quality control. This information causes quality problems on the Internet (Eysenbach et al., 2002) since it can direct the users to bad information with a lack of completeness, difficulty searching for high quality websites, and a lack of accuracy. Therefore, it is critical to distinguish high- from low-quality information on the Internet.

In terms of quality assessment of internet resources, different approaches have been used to evaluate either information quality or resource quality. One approach is to use guidelines or checklists provided for users to evaluate information or resources. A number of organizations and individuals have developed tools, guidelines, and instruments for evaluating and rating the quality of Internet resources. For example, the Organizing Medical Networked Information (OMNI)—the e-library funded subject gateway for biomedicine—'s guideline for evaluating medical information resources, which clearly states that information content and quality of design or appearance are their primary and secondary interest in terms of a resource value.

Other medical services rely on content quality criteria (Anagnostelis, Cooke, & McNab, 1996). Another approach to evaluate information quality and resource quality is the proposed quality criteria that researchers compiled from experiment settings, such as AIDT, automatic detecting quality indicators in websites (Wang & Liu, 2007) and automatic quality assessment of Wikipedia articles proposed by Dalip, Cristo, and

Calado (2009). The current accepted view for assessing information resource quality involves understanding it from the user's point of view: how users assess the quality of information resources and what criteria they use to determine information resource quality.

Content quality, credibility of information and sources, and usability are the three highest dimensions that several previous studies used to assess the quality of Internet resources, particularly the quality of websites. Because of the dynamic nature of the Web, several prior researchers developed a variety of dimensions and criteria for quality evaluation. These studies investigated information quality of websites as well as the overall quality of websites.

A wide range of methods and tools for evaluating and rating the quality of websites have been developed to help users differentiate between sites. This is helpful for site developers to filter content as a guide; users can discern information or make informed judgments on the quality of websites (Wilson & Risk, 2002).

Several previous works have listed the requirements that websites should meet. Most of these studies focused on health-related websites. For example, Eysenbach, Powell, Kuss, and Sa (2002) categorized quality criteria and methods used to assess health-related websites from published and unpublished empirical studies into five categories: technical criteria (how information is presented); design; readability; accuracy; and completeness/comprehensiveness/coverage/scope.

On the other hand, Wathen and Burkell (2002) categorized a slightly different set of most frequently cited criteria used to evaluate health-related websites, as shown in

Table 1. These published criteria are used as a proxy for information quality, and in turn, for credibility markers.

Table 1

Categories of Website Evaluation Criteria

Group of criteria	Criteria
Content of Site	Accuracy Completeness Standard of Care Completeness and Accuracy
Design and Aesthetics	Images and Illustrations
Disclosure	Authorship Ownership Location Person Responsible Source Sponsorship/Funding Source Advertising Distinct From Contents Partnership Conflict of Interest Statement of Purpose General Disclosures Accountability criteria (disclosure of author's name, author's credentials, evidence for claims or copyright, Website owner and the date of the content)
Currency of Information	Date of Creation Disclosed First Posted Disclosed Any of Creation/First Posted Disclosed Last Update Disclosed Any of Creation/Update Disclosed Sites Modified in the Past 6 mo Technical Maintenance Date Disclosed

(table continues)

Table 1 (*continued*)

Group of criteria	Criteria
Authority of Source	Credibility of Source (Source Rating) Author Credentials Authors' Affiliations
Ease of Use	Navigation Navigation Depth Search Engine Search Functionality
User Support	Navigation Aids Site Map Documentation What's New
Accessibility and Availability	Speed Browser Compatibility Language Cited in Search Engines Cited on Other Sites
Links	Links Present Broken Links
Attribution and Documentation	References Further Information or Links Balanced Evidence Omissions Noted Limitations Noted
Intended Audience	Target Audience Disclosed Multiple Target Audiences
Readability	Readability Formulas Subjective Ratings of Writing Style Legibility (Technical) Reading Levels Noted
Contact Addresses or Feedback Mechanism	Feedback Mechanisms Provided Postal Address Telephone Fax E-mail Feedback Tested

(table continues)

Table 1 (*continued*)

Group of criteria	Criteria
Miscellaneous	Disclaimers (General) Disclaimers (Specific) Copyright Notes Editorial Review Process/Editorial Board External Review Process Evidence Hierarchy Level of Evidence Imprint Site Statistics Disclosure of Charges Confidentiality/Privacy Encryption/Security Cookies Metadata

Bernstam et al. (2005) also investigated published instruments to evaluate the quality of health-related websites. They produced criteria that were quite similar to Eysenbach, Powell, Kuss, and Sa (2002) and Wathen and Burkell (2002), except that the rank of a website in a search engine output was used as criterion to identify a quality website. Kim et al. (1999) also studied published criteria used for assessing health-related websites. They found that criteria dealing with content, design and aesthetics, disclosure of authors, sponsors or developers, currency of information (including frequency of update, freshness, and maintenance of site), authority of source, ease of use, and accessibility and availability were the most frequently cited criteria when evaluating websites. For librarians, the Librarians' Internet Index (LII) uses authority, scope and audience, content, design, function, and shelf life to evaluate websites.

Several previous studies assessed the quality of the Internet resources by three dimensions: content quality, credibility of information and sources, and usability.

Content Quality

Stvilia, Mon, and Yi (2009) suggested that once published, information needs continuing quality assessment and maintenance. Information quality is widely defined as the information's fitness for use. It is the key determinant of the quality of decisions and actions. Attributes of information quality should be judged within the context in which the information is to be used.

The quality of data has to be assessed by people who use data. In other words, information quality depends on the context of information generation. It also depends on dimensions identified for information producers, searchers and users, as well as storage and maintenance systems. Users, in particular, have to judge the quality of information by themselves; one user's high valued information could be of no value to another user. This results in quality dimensions, like relevancy and usefulness, that are not only enormously important, but also incredibly difficult to measure (Knight & Burn, 2005).

Content quality evaluation can identify high-quality content over poor-quality content or users who contribute high- or low-quality content. Relevance, understandability, and reliability are common information quality dimensions applicable to quality assessment. The Treasury Board of Canada Secretariat (2004) defined quality information as the characteristics of information that lead readers/users to trust it,

including accuracy, completeness, reliability, comprehensibility, relevance, currency, accessibility, and timeliness.

Both librarians and users need criteria for evaluating online information resources. The study shows that there are web users who either knowingly or not knowingly perform simple and basic information quality assessments (Fink-Shamit & Bar-Ilan, 2008). Therefore, users need a guide for their evaluation in order to obtain higher quality information and sources. Besides, it is part of the librarian's role to develop subject resource guides, which evaluate, select, and organize published information. Librarians evaluate online information sources in order to 1) decide if an online source should be linked to a resource guide or a library website; 2) judge the quality or appropriateness of information for a single query and user; and 3) maintain library websites, which have lists of online information resources. Without explicit criteria, librarians will waste their users' time with useless tools (Smith, 1997).

Even though a variety of dimensions and criteria are developed, information quality is the main factor that determines the quality of a website (Katerattanakul & Siau, 2008). The last decade of information science research has found accepted information quality frameworks, which leads to the exploration and validation of various information quality dimensions and metrics (Chai & Potdar & Dillon, 2009). While these frameworks vary in their approaches and applications, they share a number of characteristics concerning classifications of the dimensions of information quality as shown in Table 2.

Table 2

The Common Dimensions of Information Quality (Knight & Burn, 2005)

Dimension	Definitions
Accuracy	extent to which data is correct, reliable, and certified free of error
Consistency	extent to which information is presented in the same format and compatible with previous data
Security	extent to which access to information is restricted appropriately to maintain its security
Timeliness	extent to which the information is sufficiently up-to-date for the task at hand
Completeness	extent to which information is present and is of sufficient breadth and depth for the task at hand
Concise	extent to which information is compactly represented without being overwhelming (i.e. brief in presentation, yet complete and to the point)
Reliability	extent to which information is correct and reliable
Accessibility	extent to which information is accessible, or easily and quickly retrievable
Availability	extent to which information is physically available
Objectivity	extent to which information is unbiased, unprejudiced and impartial
Relevancy	extent to which information is applicable and helpful for the task at hand
Usability	extent to which information is clear and easily used
Understandability	extent to which data is clear, without ambiguity and easily comprehended
Amount of data	extent to which the quantity or volume of available data is appropriate
Believability	extent to which information is regarded as true and credible
Navigation	extent to which data are easily found and linked to
Reputation	extent to which information is highly regarded in terms of source or content
Usefulness	extent to which information is applicable and helpful for the task at hand
Efficiency	extent to which data is able to quickly meet the information needs for the task at hand
Value-Added	extent to which information is beneficial and provides advantages from its use

The content quality assessment created by users from different backgrounds (geographical locations, beliefs, motivations, expertise), written for different domains,

and meeting differing requirements of diverse users is challenging, especially within social media content. User-generated content quality assessment is an important issue (Weimer, Gurevych, & Mühlhäuser, 2007) because the quality of user-generated content varies drastically within social media. The quality can range from excellent to spam (Chai, Potdar, & Dillon, 2009). Moreover, users' perceived quality is different—content that one user considers excellent might be considered poor by another user (Chai, Potdar, & Dillon, 2009).

Chai, Potdar, and Dillon (2009) argued that several information quality frameworks for information systems fail to concentrate on quality problems caused by "many-to-many mappings." These mappings are defined as information created in different contexts in order to maintain the requirements of different activities and viewpoints at the same time. They are common in social media, such as instant messaging programs, discussion forums, weblogs, and wikis. Chai, Potdar, and Dillon reviewed and evaluated 19 different content quality assessment-related frameworks for social media. They discovered that among discussion forums, peer-to-peer applications, question-and-answer portals, review portals, weblogs, and wikis, a large portion of the frameworks were developed for online discussion. A user quality rating for user-generated content is the most popular approach used by content quality assessment frameworks.

Hu et al. (2007) and Lim et al. (2006) proposed an automatic model for measuring article quality in Wikipedia. They suggested that the contributor's authority (reputation) must be measured in order to measure quality. They assumed that a high

authority author produced high quality content. To evaluate content quality assessment in Wikipedia articles, they assessed word length of an article, words that survive article revisions, and the number of ratings received per page.

Likewise, Dalip, Gonçalves, Cristo, and Calado (2009) proposed the use of a machine learning technique for assessing the quality of Wikipedia articles. Indicators relate to the text of articles, i.e. text features consisting of length (word and character count), structure (organization, use of images, links, citations), style, readability, revision history, and social network (citation between articles, popularity). They found that the textual feature indicators were the most useful. In particular, the most functional indicators to distinguish Wikipedia articles were the indicators related to the structure. Review features were also useful for assessing quality levels of articles.

The criteria from the users' point of views are the currently accepted view for assessing the quality of information resources. Many qualitative and quantitative studies of human subjects have explored how users assess the quality of online information. Wang and Strong (1996) developed a framework to capture aspects of data quality that are important to data consumers instead of simply defining them from theories or researchers' experiences. They believe that data consumers have broader data quality concepts than information science professionals realize, and quality data should be fit for use by data consumers. They employed a two-stage survey to collect quality attributes from data consumers. The first survey asked graduate students to list quality data attributes that came to mind for evaluating data. Then, the listed criteria were transformed into a second survey for users to rate the importance of each attribute.

The framework grouped attributes into four categories: 1) intrinsic: accuracy, objectivity, believability, and reputation; 2) accessible: access and security; 3) contextual: relevancy, value-added, timeliness, completeness, and appropriate amount of data; and 4) representational: interpretability, ease of understanding, representational consistency, and concise representation.

Stvilia, Mon, and Yi (2009) also proposed a quality model of health web pages derived by exploratory factor analysis and analysis of consumer surveys and interviews. The study used a mixed methodology with multiple data sources. Firstly, sampled web pages were content analyzed and coded for web page types, provider types, and quality markers. In addition, the researchers analyzed a sample of e-mail transcripts of questions in the Internet Public Library question-answering (Q&A) service. The researchers combined the information indicators cited in the literature and used them in the consumer's survey. The aggregate set of information criteria were given to healthcare information consumers, who were asked to rank them in order of importance.

The survey was then followed by semi-structured in-depth interviews. The model consists of five quality criteria: 1) accuracy (accuracy, credibility, reliability), 2) completeness (completeness, clarity), 3) authority, 4) usefulness (ease of use, objectivity, utility), and 5) accessibility (accessibility, cohesiveness, consistency, volatility). Each criterion is mapped to the constructs of a web page as quality markers in order to be used in information quality evaluation. Markers for each criterion are shown in Table 3.

Table 3

Stvilia, Mon, and Yi (2009)'s Information Quality Marker Criteria Mapping

Criteria	Markers
Accuracy (accuracy, credibility, reliability)	--Baseline (Provider's name, About us, Third-party quality seal, Copyright, Disclaimer, Privacy policy, Search box) --Authorship (Author name, Author credential, Author affiliation)
Completeness (completeness, clarity)	Baseline (Provider's name, About us, Third-party quality seal, Copyright, Disclaimer, Privacy policy, Search box)
Authority	Verifiability (References, Date of last update, Contact us)
Usefulness (ease of use, objectivity, utility)	--Baseline (Provider's name, About us, Third-party quality seal, Copyright, Disclaimer, Privacy policy, Search box) --IQ assurance process (Editorial review process, Quality guidelines, Accessibility, Formal IQ criteria) --Content Ownership (Term of use, Sponsored content)
Accessibility (accessibility, cohesiveness, consistency, volatility)	--Baseline (Provider's name, About us, Third-party quality seal, Copyright, Disclaimer, Privacy policy, Search box) --IQ assurance process (Editorial review process, Quality guidelines, Accessibility, Formal IQ criteria)

Correspondingly, Rieh (2002) examined how people evaluated the quality of information when they searched for information. Rieh studied users in a laboratory setting and used multiple data collection techniques, including search log analysis, think-aloud protocols during searching, and post-search interviews. The study's participants were faculty members and doctoral students. The findings indicated that users were concerned about the characteristics of information objects, which were 1) the type of information object, such as journal articles and chat forums; 2) how well the

content was detailed; 3) comprehensiveness; 4) techniques and graphics used to provide information; and 5) how well the information was organized.

For source characteristics, users relied on reputation and type of source, such as commercial or noncommercial sources. Rieh also revised a user model to judge information quality and cognitive authority. Facets of information quality were goodness, accuracy, currency, and usefulness, while importance, trustworthiness, reliability, scholarliness, credibility, officialness (*sic*), and authoritativeness were identified as six facets of cognitive authority. The findings indicated that usefulness and goodness were the two major aspects of information quality, while the trustworthiness of information was the primary facet of cognitive authority. In addition, Rieh found that the concept of information quality is highly related to cognitive authority. Users frequently evaluated information quality based on the source's authority; in turn, the authority of sources can be used to evaluate information quality.

Fink-Shamit and Bar-Ilan (2008) suggested that users should assess the quality of information by themselves. They clarified such quality assessments by studying users carrying out specific tasks on the Web. The participants, university students, were observed while performing three tasks; they were interviewed and asked to complete a questionnaire. They used content analysis and descriptive statistics to identify quality assessment components and their attributes. They found that the users used four core categories of information quality assessment components: credibility of site, credibility of content, predictive relevance, and veracity assessment. Each component consisted of a different number of its attributes and sub-attributes as shown in Table 4.

Table 4

Fink-Shamit and Bar-Ilan's (2008) Information Quality Assessment Components

Components	Attributes	Sub attributes
Credibility of site	Design	Picture and figures Contact Advertisement Number of links Layout of page Tables and numbers Ease of navigation Search engine on site Color Site update Font
	Language	
Credibility of content	Author	
	Prior acquaintance with site	
	Currency	References & Links
	Objectivity	
	Completeness & Scope	
Accuracy	Source	Public Private Commercial
	Quotes	
Type of reference	Writing style	Scientific Popular
		Scientific Popular
Predictive relevance	Ranking	
	Language	
	Title	
	Relation to query	URL Query terms
	Snippet	

(table continues)

Table 4 (continued)

Components	Attributes	Sub attributes
Veracity assessment	Previous knowledge Corroboration	Other sites Consultation with experts Printed sources Forums (Maintained by layman or experts)

Fogg et al. (2000 as cited in Wathen & Burkell, 2002) found that people employed the same types of criteria as they used for traditional media (printed material and mainstream media) to assess online information. However, Fink-Shamit and Bar-Ilan (2008) found that the users only employed a few of the conventional evaluation criteria; credibility was linked to authority, while author and source attributes were primarily used to assess quality. Language, web ranking, and snippets (small pieces of news, information, or conversation) were considered important attributes as well.

Creditability

Tseng and Fogg (1999 as cited in Wathen & Burkell, 2002) defined credibility as believability. Similar to Metzger (2007), credibility refers to the believability of some information and/or its source. A credible person is believable person; credible information is believable information (Fogg et al., 2001a).

Credibility is the perceived quality or audience perception, not an inherent characteristic in a message, source, or media. Therefore, credibility judgments are audience-centered (Metzger et al., 2003 as cited in Johnson et al., 2007), which involves not only objective judgments of information quality or accuracy, but also subjective perceptions of the source's trustworthiness, expertise, and attractiveness

(Freeman & Spyridakis, 2004 as cited in Metzger, 2007). Credibility is a direct measure of actual quality because a credible mechanism ensures quality. Users link credibility to authority; the primary attributes that users use to assess content quality are the attributes *author* and *source* (Fink-Shamit & Bar-Ilan, 2008). Three traditional methods for credibility evaluation are peer review, author credentials, and writing style (Standler, 2004).

People judge credibility of online resources differently because expectations about the quality of information are different. Therefore, it is difficult to measure credibility objectively (Ulicny & Baclawski, 2007). "Credibility was measured as a multidimensional construct" (Johnson et al., 2007, p.107) in previous studies.

Credibility embraces notions of not only trustworthiness and expertise (Self, 1996 as cited in Wathen & Burkell, 2002; Metzger, 2007) but also reliability (Rosengren, 1977 as cited in Gunter et al., 2009) and authority (Fink-Shamit & Bar-Ilan, 2008). Credibility is different from reliability; yet, accuracy or reliability assessment of a source can inform credibility judgments. A source lacking credibility is not likely to be believed (Ulicny & Baclawski, 2007). However, Fogg et al. (2001a), Wathen and Burkell (2002), and Rubin and Liddy (2006) pointed out that trustworthiness and expertise are two major components of a credibility assessment. The first component, trustworthiness, is based on the goodness or morality of the source; the goodness is described as "well-intentioned," "truthful," or "unbiased." The second component, expertise, is perceived knowledge of the source; the component is described as "knowledgeable," "reputable," and "competent." On the other hand, assessing perceived credibility utilizes a range of

different ratings, such as accuracy, balance, believability, bias, fairness, honesty, objectivity, reliability, sensationalism, timeliness, trustworthiness, and depth of information.

Several previous studies found that credibility of online resources was affected by other factors. The different motivations for going online are the primary factors that affect perceptions of credibility. In other words, the motives for going online are predictors of the Internet credibility. Also, credibility perceptions are influenced by secondary factors, such as source attractiveness and dynamism (Metzger, 2007). Metzger (2007) suggested that several factors influenced credibility assessments of online information, which are listed in Table 5.

Table 5

Metzger (2007)'s Factors Influencing Credibility Assessment of Online Information

-Presence of date stamp showing information is current	-Notification/presence of editorial review process or board
-Source citations	-Absence of typographical errors and broken links
-Citations to scientific data or references	-Professional-quality and clear writing
-Author identification	-Download speed
-Author qualifications and credentials	-Message relevance, tailoring
-Presence of contact information	-Interactive features (e.g., search capabilities, confirmation messages, quick customer-service responses)
-Absence of advertising	-Past experience with source/organization (reputation)
-Presence of privacy and security policies	-Domain name and URL (suffix)
-Certifications or seals from trusted third parties	-Ability to verify claims elsewhere (e.g., external links)
-Professional, attractive, and consistent page design, including graphics, logos, color schemes, etc.	-Comprehensiveness of information provided
-Easy navigation, well-organized site	-Ranking in search engine output
-Sponsorship by of external links to reputable organizations	-Paid access to information
	-Plausibility of arguments

Website credibility is increasingly important to understand (Fogg et al., 2001a); various researchers, such as journalists, information scientists, and educationalists, have conducted studies to understand the different components of website credibility. Metzger (2007) suggested that users should employ five criteria in the credibility assessment of Internet-based information: accuracy, authority, objectivity, currency, and coverage or scope. Flanagin & Metzger (2000 as cited in Johnson et al., 2007) found that reference websites were likely judged as more credible than websites devoted to entertainment.

Several studies have been conducted on users to understand how they judge the credibility of websites. Fogg et al. (2001b) used an online user survey to explore the credibility of websites. They found that a website's credibility is influenced by seven factors. The factors that increase credibility are real-world feel, ease of use, expertise, trustworthiness, and message tailoring; the other two factors, commercial implications and amateurism, decrease a website's credibility. However, Lynch (2001 as cited in Yang, 2007) argued that authorship and sponsorship are the two most important criteria for assessing website credibility.

Some studies have shown that when users evaluate the credibility of a website, they first look at the design of that website, information design/structure, and information focus more than other features. Specifically, Fogg et al (2001a) indicate that an important reason for developing usable websites is to increase the site's credibility. However, Fogg et al. (2003) found that users considered not only the aesthetics as evidence of credibility but also company motive, usefulness of information,

accuracy of information, name recognition and reputation, advertising, bias of information, tone of the writing, identity of site sponsor, functionality of site, customer service, past experience with site, information clarity, performance on a test, readability, and affiliations. They conducted an online survey in order to investigate how different elements of a website affect the user's perception of credibility. Over 1,400 people participated in their study.

Walther and Burkell (2002) develop a model, based on a literature review in psychology and communication, describing how users judge the credibility of online information. According to this model, credibility assessment happens in three stages. First, users assess the overall site credibility by examining its surface characteristics, including appearance and presentation (i.e. colors, graphics, typographical errors); usability and interface design (i.e. navigability); and organization of information. Second, the information or site content is evaluated by looking at characteristics of the source (i.e. expertise, trustworthiness, credentials) and message (i.e. currency, accuracy, relevance to the user). Third involves the users' cognitive state at the time of evaluation. Assessments differ depending on the users' need for information, need for cognition, and prior knowledge of the topic, and these factors interact with other situational and individual-level factors (time available for information retrieval and processing).

Stanford et al. (2002) also investigated consumers' evaluation of credibility of websites. Experts in the finance and health fields were asked to evaluate sites in their domains of expertise, describe how they evaluated each site, and then rank each site's

credibility in relation to other sites. The findings indicated that experts carefully evaluated content, whereas consumers relied on visual appeal for their credibility assessment. The expertise components of the website influenced the experts' perceptions more than trustworthiness. The experts judged the reputable sites as having the most credibility. Consumers' credibility evaluation criteria were name/reputation/affiliation, information source, company motive, information focus, advertising, design look, information bias, information design, writing tone, and information accuracy.

Rabjohn, Cheung, and Lee (2008) examined the perceived credibility of online opinions. Based on the information adoption model, they proposed a model for information adoption focusing on the determinants of information quality in the online environment, which were source credibility, relevance, timeliness, accuracy, and comprehensiveness. The model was tested quantitatively with a user survey. In doing so, they extended Sussman and Siegal's (2003) information adoption model, stating that the perception of information usefulness, consisting of argument quality and source credibility, predicts information adoption, defined as the acceptance of true information. Rabjohn, Cheung, and Lee (2008) argued that the perception of usefulness is higher if high quality comments are posted by highly credible authors. They found that relevance and comprehensiveness had significant influence on perceived information usefulness (i.e. the users' satisfaction depended on the completeness and relevance of the information provided). Hsu and Lin (2008) defined perceived usefulness as the degree to which a person believed that using a blog enhanced his or her performance.

Usability

Usability can be defined as the quality of use (Bevan, 1995). Meeting the need of users means providing quality of use, which is the purpose of designing an interactive system. Usability should be measured in terms of the effectiveness, efficiency, and satisfaction to achieve quality of use. User-based evaluation is required to validate achievement of usability.

Usability demonstrates the user's experiences in using the website's information, content, and resources. The heart of usability is the interface, which allows the user to interact with the content of a site. Tran (2009) used the following checklist for website usability: 1) whether the interface was user-friendly, 2) whether the resource was effective, 3) whether help information was available, 4) whether any special buttons or commands were clearly indicated, 5) whether the interface was easy to remember, 6) whether there were any error messages, and 7) whether the user was satisfied in using the website.

System quality (usability, accessibility, privacy/security, and interaction), in addition to information quality (usefulness of content and adequacy of information) was used to determine the quality of a web portal (Katerattanakul & Siau, 2008). Katerattanakul and Siau (2008) employed a user survey to develop instrument-measuring factors that affect the information quality of a personal web portfolio. The participants rated the importance of concepts on a scale from 0 (*not important at all*) to 6 (*extremely important*). They came up with a framework consisting of three categories of concepts: presentation information quality [P] (use and organization of visual

settings and typographical features, consistent presentation, attractiveness, accuracy and correctness of content); contextual information quality [I] (provision of author's information); and accessibility information quality [N] (navigation efficiency, workable and relevant hyperlinks).

As seen, users make judgments on quality of online information systems by looking at information quality, service quality, and system quality; Lin and Lee (2006) found that system quality, information quality, and service quality significantly affect member loyalty through user satisfaction and behavioral intent to use the online community. Information quality measures focus on content, including information accuracy, timeliness, usefulness, completeness, and presentation. Service quality is part of the overall user assessment, including interface design, trust mechanism, and willingness to help members. System quality measures the preferred characteristics of an online community. Some examples of quality values are system reliability, convenient access, ease of use, and system flexibility.

Similarly, Kim et al. (1999) reviewed published criteria for evaluating health related information on the Web. They discovered that design/aesthetics and ease of use were the second and sixth most frequently cited criteria groups for website evaluation; this indicates that high quality design and user-effective interfaces are noteworthy. Using a similar research method, Eysenbach et al. (2002) also found that design was the one of the most frequently cited quality criteria. In addition, a website's source, professional design, formal or official appearance, language, and ease of use were the criteria used to evaluate the quality of healthcare web pages (Eysenbach & Köhler,

2002 as cited in Stvilia & Mon & Yi, 2009). Significantly, ease of use is emphasized in the Human-Computer Interaction (HCI) community.

Blog Search and Access

Blogs have gained the interest of many researchers due to their popularity and ever-evolving nature. The valuable information available on blogs has brought up several new interesting research areas in the information science field; one particular area is blog retrieval.

As blogs have become more popular, the ability to provide quality blog searches has become more important (Bihun et al., 2005). Traditional librarians avoid using blogs as information sources because their content is mostly trivial, crass, and opinionated; nevertheless, blogs contain valuable information, such as public opinion insights. Indeed, users can search blogs for attitudes or opinions on almost any topic or current issue (Thelwall & Hasler, 2007). According to TREC Blog track 2006, two types of blog post retrieval are retrieving posts about a topic (topical) and retrieving opinionated posts about a topic (opinionated).

People search blogs for discussions about current events and people, and general thoughts on and topic. According to Hearst, Hurst, and Dumais (2008), three different kinds of blog search tasks are defined: finding out what people are thinking or feeling about X over time, finding good blogs/authors to read, and finding useful information that was published in the past. These correspond to the TREC opinion retrieval task that identifies three aspects involved in locating opinionated blog posts: topical relevance, opinion expression, and post quality (Mishne, 2007).

Since 2001, it has been possible to search blog information by using blog search engines, such as DayPop blog search engine. Blog search engines, similar to web search engines, are sources for public opinions and expert commentaries (Thelwall & Hasler, 2006).

Since most blogs are arranged in chronological order, searching for information about a particular topic can be complicated; Jaiswal and Tseng (2008) proposed clustering blogs based on content to solve this problem. Content-based clustering can help users find the information they need. Weerkamp and de Rijke (2008) incorporated two groups of credibility indicators in the retrieval process: post level (using information about an individual blog post) and blog level (using information from the underlying blog). They employed credibility indicators based on Rubin and Liddy (2006)'s four-factor analytical framework for blog readers' credibility assessment. They found that both groups of credibility indicators significantly improved the effectiveness of blog retrieval. Certainly, the best performance was achieved when both groups of indicators were combined.

Blog Search Engines

Blog search engines are the simplest and least expensive method to access public opinion (Thelwall, 2007). The leading blog search engines today are Bloglines, Feedster, Technorati, Blogpulse, Sphere, IceRocket, and Google Blog Search. These blog search engines have different characteristics. Two types of blog searches are date search and graph search. Blog search engines—like Technorati, Blogpulse, and IceRocket—produce a times series graph of results; the peak of the graph represents a

burst of discussion around a particular topic. Moreover, sophisticated queries can be used in most blog search engines, which include advanced search facilities, such as Boolean searches, language specific searches, and word location limits (Thelwall & Hasler, 2006).

Mishne and de Rijke (2006) conducted a study using the logs of a large blog search engine to analyze the type of queries; the user behavior in terms of amount of queries and page views; and the categories of the queries. Their research findings suggested that blog searchers' main targets were tracking references to named entities and locating blogs by theme. Technology, entertainment, and politics were prevalent topics with blog searchers who had a particular interest in current events.

Blog search engines have similarities and differences. They have various capabilities, which cause differences in the results over time and over blog search engines, differences in precision, and their overlap in results.

Spam is an issue for blog search engines because blog spam is so prevalent. Spam affects the total number of results. Blog search engines have different levels of success in identifying and removing spam. Blog search engines perform the systematic elimination of duplicates and predict the total number of valid matches; when the users go to see the results of their search, the total number will change because spams are removed.

BlogRank

Blogrank is also related to blog evaluation. Since blogs vary in structure and content, the web page's traditional ranking algorithm is insufficient (Shen et al., 2008). BlogRank collects data on thousands of blogs, then evaluates and ranks them in different categories using a unique formula. The rankings are obtained by combining indicators extracted from sources—such as links, structure, content, and review history—then joining them to form a single value. Blog analyzing systems are built to overcome problems and discover similar blogs, as well as the most imperative or authoritative blogs (Chen, 2008). These systems use different algorithms, such as content analysis, link analysis, and relevance analysis.

Relevance ranking is the principle employed by blog search algorithms, for instance, Google's blogrank and topical relevance. Weerkamp and de Rijke (2008) stated that ranking blog posts assisted users in blog post retrieval. Google's blogrank uses a combination of relevance scores and quality scores to rank blogs. The relevance scores employ traditionally-styled information retrieval scores for documents, which depend on search query terms. Determining a quality score is a two step process based on positive and negative indicators. In the first step, the search engine obtains information about a blog from the blog itself, the post, the metadata from the blog, and one or more feeds associated with it. The second step involves identifying positive and negative indicators of quality. Finally, the quality score for a blog document is determined.

Positive indicators, determined by link analysis, signify the popularity of the blog document, the implied popularity of the blog document (i.e. a high number of subscriptions implies a higher quality), the number of blogroll listings (i.e. blogroll links and a dense collection of links to external sites can be counted to represent the popularity of the blog document), the existence of a blog document in a high-quality blogroll (a high-quality blogroll is a blogroll that links to well-known or trusted bloggers), the tagging of the blog document (tagging is an indicator that a user has evaluated the content of the blog document and determined categories describing blog content), the references to the blog document by other sources, and the pagerank of the blog document (a high pagerank is an indicator of high quality) (Bihun et al., 2005).

Negative indicators signify the frequency of new posts (blogs with many new posts that appear within a short time period can be used to identify spammers), a mismatch between feed and blog document by spammers (the multiple feeds contain the same content, indicating low quality or spam), the size of the posts (numerous posts of similar size or length can be used as a reliable measure of spam), the link distribution (too many links to any single external site indicates low quality), and the presence of ads in the blog document (a large number of ads indicates low quality) (Bihun et al., 2005).

Shen et al. (2008)'s new blog rank algorithm, content-based rank, is based on content analysis and link analysis for ranking blogs and then calculating their scores. It creates the implicit link based on the content of blog; similar contents are grouped into

the same categories, and then content-based rank ranks the page of a blog by an algorithm similar to pagerank.

Unlike Shen et al. (2008), Chen (2008) analyzed blog quality by employing existing techniques: RSS Feed, Lucene, and MySQL. He then presented scorefunctions (similarity score and influence score) in order to find correlated outlinks, mine hot keywords, distinguish similarities between blogs, identify the influential authoritative websites, and enhance ranking functions. Similarity analysis searches for similarities in topics and links by applying term frequency (how many times a term occurs) to discover how many outlinks are similar, and then calculates a similarity score. Influence analysis is a bidirectional function that determines an influence score based on whether a blog refers to a keyword/link earlier; it adds directionality and searches influence relation among blogs, defined as "authority blogs."

The Quality of Blogs

Blogs are rapidly increasing, which leads to huge amounts of informative, as well as uninteresting, content (Sriphaew, Takamura, & Okumura, 2008), and misleading or incomplete information. Consequently, the quality of blogs and posts can vary significantly depending on the author's purposes (Bihun et al., 2005) and the ability or interests of the author (Shen et al., 2008). As a result of this variation in quality, in 2003, the Pew Research Center reported that only 4% of online users in America relied on opinions or information in blogs (Drezner & Farrell, 2004 as cited in Yang, 2007).

Blogs make the Internet's problem of information quality more significant (Kargar et al., 2008) because of their coverage and reliability (Bar-Ilan, 1999; Bar-Ilan & Peritz,

2004; Jacso, 2006; Lawrence & Giles, 1999; Mettrop & Nieuwenhuysen, 2001; Rousseau, 1999 as cited in Thelwall & Hasler, 2006). Further, the number of blog users has been increasing (Mack & Blose, 2008); at the same time, both bloggers and blog users are affected by the information supported by blogging. For instance, consumers are increasingly relying on online opinions for purchasing decisions. Plagiarism is a significant problem in online diary-type blogs (Chang & Yeh, 2008).

As more people search for health-related information on the Web, concerns about the quality of information have increased. A survey conducted on physicians found that 44% of their patients had health problems because they used health information from the Internet (Stvilia, Mon, & Yi, 2009). Cassidy (2007) evaluated grammar blogs, and found that most sample blogs did not qualify as a grammar resource due to the fact that they had insufficient purposes, low author credibility, and poor structure. Only 17% of blogs contained the blogger's full name and credentials; further, blogs with unnamed contributors offered vague qualifications. Gunter et al. (2009) emphasized that quality, credibility, and trust were essential to news blogs. Therefore, assessing the quality of blogs is crucial. Overall, Cassidy (2007) suggested some criteria for evaluating grammar blogs. First, the purpose of the blog should be clear to the reader. Second, bloggers' full name and email address should be clearly provided and easy to find in order to demonstrate the blogger's credibility and to indicate solid knowledge of that blog topic. The content of a blog should be organized in a logical manner that facilitates navigation. Moreover, in order to maintain a blog's currency, it should be frequently updated.

Several previous studies used different approaches for assessing blogs. The first approach was link analysis, which assumes that a blog with a reasonable amount of links has a high quality. Content analysis, another approach, focuses on content quality, using information quality dimensions to assess the quality of content. Researchers also used credibility as a metric to evaluate a blog's content and overall credibility.

Possible Indicators

Traditional measures—such as topical relevance, timeliness, specificity, and credibility—are insufficient for evaluating the quality of blogs because blogs have short lengths, high amounts of quotation, exophoricity (references), and short life cycles. Moreover, retrieval, clustering, and indexing techniques do not work as well as they do on web documents (Ulicny & Baclawski, 2007). Since peer reviews, indexing, and complicated strategies are generally not presented in an online community website, a quality assessment depends on accuracy, reliability of content, and reputation of the individual behind social media as well as quality of system. These are some of the major factors that affect the quality of blogs.

The current study used websites and other online resource evaluation tools as a theoretical framework since blogs are an important resource for online information, they produce web pages, blogs are a significant component of the Internet, and blogs are one of seven genres of web pages: article, directory, factsheet, instrument, main page, and Q&A (Stvilia, Mon, & Yi, 2009).

There is an abundance of research literature and ideas published about the quality assessment of websites, other online information resources, and blogrank

algorithms. Significant criteria derived from those studies are to assess the quality of blogs, content quality, credibility (content, authors, and blogs), usability, and audience criteria (public opinion about the perceived quality). The present framework applied these principles to blog quality evaluation. Criteria used to determine a blog's quality varies because of different domains and diverse types. Possible common criteria and indicators are discussed below.

Content Quality

How much we can trust online information? This is a question that applies to all online information resources. The answer is related to determining the reputation of any source. This principle can be applied to blogs as well (Gunter et al., 2009).

Even though blog service providers create a document, called "terms of service," intended to regulate blog content, they are ineffective in eliminating inappropriate contents. Van House (2004) stated that the assessment of the quality of blogs is based largely on the quality of work. Kargar et al. (2008) believed that the quality of a blog's content is almost equal to the quality of a blog. Thus, blog content is the most important criteria affecting the quality of blogs.

Few prior works have studied content quality of blogs. For instance, Kargar et al. (2008) surveyed Iranian blogs and employed information quality criteria to assess blog content quality; they compared the importance of information criteria by bloggers and blog visitors. The participants had to prioritize information quality criteria in order of importance. The findings indicated that priorities of information quality criteria in blogs were to be understandable, informative, representative, accurate, complete, timely,

believable, concise, cohesive, maintainable, available, authoritative, latent, and popular; other important criteria were customer support, amount of data, objectivity, and redundancy.

Bideh (2008) developed a model to determine a blog's information quality. Appropriate information quality criteria for blogs were identified in the first step of the study, and then identified criteria were approved by conducting a survey. The participants, engineering students, had to prioritize those criteria, and then the priority coefficient was calculated for each criterion. Next, a weblog server was implemented and information quality criteria were incorporated into the newly-created blogs. The last step of the study was data analysis, which required calculating information quality scores for the created weblogs.

Determining the quality of blog contents provides a guide for ranking information quality of blogs, resulting in a context for controlling quality blogs. The control of quality helps to standardize criteria for quality of blogs and information quality of blogs, as well as to encourage bloggers to produce more valuable contents; consequently, a competitive environment is created for obtaining a high quality score and improving the quality of the whole blog system. The model contains seven information quality dimensions and 27 information quality criteria shown in Table 6.

Table 6

Bideh (2008)'s a Quality of Information Model for Blogs

Dimensions	Information quality criteria
Subjective Score	Cohesiveness, Concise, Believability, Understandability, Completeness, Objectiveness, Accuracy, Informativeness, Presentation
Authority	Number of Received Comments, Number Written Comments, Number Entries, Number Referred, Number Visitors, Comment Per Entry
Link Popularity	Number of Links, Number of Visited Links, Number of Friends
Timeliness	Last Login, Last Update, Availability
Latency	First Load Time, Full Load Time
Maturity	Meta Tag, Age
Redundancy	Multimedia Rate, Blog Size

Some studies' results suggested that several dimensions should be used to evaluate blogs. For example, Gunter et al. (2007) reviewed recent literature about news blogging and assessment. They mentioned with extreme certainty that blogs had emerged as a news source. One approach used to measure the impartiality of news is to distinguish between output criteria (content and presentational styles), external criteria (accuracy and truthfulness), professional criteria (selecting stories), and audience criteria (Gunter, 1997 as cited in Gunter et al., 2009). To them, news credibility was noted as an essential principle. High quality news reports and competent journalists should strive to attain authenticity, credibility, objectivity (free from bias), factuality (truthfulness and relevance), and impartiality (neutrality and balance in news coverage).

Du and Wagner (2006) suggested that not only content of blogs but also the content presentation and social value should be measured to determine success of a blog. The most obvious value criterion for blog success is content of a blog—the information itself; however, they argue that blog success depends on a blog's value to its users. Measures, such as type of information provided, frequency and volume of posting, and the content presentation and organization, are the determinants of a blog's content value. Built-in capabilities of blogs are another important value criterion, which can be measured by its tools, ability to create and manage content, and ability to facilitate online sociability. The third important contributor to a blog's value is its social value, defined by blog's existing and potential social resources, such as host affiliation, frequency of visitors or commentators, blogroll or blog friends, and a list of inter-connected blogs.

Credibility

Blog credibility is a type of trusting relationship between bloggers and blog readers, two groups dynamically involved in information exchange processes, credibility building, and assessments. Based on sharing topics of interest and matching between information needs and information availability, people tend to doubt information from others in the blog information exchange (Rubin & Liddy, 2006). Yang (2007) found that the Internet users would not believe news-related blogs if they did not think those blogs were credible.

"Authorship is central to blogs" (Viégas, 2005). It cannot be denied that authority underlines credibility (Gunter et al., 2009). The credibility of authors refers to the extent

to which an author is known and verified. Anonymity decreases the credibility of opinions (Romig, 2007); in fact, anonymity is an indicator of lack of credibility (Harris, 2007). Bloggers build credibility by disclosing their personal and professional lives while offering their viewpoint on life and current events. Technorati reported that most bloggers reveal their identity on their blogs (Goldsborough, 2008). Correspondingly, Trammell and Keshelashvili (2005) found that most bloggers in "A-list" blogs—blogs that have high readership with many links—revealed their identity, and included contact information, ranging from email addresses to phone numbers. However, Papacharissi (2004 as cited in Trammell & Keshelashvili, 2005) argued that, on average, blogs disclose author identity on a medium level. Yet, disclosing authors' identities and motivations can enhance credibility (Gunter et al., 2008), raising the quality of blogs. According to Chai, Potdar, and Dillon (2009), a high-authority author produces high quality content. A blog with clearly identified authoritative or expert sources on selected issues, less quoted content, more links to other sources, and more posted comments from others is likely perceived as more credible (Gunter et al., 2009).

Several studies have been conducted to understand different dimensions of the credibility of blogs. Cassidy (2007) found that in terms of perceived source accuracy, believability, fairness, and overall credibility, journalists posit greater trust in web-based news sources than traditional sources. Similarly, Gunter et al. (2009) pointed out that credibility was an important criterion taken into account by news consumers when judging the quality of journalism and applying credibility to news blogs quality assessment. More people are turning to news blogs because of their credibility as the

source of news, while credibility of “mainstream media” has been increasingly called into question by news consumers. Three indicators have been considered in determining whether news blogs are credible sources: volume, content, and nature. First, the volume of traffic indicates use and usefulness of blogs. Second, accuracy, authority, believability, comprehensiveness, and timeliness of news blogs’ content provide another indication of credibility. Last, indicators of credibility are the nature of blogs and the transparency of the news agenda.

Yang (2007) also explored factors influencing the Internet users’ perceptions of the credibility of news-related blogs by conducting a user survey. Yang identified blogs as a new type of media. She used Schweiger’s (2000 as cited in Yang, 2007) six-level credibility attribution framework to study the Internet users’ perceptions of news related blogs. The framework concentrated on source credibility. The underlying assumption was that a blog post was usually associated with an author, and blog posts constituted several levels of credibility. However, she found that the presenter/source and media type factors were not practical predictors. This demonstrates a change in beliefs about the importance of presenter/source factor in assessing news-related blogs’ credibility.

Conversely, message characteristics, stylistic qualities, and personal relevance were important factors to predict the Internet users’ credibility perception of news-related blogs. The criteria to assess credibility are also affected by the varying motivations of users (information, entertainment, and social factors) and demographic variables (gender, income). Innovativeness was related to perceived credibility as well; less innovative users were likely to perceive news-related blogs as less credible.

Besides, users' experiences with the Internet involved the credibility of news-related blogs. The more time spent on the Internet and the more knowledgeable the Internet users were, the more likely they were to perceive news-related blogs as credible.

In contrast to the results of Yang's (2007) study, Ulicny and Baclawski (2007) identified credibility as the most important metric in assessing blog quality. Importantly, it is essential to measure the author's credibility. Ulicny and Baclawski constructed a measure of blog credibility that considers source, message, and reception features of bloggers. They used human ranking by having their colleagues provide a partial ranking of blogs in terms of credibility selected by querying the topic. They believed that high-quality blog posts were credible; the blogs that were highly rated in regard to quality were also rated highly in terms of the credibility of their authors. In addition, they found that writing styles and traditional methods used to assess credibility alone did not distinguish credible bloggers from average bloggers. On the other hand, use of full names and affiliations, presence of comments, and hyperlink citations were significant features of credible blogs.

Rubin and Liddy (2006) also explored the factors relating to a blog's credibility. First, they compiled a list of factors that users took into account during credibility assessment, ordered them in terms of users' perceived importance, and then determined which factors could be used to evaluate with Natural Language Processing (NLP) techniques. Rubin and Liddy proposed a framework for assessing blog credibility based on four factors: 1) blogger's expertise and offline identity disclosure—name and geographic location, credentials, affiliations, hyperlinks to others, stated competencies,

mode of knowing; 2) blogger’s trustworthiness and value system—biases, beliefs, opinions, honesty, preferences, habits, slogans; 3) information quality—completeness, accuracy, appropriateness, timeliness, organization (by categories or chronology), match to prior expectations, match to information need; and 4) appeals and triggers of a personal nature—aesthetic appeal (i.e., design layout, typography, and color schemes), literary appeal (i.e., writing style and wittiness), curiosity trigger, memory trigger (i.e., shared experiences), personal connection (e.g., the source is an acquaintance or a competitor of the blog-reader).

Weerkamp and Rijke (2008) extended Rubin and Liddy (2006)’s study as a reference point for credibility indicators. They considered credibility indicators and organized them into two groups, post level and blog level. Those indicators and their descriptions are as following in Table 7.

Table 7

Weerkamp and Rijke (2008)’s Credibility Indicators

Indicator	Level	Description
Capitalization	post	Good writing style
Emoticons	post	Western style emoticons (excessive use indicates a less credible)
Shouting	post	Words written in all caps (shouting is not credible)
Spelling	post	Spelling errors (the more spelling errors occur in blog, the less credible it is)
Post Length	post	A reasonable length, enough information
Timeliness	post	Published around the time of the event
Semantic	post	Language usage
Spam	blog	Spam blogs are not credible
Comments	blog	Comments on a blog post represent that the post is deserving of effort, indicating credibility
Regularity	blog	Temporal aspect bloggers (an irregular posting behavior are less credible)
Consistency	blog	Fluctuation of a blogger’s posts demonstrates less credibility

These indicators were incorporated by ranking relevance and credibility, creating an automatic assessment. They addressed the baseline retrieval task using a language modeling approach, and then ranking documents given a query. They found that credibility indicators had a significant positive impact on topical blog post retrieval effectiveness. Related to automatic credibility assessment in blogs, Weimer et al. (2007) programmed an algorithm to automatically assess the quality of forum posts by applying surface features, lexical features, syntactic features, and forum-specific features. They then classified forum posts into categories: bad posts or good posts. According to their experiment, the use of forum-specific features provided the best benefits for classification.

Weerkamp and Rijke's (2008) credibility indicators emphasized writing quality, including capitalization, emoticons, shouting, spelling, and post length. Agarwal (2008) also considered the length of blog post as a measure of goodness or quality, noting that longer posts were positively correlated with higher perceived influence of blog posts and bloggers. Also, perceived credibility was driven by an author's reputation, frequency of posting, and site design (Tobi, 2007). Likewise, a media study found that blog readership was driven by the quality of writing. Fifteen percent of respondents said that a blog's writing quality influences which blogs they read and consider credible and high-quality.

Yang (2007) emphasized that stylistic quality is important because it affects message and content quality. Thus, writing styles and writing quality are needed for assessing blog quality. Although many bloggers claim that blogging helps improve their

writing quality (Chue, 2007), some bloggers write whatever is on their mind, while inventing new vocabulary and grammar. The quality of writing can distinguish between good and poor quality blogs. Harris (2007) emphasized that most educated people likely use grammar quite well, and they check their work for spelling errors, resulting in good quality.

References and citations are also important blog quality indicators. Citations can provide evidence about the importance of the content by linking trustworthy sources and strengthening the credibility of information (Dalip et al., 2009). In fact, citations help readers easily verify information, clearly acknowledge earlier findings, provide insight to subject matter, and they also illustrate author's awareness of past studies. Bloggers can demonstrate their affiliations and references, as well as establish and maintain relationships in blog space by using links between blogs, which results in citations that increase blog's reliability. According to Agarwal (2009), bloggers frequently fail to cite their sources for assertions in their blogs, resulting in many missing links in blog network.

In order to create high quality work, citation and references are required. Citations, no misspelled words, few grammar errors, proper vocabulary, precise writing, internally consistent statements, considered alternative interpretations, no sarcasm, no attacks on other people, date of last update or a date of submission, and use of generic names can distinguish scholarly writing from other styles of writing. Scholarly writing demonstrates knowledge based on careful study to produce work that is acceptable

quality to publicly display (Standler, 2004). Information is deemed trustworthy when it appears to be scholarly, academic, biological, or professional (Rieh, 2002).

Sriphaew, Takamura and Okumura (2008) used credibility indicators as clues for identifying "cool blogs," blogs with interesting or exceptional content. They stated that the interesting content of cool blogs is subjective to readers. They introduced three assumptions on cool blogs:

1. Cool blogs tend to have definite topics; blogs with easy-to-understand are likely to be considered cool blogs because readers understand the contents, and they believe in bloggers' expertise and consistency of blog's topic.

2. Cool blogs tend to have a sufficient amount of blog entries.

3. Cool blogs tend to have certain levels of topic consistency among their blog entries; cool blogs should limit a range of topics discussed.

Cool blog classification can apply several kinds of features: text-based (bag-of-words, n-grams), linguistic (parts of speech), and link-based (pagerank). They used a topic-based model to extract a mixture of topic probabilities, exploit the number of blog entries, and calculate topic consistency among blog entries using distance functions over topic probabilities. By applying the proposed assumptions in the experiment, they obtained effective results for identifying cool blogs.

The reasons for using blogs impact credibility judgments as well. Johnson et al. (2007) identified five significant motivations for accessing blogs: 1) information seeking/media checking (searching for current issues, analyzing blog information), 2) convenience (it is easy and convenient to use blogs rather than traditional media or

other online sources), 3) personal fulfillment (fulfilling emotional needs and gathering information for discussion), 4) political surveillance (keeping an eye on the political landscape), and 5) social surveillance (learning about others' opinions on various issues or current events).

They studied blog credibility by asking respondents how believable, fair, accurate, and in-depth they judge blogs compared to online and traditional newspaper, television news program, and cable news shows. They found that blogs were evaluated as highly credible for their depth of information, but less credible with respect to fairness. Both reliance and motivations were strong predictors of blog credibility; however, reliance was a stronger predictor of blog credibility than motivations. All five of the motivation factors were positive predictors for blog credibility. Overall, blogs were judged as more credible than traditional media or other online sources.

According to Kinniburgh and Denning (2006), generally, a blogger's personal qualities, such as integrity, network of personal contacts, levels of interaction with the audiences as well as their objectives, qualifications, life experiences, and writing skills contribute to audience's assessment of blog credibility. Moreover, Kinniburgh and Denning highlighted that because blogs were a vehicle for operating information, their credibility and reputation must be taken into account. They divided various blog influence measures into two categories. The first category, measures based on site visits, includes the number of visitors, the number of pages viewed, blog traffic, and interactivity. The second category, measures based on links and citations, includes inbound blog links (other blogs to blog), the popularity of a blog by its inclusion,

inbound web links (anywhere to blog), pagerank (weighted inbound web links), the number of hits gained by searching the blog name, the number of references to blog, the total number of inbound links, and the references from all sources.

Usability

Metzger (2007) concluded that the primary factor that users use to assess credibility and information quality was design or presentational elements. Similar to Walther and Burkell (2002), users also judge credibility of online information by looking at overall site credibility. According to the Walther and Burkell's model of how users judge the credibility of online information, users examine the surface characteristics—such as appearance and presentation (colors, graphics, and typographical errors) and usability and interface design (navigability)—in the first step of evaluating the credibility of online information. Obviously, usability is the primary criterion for users; however, there are no usability studies on blogs. I argue that usability is one of the most important factors for evaluating the quality of blogs.

Blog-hosting service providers should provide more effective strategies in managing successful blogs (Hsu & Lin, 2008). Hsu and Lin (2008) conducted a user study and found that ease of use and enjoyment were the most important factors in the context of blogs. An easy to use interface had a large influence on a user's preference. For Hsu and Lin, perceived ease of use is the degree to which a person believes that using a blog is free of effort. Although Sriphaew, Takamura, and Okumura (2008) considered the coolness of blogs as an aspect of their contents, they do not include blog appearances.

Proposed Framework

Blogs are different from other types of web pages. The key difference is that blogs allow users the ability to interact with others through communication, discussion, sharing, growing, and building relationships, whereas a website is static. The information on a website is what the website owner wants their users to know, whereas the information on a blog is personal comments and opinions, details, and information about a particular topic. Therefore, blogs need specific criteria for evaluating their quality.

Based on the literature analysis, the current study developed a preliminary conceptual framework for evaluating the quality of blogs, rather than employing the existing sets of criteria used to evaluate other types of online information resources; there is no appropriate systematic framework for evaluating the quality of blogs. For example, some existing frameworks from Eysenbach, Powell, Kuss, and Sa (2002), Wathen and Burkell (2002), and Bernstam et al. (2005) focus on only the quality of health-related websites. Some frameworks consider only content quality criteria to evaluate information quality on the Web, which is not enough to evaluate the quality of blogs. For example, Hu et al. (2007); Lim et al. (2006); and Dalip, Goncalves, Cristo, and Calado (2009) developed an automatic model that only measured the quality of Wikipedia articles. Furthermore, blogs have specific characteristics that are different from other types of websites. Blogs vary in format and are less formal than websites, so some criteria and indicators for websites cannot be used as criteria to evaluate the quality of blogs—location, editorial process, and sponsorship.

From the analysis of quality assessment on online information resources and the previous studies on blogs, a three-criterion analytical framework for blog users' perception of quality of blog sites is developed. It is illustrated in Figure 1. This framework is based in part on five previous studies: Rubin and Liddy's (2006) framework for assessing credibility of blogs; Walther and Burkell's (2002) model of how users judge the credibility of online information; Kargar et al.'s (2008) framework for quality of information on blogs; Stvilia, Mon, and Yi's (2009) model for online consumer health information; website credibility assessment using surveys (Stanford et al., 2002); and Van House's (2004) observations on blog credibility.

The proposed framework for assessing the quality of blogs is not tailored to any specific domain or demographics. To assess the quality of blogs, the framework focuses on content quality, blog credibility, and usability. The developed framework includes three criteria, three sub-criteria and 40 quality indicators. Since the study sought to identify such evaluation of the quality of blogs from the users' point of views, the study further investigated the personal characteristics that affect the users' choices of criteria to evaluate the quality of blogs.

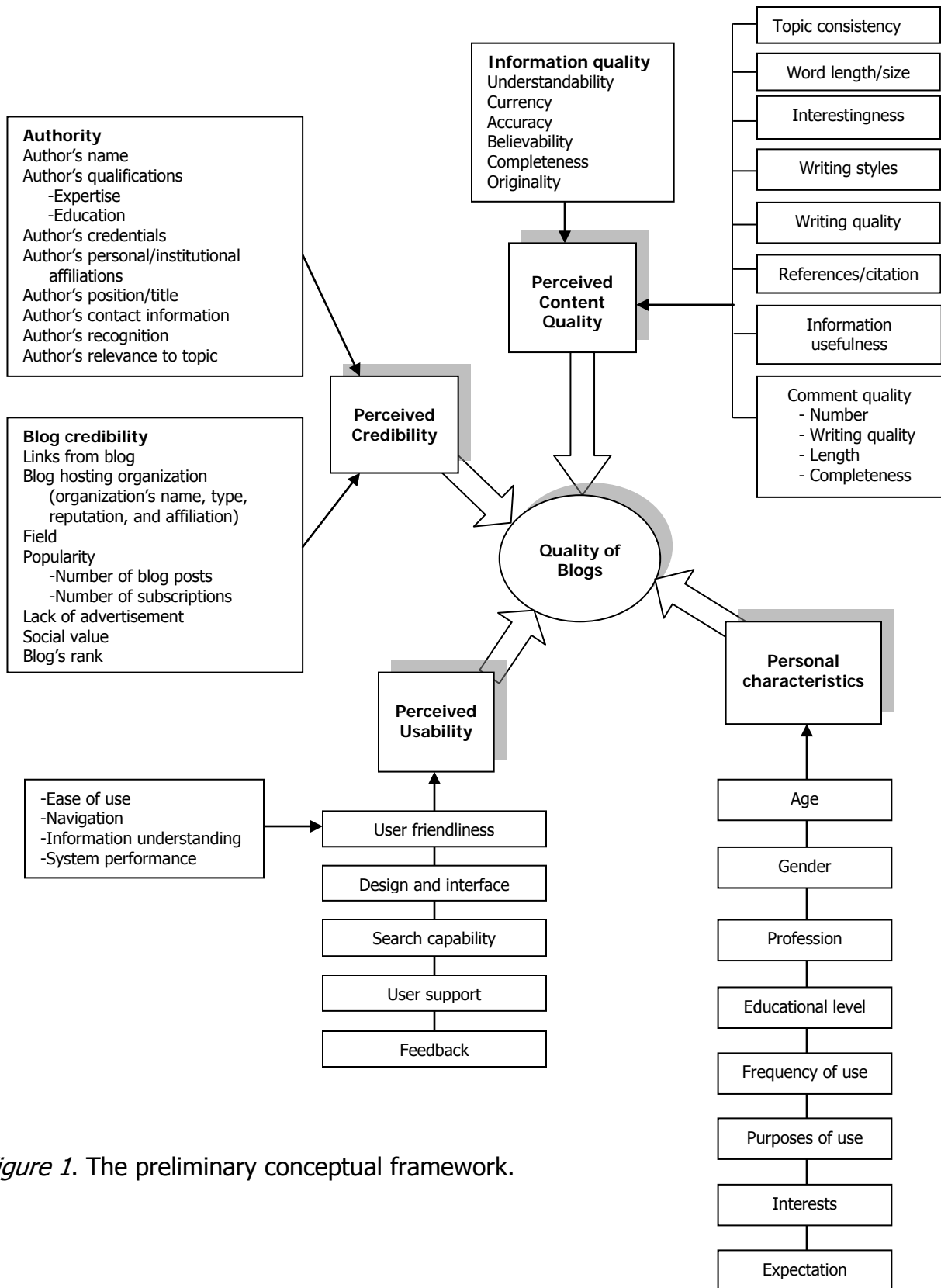


Figure 1. The preliminary conceptual framework.

Content Quality

The framework proposes that blog content is the most important criterion for the quality of blogs; information quality criteria was used to assess the content quality as “bloggers should be mindful [of] what information they publish online” (Viégas, 2005).

The indicators to measure information quality for blogs are shown in Table 8.

Table 8

Proposed Content Quality Indicators for Assessing the Quality of Blogs

Criteria/Indicators	Description	Sources
Information quality		
Understandability	Clear without ambiguity, easily understood and comprehended	Chai, Potdar and Dillon (2009); Kargar et al. (2008)
Currency	Current, up-to-date, the date of last update should be presented	Smith, 1997; Wang and Liu, 2007
Accuracy	Accurate, correct, and free of errors	Hawkins (1999); Smith (1997); Chai, Potdar and Dillon (2009); Kargar et al. (2008)
Believability	Credible or reliable	Chai, Potdar and Dillon (2009); Kargar et al. (2008)
Completeness	Complete, extensive, comprehensive, and sufficient breadth and depth	Chai, Potdar and Dillon (2009); Kargar et al. (2008); Lin and Lee (2006)
Originality	Original content	Pacifici (2002); Smith (1997)
Topic consistency	Few number of changes on topics of blog entries	Sripaew, Takamura and Okumura (2008); Weerkamp and Rijke (2008)
Word length	Word count and size of blog entries should be appropriate	Sripaew, Takamura and Okumura (2008); Chai, Potdar and Dillon (2009); Knight and Burn (2005); Weerkamp and Rijke (2008)
Interestingness	Capturing the readers interest	Sripaew, Takamura and Okumura (2008)

(table continues)

Table 8 (continued)

Criteria/Indicators	Description	Sources
Writing styles/quality	How well the blog is written, how clearly the content is communicated	Metzger (2007); Hawkins (1999); Smith (1997); Yang (2007); Eysenbach et al. (2002); Smith (1997); Weerkamp and Rijke (2008); Rubin & Liddy (2006)
References/citation	References to and from the blog should be clearly indicated	Harris (2007); Eysenbach et al. (2002); Stvilia, Mon and Yi (2009); Ulicny and Baclawski, (2007); Bihun et al. (2005)
Information usefulness	Usefulness or helpfulness of information to the user's situation	Hsu and Lin (2008); Chai, Potdar and Dillon (2009); Lin and Lee (2006)
Comment quality		Chai, Potdar and Dillon (2009);
Number of comments	Number of comments, writing quality, and length are appropriate and complete	Ulicny and Baclawski (2007); Weerkamp and Rijke (2008)
Writing quality		
Length		
Completeness		

Overall, blog content should be easily understood, accurate, complete, up-to-date, credible, original, useful or helpful to the user's situation, well written, and clearly communicated. Moreover, blogs should capture the readers' interests, have a sufficient amount of blog entries and appropriate in word length, and provide the necessary references that point to additional sources. Also, a comment should be well written and have an appropriate amount of comments as well as length of comment.

Credibility

The framework also considers credibility as a very important criterion. A blog's credibility takes into account both credibility of the blog itself and that of the author. Indeed, the blogger's perceived reputation, knowledge, and skills, as well as the perceived quality and credibility of the blog itself, affect a blog's popularity and credibility

(Kinniburgh & Denning, 2006). The authority of the author should be easily identified in the blog (Tillman, 2003). The credibility of the author's assessment indicators that should be clearly indicated are shown in Table 9.

Table 9

Proposed Credibility Indicators for Assessing of the Quality Blogs

Criteria/Indicators	Description	Sources
Authority		
Author's name		Metzger (2007); Hawkins (1999); Harris (2007); Stvilia, Mon and Yi (2009); Rubin and Liddy (2006); Ulicny and Baclawski (2007); Wang and Liu (2007)
Author's qualifications Expertise Education	Some evidence of being knowledgeable	Harris (2007); Metzger (2007)
Author's credentials		Metzger (2007); Pacifici (2002); Harris (2007); Stvilia, Mon and Yi (2009); Rubin and Liddy (2006); Wang and Liu (2007); Wathen and Burkell (2002)
Author's personal/ institutional affiliations	Connection or involvement of author to other people or organizations	Harris (2007); Stvilia, Mon and Yi (2009); Rubin and Liddy (2006); Ulicny and Baclawski (2007); Wathen and Burkell (2002)
Author's position/title		Harris (2007); Metzger(2007)
Author's contact info	E-mail address, telephone number	Pacifici (2002); Hawkins (1999); Harris (2007); Stvilia, Mon and Yi (2009)

(table continues)

Table 9 (continued)

Criteria/Indicators	Description	Sources
Author's recognition		Harris (2007); Metzger (2007); Chai, Potdar and Dillon (2009)
Author's relevance to the topic		Rubin and Liddy (2006)
Blog credibility		
Links to/from blog	Links between blogs, links to other resources	Hawkins (1999); Smith (1997); Eysenbach et al. (2002); Ulicny and Baclawski (2007); Mayzlin and Yoganarasimhan (2008)
Blog hosting organization	Credential of blog host organization (affiliation, name, type, reputation)	Stvilia, Mon and Yi (2009); Du and Wagner (2006)
Field	Domain, coverage, and scope	Smith (1997)
Popularity		
Recognizing No. of subscription No. of blog posts	Blog's importance by no. of subscription, no. of blog posts, and recognition	Bihun et al. (2005); Kargar et al. (2008); Rubin and Liddy (2006); Bideh (2008)
Lack of advertisement	Advertisement should not be present	Wang and Liu (2007); Stvilia, Mon and Yi (2009); Metzger (2007)
Social value	Existing community of a blog host, frequent visitors or blog commentators, and blogroll/blog friends	Du and Wagner (2006)
Blog's rank	The rank of blog in the search engine output	Bihun et al. (2005)

Overall, the author should show evidence of being knowledgeable; the author should be relevant and recognized to topic. A blog must have its own credibility by

providing links to other sources (blogs or websites), as well as having few topic changes, few advertisements, high popularity, and social value.

Usability

Usability tests the quality of use. Usability should be measured in terms of effectiveness, efficiency, and satisfaction to achieve quality of use. Importantly, user-based evaluation is required to measure usability. The usability indicators measuring the quality of blogs are shown in Table 10.

Table 10

Proposed Usability Indicators for Assessing the Quality of Blogs

Criteria/Indicators	Description	Sources
User friendliness		
Ease of use	Ease use in terms of convenience or organization	Hsu and Lin (2008); Tillman (2003); Smith (1997); Wathen and Burkell (2002); Kim et al. (1999)
Navigation		
Information Understanding		
System performance	Effectiveness of system performance	
Design and interface	Interestingness of the blog's design, appropriate use of media, and the users' satisfaction	Wathen and Burkell (2002); Chao (2002); Eysenbach et al. (2002); Rubin and Liddy (2006); Lin and Lee (2006); Kim et al. (1999)
Search capability	Effectiveness of blog archive retrieval	Chao (2002); Stvilia, Mon and Yi (2009)
User support	Availability of help information	Wathen and Burkell (2002); Kim et al. (1999)
Feedback	Level of ease to provide feedback	Wathen and Burkell (2002); Wang and Liu (2007); Kim et al. (1999) Fogg et al. (2003)

Overall, blogs should be easy to use, easy to navigate, have quick response, interesting design, appropriate use of media, effective search capabilities, and provide methods for users to provide feedback as well as help information.

Summary

To summarize, blogs vary in characteristics, contents, types, uses, and quality; therefore, the quality assessment of blogs is undeniably crucial. Blogs are a Web genre, so the current study employed websites and other online information resources quality evaluation as theoretical frameworks. Possible indicators are discussed, and the framework for assessing the quality of blogs is proposed.

CHAPTER 3

RESEARCH DESIGN AND METHODS

Introduction

The literature review suggests that assessing the quality of blogs is critical to their effectiveness as a medium of communication and an information exchange platform. The research questions posited here are 1) what are criteria users consider important when they evaluate the quality of blogs?; 2) what are indicators of a quality blog from the users' point of views?; and 3) what are personal characteristics that affect the users' choices of criteria to evaluate the quality of blogs? Identifying and illustrating the criteria and indicators of a quality blog from literature analysis and blog user survey would improve the understanding of blog quality evaluation.

Research Design

To obtain a user-centered framework for assessing the quality of blogs in this exploratory study, a literature analysis and a user survey were performed.

The literature analysis, including the existing related frameworks (e.g., website and online information resources evaluation) was performed in order to acquire quality criteria and indicators. This study develops the preliminary conceptual framework for evaluating the quality of blogs rather than employing the existing framework because there is no appropriate existing systematic framework. In fact, some frameworks consider only content quality to evaluate information quality on the Web, which is not enough to evaluate the quality of blogs since blogs are user-generated content. Furthermore, blogs are different from other types of websites, and blogs have specific

characteristics. Besides, blogs are varying in format and less formal than websites, so some criteria and indicators are not appropriate for evaluating the quality of blogs.

Conceptual filtering was conducted, so the selected quality criteria are reasonable (published criteria used by other studies), understandable (clear, objective), measurable, and observable (Wang & Liu, 2007). Criteria are at the concept level, so it is crucial to concretely operationalize the definition in order to make quality more measurable. Thus, identifying indicators of quality that are concrete, easily recognizable, and useful for making quality judgments is necessary. Such indicators are defined as the most important for characterizing quality. One criterion can have more than one indicator. As a result, appropriate quality criteria for the blogs are identified, and the criteria will gauge the probability of a user employing those criteria to judge the quality of a blog.

Next, identified criteria and indicators were approved by conducting a user survey. Utilizing the survey method can capture respondents' opinions, attitudes, and beliefs as well as their experiences. Criteria and indicators were turned into statements. Survey participants were given the aggregate set of quality indicators, assembled through the previous analysis of the study, and were asked to rate those indicators in order of importance on a five point scale ranging from 1 (*not important at all*) to 5 (*extremely important*). Moreover, a qualitative component was used by conducting a post-survey email interview to better understand respondents' opinions, attitudes, beliefs, backgrounds, and the reasons behind their choices.

Instrument

The questionnaire was the instrument of the study. The questionnaire consists of 3 parts. The purpose of the first part is to discover demographic information about individual participants, e.g. age, status, research and teaching areas or current job, and gender. According to Strauss and Howe (1999), age was classified into 4 groups: silent generation (1925-1942 = age>67), baby boom generation (1943-1960 = 50<age< 67), generation X (1961-1981 = 29<age<49), and millennial generation (1982-2000 = age<28). The first part of questionnaire also includes questions that were designed to determine how often the participants use blogs—daily, weekly, monthly, occasionally, and never. In addition, participants were asked to indicate what general blog topics they use and their purposes of using blogs (entertainment, habitual routine, social, information, and others).

The second part of the questionnaire deals with the importance of indicators, the participants had to rate such importance on a five-point scale. The last part consists of open-ended question to inquire other criteria or indicators users might have that are not in the second part. This is due to the findings of Stvilia, Mon, and Yi (2009), where they found that users evaluated web pages based on quality indicators that have not appeared in literature. The participants of the current study provide their criteria and indicators as well as the reasons for choosing them. Based on the user survey, questions about the quality criteria used and the extent to which these criteria are employed were answered.

The proposed framework for assessing the quality of blogs consists of three criteria, three sub-criteria, and 40 indicators as illustrated in Figure 1. These criteria and indicators were turned into statements in order to help participants easily understand and respond. The researcher developed 40 evaluation statements that covered major aspects in those categories. These statements are shown in Table 11. The questionnaire (Appendix A) was formulated based on the studies by Katerattanakul and Siau (1999), Barnes and Vidgen (2002), and Wang and Strong (1996).

Table 11

The Questions in Questionnaire for Each Indicator

Indicators	Questions
1. Content quality	
1.1 Information quality	
1.1.1 Understandability	Information in the blog is easy to understand.
1.1.2 Currency	Information in the blog is up-to-date.
1.1.3 Accuracy	Information in the blog is accurate.
1.1.4 Believability	Information in the blog is credible.
1.1.5 Completeness	Information in the blog has sufficient detail.
1.1.6 Originality	Information in the blog is original.
1.2 Topic Consistency	Blog content theme is consistent.
1.3 Word Length/Size	Information in the blog is in appropriate word length.
1.4 Interestingness	Information in the blog keeps your attention.
1.5 Writing Styles	Information in the blog is written in a scholarly fashion.
1.6 Writing Quality	Information in the blog has no spelling or grammatical errors.
1.7 References/Citation	Information in the blog has citations and references.
1.8 Information Usefulness	Information in the blog is helpful for your quests.
1.9 Comment quality	
1.9.1 Number of comments	Blog has high volumes of comments.
1.9.1 Writing quality	Comments in the blog have no spelling or grammatical errors.
1.9.3 Completeness	Comments in the blogs have sufficient detail.
1.9.4 Length	Comments in the blog are in appropriate word length.

(table continues)

Table 11 (*continued*)

Indicators	Questions
2. Credibility	
2.1 Authority	
2.1.1 Author's name	Author's name is clearly indicated.
2.1.2 Author's expertise	Author's expertise is clearly indicated.
2.1.3 Author's education	Author's education is clearly indicated.
2.1.4 Author's credential	Author's credential is clearly indicated.
2.1.5 Author's personal/ institutional affiliation	Author's personal/institutional affiliation is clearly indicated.
2.1.6 Author's position/title	Author's position is clearly indicated.
2.1.7 Author's contact information	Author's contact information is provided, including telephone number and e-mail.
2.1.8 Author's recognizing	Author is a highly recognized scholar.
2.1.9 Author's relevance to topic	Author's expertise is relevant to the topic of the blog.
2.2 Blog credibility	
2.2.1 Links to/from blog	Blog provides useful link to other sources (blogs, sites).
2.2.2 Blog hosting organization (organization's name, type, reputation, and affiliation)	Blog hosting organization is clearly indicated, including organization's name, type, reputation, and affiliation.
2.2.4 Field of blog	Field of the blog is clearly indicated.
2.2.5 Popularity	Blog is recognized and well-known.
2.2.5.1 no. blog posts	Blog has high volumes of blog posts.
2.2.5.2 no. of subscriptions	Blog has high volumes of subscriptions.
2.2.2 Lack of advertisement	Blog has low volumes of advertisement.
2.2.6 Blog's social value (existing community of host, frequent visitors or commentators, and blog friends)	Blogs conveys a sense of community (Blog's social value, including existing community of host, frequent visitors or commentators, and blog friends).
2.2.7 Blog's rank	Blog is ranked on top in search engine output.
3. Usability	
3.1 Blog's user friendliness	
3.1.1 Ease to use	Blog is easy to use.
3.1.2 Navigation	Blog provides easy navigation.
3.1.3 Information understanding	Blog use of graphics, photos, and icons contribute to your understanding of the information.
3.1.4 System performance	Blog provides quick response to users.
3.2 Design and interface	Blog has an aesthetic appeal (good use of graphics and color).

(table continues)

Table 11 (*continued*)

Indicators	Questions
3.3 Search capability	Blog provides quick and easy access to search blog archives.
3.4 User support	Blog provides help or guide to users.
3.5 Feedback mechanism	Blog makes it easy to give feedback.

Participants

Since the term “quality assessment” is directly related to the users, previous studies have found that the users perform basic and simple assessments of quality. The users either always or never know how to evaluate the quality of information resources, so blogs users were the sample of the study.

The Pew Internet & American Life Project study on blog readership found that 24% of all American adults said they read blogs. From the United States 2010 Census (U.S. Census Bureau, 2010), the resident population projection from age 16-64 is 203,410,000 people. That means there are about 48,818,400 adults who read blogs.

According to Nguyen-Ngoc and Law (2009), blogs are used in teaching and learning environments and other knowledge-building communities, such as web-based learning. Moreover, Herring et al. (2005) entitled blogs in which educators and business people share knowledge as k(nowledge)-logs. Luzón (2008) calls these blogs “research blogs,” which consist of several genres—such as political blog, pure research blog, and academic life blog—that have been developed for scholars. Therefore, the study focused on faculty and staff blog users at the University of North Texas (UNT) as a case study. The data collected in the user survey allowed the researcher to derive generalizations of the study.

Pilot Study

The survey instrument should be tested before its actual administration. Therefore, a pilot study was performed in order to test the reliability of the research instrument with 15 UNT faculty members.

Data Collection

The researcher conducted a user study using multiple data collection methods, including online survey and face-to-face survey, to collect users' responses and assess the importance of criteria and indicators evaluating the quality of blogs.

From the 2011 UNT employee records (All about UNT, 2011), there were 1,035 full time faculty members, 456 part time faculty members, and 2,602 staffs members, which was 4,093 employees in total. At 5% confidence interval and 95% confidence level, Yamane (1967 as cited Israel, 2009) suggested that with a population size of 4,000, the sample should not be less than 364.

The current study used 364 as the sample size, UNT faculty and staff members who have provided their emails on the UNT web site received invitations to an online survey by email. Also, a face-to-face survey was conducted. Therefore, this was a sample of convenience rather than a random sample. The researcher sent emails to the participants every 2 weeks. To better understand the participants' backgrounds and the reasons behind their choices of criteria and indicators, a post-survey email interview with 10 participants was performed.

Data Analysis

Descriptive statistics were used to determine the importance of criteria and indicators and to determine participants' demographic characteristics, including status, education level, age, gender, frequency of blog use, and purposes of use. Univariate statistics were used to examine relationship between the importance of criteria and indicators and each independent variable. An independent *t*-test was performed to determine the difference in the importance of criteria by status (faculty and staff) and gender (male and female). A one-way ANOVA was employed to examine such differences by age groups (<28, 29-49, 50-67, and >67), education levels (post-graduate, university, junior college, and senior high school or vocational school), frequency of use (daily, weekly, monthly, and occasionally), and purposes of use (entertainment, habitual routine, social, information, and others).

Exploratory factor analysis (EFA) was conducted to discover the pattern of intercorrelation among variables. The research assumption was that any indicator may be associated with any criteria. EFA was conducted on the 40 items of the three blog quality categories in the questionnaire by using the principle component method with Varimax rotation. The principle component method deals with the variability in a set of variables. The "principal components" can be related to the "factors." Selecting a subset of variables is based on the highest correlations between the original variables and the principal component. The results of the exploratory factor analysis helped identify a representation of variables by components and specified which variables should be retained as individual variables.

Methodological Issues

Several issues related to assumptions, validity, and reliability of the data and findings are addressed in the study. Perceived quality is discussed followed by the reliability of research instrument.

Perceived Quality

Perceived quality can be defined as the user's perception of the overall quality of a system or service. Perceived quality cannot be objectively determined since users sharply differ in their personalities, needs, and preferences. As a result, different users use different criteria for quality (Purcell, Wilson, & Delamothe, 2002; Chai, Potdar, & Dillon, 2009). In the context of marketing, factors influencing the perceived quality of a product are performance, features, reliability, and serviceability (the system is efficient, competent, and convenient). Factors influencing perceived quality of services are reliability, competency (trust and confidence), responsiveness (user help and prompting services), and empathy (Aaker, 1991).

In the current study, the perceived quality of a blog is the users' opinions regarding the blog's ability to fulfill readers' expectations based on characteristics of blogs and performance. The purpose of this study is to define an empirically grounded model of users' blog quality assessment. The study seeks to identify the quality of blogs from the users' perceptions of quality indicators. Thus, this study assumes that certain factors affect the degree of quality of blogs.

Validity and Reliability

The questionnaire was tested for validity and reliability of the instrument by faculty members at the University of North Texas in the pilot study. Fifteen questionnaires were sent to faculty members by email.

Cronbach's alpha was used as an internal consistency technique to evaluate the homogeneity of the concepts in each category of the proposed framework. A Cronbach's alpha of 0.7 is to be satisfactory.

Summary

In this chapter, the basic methodological approach was outlined and discussed. To acquire users' criteria for assessing the quality of blogs, the questionnaire was used as the instrument of the study. Descriptive statistics, exploratory factor analysis, an independent *t*-test, and a one-way ANOVA were employed to analyze data from the user survey.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to identify criteria and indicators that users consider important when they evaluate the quality of blogs in order to develop a user-centered framework for evaluating the quality of blogs in general. In this chapter, the descriptive statistics and findings based on the collected data from user surveys and email interviews are presented. The statistical analyses were accomplished by SPSS[®] 17.0, which was used for the Cronbach's alpha, the descriptive statistics, exploratory factor analysis, an independent *t*-test, a one-way ANOVA, and crosstabs. The reliability of the instrument is discussed, followed by the descriptive statistics, data analysis, and summary.

Instrumentation

The survey instrument was pretested before its actual administration. The researcher first conducted a pilot study in February 2011, consisting of 15 faculty members from the University of North Texas. The questionnaire's reliability was estimated by employing the Cronbach's coefficient alpha.

Cronbach's alpha was used to compute the internal consistency of the blog users' responses to items within the questionnaire. Cronbach's alpha was calculated for each criterion (content quality, credibility, and usability) individually, because indicators in each criterion were not designed to measure the same construct. The Cronbach's alpha would not be interpretable if all criteria were calculated at one time (Griffin, 2005).

Cronbach's alpha results shown in Table 12 are based on 15 blog user respondents. Cronbach's alphas for content quality that consisted of 13 items, credibility that consisted of 19 items, and usability that consisted of 8 items were .869, .927, and .922, respectively. These could be evaluated according to DeVellis's guidelines regarding acceptable reliabilities for research instrument scales:

below .60 unacceptable

between .60 and .65 undesirable

between .65 and .70 minimally acceptable

between .70 and .80 respectable

between .80 and .90 very good

much above .90 consider shortening the scale.

(DeVellis, 2003, p.95)

According to guidelines, this reliability is considered very good, indicating strong consistency among the indicators. Therefore, the instrument was found to be highly reliable with high internal consistency.

Table 12

Cronbach's Alpha for Content Quality, Credibility, and Usability

Criteria and indicators	Cronbach's alpha	Number of items
Content quality	.869	13
Credibility	.927	19
Usability	.922	8

Participants in the Sample

The sample included University of North Texas faculty and staff members. They were invited to participate in this study by email, which was the primary method of communication. The survey was administered both online and face-to-face. Of the 2,184 invitation emails and 140 distributed questionnaires, 326 UNT faculty and staff members responded to the survey, for a response rate of 14.0%.

For 4,093 UNT faculty and staff member populations, Yamane (1967 as cited Israel, 2009) suggested that the sample size should not less than 364 at 5% confidence interval and 95% confidence level. In the case of this research, the sample size consisted of 326 UNT faculty and staff members; by using Yamane's equation, the confidence interval was 5.6 and 94.4% of the confidence level.

Prior to beginning analysis, the dataset was screened for missing data. Twenty-three participants failed to answer all parts of the questionnaires so their responses were eliminated from the study; therefore, the final number of responses was 303. The characteristics of the sample are presented with descriptive statistics, which was utilized in the first part of data analysis to determine the survey respondents' demographic characteristics.

Table 13 shows an overall view of the respondent's general characteristics by status, education levels, gender, and age group. Of the 303 responses, 141 (46.5%) were faculty members; the remaining 162 (53.5%) were staff members. One hundred fifty five respondents (51.2%) were female, and 148 (48.8%) were male.

Two hundred thirteen (70.3%) respondents had a post-graduate education level, while 77 (25.4%) respondents had a university level. The numbers of respondents who had a junior college level and a senior high and vocational school level were 8 (2.6%) and 5 (1.7%) respectively.

Respondents' ages ranged from below 28 to 67 or more years. One hundred forty five (47.9%) respondents were within 29-49 age group, 106 (35.0%) respondents ranged between 50 and 67, 49 (16.2%) were below 28, and 3 (1.0%) were over 67.

Table 13

Distribution of Demographic Characteristics of Respondents

		Frequency	Percentage
Status	Faculty member	141	46.5
	Staff	162	53.5
Educational level	Post-graduate	213	70.3
	University	77	25.4
	Junior college	8	2.6
	Senior high or vocational school	5	1.7
Gender	Male	148	48.8
	Female	155	51.2
Age	<28	49	16.2
	29-49	145	47.9
	50-67	106	35.0
	>67	3	1.0

Data Analysis

Out of the 303 respondents, 239 (78.9%) respondents had experience with using blogs, and 64 (21.1%) had never used blogs.

According to Table 14, out of 64 respondents who had never used blogs, 38 (59.3%) were faculty members and 26 (40.6%) were staff members. Out of 239

respondents who had experiences with using blogs, 103 (43.1%) were faculty members and 136 (56.9%) were staff members.

Table 14

Distribution of Respondents Who Had Used Blogs and Never Used Blogs (n=303)

	Status		Total
	Faculty	Staff	
Never used blogs	38(59.3%)	26(40.6%)	64(21.1%)
Ever used blogs	103(43.1%)	136(56.9%)	239(78.9%)
Total	141(100%)	162(100%)	303(100%)

Table 15 shows the distribution of the respondents who used blogs by demographic characteristics (age, gender, and education level), frequency of use, and purposes of use. Out of 239 respondents who used blogs, 114 (47.7%) were within 29-49 age group compared to 75 (31.4%) respondents within 50-67 age group, 48 (20.1%) below 28 years, and two (0.8%) over 67 years. One hundred twenty four (51.9%) were females, and the remaining 115 (48.1%) were males.

Table 15

Distribution of Blog Users by Age, Gender, Education Level, Frequency of Use, and Purposes of Using Blogs (n=239)

		Frequency	Percentage
Age	<28	48	20.1
	29-49	114	47.7
	50-67	75	31.4
	>67	2	0.8
Gender	Male	115	48.1
	Female	124	51.9

(table continues)

Table 15 (continued)

		Frequency	Percentage
Education level	Post-graduate	166	69.5
	University	66	27.6
	Junior college	4	1.7
	Senior high and vocational school	3	1.3
Frequency of use	Daily	85	35.6
	Weekly	52	21.8
	Monthly	9	3.8
	Occasionally	93	38.9
Purpose of use	Entertainment	109	25.8
	Habitual routine	29	6.9
	Social	75	17.8
	Information	185	43.8
	Others	25	5.9

Of the respondents who had used blogs, 166 (69.5%) had a post-graduate education level while 66 (27.6%) had a university level. Only 4 (1.7%) respondents who had used blogs had a junior college education level, and only 3 (1.3%) had a senior high or vocational school level.

Most respondents (93 or 38.9%) used blogs occasionally. Eighty five (35.6%) respondents used blogs daily, 52 (21.8%) respondents used blogs weekly, and nine (3.8%) used blogs monthly.

As shown in Table 15, obtaining information was the most frequent purpose of using blogs. One hundred eighty five (43.8%) respondents used blogs for information compared to 109 (25.8%) respondents who used blogs for entertainment, 75 (17.8%) respondents used blogs for social purposes, and 29 (6.9%) respondents used of blogs as a habitual routine. Twenty five (5.9%) respondents used blogs for other purposes.

Respondents named some of their purposes which can categorized into information purpose, such as keeping up with current events in their industry,

researching, reading college or department's news, researching new products, financing or frugal living, cooking/recipes, and inspiration. Shopping was a purpose in the entertainment category. Into the social purpose category, other respondents' included reading about friends and parenting.

Moreover, the respondents' purposes of using blogs were work and education related. Work related purpose for using blogs were maintaining the department blog for faculty, students, and alumni; family business related; trend-tracking as it affects branding and brand experience; and selling art/promotional. Educational purposes for using blogs were studying in class, students' assignments located on blogs, and teaching.

Table 16

Distribution of General Blog Topics

General blog topics	Frequency	Percentage
News	101	42.3
Technology	95	39.7
Politics	70	29.3
Education	69	28.9
Personal	61	25.5
Computer & Internet	61	25.5
Health	60	25.1
Food	55	23.0
Arts	51	21.3
Sciences	50	20.9
Travel	46	19.2
Social sciences	39	16.3
Music	38	15.9
Sports	37	15.5
Photo	37	15.5
Others	36	15.1
Business	26	10.9
Engineering	16	6.7
Hospitality	7	2.9

As shown in Table 16, 101 (42.3%) respondents used news-blogs compared to 95 (39.7%) respondents used technology related blogs, and 70 (29.3%) used politics blogs; the number of respondents who used education; personal, computer, and Internet; and health blogs were 69 (28.9%), 61 (25.5%), 60 (25.1%), respectively. The respondents also provided other topics of blogs that were not on the lists, including school program, literature, book review, entertainment, American Indian, frugal living, feminism, product reviews, spiritual/yoga, gender issues, environment, religion, automobiles, home remodeling/redecorating, agricultural, writing (fiction), fashions, culture, community building, parenting, green building, regional events, entertainment, religion, theology, crafts, beer making, an eco-friendly ideas/living, information science, dogs, and comics or humor.

The professions of respondents who used blogs were categorized. The faculty blog users' research and teaching areas were grouped into 6 areas of knowledge (International Baccalaureate Organization, 2006), which were natural sciences, human sciences, the arts, history, mathematics, and ethics; descriptive statistics was performed as shown in Table 17. Forty one (39.8%) faculty blog users research or teach in the human sciences field. Twenty four (23.3%) faculty blog users research or teach in the arts. The numbers of faculty blog users who research or teach mathematics and natural sciences were 11 (16.5%) and 10 (9.7%) respectively. The details of faculty blog users' research and teaching areas are shown in Appendix D.

Table 17

Distribution of Faculty Blog Users' Research and Teaching Areas (n=103)

	Frequency	Percentage
Human sciences	41	39.8
The arts	24	23.3
Mathematics	17	16.5
Natural sciences	10	9.7
Ethics	5	4.9
History	3	2.0
No answer	3	2.9

The non-faculty blog users' jobs were categorized as well. Table 18 represents the non-faculty blog users respondents' jobs grouped into four categories. Over half of the non-faculty blog users (66, or 48.5%) were in operational jobs compared to 27 (19.9%) who were advisors, managers, specialists, and supervisors. Twenty three (16.9%) of the non-faculty blog users were administrative officers, and 17 (12.3%) were directors and deans. The details of staff members' jobs are shown in Appendix E.

Table 18

Distribution of Non-Faculty Blog Users' Jobs (n=136)

	Frequency	Percentage
Operational officers	66	48.5
Advisors, Managers, Specialists, and Supervisors	27	19.9
Administrative officers, Coordinators	23	16.9
Directors, Deans	17	12.5
No answer	3	2.2

To determine the importance of criteria and indicators and the differences in such importance by blog user respondents' demographic characteristics (status,

education level, age, and gender), frequency of use, and purpose of use, descriptive statistics, univariate statistics, and exploratory factor analysis were conducted. Prior to those statistics analysis, the normal distribution test was performed in order to ensure that the data set is normally distributed.

The Normal Distribution Test

Data screening indicated 12 missing values based on the Likert scale of the importance of indicators, all from different subjects, which were replaced by the variable mean. Then, the normality of the score distribution for each indicator was tested by descriptive statistic analysis. The results of the normal distribution test are presented in Table 19. It is desirable that skewness and kurtosis of the normally distributed data should not be higher than 2.0 and 7.0, respectively (Curran, West, & Finch, 1996 as cited in Katerattanakul & Siau, 2008). As none of the indicators have absolute values of skewness or kurtosis higher than those values, the score distribution of each indicator is the normal distribution.

Descriptive statistics of responses from blog user participants showed that most of the indicators were considered to be important for the quality of blogs because no item has a mean score less than 2.5 (the midpoint of the scale). The questionnaire items that the blog user respondents considered extremely important (*Mean* \geq 4.0) were that the information in the blog is accurate, information in the blog is up-to-date, information in the blog is credible, information in the blog is easy to understand, the blog is easy to use, and the blog provides easy navigation.

Table 19

Importance of the Blog Quality Indicators: Descriptive Statistics (n=239)

	<i>Mean</i>	<i>SD</i>	Skewness		Kurtosis	
			Stat	Std. Error	Stat	Std. Error
Content quality						
Information in the blog is easy to understand.	4.12	.965	-1.209	.157	1.468	.314
Information in the blog is up-to-date.	4.31	.946	-1.556	.157	2.340	.314
Information in the blog is accurate.	4.41	.889	-1.820	.157	3.510	.314
Information in the blog is credible.	4.31	.942	-1.538	.157	2.187	.314
Information in the blog is original.	3.52	1.036	-.405	.157	-.222	.314
Blog content theme is consistent.	3.28	1.109	-.358	.157	-.406	.314
Information in the blog keeps your attention.	3.94	.898	-.788	.157	.843	.314
Information in the blog is written in a scholarly fashion.	2.69	1.078	.065	.157	-.827	.314
Information in the blog has citations and references.	3.05	1.205	-.184	.157	-.935	.314
Information in the blog is helpful for your quests.	3.83	1.017	-.787	.157	.316	.314
Information and comments in the blog have no spelling or grammatical errors.	3.29	1.126	-.258	.157	-.678	.314
Information and comments in the blog have sufficient detail.	3.65	.894	-.753	.157	.833	.314
Information and comments in the blog are of appropriate word length.	3.25	1.106	-.473	.157	-.516	.314
Credibility						
Author's name is clearly indicated.	3.53	1.187	-.440	.157	-.738	.314
Author's expertise is clearly indicated.	3.57	1.101	-.540	.157	-.344	.314
Author's education is clearly indicated.	3.02	1.233	.049	.157	-.981	.314
Author's credentials are clearly indicated.	3.26	1.203	-.243	.157	-.920	.314

(table continues)

Table 19 (continued)

			Skewness		Kurtosis	
	<i>Mean</i>	<i>SD</i>	Stat	Std. Error	Stat	Std. Error
Author's personal/institutional affiliation is clearly indicated.	2.98	1.195	.092	.157	-.897	.314
Author's position is clearly indicated.	3.06	1.232	.024	.157	-.987	.314
Author's contact information is provided, including telephone number and e-mail.	2.91	1.242	.035	.157	-1.000	.314
Author is a highly recognized scholar.	2.61	1.194	.231	.157	-.878	.314
Author's expertise is relevant to the topic of the blog.	3.69	.997	-.663	.157	.284	.314
Blog provides useful link to other sources (blogs, website).	3.78	.954	-.635	.157	.168	.314
Blog hosting organization is clearly indicated, including organization's name, type, reputation, and affiliation.	3.23	1.134	-.244	.157	-.753	.314
Field of the blog is clearly indicated.	3.48	1.003	-.577	.157	.013	.314
Blog is recognized and well-known.	2.89	1.096	-.141	.157	-.688	.314
Blog has high volumes of blog posts.	2.85	1.096	.101	.157	-.719	.314
Blog has high volumes of subscriptions.	2.54	1.162	.306	.157	-.886	.314
Blog has high volumes of comments.	2.64	1.155	.102	.157	-1.025	.314
Blog has low volumes of advertisements.	3.48	1.195	-.402	.157	-.741	.314
Blog conveys a sense of community (Blog's social value, including existing community of host, frequent visitors or commentators, and blog friends).	3.21	1.129	-.261	.157	-.664	.314
Blog is ranked on top in search engine output.	2.67	1.242	.078	.157	-1.093	.314
Usability						
Blog is easy to use.	4.24	.839	-1.250	.157	2.197	.314
Blog provides easy navigation.	4.22	.822	-1.202	.157	2.282	.314
Blog's use of graphics, photos, and icons contribute to your understanding of the information.	3.98	.919	-.712	.157	.358	.314
Blog provides quick responses to users.	3.40	1.235	-.322	.157	-.903	.314

(table continues)

Table 19 (continued)

	Mean	SD	Skewness		Kurtosis	
			Stat	Std. Error	Stat	Std. Error
Blog has an aesthetic appeal (good use of graphics and color).	3.67	1.023	-.525	.157	-.210	.314
Blog provides quick and easy access to search blog archives.	3.92	.954	-.815	.157	.479	.314
Blog provides help or guide to users.	3.45	1.132	-.361	.157	-.643	.314
Blog makes it easy to give feedback.	3.40	1.155	-.326	.157	-.660	.314

The researcher conducted univariate statistics, an independent *t*-test, and a one-way ANOVA to examine differences in the importance of blog quality criteria by demographic characteristics (status, education level, gender, age) of blog users, frequency of use, and purposes of use. As the proposed framework, the indicators were grouped into three blog quality criteria which were content quality, credibility, and usability.

An Independent t-Test

An independent *t*-test was performed to determine whether a significant difference exists by status and gender in the importance of content quality, credibility, and usability.

Status vs. Content Quality, Credibility, and Usability

As Table 20 reveals, an independent *t*-test indicated that there was no a significant difference in the perceived importance of the blog quality criteria between faculty and staff members: $t_{\text{content quality}}(237) = -1.181, p = .239$; $t_{\text{credibility}}(237) = .670, p = .504$; and $t_{\text{usability}}(237) = -1.554, p = .122$.

Table 20

Status and Gender Differences in the Importance of Content, Credibility, and Usability Blog Quality Criteria (n=239)

		N	Content quality				Credibility				Usability			
			Mean	SD	t	p	Mean	SD	t	p	Mean	SD	t	p
Status	Faculty	103	47.0	8.8	-1.181	.239	60.1	14.6	.670	.504	29.6	6.4	-1.554	.122
	Staff	136	48.1	7.2			58.9	14.2			30.8	5.9		
Gender	Female	124	47.8	8.7	.373	.710	60.1	14.9	.866	.4388	31.2	6.4	2.428	.016*
	Male	115	47.5	7.2			58.6	13.7			29.3	5.8		

Gender vs. Content Quality, Credibility, and Usability

As shown in Table 20, there was a significant difference in the perceived importance of the blog usability between females and males: $t_{\text{usability}}(237) = 2.428$; $p=0.016$. Females associated a higher rate of importance with blog usability than males.

ANOVA

A one-way ANOVA was performed to determine whether a significant difference exists between education levels, age of blog users, frequency of blog use, purposes of use, and blog users' professions in the importance of blog quality criteria: content quality, credibility, and usability. ANOVA analysis results are shown in Table 21.

Education Levels vs. Content Quality, Credibility, and Usability

A one-way ANOVA analysis indicated that there were significant differences in the perceived importance of the blog quality criteria by education levels: content quality ($F = 5.404$; $df = 3/238$; $p = .001$), and usability ($F = 5.200$; $df = 3/238$; $p = .002$). More specifically, by using Tukey as post-hoc tests, the blog user respondents who had a post-graduate education level placed the importance of content quality lower than those who had a senior high and vocational school education level ($p = .036$). Also, the blog user respondents who had a university level, a senior high level, and vocational school level valued content quality higher than the blog user respondents who had a junior college level ($p = .033$, $p = .003$ respectively). In the perceived importance of usability, the blog user respondents who had a university education level rated the

importance of usability higher than the blog user respondents who had a post-graduate education level ($p = .005$).

Even though ANOVA analysis indicated that there was a significant difference in the importance of credibility among different education levels ($F = 4.073$; $df = 3/238$; $p = .008$), this significance has not met an assumption of the equal variance since the result of the Levene's test of homogeneity of variance was significant. Therefore, there was no significant difference in the perceived importance of credibility among education levels.

Age vs. Content Quality, Credibility, and Usability

Before running ANOVA, two respondents whose ages were over 67 were placed into the group of blog user respondents within 50-67 years old. A one-way ANOVA analysis indicated that there was a significant difference in the perceived importance of credibility by age groups ($F = 3.567$; $df = 2/238$; $p = .030$). Using Tukey as post-hoc tests, blog user respondents who were over 50 (50-67 and >67) valued credibility higher than those who aged within 29-49 ($p = .025$). There was a significant difference in the perceived importance of usability between these two groups as well ($F = 7.181$; $df = 2/238$; $p = .001$). Also using Tukey as post-hoc tests, the blog user respondents who were below 28 valued usability higher than those who aged within 29-49 ($p = .001$). Overall, different age groups placed different levels of importance on credibility.

Table 21

Education level, Age, and Frequency of Use Differences in the Importance of Content, Credibility, and Usability Blog Quality Criteria (n=239)

		Content quality					Credibility				Usability			
		N	Mean	SD	F	p	Mean	SD	F	p	Mean	SD	F	p
Education level	Post-graduate	166	47.0	7.9	5.404	.001*	57.9	13.7	4.073	.008	29.5	6.1	5.200	.002*
	University	66	49.2	6.8			63.3	14.1			32.4	5.3		
	Junior college	4	38.3	16.9			48.3	27.2			25.0	11.8		
	Senior high	3	59.3	6.7			72.7	14.3			34.3	3.2		
Age	<28	48	47.7	6.2	1.738	.178	60.3	10.8	3.567	.030*	32.8	4.6	7.181	.001*
	29-49	114	46.8	7.9			56.9	14.5			29.0	6.1		
	50-67, >67	77	49.0	9.0			62.5	15.6			30.6	6.5		
Frequency of use	Daily	85	47.6	6.3	.321	.810	57.8	13.4	1.542	.204	29.9	5.0	.156	.926
	Weekly	52	47.6	6.9			59.3	14.9			30.3	6.0		
	Monthly	9	50.2	4.1			68.0	10.2			29.9	6.2		
	Occasionally	93	47.5	10.0			60.2	15.1			30.6	7.2		

Frequency of Use vs. Content Quality, Credibility, and Usability

As Table 21 reveals, there was no a significant difference in the perceived importance of criteria by frequency of use: $F_{\text{content quality}} (3/238) = .321; p = .810$, $F_{\text{credibility}} (3/238) = 1.542; p = .204$, and $F_{\text{usability}} (3/238) = .156; p = .926$.

Purposes of Use vs. Content Quality, Credibility, and Usability

Purposes for using blogs were recoded in SPSS since the blog user respondents could list more than one purpose. There were 15 groups of purposes of using blogs. The groups that had less than five people were excluded from a one-way ANOVA analysis because one-way ANOVA requires a minimum of five cases. As table 22 reveals, there was a significant difference in the perceived importance of credibility by purposes of use: $F_{\text{credibility}} (3/231) = 1.860; p = .046$. However, no pairwise significant differences in the perceived importance of credibility criterion were identified by the Tukey post-hoc test.

Table 22

Purposes of Use Differences in the Importance of Content, Credibility, and Usability Blog Quality Criteria (n=239)

	N	Content quality				Credibility				Usability			
		Mean	SD	F	p	Mean	SD	F	p	Mean	SD	F	p
Entertainment[P1]	21	45.4	12.0	1.006	.442	56.9	14.6	1.860	.046*	28.7	8.0	1.726	.069
Habitual routine[P2]	2	50.0	.0			58.0	8.5			26.0	7.1		
Social[P3]	14	51.4	5.7			67.8	17.3			33.7	4.0		
Information[P4]	91	47.8	8.8			60.0	13.9			29.8	6.2		
[P1][P2]	1	53.0				65.0	0.0			38.0	0.0		
[P1][P3]	12	46.0	6.8			54.5	13.4			34.1	3.5		
[P1][P4]	35	47.3	5.8			55.9	15.5			30.7	5.4		
[P2][P3]	0	0	0.0			0	0.0			0	0.0		
[P2][P4]	2	45.0	4.2			58.5	26.2			29.5	3.5		
[P3][P4]	18	49.3	7.3			64.8	13.7			30.2	7.3		
[P1][P2][P3]	1	42.0	0.0			44.0	0.0			27.0	0.0		
[P1][P2][P4]	12	45.1	6.2			56.9	6.3			28.3	5.0		
[P1][P3][P4]	18	49.3	6.8			65.2	12.4			32.1	6.0		
[P2][P3][P4]	2	38.5	4.9			45.5	31.8			23.5	2.1		
[P1][P2][P3][P4]	10	48.2	6.1			52.3	12.2			28.0	6.7		

Professions vs. Content Quality, Credibility, and Usability

A one-way ANOVA analysis indicated that there were significant differences in the perceived importance of the blog quality criteria by professions as shown in Table 23 and Table 24 below.

Faculty blog users' research and teaching areas were categorized into six groups of knowledge: natural sciences, human sciences, the arts, history, mathematics, and ethics. The details of research and teaching areas are shown in Appendix D. Three faculty blog users who did not answer their research and teaching areas were excluded from this data analysis, resulting in 100 ($n = 100$) faculty blog users in this data analysis.

Within faculty blog users' research and teaching areas, there was a significant difference in the perceived importance of usability ($F_{\text{usability}}(5/99) = 4.410; p = .001$). Using Tukey as a post-hoc test, the faculty blog users who had research and teaching areas in human sciences and the arts valued usability higher than those in mathematics ($p = .035, p = .001$ respectively).

Table 23

Faculty Members' Research and Teaching Areas Differences in the Importance of Content, Credibility, and Usability Blog Quality Criteria (n=100)

	N	Content quality				Credibility				Usability			
		Mean	SD	F	p	Mean	SD	F	p	Mean	SD	F	p
Natural sciences	10	45.2	7.4	1.878	.106	54.0	13.4	1.658	.152	27.3	7.0	4.410	.001
Human sciences	41	47.8	9.0			64.5	14.3			30.2	6.1		
The arts	24	50.3	6.2			60.3	17.1			33.0	4.9		
History	3	44	2.6			62.7	6.4			25.0	2.6		
Mathematics	17	43.3	9.3			54.8	10.8			25.0	5.9		
Ethics	5	50	4.3			62.8	12.2			29.4	7.2		

Table 24

Staff Members' Jobs Differences in the Importance of Content, Credibility, and Usability Blog Quality Criteria (n = 233)

	N	Content quality				Credibility				Usability			
		Mean	SD	F	p	Mean	SD	F	p	Mean	SD	F	p
Directors and deans	17	44.5	10.3	1.933	.106	51.4	14.3	2.735	.030	27.1	8.8	3.356	.011
Advisors, managers, specialists, and supervisors	27	48.3	5.6			57.1	13.8			30.4	5.7		
Administrative officers	23	51.0	7.3			65.3	16.4			33.4	4.5		
Operational officers	66	47.9	6.8			59.2	12.8			30.9	5.3		
Faculty	100	47.4	8.2			60.7	14.5			29.5	6.4		

Faculty jobs should be compared with other types of professions in order to determine whether blog users' professions affect their choices of evaluation criteria for the quality of blogs. Within staff members' jobs, as shown in Table 24, there was a significant difference in the importance of credibility ($F_{\text{credibility}}(4/232) = 2.735; p = .030$). More specifically, by Tukey post-hoc tests, there was a significant difference between the director and dean group, who placed relatively low importance on the credibility of blogs, and the administrative officer group, who valued the credibility of blogs much higher ($p = .020$).

Even though ANOVA analysis indicated that there was a significant difference in the perceived importance of usability among different jobs ($F_{\text{usability}}(4/232) = 3.356; p = .011$), this significance has not met an assumption of equal variance on the importance of usability since the results of the Levene's test of homogeneity of variance were significant. Therefore, there was no major difference in the perceived importance of usability among different professions.

Exploratory Factor Analysis

Exploratory factor analysis (EFA) was employed to extract quality factors by the perceived importance of the indicators. A series of principal component analyses was performed to identify items with low factor loading and determine whether each indicator weighed on its intended criteria. Responses to the 40-item questionnaire were subjected to exploratory factor analysis using one as prior communality estimates. The principal component method was used to extract components, and this was followed by Varimax (orthogonal) Rotation, which assumed that those items were correlated with

one another, possibly because they were measuring the same construct. With eigenvalues greater than 1 for interpreting the rotated factor pattern, an item was said to contribute to a given component if the factor weight was .40 or greater for that component, and was less than .40 for the others. Moreover, it is highly desirable to have at least three or more variables weighting on each retained component.

The 40 indicators asked in the questionnaire were classified into three groups (content quality, credibility, and usability) based on the blog quality criteria in the preliminary framework. In other words, the questionnaire was developed to potentially evaluate the importance of the indicators. As such, a three- or four-factor solution was expected with more than three items on each factor.

The first exploratory factor analysis was conducted by using the principal component method with Varimax Rotation, and specify a 3-factor solution. With 49.4% of total variance explained, six items weighed on more than one factor, and one items did not weighed on any factor (i.e. this item had a factor loading less than .40 in all component). In addition, the communalities of some items were very low.

Accordingly, the exploratory factor analysis was conducted by using the principal component method with Varimax Rotation, and specifying a 4-factor solution (fixed number of factors to be extracted to 4). With 54.9% of total variance explained, four items contributed to more than one factor (i.e. those items had a factor weight .40 or greater in more than one component), which were writing style, author's recognition, blog's social value, and system performance. So, the next principal component analysis was performed by excluding those four items; with 55.4% of total variance explained,

only one item contributed to more than one factor, which was topic consistency. The researcher then performed the principal component analysis on the remaining items, and topic consistency was removed. When fixed, four factors were extracted with Varimax rotation, components 1, 2, 3, and 4 accounted for 55.8% of the total variance as shown in Table 25. Questionnaire items and corresponding factor weights are presented in Table 26. No item was weighted on more than one component; the number of remaining indicators was 35. The item communalities–total score correlations –of all indicators were between .409 and .850.

Eleven items (author’s relevance, author’s expertise, author’s name, field of blog, author’s credential, blog hosting, author’s position, references/citations, author’s education, author’s affiliation, and author’s contact) were found to weigh on the first component, which was subsequently labeled the authority. Eight items (ease of use, navigation, information understanding, search capability, useful links, design and interface, user support, and feedback mechanism) weighed on the second component, which was labeled the usability. Seven items (originality, advertisement, blog popularity, number of blog posts, blog’s rank, number of comments, and number of subscriptions) weighed on the third component, which was labeled the blog credibility. Nine items (accuracy, currency, believability, understandability, interestingness, information usefulness, completeness, writing quality, and length) contributed to the fourth component, which was labeled the content quality.

Most of the indicators weighed onto the original factors. For authority, which should be considered another criterion by the exploratory factor analysis, eight

indicators (of 11) weighed onto the same factor. For usability, seven indicators (of eight) weighed onto the same factor. For blog credibility, six indicators (of seven) weighed on the same factor. For content quality, all indicators (nine) weighed onto the same factor.

While items tended to uniquely weigh on their respective factors, 5 items (originality, reference/citation, useful links, blog hosting, and Field of blog) did not behave as expected. Originality weighed on blog credibility, useful links weighed on usability, and references/citations, blog hosting, and field of blog weighed on the authority, which was not in the anticipated fashion. An initial interpretation of these results might suggest a measurement artifact. However, it is important to note that all other content quality, blog credibility, and usability items behaved as expected.

Table 25

Rotated Factor Pattern and Final Communality Estimates from Principal Component Analysis of the Importance of the indicators

	h^2	Component			
		1	2	3	4
Information in the blog is easy to understand.	.520	-.027	.328	.177	.616*
Information in the blog is up-to-date.	.309	.081	.076	.173	.517*
Information in the blog is accurate.	.688	.145	.026	-.112	.808*
Information in the blog is credible.	.702	.124	.061	-.151	.813*
Information in the blog is original.	.320	.059	.170	.409*	.347
Information in the blog keeps your attention.	.344	-.061	.343	.196	.429*
Information in the blog has citations and references.	.400	.511*	-.004	.172	.330
Information in the blog is helpful for your quests.	.378	.136	.145	.071	.577*
Information and comments in the blog have no spelling or grammatical errors.	.330	.291	.174	.127	.446*

(table continues)

Table 25 (continued)

	Component				
	h^2	1	2	3	4
Information and comments in the blog have sufficient detail.	.486	.309	.205	.134	.575*
Information and comments in the blog are in appropriate word length.	.431	.333	.106	.361	.423*
Author's name is clearly indicated.	.550	.664*	.257	-.007	.207
Author's expertise is clearly indicated.	.700	.797*	.098	.047	.229
Author's education is clearly indicated.	.724	.819*	.030	.224	.052
Author's credentials are clearly indicated.	.749	.846*	.174	.012	.057
Author's personal/institutional affiliation is clearly indicated.	.746	.826*	.101	.174	.156
Author's position is clearly indicated.	.623	.754*	.096	.212	.017
Author's contact information is provided, including telephone number and e-mail.	.518	.578*	.321	.284	-.021
Author's expertise is relevant to the topic of the blog.	.415	.547*	.111	.151	.283
Blog provides useful links to other sources (blogs, website).	.358	.232	.400*	.281	.256
Blog hosting organization is clearly indicated, including organization's name, type, reputation, and affiliation.	.546	.665*	.062	.315	.016
Field of the blog is clearly indicated.	.443	.495*	.231	.306	.225
Blog is recognized and well-known.	.648	.338	.105	.714*	.116
Blog has high volumes of blog posts.	.702	.208	.165	.794*	.032
Blog has high volumes of subscriptions.	.784	.214	.124	.850*	.010
Blog has high volumes of comments.	.765	.218	.214	.819*	.012
Blog has low volumes of advertisements.	.417	.014	.223	.568*	.211
Blog is ranked on top in search engine output.	.606	.230	.149	.725*	.072
Blog is easy to use.	.652	.088	.756*	.123	.241
Blog provides easy navigation.	.753	.116	.799*	-.015	.317

(table continues)

Table 25 (continued)

	Component				
	h^2	1	2	3	4
Blog's use of graphics, photos, and icons contribute to your understanding of the information.	.580	.107	.747*	.064	.076
Blog has an aesthetic appeal (good use of graphics and color).	.585	.031	.705*	.264	.134
Blog provides quick and easy access to search blog archives.	.625	.165	.730*	.155	.202
Blog provides help or guide to users.	.612	.313	.668*	.252	.065
Blog makes it easy to give feedback.	.525	.243	.635*	.249	.006

Extraction Method: Principal Component Analysis.

N = 239, h^2 = Community, * = factor weighting > .40

From the results of exploratory factor analysis, it can be seen that the data set supported four factors; each factor consisted of different numbers of indicators as shown in Table 26. Generally, adjustments involved the authority, resulting in a new framework for quality blogs with 4 blog quality criteria categories.

Table 26

Retained Factor and Variables

Criteria	Indicators	Factor weighting	Mean	Mean Factor	Indicator number
Content quality	Accuracy	0.808	4.41	3.9	9
	Currency	0.517	4.31		
	Believability	0.813	4.31		
	Understandability	0.616	4.12		
	Interestingness	0.429	3.94		
	Information usefulness	0.577	3.83		
	Completeness	0.575	3.65		
	Writing quality	0.446	3.29		
	Length	0.423	3.25		

(table continues)

Table 26 (continued)

Criteria	Indicators	Factor weighting	Mean	Mean Factor	Indicator number
Usability	Ease of Use	0.756	4.24	3.8	8
	Navigation	0.799	4.22		
	Information understanding	0.747	3.98		
	Search capability	0.730	3.92		
	Useful links	0.400	3.78		
	Design and interface	0.705	3.67		
	User support	0.668	3.45		
	Feedback mechanism	0.635	3.40		
Authority	Author's relevance	0.547	3.69	3.3	11
	Author's expertise	0.797	3.57		
	Author's name	0.664	3.53		
	Field of blog	0.495	3.48		
	Author's credential	0.846	3.26		
	Blog hosting	0.665	3.23		
	Author's position	0.754	3.06		
	References/citations	0.511	3.05		
	Author's education	0.819	3.02		
	Author's affiliation	0.826	2.98		
	Author's contact	0.578	2.91		
Blog credibility	Originality	0.409	3.52	2.9	7
	Advertisement	0.568	3.48		
	Blog popularity	0.714	2.89		
	Number of blog posts	0.794	2.85		
	Blog's Rank	0.725	2.67		
	Number of comments	0.819	2.64		
	Number of subscriptions	0.850	2.54		

In the third part of the survey, respondents were asked whether they had other criteria which were not listed in part two. Twenty nine respondents provided their other criteria and reasons.

Table 27

Distribution of Blog User Respondents' other Criteria for Evaluating the Quality of Blogs (n = 29)

Category code	Answers	Frequency
Content	Quality	2
	Currency	1
	Writing styles	2
	Interestingness	3
	Informative	1
	Citation	1
	Comprehensiveness	1
	Frequency	1
	Accuracy	2
Credibility	Social value	1
	Useful links	3
	Blog of friend	1
	Author's affiliation	1
	Response rate	1
	Expert	2
Usability	Timestamps	2
	Design	2
	Easy to navigate	1
	Search capability	1
	RSS download	1
	User-friendly	1
	Not login	2
	Information understanding	1
Other	Purposes of using blog	2
	Types of blog	5
	Attitude	1
	Name of blog	1

Table 27 represents the analysis of blog user respondents' other criteria. Most blog user respondents' answers could be categorized into three criteria as in the proposed framework. Notably, blog user respondents considered purposes of use and types of blog important when they evaluated the quality of blogs. They mentioned that different purposes and types required different quality criteria.

Qualitative Section—Email Interviews

Email interviews were conducted on ten participants in order to better understand the reasons behind their choice of criteria for evaluating the quality of blogs. The interviews also helped to examine the difference in the perceived importance of blog quality criteria by blog users' specific interests and expectations. The email interview consisted of 6 questions (see Appendix B).

Responses to the questions from the email interview that were related to specific interests and expectations were grouped into categories. In order to analyze the relationship between specific interests, expectations and content quality, credibility, and usability, crosstab was performed. The mean score of each criterion were recoded into three categories, which were extremely important, very important, and important. Next, Fisher's exact significant test was employed to identify the relationship between specific interests and each criterion.

Specific Interests vs. Content Quality, Credibility, and Usability

Specific interests were grouped into four categories: health, arts, education, and politics. As shown in Table 28, there was a relationship between special interests and content quality ($p = .030$).

Expectations vs. Content Quality, Credibility, and Usability

Users' expectations about blogs were grouped into three categories: socialization, opinion, and insight information. As Table 29 shows, the results of Fisher's exact test were insignificant so there was no relationship between blog users' expectations and any of the criterions.

Table 28

*Crosstab Special Interests * Content Quality, Credibility, and Usability (n = 10)*

			Specific interests				Fisher's exact test
			Health	Arts	Education	Politics	
Content	Extremely important	Count	0	0	4	0	$p = .030$
		% within Interest	0%	0%	100.0%	0%	
	Very important	Count	2	2	0	1	
		% within Interest	100.0%	100.0%	0%	50.0%	
	Important	Count	0	0	0	1	
		% within Interest	0%	0%	0%	50.0%	
Credibility	Extremely important	Count	1	0	1	0	$p = .396$
		% within Interest	50.0%	0%	25.0%	0%	
	Very important	Count	1	1	3	2	
		% within Interest	50.0%	50.0%	75.0%	100.0%	
	Important	Count	0	1	0	0	
		% within Interest	0%	50.0%	0%	0%	
Usability	Extremely important	Count	1	1	3	1	$p = .996$
		% within Interest	50.0%	50.0%	75.0%	50.0%	
	Very important	Count	1	1	1	1	
		% within Interest	50.0%	50.0%	25.0%	50.0%	
	Important	Count	0	0	0	0	
		% within Interest	0%	0%	0%	0%	

Table 29

*Crosstab Expectations * Content Quality, Credibility, and Usability (n = 10)*

			Expectations			Fisher's exact test
			Socialization	Opinion	Insight information	
Content	Extremely important	Count	0	2	2	$p = .406$
		% within Interest	0%	50.0%	50.0%	
	Very important	Count	2	1	2	
		% within Interest	100.0%	25.0%	50.0%	
	Important	Count	0	1	0	
		% within Interest	0%	25.0%	0%	
Credibility	Extremely important	Count	1	0	1	$p = .392$
		% within Interest	50.0%	0%	25.0%	
	Very important	Count	1	4	2	
		% within Interest	50.0%	100.0%	50.0%	
	Important	Count	0	0	1	
		% within Interest	0%	0%	25.0%	
Usability	Extremely important	Count	2	2	2	$p = .797$
		% within Interest	100.0%	50.0%	50.0%	
	Very important	Count	0	2	2	
		% within Interest	0%	50.0%	50.0%	
	Important	Count	0	0	0	
		% within Interest	0%	0%	0%	

Summary

In this chapter, the reliability of the questionnaire was discussed. Descriptive statistics was used to analyze participants, including their status, education level, gender, age, frequency of use, purposes of use, and general blog topics. Univariate statistics was performed to examine the difference in the perceived importance of blog quality criteria and indicators by demographic characteristics. An independent *t*-test was used to analyze the differences by status and gender. A one-way ANOVA was performed to analyze the differences by profession, education level, age group, frequency of use, and purposes of use. Exploratory factor analysis was performed to determine which variables should be retained. Moreover, this chapter discusses the other criteria respondents used to analyze blogs that were not listed in the survey; data from the qualitative section about the post-survey email interviews was also addressed.

CHAPTER 5

CONCLUSIONS

Introduction

This study addressed the issue of quality evaluation of blogs. The literature suggests that quality evaluation is crucial to blogs in order to be an effective medium of communication and an information exchange platform. However, the literature analysis also indicates that there are only a few studies on the framework for evaluating the quality of blogs; specific criteria and indicators for evaluating the quality of blogs are not identified in these studies. The present study aims to identify practical criteria and indicators for assessing the quality of blogs, based on users' point of views, in order to develop a user-centered framework for evaluating the quality of blogs. This chapter summarizes and discusses the findings and concludes with the implications and recommendations for future research.

Summary of Findings

Based on the purposes of the study, three research questions were proposed. Following are the findings for each research question.

Research Question 1: What Criteria do Users Consider Important

When They Evaluate the Quality of Blogs?

Results from exploratory factor analysis (EFA) demonstrated that the data set supported four blog quality criteria and 35 indicators. The users' perceptions of quality criteria are content quality, usability, authority, and blog credibility. Each criterion has a different numbers of indicators as shown in Table 26.

*Research Question 2: What are Indicators of a Quality Blog from
the Users' Point of Views?*

None of 40 indicators has mean scores lower than 2.5 (i.e., the midpoint of the scale); thus, the respondents perceived that all 40 indicators were important. Their perceptions were then categorized into three groups:

1. Extremely important ($Mean \geq 4.0$): accuracy, believability, currency, understandability, ease of use, and navigation.
2. Very important ($3.0 \leq Mean < 4.0$): information understanding, interestingness, search capability, information usefulness, useful links, author's relevance, design and interface, completeness, author's expertise, author's name, originality, lack of advertisements, field of blog, user support, feedback mechanism, system performance, writing quality, topic consistency, author's credential, length, blog hosting, blog's social value, author's position, references/citations, and author's education.
3. Important ($2.5 \leq Mean < 3.0$): author's affiliation, author's contact, blog popularity, number of blog posts, writing style, blog's rank, number of comments, author's recognition, and number of subscriptions.

*Research Question 3: What are Personal Characteristics That Affect the Users'
Choices of Criteria to Evaluate the Quality of blogs?*

The univariate statistical tests indicated that gender, education level, age, profession, purposes of use, and specific interests did make a difference in the user's choices of quality criteria; however, status, frequency of use, and expectation did not make any difference in users' choices of criteria for evaluating the quality of blogs.

With triangulating results from user surveys and email interviews, the preliminary framework for evaluating the quality of blogs was modified as shown in Figure 2. The modifications were:

1. authority was split to be another individual criterion;
2. five indicators were excluded—writing style, author’s recognition, blog’s social value, system performance, and topic consistency; and
3. personal characteristics that did not affect the blog users’ choices for evaluating the quality of blogs were excluded—frequency of use, and user expectation.

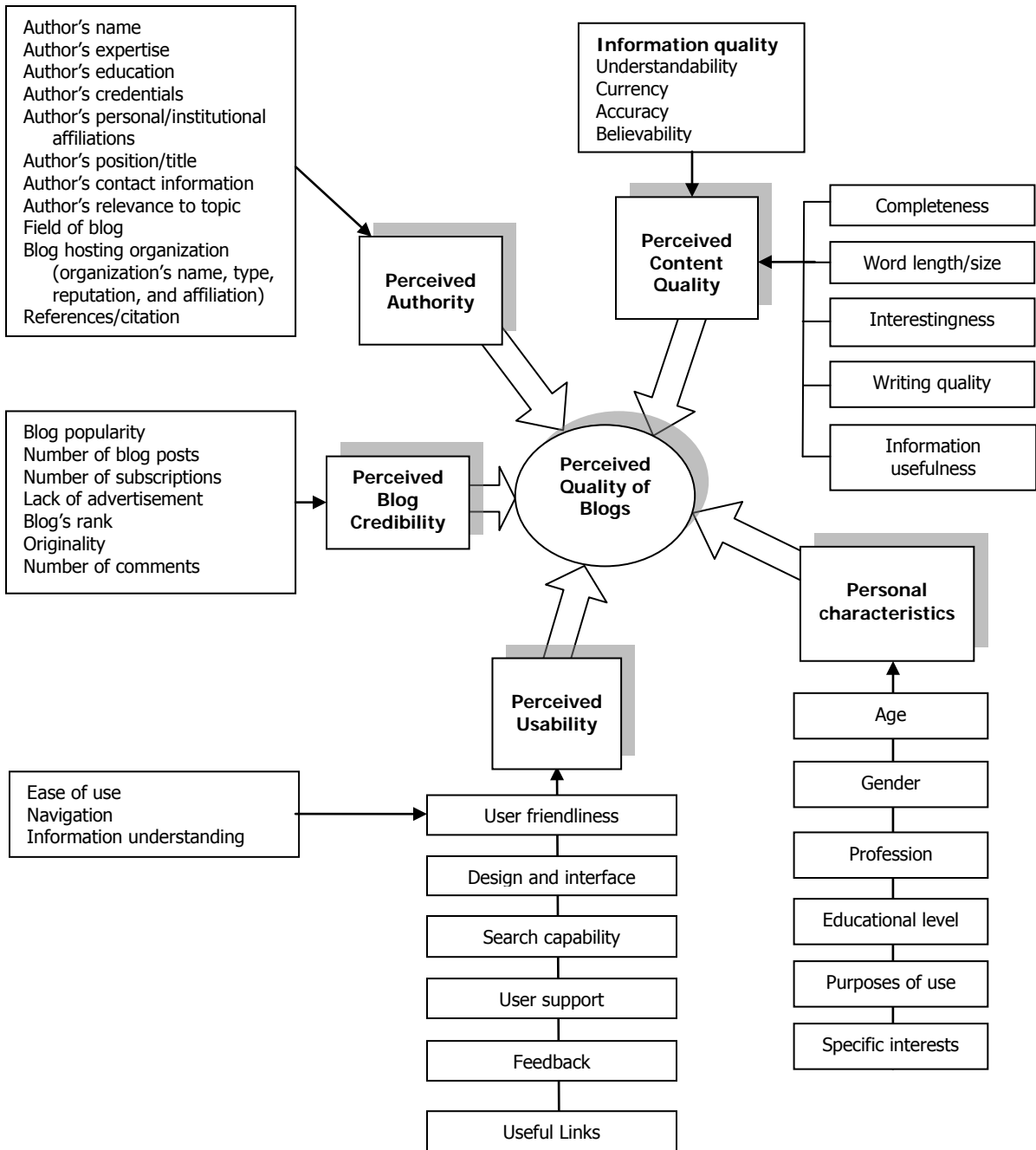


Figure 2. A User-Centered Framework for Evaluating the Quality of Blogs.

Discussion

According to data coming from survey and interviews, discussions of the findings are in order of research questions. Research findings are followed by an explanation and supportive answers from interviewees.

The Criteria Users Consider Important When They Evaluate the Quality of Blogs

The first research question seeks to identify the criteria users consider important when they evaluate the quality of blogs. Regarding the importance of each criterion, from the descriptive statistics results, credibility seems to be the most important criteria for blog users; however, once four criteria were extracted by exploratory factor analysis, and the mean scores of each criterion from the descriptive statistics results was calculated (as shown in Table 26), the importance of criteria was ranked as following:

1. Content quality
2. Usability
3. Authority
4. Blog credibility

Content Quality

The study findings support the proposed framework that content quality is the most important criterion to blog users. This is also confirmed by the email interviews. When the interviewees were asked to rank the importance of five criteria—author's potential, content quality, blog traffic (the volume of responses), community, and effectiveness (interface and design)—content quality was ranked first. The fact that

users ranked content quality as the most important criterion was not surprising and is an agreement with previous research, which indicates that blog content is the most important criterion affecting the quality of blogs (Kargar et al., 2008). This result is also in line with the research by Du and Wagner (2006), which indicates that content quality is the most obvious criterion for determining blog value and success. In fact, high content quality is value-added for the blog quality. It is important to note that higher content quality means higher blog quality.

The users' expectations, reasons for using blogs, and reasons for selecting blogs contribute to the highest importance of content quality. This is consistent with a past study, which indicates that the reasons for using blogs impact credibility judgments (Johnson et al., 2007). The users' expectations of blogs were to get ideas, opinions, viewpoints, insight, and share experiences. These users focus on content, so when they evaluate the quality of blogs they consider quality of content first. The users' expectations underline the reasons to use blogs. One interviewee emphasized that he used blogs to find information that he would not normally be able to find on mainstream sources. Two interviewees emphasized that blogs had timely news, opinions, and discussions. Importantly, two interviewees stated that they select only blogs that provided high quality content to read. In response to the question regarding other criteria used to evaluate the quality of blogs, one survey participant stated that an informative blog is important. Another survey participant noted that inappropriate content could not be part of the blog; otherwise, he would not read it.

However, only one survey participant mentioned that blog content needs to be presented by more substance and less storytelling. The literature also indicated that traditional librarians avoid using blogs as information sources because their content is mostly trivial, crass, and opinionated. The varied qualities of blogs, as well as different types of blogs, contribute to this negative attitude. This negative attitude can be obviously seen from the question: "Do chosen blogs meet your needs?" to which 40% of the interviewees responded sometimes or not really. However, another 40% of interview respondents reported that chosen blogs did meet their needs, while 20% said that if a blog did not meet their needs, they would stop reading it and move on. This links to the question: "What are the blogs that you read frequently?" to which 70% of the interviewees stated that they did not read blogs on a regular basis and did not have any specific blogs that they read frequently.

Generally speaking, blogs are not the first online information resource on users' minds. When users need information, they will use Google or other search engines to search for the information they need. This is unlike users who seek opinions that will use blog search engines to search for what they want—both the same and different attitudes from their own. For example, one interviewee stated that her expectation from blogs was a point of view that was different from her own, whereas another survey respondent looked for blogs with a "voice" he could relate to. This is in line with the previous study, which indicates that meeting and connecting with like-minded people is one of the top three reasons for using blogs. The current study's findings support that blogs are an invaluable source of insight into people's opinions toward important world

and local events (Ulicny & Baclawski, 2007), and blogs contain the author's personality, passions, and points of view (Nardi et al., 2004); however, high quality blogs still must be identified.

Usability

Usability was ranked the second most important criterion for users to evaluate the quality of blogs, which is surprising; it is not consistent with previous research, which indicates that ease of use and enjoyment are the most important factors in the context of blogs (Fogg et al., 2001a). Usability was ranked second to content quality probably because blog users expect opinions and insight, so they place the more importance on content quality. Perceived ease of use is the degree to which a person believes that using a blog is effortless (Hsu & Lin, 2008). An easy-to-use interface has a large influence on a user's preference. Some studies have shown that when users evaluate the credibility of a website, they first look at the design of the website, the design/structure of information, and the focus of information (Stanford et al., 2002; Fogg et al., 2003). Metzger (2007) concluded that the primary factor that helped users assess credibility and information quality was design or presentational elements.

The current research finding support previous studies, which indicates that design is one of the most frequently cited quality criteria. Therefore, aesthetic appeal and good use of graphics or color contribute to the quality of blogs. One interviewee emphasized that she used blogs because blogs had an easy format to read. Another survey participant noted the importance of a user-friendly layout. One participant also

stressed that if the blog did look interesting and grab his attention at first glance, he would most likely read or follow it.

Moreover, blog users also considered that the use of graphics, photos, and icons contributed to their understanding of the information since the quality of blogs can be affected by the representation of information. For example, one survey participant stated that he needed good illustrations when the author was teaching a stitch or technique. Two survey participants also suggested that they should be able to post without signing into an account. One survey participant mentioned that some blogs had logins, which was annoying. He suggested that "sites should let anybody post without having to be a member of some groups, and use some forms of check to prevent bots from spamming." Also, one survey participant suggested that blogs should be able to download into a RSS reader. However, it is reasonable that the authors and readers have to sign up for an account to post in some blog sites; authors have authority to accept or reject comments to sensor their online environment.

Authority

The results of the exploratory factor analysis were, to a certain extent, consistent with the proposed three-criterion framework, but provided some evidence that authority could be the fourth individual criterion. In the proposed framework, authority was classified as a sub-criterion of blog credibility based on the results of past studies, which suggested that the users linked authority to credibility (Bar-Ilan, 2008), and that the primary attributes that users use to assess quality are *author* and *source* (Fink-Shamit &

Bar-Ilan, 2008). Authority is related to the authors' potential: whether the author has expertise in that blog topic and if he/she is known and verified.

It cannot be denied that authority underlines credibility. In fact, disclosing authors' identities and motivations can enhance credibility (Gunter et al., 2008), raising the quality of blogs. Moreover, a high-authority author produces high quality content (Chai, Potdar, & Dillon, 2009). However, from the exploratory factor analysis results, one can imply that authority and credibility are different constructs; they should be separated criteria. Also, it is important to note that a high-authority author produces a high quality blog. The reasons for using blogs contribute to the high importance of authority as a criterion. In fact, the literature analysis found that the key reason people blog was to fulfill a socialization need (Shang, Chen & Chen, 2007). One interviewee mentioned that blogs were the great ways to stay connect to people.

Two other interviewees indicated that they used blogs in order to connect with experts. At this point, the author's potential plays the most important role. One survey participant said that he sought an expert who could blog in terms he would understand, and that authors should know what they were talking about. Another survey participant stated that blogs should be referred to someone he trusts. Also, one survey participant noted that he especially liked to have the author's contact information. Significantly, authority helps the reader determine who the authors are and how much potential they have.

Blog Credibility

Blog credibility was ranked as the fourth most important criterion for users to evaluate the quality of blogs. This is not in line with the previous research, which indicates that credibility is the most important metric in assessing blog quality (Ulicny & Baclawski, 2007). In the current study, from the users' point of view, a quality blog should be recognized and well-known, be free of advertisement, ranked on the top in a search engine, as well as have high number of blog posts, subscriptions, and comments. It is important to note that a high quality blog is credible; the blogs that are rated high quality are also rated high in credibility. However, one survey participant noted that she did not give much credibility to blogs in general; another interviewee mentioned that she liked to read other people's opinions, but did not expect much from them, as they seemed to only contain the author's observations and opinions. This is not surprising because blogs are user-generated content and very diverse. The quality of blogs depends on the users' perceptions of different people, situations, and subject disciplines.

The Indicators of a Quality Blog from the Users' Point of Views

The second research question focused on identifying indicators that users consider important for evaluating the quality of blogs. The set of indicators identified and analyzed in this study reflected the finding of the literature analysis. From the exploratory factor analysis results, the data set supported 35 indicators to evaluate the quality of blogs.

Accuracy, believability, currency, understandability, ease of use, and navigation were considered extremely important indicators for evaluating the quality of blogs. As stated earlier, when evaluating the quality of blogs, the users first consider content quality. The information quality dimension was used to assess the content quality. Blog content should be accurate, credible, up-to-date, and easy to understand. For example, one participant indicated that “getting things right” was the most important factor. Also, ease of use and navigation strongly contribute to the quality of a blog. For instance, one survey participant pointed out that if the blog site was put together nicely—looked clean and easy to navigate—he would likely frequent the blog more.

From 40 indicators, five indicators were excluded from the framework. Those indicators were writing style, author’s recognition, blog’s social value, system performance, and topic consistency. These indicators weighted on more than one criterion and were not purely measured by any one criterion so they were excluded by exploratory factor analysis. Following are the discussions of these excluded indicators.

1. The writing style indicator was intended to measure whether the blog has an appropriate style of writing. The literature analysis found that the writing style criterion is an important indicator to evaluate the credibility of blogs (Rubin & Liddy, 2006). Moreover, one survey participant stated that writing style was very important to him; he liked humor in a blog. He prioritized the writing itself rather than the content. Another survey participant noted that he tended to go back to a blog repeatedly if the information was presented in an entertaining fashion. Most respondents rated writing style as important. However, writing style alone cannot distinguish a credible blog from

an average blog (Ulicny & Baclawski, 2007). This implies that blogs do not have to be written in a scholarly fashion. Furthermore, the language used in a blog contains both monologue and dialogue, so the writing style criterion was excluded from the framework.

2. Author's recognition was also excluded from the framework. The findings indicated that most blog users only used blogs occasionally, and most interviewees did not read blogs on a regular basis. They used blog search engines to search for opinions about a specific topic, or they used general search engines where blogs were included in the search engine's output. At this point, the blog's author does not have to be a highly recognized scholar. The users might only recognize the author after they read that blog; so author's recognition could be excluded.

3. Blog's social value was removed from the framework as well. One survey participant stated that blogs should provide network of support for user community as another indicator for evaluating blogs. Hsu and Lin (2008)'s study indicated that knowledge sharing (altruism) was positively related to the blogging attitude. People shared knowledge, thoughts, and experiences with others; they enjoyed helping each other, as well as reaping the external rewards. Du and Wagner (2006) argued that blog success depends on the blog's value to its users; they suggested that social value should be measured to determine the success of a blog. Although it was considered important by some respondents of this study, as well as by previous research (Du & Wagner, 2006; Hsu & Hin, 2008), a blog's social value was excluded from the framework as an indicator. The reason for this exclusion lies in the inherent difficulty of

measuring the social value of a blog. The quantitative characteristics alone—such as size of the community served by a blog, number of comments, visitors, and blog friend lists—cannot adequately measure a blog’s social value because they cannot capture certain facets of blogs, like knowledge sharing, altruism, and reputation.

4. The system performance indicator measures whether the blog provided quick responses to users. System performance is an important dimension to measure the website’s usability. However, because of a blog’s ease of use, system performance does not account for usability, and could therefore be excluded from the framework.

5. Topic consistency was the last indicator that was excluded from the framework. This is not in line with previous research, which indicates that topic consistency is an important indicator that measures blog credibility; cool blogs—blogs with interesting or noteworthy content—tend to have certain levels of topic consistency among their blog entries (Sriphaew, Takamura & Okumura, 2008; Weerkamp & Rijke , 2008). However, as a user-generated form of media, bloggers may write about any topic of their interest, and these interests shift over time (Agarwal, 2009). For example, a professor in the psychology field may want to write a blog about cooking, and sometimes he may want to write about psychology, so topic consistency could be excluded.

From the exploratory factor analysis, it was determined that most indicators weighed on intended criteria, except field of blog, blog hosting organization, references/citation, originality, and useful links.

Field of blog, blog hosting organization, and references/citation weighed on authority, which is surprising because this is not consistent with the proposed framework. The previous studies indicate that field of blog and blog hosting organization information could enhance blog credibility (Smith, 1997); references/citation could determine content quality (Du & Wagner, 2006; Stvilia, Mon & Yi, 2009). However, the data set supported that field of blog and blog hosting organization information weighed on authority instead of blog credibility. References/ citations weighed on authority instead of content quality. From the findings, it can be implied that field of blog, blog hosting organization information, and reference/citation contribute to authority.

Significantly, a clearly indicated blog field represents the field that blog belongs to, verifying the authority of the blog. As a result, a high authority blog has high quality. Also, the indication of a blog's hosting organization, including name, type, reputation, and affiliation, can increase authority because it indicates the affiliation of the author to the blog hosting organization. Further, references/citations indicate scholarly writing style, which can be associated with authority. In fact, citations provide evidence about the importance of the content by linking trustworthy sources and strengthening the believability of the information (Dalip et al., 2009). Besides, citations help readers easily verify information, clearly acknowledge earlier findings, provide insight to subject matter, and illustrate the author's awareness of past studies. Also, references/citations signify that the author does not plagiarize others' work and writes blog entries or posts

by himself/herself so the authority, as well as quality, may increase. Notably, in order to create high quality work, citation and references are required.

Originality weighed on blog credibility instead of content quality. Originality was intended to measure whether the authors write their own content, since plagiarism is significant problem in blogs (Chang & Yeh, 2008). From the findings, it is implied that originality of content underlines blog credibility. In other words, the original content of a blog determines its credibility; it is likely that blogs containing original content are more credible.

Useful links weighed on usability rather than blog credibility. Links are important to blogs since they enrich interactive content and provide information, such as blogrolls (links between blogs that are akin to links between people). The results support that links are an important indicator to measure the quality of blogs i.e., blogs with useful links to other sources, such as other blogs and websites, have increased blog quality. One interviewee mentioned the reason she used blogs was because blogs provide hyperlinks to specific topics. The same participant mentioned that blogs linked from other sources are the most attractive. Also, two survey participants mentioned that blogs should directly link to information sources or other blogs; they should aggregate useful links sorted by likelihood of interest. However, useful links weighed on usability criterion, representing the fact that users relate links with effectiveness of use (usability); if blogs can provide links to other sources, the usability and quality of that blog increase significantly.

*The Personal Characteristics That Affect the Users' Choices of Criteria
To Evaluate the Quality of Blogs*

The third research question seeks to identify personal characteristics that affect the users' choices of criteria for evaluating the quality of blogs. This study is aware of individual differences; since quality is related to human perception, so those individual differences may affect the evaluation of the quality of blogs.

The findings illustrated that gender, education level, age, profession, purposes of use, and specific interests did make differences in the users' choices of criteria to evaluate quality of blogs; however, frequency of use and expectation did not make any difference in choice of criteria.

Males and females evaluate the quality of blogs differently. Females valued the importance of usability criterion higher than males. Generally, it cannot be denied that there are differences among females and males and these findings support previous studies. For example, males read blogs more frequently than females (Zarrella, 2010). Also, males tend to be more interested in information and opinion, and they demonstrated more of a technical sophistication (Pedersen & Macafee, 2007).

Furthermore, the users' choices of criteria for evaluating the quality of blogs were impacted by education levels—different educational levels evaluated the quality of blogs differently. It is likely that the higher education level users have, the more criteria they use to evaluate the quality of blogs. This may be because the quality in general is a substantial criterion for well-educated users.

Age group also affected the users' choices of criteria for evaluating the quality of blogs. From the results, the users in different age groups evaluated the quality of blogs differently, particularly when it came to usability. For example, users in the Millennial generation (age<28) valued blog usability higher than users in Generation X (29<age<49). This may be because the Millennial generation (age<28) has grown within the development of information technology, so they weigh heavy importance on information technology use or usability.

Belonging to certain professions also affected users' choices of criteria for evaluating the quality of blogs. This is consistent with the previous research, indicating that experts carefully evaluated content, whereas consumers relied on visual appeal for their credibility assessment (Stanford et al., 2002). We can imply that blog users who are in different fields of study and professions evaluate the quality of blogs differently. In fact, it is interesting to note that different domains and types of blogs need distinct quality criteria. Blog users agree that different types of blogs have different purposes. For example, personal or social blogs should have adequate readership and response rates, while political blogs and news blogs should reveal author's affiliation. Technical blogs should be comprehensive and correct. Entertaining blogs should frequently post stories to ensure fresh content. One survey participant emphasized that evaluating news or social science-related blogs very differ from entertainment or food-related blogs. Moreover, another survey participant indicated that what he looked for in a professional blog is different from what he looked for in a personal blog. Citations and scholarly formatting is important in a blog related to his field of study. He would have

answered differently if he had been ranking entertainment vs. news or information blog. Note that quality criteria rely on the type of blog.

Purposes for using blogs also influenced the users' choices of criteria for evaluating the quality of blogs. Since blogs serve different purposes, several types of blogs emerge. This is consistent with a previous study, which indicates that different motivations for going online was the primary factor that affect perceptions of credibility (Yang, 2008). For example, as the interview results show, users are much more concerned with credibility when reading professional blogs than reading blogs for pleasure. It is important to note that the criteria that users use to evaluate the quality of blogs depend on the purposes of using blogs.

Moreover, the users' choices of blog quality criteria were influenced by blog users' specific interests. This is due to the fact that blog content varies greatly; therefore, each domain or field uses different criteria to evaluate the quality of blogs. It is important to note that different topics or subjects of blogs use different quality criteria.

Frequency of use did not influence the users' choices of the criteria. In other words, no matter how frequently users use blogs, they use the same criteria and indicators to evaluate the quality of blogs. However, how long users use blogs may influence their choices of criteria because they may be more familiar with blog characteristics than new blog users. This is in line with the prior research, which indicates that innovativeness affects the perceived credibility. The Internet user's experience influences their perceived credibility of the Internet as a source of

information (Yang, 2007). It is likely that less innovative users tend to perceive blogs as low quality.

The researcher found that the users' expectation did not affect the users' choices of criteria for evaluating the quality of blogs; this is not in line with past study indications that people judge the credibility of online resources differently because expectations about the quality of information are different (Ulicny & Baclawski, 2007). No matter what blog users expect from blogs—such as socialization, opinion, and insights—they are likely use the same criteria and indicators to evaluate the quality of blogs.

In the response to the question: "To you, what are the quality blogs?" 60% of all interviewees mentioned that a quality blog was a blog that provided useful information, insightful information, and opinions. One interviewee indicated a quality blog was a blog that provided a variety of opinions (not just of the writer) and that appealed to her social circle, so she could talk about the posts on their personal blogs. Another interviewee stated that information provided should be fresh, current, and interesting. Interestingness is also an important indicator that blog users use to evaluate the quality of blogs. This is consistent with the past research, which indicates that source attractiveness and dynamism are secondary factors that influenced credibility perception (Metzger, 2007). This is also in line with the past study, which indicates that in the first stage of judging the credibility of online information, users assesses the credibility of overall site by examining its surface characteristics, including appearance and presentation (i.e. colors, graphics, typographical errors); usability and

interface design (i.e. navigability); and organization of information (Walthen and Burkell, 2002). Interestingness underlines the use of blogs. Quality blogs should be interesting in both design and blog topics. Blog users are likely to read only topics that interest them. Besides, a well designed blog is likely to keep blog users' attention.

Conclusion

The study developed a user-centered framework for evaluating of the quality of blogs, consisting of four criteria and 35 indicators derived by exploratory factor analysis of the empirical data. The research also explored the effects of personal characteristics on users' choices of criteria to evaluate the quality of blogs.

Analysis of user surveys and email interviews revealed that most of the indicators in the preliminary framework were considered important for quality of blogs. However, rather than having three criteria as in the preliminary framework, the indicators of authority criterion were reclassified and the resulting framework has become a four-criterion one: content quality, usability, authority, and blog credibility.

Content quality focuses on the quality of content by using information quality as sub-criteria: the blog content should be easy to understand, up-to-date, accurate, and credible. Content also should have sufficient detailed, appropriate word length, interesting content, contain no spelling or grammatical errors, and be helpful for user's information needs.

Usability suggests that blogs should be user-friendly; ease of use; easy navigation; and good use of graphics, photos, and icons contribute to users' understanding of the information. Moreover, usability focused on aesthetic appeal

(good use of graphics and color), quick and easy access to search blog archives, help for users, ease of giving feedback, and useful links to other resources (blogs and websites).

Authority is concerned with author's potential. The author's credentials should be clearly indicated—name, expertise, education, credentials, personal/institutional affiliations, position/title, contact information (telephone number or email), and relevance to the topic. Authority also includes the indication of field of the blog; blog hosting organization's name, type, reputation, and affiliation; and references/citations.

Blog credibility focuses on the traffic within a blog. A quality blog should be well-known with a high number of blog posts, subscriptions, and comments, but low number, or even free, of advertisements. Additionally, quality blogs should be ranked in the top of search engine outputs, and blog content should be original.

It is important to note that personal characteristics affect the users' choices of criteria to evaluate the quality of blogs, including age, gender, profession, education level, purposes of use, and specific interests.

By theoretical implication, the study established a user-centered evaluation framework for the quality of blogs that can be used to evaluate the quality of blogs or other types of online resources. This is the first study to provide a list of indicators derived from a theoretically-based evaluation of the quality of blogs. Thus, this study's results can serve as a starting point for future studies to identify other indicators that are important for evaluating the quality of blogs. Also, this study is the first study to suggest the indicators for evaluating usability of blogs. The blog hosting organizations

or sites who design blog templates for their users can apply these indicators directly to their templates. As a result, the quality of blogs will increase because ease of use is an extremely important quality indicator. Moreover, the blog capabilities, such as links, search capabilities, and feedback mechanisms are also very important.

For practical implication, not only blog users but also information professionals can use the framework as the guide to evaluate and select blogs. Blog users can apply the indicators to evaluate and identify quality blogs, resulting in user satisfaction. Information professionals, such as librarians who would like to preserve blogs by creating a blog repository, can use quality indicators to select blogs included in their collections.

As a system-related implication, the four quality criteria can be used as key criteria for those who would like to develop automatic quality blog identification system by employing these indicators to identify quality blogs. Indicators can be used as a proxy for quality of blogs, and in turn, for quality markers. The greater number of quality indicators that a blog has, the higher quality that blog contains.

As the quality markers, blog authors can apply the quality indicators for creating higher quality blogs. Significantly, authors should create the blogs that meet the requirements. For example, they should identify themselves because authority is very important criteria. The author should also post entries that are easy to understand. Blog quality assessment encourages bloggers to produce more valuable blogs. In other words, blog quality assessment provides a context for controlling blog quality. Eventually, this motion will improve the quality of the entire blog system.

This study has discovered that the most important feature of a quality blog is its effectiveness for being an information resource and facilitating interactions. The more effective a blog is, the higher its quality. Applying the framework from this research to evaluate the quality of blogs can distinguish high-quality blogs from poor-quality blogs.

In order to effectively select blogs and collect them in a blog repository, blog readers and system developers alike should apply criteria and indicators from this research framework to evaluate the quality of blogs. The 35 indicators in the research framework are quality markers. Blog readers should look for those quality markers in blogs; the more indicators that a blog has, the higher quality that blog contains. For example, they should firstly consider the quality of blog content, whether blog content is easy to understand, interesting, and well written. Next, readers should consider if the blog is believable, whether the author's credentials are identified, the blog has references and citations, and a high number of comments in each post entries. Also, the system developers should consider the effectiveness of using blogs, whether the blog design is interesting, easy to navigate, and able to search through blog archives.

Blog quality evaluation also helps encourage authors and blog-hosting organizations to produce higher quality blogs. The authors and blog-hosting organizations can apply the criteria and indicators in the blog publishing and developing process. They should consider the information they will publish to blogs system. For example, they should keep in mind that the blog content should be easy to understand, accurate, and complete. Authors and blog-hosting organizations should identify themselves and be well versed in the topic they are writing about. They should not copy

others' work in their own blogs without references and citations. They should select a blog design that attracts the readers' attention and be able to search through blog archives. If authors concentrate on the quality of their blogs, accordingly, the whole blog system will become a valuable communication medium and information resource.

While blogs have great potential to become a powerful tool for teaching and learning in academic institutions and workplaces, this research found that the percentage of respondents in academic areas who have never used blogs is higher than expected. This is probably because academic institution staff members consist of several age groups, faculty members in particular; a majority of the faculty is over 50 years old. They are part of the Baby Boom Generation, who were not born with information technology. In other words, they are less technologically innovative and therefore less familiar with current information technology. Faculty members, educators, scholars, and even students in academic domains should make use of blogs; blogs could enrich the intellectual lives of all ages, and encourage better interaction and knowledge sharing experiences.

The study has certain limitations. As the scope of respondents for this study was kept to university faculty and staff members, which was a convenience sample, future research may involve replicating this research with a larger sample size more diversity. Moreover, the fact that the framework is not tailored to any specific domain demographics or types of blogs can be considered a limitation. Since blogs serve a variety of purposes and people, note that different disciplines and different types of blogs absolutely require unique quality criteria and indicators. Indeed, individual

perceptions of quality blogs differ for news blogs and personal blogs. The same blogs could be evaluated differently under different circumstances and by users of dissimilar age and social groups. Further, the next limitation is that the current study used the literature analysis in order to obtain quality criteria and indicators, and then asked the participants to rate their importance. From the finding, the users rated the importance of criteria differently; so in order to better capture participants' opinions and thoughts, future research may use focus groups as a research method to obtain quality criteria from the users' point of views since it would allow for a more thorough observation of the subject.

Future research may involve developing models for the automatic classification of blog quality. A user-centered evaluation can be applied to investigate the quality of blogs by identifying each indicator on blogs components or blog content analysis, then using quality indicators as quality markers so that each blog can be given a quality score. Then, high-quality and poor-quality blogs can be identified. With this approach, blogs can be ranked by their quality score, not only the relevance score, in blog search engine outputs. Also, future research can be done by information system designers who can apply the indicators as the algorithm for developing a system for the blog quality score.

Future research may involve testing the stability of the modified framework by using confirmatory factor analysis (CFA), which would measure the framework in terms of sound fits between data and model on a different sample.

Future research could include the study of blog users' understanding and use of indicators, such as observing users when they evaluate the quality of blogs in a laboratory environment. Other future research in laboratory environment may involve assessing the quality of blogs by giving the users sample blogs, then users can determine a quality score for each blogs so that the data on perceived quality of blogs can be obtained from the users.

APPENDIX A
QUESTIONNAIRE FOR QUALITY OF BLOG

Email message

Dear,

We are inviting you to participate in a research study of an evaluation of the quality of weblogs. Specifically, this study will explore the criteria and indicators which weblog users consider most important and use to evaluate the quality of blogs. We expect to identify the importance of criteria and hope the study will help guide users to select quality blogs to read. Please read the Informed Consent Notice for more information about this study.

Your opinions and comments are especially important to us. Please take a few minutes to complete the questionnaire as accurately and honestly as possible.

If you are willing to participate, please open the link to the online survey below and fill it out. The entire study should take less than 10 minutes. Your submission of the online survey will be taken as an indication of your consent to participate in this study. If you have any questions and concerns, please do not hesitate to contact me (Sutthinan Chuenchom-XXXXXXXXXX)

<http://txcdk-v7.unt.edu/limesurvey/index.php?sid=57454&lang=en>

Thanks in advance for your participation!

Very truly yours,

Sutthinan Chuenchom

Sutthinan Chuenchom
Doctoral student
Department of Library & Information Sciences
College of Information
University of North Texas
Phone: (940) 565-2445
E-mail: sutthinanchuenchom@my.unt.edu

Informed Consent Notice

My name is Jiangping Chen and I am an associated professor in the Interdisciplinary Information Science Ph.D. Program at the University of North Texas. I am conducting an online study about evaluation of the quality of weblogs.

If you agree to take part in this study, you will be asked to complete a questionnaire about the evaluation of the quality of weblogs. It will take approximately less than ten (10) minutes to complete. Your responses may help us learn more about how weblog users evaluate the quality of weblogs and what criteria and indicators users consider most important when they evaluate the quality of blogs. The results of the study may be used to guide users to select quality blogs to read. It will also guide the development of automatic quality blog identification systems. Moreover, this study is devoted to guiding blog selection for professionals to preserve blogs or to create a blog repository. Finally, this study may guide blog authors in creating higher quality blogs. Participation in this study is completely voluntary. You have the right to skip any question you choose not to answer. There are no foreseeable risks involved in this study; however, if you decide to withdraw your participation you may do so at any time by simply leaving the website.

Your name will not be requested in this study so your responses will be anonymous. The Principal Investigator will keep all research records confidential. No individual responses will be disclosed to anyone because all data will be reported on a group basis. If you have any questions about the study, please contact Jiangping Chen, Ph.D, 940-369-8393, jpchen@unt.edu or Sutthinan Chuenchom, XXXXXXXXXX sutthinanchuenchom@my.unt.edu.

This research project has been reviewed and approved by the UNT Institutional Review Board. Please contact the UNT IRB at 940-565-3940 with any questions regarding your rights as a research subject.

If you agree to participate, you may print this document for your records.

By clicking below, you are confirming that you are at least 18 years old and you are giving your informed consent to participate in this study.

Questionnaire for Quality of Weblog

Thank you for taking part in this survey!

Weblogs (blogs) are defined as a user-generated, frequently updated website containing entries and comments about a certain topic and displayed in reverse chronological order.

Part 1: Information about weblog users

1. How are you best identified?
 Faculty member Staff

2. If you are a faculty member, what are your research and teaching areas?
.....
If you are a staff member, what is your current job?
.....

3. Education level
 Post-graduate level
 University level
 Junior college level
 Senior high and vocational school level

4. Gender
 Male Female

5. Age
 <28 29-49 50-67 >67

6. How often do you use blogs?
 Daily
 Weekly
 Monthly
 Occasionally
 Never (Please terminate participation in this survey)

7. What are your purposes of using blogs?
 Entertainment Social Others
- Habitual routine Information

8. Which are the general topics of the blogs you read? (all applied)
 Health Arts
 Politics Sciences
 Technology Business
 News Social sciences
 Sports Education
 Personal Engineering
 Hospitality Computer & Internet
 Music Food
 Travel Photo
 Others

Part 2: How would you rate the importance of the following criteria and indicators for evaluating the quality blogs?

This evaluation of the importance of each criterion is shown by assigning a numerical value between 1 and 5, where the meaning of each value is equivalent to the following:

1. Not important at all
2. Of little important
3. Moderately important
4. Quite important
5. Extremely important

Criteria and Indicators	Not important at all (1)	Of little important (2)	Moderately important (3)	Quite important (4)	Extremely important (5)
Content quality					
Information in the blog is easy to understand.					
Information in the blog is up-to-date.					
Information in the blog is accurate.					
Information in the blog is credible.					
Information in the blog is original.					
Blog content theme is consistent.					
Information in the blog keeps your attention.					
Information in the blog is written in a scholarly fashion.					
Information in the blog has citations and references.					
Information in the blog is helpful for your quests.					
Information and comments in the blog have no spelling or grammatical errors.					
Information and comments in the blog have sufficient detail.					
Information and comments in the blog are in appropriate word length.					
Credibility					
Author's name is clearly indicated.					
Author's expertise is clearly indicated.					
Author's education is clearly indicated.					
Author's credentials are clearly indicated.					
Author's personal/institutional affiliation is clearly indicated.					
Author's position is clearly indicated.					
Author's contact information is provided, including telephone number and e-mail.					
Author is a highly recognized scholar.					

Criteria and Indicators	Not important at all (1)	Of little important (2)	Moderately important (3)	Quite important (4)	Extremely important (5)
Author's expertise is relevant to the topic of the blog.					
Blog provides useful link to other sources (blogs, website).					
Blog hosting organization is clearly indicated, including organization's name, type, reputation, and affiliation.					
Field of the blog is clearly indicated.					
Blog is recognized and well-known.					
Blog has high volumes of blog posts.					
Blog has high volumes of subscriptions.					
Blog has high volumes of comments.					
Blog has low volumes of advertisements.					
Blog conveys a sense of community (Blog's social value, including existing community of host, frequent visitors or commentators, and blog friends).					
Blog is ranked on top in search engine output.					
Usability					
Blog is easy to use.					
Blog provides easy navigation.					
Blog uses of graphics, photos and icons contribute to your understanding of the information.					
Blog provides quick responses to users.					
Blog has an aesthetic appeal (Good use of graphics and color).					
Blog provides quick and easy access to search blog archives.					
Blog provides help or guide to users.					
Blog makes it easy to give feedback.					
<p>Part 3: Do you have other criteria which are not listed in part 2? If so, please provide those criteria, the reasons why you use those criteria, and how and to what extent those criteria being used.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>					

APPENDIX B
QUESTIONS FOR INTERVEIWS

1. What are your specific interests?
2. Why do you use blogs?
3. What do you expect to gain from blogs?
4. Do chosen blogs meet your needs? If not, please identify
5. Please elaborate on those blogs that you read.
 - a. What are the blogs that you read frequently?
 - b. Why did you select those blogs?
 - c. To you, what are the quality blogs?
6. Please rank the importance of the following criteria and indicators to the quality of blogs:
 - Author's potential/credential
 - Blog content quality
 - Blog traffic (the volume of responses, comments, and subscriptions)
 - Blog community (social value)
 - Blog's effectiveness (interface and design)

APPENDIX C
RESEARCH ON QUALITY ASSESSMENT

Authors	Targets of evaluation	Metrics	Dimensions
Chao (2002)	Academics libraries on the Web	Quality	<p>Q1 Presentation (suitable background, color, font, icon, image, size, layout, text and organized, consistent scheme, reliable links, concise home page)</p> <p>Q2 Integration (convenient e-mail address to a responsible party, and links to the library's/parent institution's home pages, inclusion of library's/institution's names and logos, online forms for request or feedback)</p> <p>Q3 Speed (quick connection and delivery, minimal use of large graphics and bright color, and easy access to links)</p> <p>Q4 Information about links (pertinent instructions or warning statements to file/document types)</p> <p>Q5 Heading and titles (clear, coherent, and concise headings; clearly titled screen)</p> <p>Q6 Institutional information (comprehensive, current, and accurate information relevant to institution's learners and faculty)</p> <p>Q7 Reliability (secured private interaction, credible and appropriate sources and documents)</p> <p>Q8 Search capability (applicable index/table of contents and various search engines)</p> <p>Q9 Compatibility (consistent text and graphics in different browsers, options available for various features, such as text-only view)</p> <p>Q10 Navigability (clear site map, hypermedia index, and short number of clicks to online catalog, reference tools, and databases)</p> <p>Q11 Inclusion of special collections and "what's new" (original materials, institutional archives, and news/events)</p> <p>Q12 Facilitation and help (available 'Help' information; stable URL or hot-link to the new URL)</p>

Authors	Targets of evaluation	Metrics	Dimensions
			<p>Q13 Content (up-to-date library catalogs, library services, research tools, resources and collections, online request forms, faculty partnerships, and "about the library" pages)</p> <p>Q14 Graphic design (limited use of blinking, italics, other attention-getting devices, and extraneous navigational aids).</p> <p>Q15 Authority (knowledgeable site Webmaster/maintainer)</p> <p>Q16 Services (accessible remote library services)</p>
Fink-Shamit & Bar-Ilan (2008)	Website	Information Quality	<p>Credibility of site (scope, accuracy, objectivity, currency and authority, source, type of reference, writing style)</p> <p>Credibility of content (design, language)</p> <p>Predictive relevance (ranking, language, title, relation to query, snippet)</p> <p>Veracity assessment (previous knowledge, corroboration)</p>
Johnson , Kaye, Bichard, and Wong (2008)	Online media	Credibility	<p>Believability</p> <p>Fairness</p> <p>Accuracy</p> <p>Depth of information</p>
Kargar et al. (2008)	Blogs	Information Quality	<p>Understandability</p> <p>Informativeness</p> <p>Representation</p> <p>Accuracy</p> <p>Completeness</p> <p>Timeliness</p> <p>Believability</p> <p>Concise</p> <p>Cohesiveness</p> <p>Maintainability</p> <p>Availability</p> <p>Authority</p> <p>Latency</p> <p>Popularity</p>

Authors	Targets of evaluation	Metrics	Dimensions
			Customer support Amount of Data Objectivity Redundancy
Katerattana kul & Siau (2008)	Web portfolios	Information Quality	Presentation information quality [P] (Use and organization of visual settings and typographical features, Consistent presentation, Attractiveness, Accuracy and correctness of content) Contextual information quality [I] (Provision of author's information) Accessibility information quality [N]
Kim et al. (1999)	WWW	Quality	1. Content of site (quality, reliability, accuracy, scope, depth) 2. Design and aesthetics (layout, interactivity, presentation, appeal, graphics, use of media) 3. Disclosure of authors, sponsors, developers (identification of purpose, nature of organization, sources of support, authorship, origin) 4. Currency of information (frequency of update, freshness, maintenance of site) 5. Authority of source (reputation of source, credibility, trustworthiness) 6. Ease of use (usability, navigability, functionality) 7. Accessibility and availability (ease of access, fee for access, stability) 8. Links (quality of links, links to other sources) 9. Attribution and documentation (presentation of clear references, balanced evidence) 10. Intended audience (nature of intended users, appropriateness for intended users) 11. Contact addresses or feedback mechanism (availability of contact information, contact address) 12. User support (availability of support, documentation for users)

Authors	Targets of evaluation	Metrics	Dimensions
Knight & Burn (2005)	WWW	Content Quality	User Feedback Amount of data Reputation Objectivity Relevancy Reliability Accuracy Timeliness Understandability Value-Added Consistency Security Accessibility Believability Useful
Librarians' Internet Index	Website	Quality	Authority Scope and audience Content Design Function Shelf life
Lin & Lee (2006)	Online communities	Success	System quality Information quality Service quality
Rabjohn, Cheung, & Lee (2008)	Online Opinions	Information Quality	Information usefulness Source credibility Relevance Timeliness Accuracy Comprehensive
Rubin & Liddy (2006)	Blogs	Credibility	1) Blogger's Expertise and Offline Identity Disclosure a) Name and geographic location b) Credentials c) Affiliations (personal and institutional) d) Blogrolls (i.e., hyperlinks to other sites) e) Stated competencies f) Mode of knowing 2) Blogger's Trustworthiness and Value System

Authors	Targets of evaluation	Metrics	Dimensions
Smith (1997)	Internet information resources	Information quality	<ul style="list-style-type: none"> a) Biases b) Beliefs c) Opinions d) Honesty e) Preferences f) Habits g) Slogans 3) Information Quality <ul style="list-style-type: none"> a) Completeness b) Accuracy c) Appropriateness d) Timeliness e) Organization (by categories or chronology) f) Match to prior expectations g) Match to information need 4) Appeals and Triggers of a Personal Nature <ul style="list-style-type: none"> a) Aesthetic appeal (i.e., design layout, typography, and color schemes) b) Literary appeal (i.e., writing style and wittiness) c) Curiosity trigger d) Memory trigger (i.e., shared experiences) e) Personal connection (e.g., the source is acquaintance or a competitor of the blog-reader)
			<ul style="list-style-type: none"> Scope Breadth Depth Time Format Content Completeness Sources Accuracy Authority Currency Uniqueness Links Writing Graphic design

Authors	Targets of evaluation	Metrics	Dimensions
			Purpose Audience Reviews Workability User friendliness Computer needs Searching Browsability Interactivity Connectivity Cost
Sriphaew & Takamura & Okumura (2008)	Blogs	Coolness	1) cool blogs tend to have definite topics 2) cool blogs tend to have sufficient amount of blog entries 3) cool blogs tend to have certain level of topic consistency among their blog entries
Stvilia & Mon & Yi (2009)	WWW	Information Quality	Accuracy Reliability Credibility Trustworthiness Clarity Objectivity Utility Verifiability Usefulness Integrity Ease of understanding Consistency Relevance Completeness Currency Authority Lack of bias Accessibility Ease of use (Website) Cohesiveness and Volatility
Stvilia et al. (2007)	Wikipedia	Information Quality	Intrinsic 1. Accuracy / Validity 2. Cohesiveness 3. Complexity 4. Semantic consistency 5. Structural consistency 6. Currency the age of an information object

Authors	Targets of evaluation	Metrics	Dimensions
			7. Informativeness / redundancy 8. Naturalness 9. Precision / Completeness Relational / Contextual 10. Accuracy 11. Complexity 12. Accessibility 13. Naturalness 14. Informativeness / Redundancy 15. Relevance (aboutness) 16. Precision / Completeness 17. Security 18. Semantic consistency 19. Structural consistency 20. Verifiability 21. Volatility Reputational 22. Authority
Wang & Strong (1996)	Information system	Data Quality	Intrinsic Data Quality (accuracy, objectivity, believability, reputation) Contextual Data Quality (completeness, timeliness, relevancy, value-added, appropriate amount of data) Representational Data Quality (concise, consistent representation, interpretability, ease of understanding) Accessibility Data Quality (accessibility, access security)
Weerkamp, & de Rijke, (2008)	Blogs	Credibility	Capitalization Emoticons Shouting Spelling Post Length Timeliness Semantic Spam Comments Regularity Consistency

Authors	Targets of evaluation	Metrics	Dimensions
Yang (2007)	News-related blogs	Credibility	Demographics Gender Education level Age Income Innovativeness Internet use behavior Internet usage history Knowledge about Internet Internet use motivations Entertainment Factor Habit Factor Social Factor Information Factor Escapism Factor Credibility / Belief factors Presenter/Source Factor Media Type Factor Personal Relevance Factor Stylistic Quality Factor

APPENDIX D

FACULTY MEMBERS' RESEARCH AND TEACHING AREA

Areas of knowledge	Research and teaching areas
Natural sciences	Math Biology <ul style="list-style-type: none"> - Biology and statistics - Biochemistry, genetics, molecular biology - chemistry - Chemistry - Chemistry and Chemical Education Physics <ul style="list-style-type: none"> - Physics: Laser Optics - Physics: Plasma physics in particular - Ion Beam Physics - Laser optics - Astronomy & Optics - Astronomy & Physics Bio-nano photonics, quantum optics, non-linear microscopy, astronomy (Spectroscopy)
Human sciences	Business <ul style="list-style-type: none"> - Accounting - Economics - Finance, insurance, real estate and law - Marketing, branding - International consumer behavior Education <ul style="list-style-type: none"> - Educational Administration - Educational Psychology - gifted - Higher education - Teacher education - Reading education - Special Education - Special education, autism - adjunct instructor - Postsecondary access, American Indian higher education issues - Graduate courses: Direct & Interactive, Readings, Integrated Communication - Organizational change and School Improvement; ESL resources and strategies - Applied behavior analysis - Counseling - Counselor education; school counseling

Areas of knowledge	Research and teaching areas
	<p data-bbox="607 239 837 270">Exercise science</p> <ul data-bbox="607 281 1299 443" style="list-style-type: none"> <li data-bbox="607 281 899 312">- Health Promotion <li data-bbox="607 323 1130 354">- Kinesiology and Health Promotion <li data-bbox="607 365 1299 396">- Kinesiology, Health Promotion and Recreation <li data-bbox="607 407 1081 443">- Sport and Exercise Psychology <p data-bbox="607 453 1029 485">Hospitality and Merchandising</p> <ul data-bbox="607 495 1146 615" style="list-style-type: none"> <li data-bbox="607 495 1000 527">- Hospitality management <li data-bbox="607 537 951 569">- Hospitality marketing <li data-bbox="607 579 1146 615">- Merchandising and retail strategies <p data-bbox="607 625 818 657">Social sciences</p> <ul data-bbox="607 667 1341 1499" style="list-style-type: none"> <li data-bbox="607 667 1201 699">- Social work policy- specifically abortion <li data-bbox="607 709 789 741">- Sociology <li data-bbox="607 751 961 783">- Sociology and Honors <li data-bbox="607 793 841 825">- Anthropology <li data-bbox="607 835 1101 867">- Urban and economic geography <li data-bbox="607 877 919 909">- Clinical Psychology <li data-bbox="607 919 867 951">- Public relations <li data-bbox="607 961 1341 1035">- Programming Events, Evaluation of Events, Grad Research Seminar, Grad Trends <li data-bbox="607 1045 1318 1119">- Organizational communication; whistle-blowing & disaster/crisis communication <li data-bbox="607 1129 1071 1161">- Geography, industrial ecology <li data-bbox="607 1171 805 1203">- Toxicology <li data-bbox="607 1213 1273 1287">- Organizations, management, accountability, ethics and nonprofits <li data-bbox="607 1297 938 1329">- Applied Gerontology <li data-bbox="607 1339 1286 1459">- Physical activity and aging, Medicaid reimbursement policy, aging policy, research methods, organizational behavior <li data-bbox="607 1470 786 1499">- Research
The arts	<p data-bbox="607 1509 669 1541">Arts</p> <ul data-bbox="607 1551 1299 1759" style="list-style-type: none"> <li data-bbox="607 1551 834 1583">- Culinary Arts <li data-bbox="607 1593 1299 1625">- college administrator, studio art based faculty <li data-bbox="607 1635 799 1667">- Studio Art <li data-bbox="607 1677 867 1709">- Interior Design <li data-bbox="607 1719 1123 1759">- New Media Art, Art & Technology <p data-bbox="607 1770 753 1801">Linguistics</p> <ul data-bbox="607 1812 1156 1883" style="list-style-type: none"> <li data-bbox="607 1812 954 1843">- language and literacy <li data-bbox="607 1854 1156 1883">- English as a second language (ESL)

Areas of knowledge	Research and teaching areas
	<p>Music</p> <ul style="list-style-type: none"> - Music Education - Music education, cultural competence, urban settings, Hispanic issues - Vocal Performance - Electroacoustic music - Performance Studies, Narrative Theory <p>Journalism</p> <ul style="list-style-type: none"> - gender in media - mass communication and Advertising - Advertising, Strategic Communication - Media law; Citizen journalism; News writing - Communication Design - Filmmaking
History	<ul style="list-style-type: none"> - music History - journalism history - US history
Mathematics	<p>Library and Information science</p> <ul style="list-style-type: none"> - Adult materials and reading interests; Library instruction, Library outreach and programming - Children's and young adult literature; state book awards; international book awards; school libraries - Digital Libraries, Digital Preservation - Health informatics, information retrieval, indexing, information access services - Information indexing and abstracting and retrieval - Information science - Library reference - Library Science - Design research, interaction design, user experience design, systems design - Game programming <p>Engineering</p> <ul style="list-style-type: none"> - Electrical engineering - Industrial engineering - Wireless communications

-
- Computational materials
 - Computational materials modeling
 - Electronic materials and devices

Areas of knowledge	Research and teaching areas
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- Materials science and polymers
- Computer Science
- NLP
- Applied Technology and Performance Improvement

Ethics	Political Science
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- Politics
 - American politics, judicial politics
 - International politics
 - Comparative Politics, International Relations
-

APPENDIX E
STAFF MEMBERS' JOBS

Categories	Job
Director,Dean	<ul style="list-style-type: none"> - Academic Counselor - Associate Dean & Associate Director of the Graduate Program - Assistant Director - Assistant Director International Student Scholar Services - Assistant Director of Academic Computing and User Services - Assistant Director of Proposal Development & Design for PACS - Assistant Director-Global Learning - Assistant to the Dean Assistant to the Dean - Assistant Vice Provost - International education (administrator) - Assistant Director - Assistant Director of Diversity Research - Dean, TAMS - Director - Director of Marketing, UNT Libraries - Director of New Media - Athletics - Director Sponsored & Special Programs - Director, communication - Lab Director, PDTL - Division Assistant - Instrumental Studies - UNT Dallas Director of Graduate Recruitment and Admissions
Advisors, Managers, Specialists, and Supervisors	<ul style="list-style-type: none"> - Computer Systems Manager in Admissions - Construction Manager - Facilities operations manager/External events coordinator - Lab manager for Technical Communication Lab, AUD307 - Advisor - Library Associate - on loan as Collection Manager of Texas Fashion Collection - Departmental undergraduate academic advisor - Facilities Structural Maintenance Supervisor - Graduate Academic Advisor, Accounting & Management - graduate program advisor - IELI-Lab Supervisor - International Education Advisor - IT Manager - Library Specialist - Library Specialist for Public Services - Manager - Marketing Specialist- College of Information

Categories	Job
	<ul style="list-style-type: none"> - Post-bac Program Specialist - Remote Services Supervisor-Libraries - Study Abroad Advisor - Computer Systems Manager - Office manager - Project Assistant - User Interfaces - Digital Library Division
Administrative officers	<ul style="list-style-type: none"> - Administrative Assistant Administrative Assistant - Administrative Coordinator I - Administrative in dean's office - Administrative Coordinator - Administrative coordinator for UNT-I - Administrative Coordinator I for Chair of Dept of Studio Art - Administrative Coordinator II, IELI - Administrative services officer - Administrative specialist - Administrative Specialist II - Administrative specialist iv - Administrative/editing - Administrative services officer I - Communications and Alumni Relations Coordinator - Coordinator - Media coordinator, UNT International - Project Coordinator
Officers	<ul style="list-style-type: none"> - Analyst/Programmer in CITC - Computer Lab Assistant - Computing & IT Center - Curator of visual resources - Data analyst - English Language Lab Instructor at IELI - ESL instructor - Financial Analyst - GIS Analyst for Facilities - Graduate research assistant - IELI instructor - Intern - Internal auditor

Categories	Job
	<ul style="list-style-type: none">- IT programmer analyst- library circulation- Media Recording- Piano technician- Programmer Analyst I in CITC- Research analyst- Researcher- Sci/Tech Librarian Circulation- System facilities capital improvements

APPENDIX F
IRB APPROVAL



Discover the power of ideas.

OFFICE OF THE VICE PRESIDENT FOR RESEARCH AND ECONOMIC DEVELOPMENT
Research Services

January 27, 2010

Dr. Jiangping Chen
Department of Library and Information Science
University of North Texas

Re: Human Subjects Application No. 11-037

Dear Dr. Chen:

As permitted by federal law and regulations governing the use of human subjects in research projects (45 CFR 46), the UNT Institutional Review Board has reviewed your proposed project titled "User-Centered Evaluation of the Quality of Blogs." The risks inherent in this research are minimal, and the potential benefits to the subject outweigh those risks. The submitted protocol is hereby approved for the use of human subjects in this study. **Federal Policy 45 CFR 46.109(e) stipulates that IRB approval is for one year only, January 27, 2011 to January 26, 2012.**

Enclosed are the consent documents with stamped IRB approval. Please copy and **use this form only** for your study subjects.

It is your responsibility according to U.S. Department of Health and Human Services regulations to submit annual and terminal progress reports to the IRB for this project. The IRB must also review this project prior to any modifications.

Please contact Shelia Bourns, Research Compliance Administrator, or Boyd Herndon, Director of Research Compliance, at extension 3940, if you wish to make changes or need additional information.

Sincerely,

A handwritten signature in blue ink that reads "Patricia L. Kaminski".

Patricia L. Kaminski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK:jh

APPENDIX G
INFORMED CONSENT FORM

University of North Texas Institutional Review Board

Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: USER-CENTERED EVALUATION OF THE QUALITY OF BLOGS

Principal Investigator: Jiangping Chen, University of North Texas (UNT) Department of Library and Information sciences.

Purpose of the Study: You are being asked to participate in a research study which involves identifying criteria and indicators that you consider important when you evaluate the quality of blogs in order to develop a user-centered framework for evaluating the quality of blogs. The research questions in support of the study's goals are: (1) What criteria do users consider important when they evaluate the quality of blogs? (2) What are the indicators of a quality blog from the users' point of views? (3) How important are those factors and indicators to the perceived quality of a blog? (4) What are personal characteristics which affect the perceived quality of blogs?

Study Procedures: You will be asked to complete a questionnaire and answer the interview questions that will take about 10 minutes of your time.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: We expect the project to benefit you by helping you better select quality blogs to read. The study will also guide the development of automatic quality blog identification systems. This study is devoted to guide blog selection for professionals to preserve blogs or to create a blog repository. Finally, this study will guide bloggers or blog authors in creating higher quality and more popular blogs.

Compensation for Participants: You will receive a souvenir from Thailand as compensation for your participation.

Procedures for Maintaining Confidentiality of Research Records: The data records and informed consent forms will be stored on the UNT campus. The researcher will substitute the participants' names with pseudonyms (fake names). The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

Questions about the Study: If you have any questions about the study, you may contact Jiangping Chen at telephone number 9403698393.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Sutthinan Chuenchom has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You have been told you will receive a copy of this form.

Printed Name of Participant

Signature of Participant


Date

For the Principal Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

Signature of Principal Investigator or Designee

Date

APPROVED BY THE UNT IRB
FROM 1-27-11 TO 1-26-12


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