Conceptual Evaluation of Weblog as a Computer Mediated Communication Application

Chuan-Hoo Tan  
National University of Singapore, tanch@comp.nus.edu.sg

Suparna Goswami  
National University of Singapore, suparnag@comp.nus.edu.sg

Yee-Pia Chan  
National University of Singapore, chanyeep@comp.nus.edu.sg

Ying-Qin Zhong  
National University of Singapore, zhongyq@comp.nus.edu.sg

Follow this and additional works at: http://aisel.aisnet.org/amcis2005

Recommended Citation
Tan, Chuan-Hoo; Goswami, Suparna; Chan, Yee-Pia; and Zhong, Ying-Qin, "Conceptual Evaluation of Weblog as a Computer Mediated Communication Application" (2005). AMCIS 2005 Proceedings. Paper 374.  
http://aisel.aisnet.org/amcis2005/374
Conceptual Evaluation of Weblog as a Computer-Mediated Communication Application

Chuan-Hoo Tan  
National University of Singapore  
tanch@comp.nus.edu.sg

Suparna Goswami  
National University of Singapore  
suparnag@comp.nus.edu.sg

Yee-Pia Chan  
National University of Singapore  
chanyeep@comp.nus.edu.sg

Ying-Qin Zhong  
National University of Singapore  
zhongyq@comp.nus.edu.sg

ABSTRACT
Weblog is fast becoming an unprecedented mode of communication and self-expression for both individuals and communities. It offers users an avenue to express their opinions regarding anything that come to their minds, from current news items to documenting their lives and thoughts. Bewildered by its rapid growth and widespread popularization, researchers have sought to understand the “exquisiteness” of weblog as a form of computer-mediated communication (CMC). Despite the increasing effort to understand weblog as an informal channel of communiqué, our understanding of weblog remains modest, mainly because much of the extant research has been directed towards categorizing different forms of weblog based on content analyses and identifying factors that motivate people to blog. However, establishing weblog as a CMC application is crucial for providing the basis for cumulative research tradition. This paper draws from CMC theories – media richness and media synchronicity, to assess weblog and seeks to identify research directions.

Keywords
Weblog, computer-mediated communication, media richness, media synchronicity.

INTRODUCTION
“Companies are … hopping on the blogging bandwagon.”
--- CIO.com, January 1, 2003

“Resignation at CNN Shows the Growing Influence of Blogs”
--- New York Times, February 14, 2005

Weblogs (also termed as blogs), commonly referred to as frequently updated web pages with reverse chronological sequences of dated entries (Herring et al., 2004; Kumar et al., 2004), have received unprecedented popularity among individuals, as means of self-expression and to foster social networking; among media practitioners, as tools for outreach and opinion formations; and more recently among organizations as tools for knowledge sharing and management (k-logs). At personal level, weblogs offer users or bloggers an avenue to express their opinions regarding anything that comes to their minds even to the extent of documenting their lives. At community level, there is a growing number of public-spirited weblogs, which bypass the corporate media gatekeepers, serve to amplify the voices of politicians, pundits, scholars, researchers and journalists. This leads to the formation of a worldwide phenomenon known as Blogosphere – a blogging biosphere that becomes an ecosystem in its own right, where bloggers link and cross-link to as well as reference others’ websites and commentaries (Rosenbloom 2004).

Given the increased intensity of social interaction on the web due to the overt connections among bloggers, it would seem that in an area of such importance, we would have substantial and definitive understanding about the nature of the technology. From our knowledge, this is not the case. For example, Blood (2004) looks at weblog from the users’ perspective as a media that brings together information from many sources, revealing media biases, influencing public opinion, and supporting socialization online. Green and Pearson (2005) explore one of the many social applications of weblogs in the context of politics. Nardi et al. (2004) focus on the use of weblog in enabling social-oriented tasks. Herring et al. (2004) seek to categorize different forms of weblogs. Thus, there appears to be an abundance of studies examining weblog as means of
self-portrayal and social networking, or categorizing different forms of weblogs. However, few papers have conducted theoretical studies to examine weblog as an application of computer-mediated communication (CMC) in detail. This study seeks to position weblog as a CMC application and analyze it in terms of established communication theories.

To evaluate weblog using communication theories, we first need to establish it as a CMC tool. CMC has been broadly defined as wide range of technologies that facilitate human communication and the interactive sharing of information through computer network (Barnes 2003). From this definition it naturally follows that weblog is indeed a form of CMC by enabling the sharing and dissemination of information over the internet and communication between the authors of weblogs and their readers. Being a CMC tool, we believe that they can be meaningfully assessed in terms of the communication theories such as media richness theory (Daft and Lengel 1986) and the theory of media synchronicity (Dennis and Valacich 1999). Moreover, current blogging softwares provide several features such as – permalinks, comments, and trackback, which facilitate two-way communication and interaction using weblogs, making it highly attractive as a communication media.

Permalinks (permanent links) is a feature, which gives each weblog entry a permanent location on the web by virtue of a distinct URL through which it can be referenced. Prominent Bloggers believe that this is one feature, which resulted in the transformation from easy-publishing phenomena to conversational phenomena (Coates, 2003). Commenting allows readers to post comments to a weblog entry. This feature enables readers to post comments to an entry, to which the owner of the weblog can respond, thus starting up a vibrant online conversation. Trackback allows bloggers to place a reciprocal link to the entry they have referenced, thus making it easier for them to find out all references to their weblogs. These three features taken together have resulted in a highly conversational environment, making a strong case for the applicability of communication theories in assessing the medium. Consequently, our study aims at theoretically assessing weblogs using the media richness theory (MRT), one of the most fundamental theory of communication and the more recent theory of media synchronicity (MST), which is targeted towards communication with “new media”.

NATURE OF WEBLOGS

Based on a content analysis of more than 70% of the weblogs available, Herring et al. (2004) observe that filter and journal are the two primary styles of weblog, which account for 83% (journal-style – 70.4%; filter-style – 12.6%) of all weblogs surveyed. This paper focuses on these two styles of weblog. Table 1 summarizes the characteristics of the filter-style and the journal-style weblog.

Filter-style weblog refers to a web page where a blogger logs all the hyperlinks to those web pages he or she is interested in (Blood, 2004). Filter-style weblogs can be traced back to the initial intention of bloggers, where they aimed to create and maintain weblogs that would serve as information filters, by presenting a careful selection of links along with the editor’s own opinions on the topic. Therefore, filter-style weblogs are logs of different materials on the web maintained by individuals (Herring et al., 2004). Most filters are written by one person. Typically individual weblog owner searches and presents some links on a topic of interest so that the information is palatable for readers. Filter-style weblogs are usually hand-coded HTML pages maintained by the author and thus they lack many of the features that are provided by the blogging softwares. Although it is possible for a weblog owner to have feedback and comments from readers, it is inconvenient to integrate them because the owner needs to maintain and update the weblog through coding. Hand-coded weblogs result in limitations such as disorganized links (Blood 2004), manual archiving of information and others if the author lack sophisticated programming skills and find it difficult to reproduce most of the advanced journal-style features.

Journal-style: One reason attributed to the pre-dominance of online diaries is the emergence of blogging software, which automates the creation and maintenance of weblogs (e.g., Blogger1, Pitas2, GreatestJournal3, and LiveJournal4). These popular blogging tools have eliminated the necessity for even entering a link while creating or updating weblogs. Users tend to write about anything and everything with or without having the requisite knowledge by expending little effort in finding relevant information sources. Consequently, majority of weblogs are of the journal-style and serve as an interpersonal communication medium for users to express themselves or as personal websites. Moreover, many weblogs enable visitors to leave public comments, which can lead to a community of readers centered around the weblogs. The format of weblogs can vary from simple bullet lists of hyperlinks, to article summaries with user-provided comments and ratings. The advanced

---

1. [www.blogger.com](http://www.blogger.com)
2. [www.pitas.com](http://www.pitas.com)
3. [www.greatestjournal.com](http://www.greatestjournal.com)
4. [www.livejournal.com](http://www.livejournal.com)
weblog tools also allow multiple contributors. It could either be restricted to a group of people, or it could be open to anyone. This allows collaborative publishing. Individual weblog entries are usually date and time-stamped, with the newest post at the top of the page. Most weblogs have a way of archiving older entries (called permalinks) and generating a static address for individual entries making it easier to locate and reference old posts.

<table>
<thead>
<tr>
<th>Technology Characteristics</th>
<th>Filter Style</th>
<th>Journal Style</th>
</tr>
</thead>
</table>
| Personalized               | • Individual user  
• Present links to the information of interest  
• Possible to have personalized feedbacks and comments, but difficult to integrate them as parts | • Individual or multiple users  
• Publish users’ thoughts, understandings and individual personality  
• Possible to support collaboration and incorporate feedbacks and comments easily  
• Can replace the personal homepage |
| Web-based                  | • Accessible via a web browser  
• Maintain and update through hard-coding | • Accessible via a web browser  
• Anytime/anywhere availability on other readers’ feedback and comments  
• Maintain and update through blogging software  
• Assign each weblog entry a permanent location to allow readers to refer to a specific entry without additional searching effort |
| Automated                  | • Manual entering of links  
• Disorganized pages of links, with no original content anywhere (Blood 2004).  
• Manual archiving of weblogs, where such archives are only navigable through browsing  
• Manual scouring referrer logs to discover references to his/her own site | • Eliminate the need for entering links while creating weblogs;  
• Aid in attractive presentation of words written by the author, and syndicating of those words  
• Provide automatic archival of past weblogs by date-posted  
• Feature automatically the latest/updated list of weblogs  
• Automate cross-blog talk by enabling bloggers to ping other weblogs and place a reciprocal link |
| Communities-supported      | • Connecting to other interesting links or weblogs; allowing the linkage of ideas and promotion of knowledge sharing.  
• Upscaling problems such as slow loading/responding time while making available features like ‘comment/feedback’ due to limitations in filter-style weblogs technologies  
• Many existing filter-style users may find it difficult to reproduce most of the advanced journal-style features if they lack sophisticated programming skills | • There exist tools (e.g. Permalink, Trackback, Tag Board) that emphasize on the conversational nature of the weblog form. Thus, promoting community building on top of knowledge generation and sharing.  
• Enable easy comment/feedback capability valued by many weblog users, as comment-free weblog is viewed as a form of inferior form of broadcast  
• Leverage on existing elements of weblogs to churn up more social networks such as inventing ways to attach “friend of a friend” metadata to blogrolls, having “BlogChalk” that indicates the age, gender, geographic location to their sites |

Table 1. Comparison between Filter-Style and Journal-Style Weblogs
ASSESSMENT OF WEBLOG

Communication tasks in prior literature (Christie 1985; Dennis and Valacich 1999) are typically classified into two broad categories, task-oriented (e.g., information exchange or problem solving) and relationship/people-oriented (e.g. getting to know a person), where each type of task has its unique sequence of task-focused or socially focused activities (McGrath and Hollingshead 1993). According to the social presence theory (Short et al 1976), task performance will improve when there is a match between the medium’s ability to transmit social presence (extent to which individuals feel close) and the social needs of the task. The theory further posits that media conveying low social presence like text-only should prove unsatisfactory for tasks requiring high personal involvement such as getting to know someone better. However, task-oriented activities could be carried out equally well by any medium. Since weblogs tend to focus more on enabling social-oriented tasks (Nardi et al. 2004), it would be appealing to find out how weblogs serve to fulfill the requirements of such tasks.

People maintain weblogs for many purposes. Some treat weblog as an outlet for “letting off steam” by working on emotional issues, while others take weblog as an opportunity to sharpen their writing skills or promote conversation and community-building among the like-minded (Nardi et al. 2004). The weblog user can play the role of both reader and author. Nevertheless, a majority of the weblogs share a common intention: to express the author’s subjective, often intimate perspective on matters of interest to him or her. In other words, authors embark on individualistic, intimate expression through the use of weblogs, often on matters that concern their daily lives (Herring et al. 2004). In this vein, weblogs help to create awareness among its readers regarding events occurring in the lives of the author(s), how they think and feel about it. With the help of feedback and comments, weblogs also collate the perspectives of readers such as their views on the events or similar experiences to share, hence creating online community bonding or a form of social awareness of the things that happen in everyone’s lives.

In order to gain a better understanding of the media effects that enable increased benefits from their use, MRT was developed. MRT (Daft and Lengel 1986) proposes that media differ in their ability, i.e. level of richness, to facilitate changes in understanding among communicators. It also proposes that rich media rather than lean media lead to better performance for equivocal (multiple information interpretations) tasks. Richer media entails greater language variety (ability to convey natural language than purely numeric information), larger multiplicity of cues (number of alternatives in communicating the information), greater personalization (ability to personalize the message) and offering more prompt feedback.

Using these four criteria, Table 2 compares filter-style and journal-style weblogs in terms of degree of richness. Filter-style weblogs usually are hand-coded by their authors, or even when created using available blogging technologies, lack features such as Tagboard (an instant messaging window within the main weblog page) and Comments. However, these features are readily available in most journal-style weblogs and are frequently used by both authors and readers of weblogs to provide instant comments, reply to those comments and carry out a one-to-one online communication, very much like that observed in Instant Messengers. Thus, journal-style weblogs appear to be a richer media compared to the filter-style. As it is possible that readers could have multiple interpretations of a simple piece of information, journal-style weblogs help to reduce the level of equivocality by updating the web pages with content, comments and feedback rapidly and automatically and increase the amount of interactivity among the readers and authors. In addition, between a weblog consisting chiefly of links (filter-style) and one that is primarily of personal experiences and thoughts (journal-style), it is likely that readers can relate more to the latter. Unlike filter-style weblogs, journal-style weblogs often make postings in multiple forms such as photos, audio and video files, and thus provide more ways of building common understanding.

However, based on the above discussion, it is difficult to state with certainty that journal-style weblogs will lead to better equivocal task performance than filter-style ones. This is because MRT was primarily developed to explain mechanisms of information processing in organizations rather than by the individual. Also, the theory has shown unexpected results in the context of “new media” (Kahai and Cooper 2003). Moreover, filter-style and journal-style weblogs are inherently different in terms of the task they perform and the purpose they aim to serve. Also, it has been pointed out that factors other than the medium could possibly influence task performance, such as personal characteristics and shared histories of the sender and the receiver(s) (Fulk and Boyd 1991; Ngwengama and Lee 1997; Rice 1992). In the context of weblogs, the familiarity of the readers with the author, who are usually friends in the case of journal-style weblogs (Rosenbloom 2004), can expedite the content interpretation process.

Building upon the proposition of MRT that richness of media should match the level of message ambiguity for effective communication, Dennis and Valacich (1999) came up with Media Synchronicity Theory (MST). According to MST, five media features affect communication. They are immediacy of feedback, symbol variety (number of alternatives a media allows information to be encoded for communication), parallelism (number of simultaneous conversations that can effectively take place), rehearsability (extent to which the media enables the sender to rehearse and fine-tune the message before sending), and reprocessability (extent to which a message can be reexamined or processed again within the context of
the communication event). The theory suggests that communication effectiveness can be achieved when these five features support the level of synchronous activity needed to perform either conveyance (exchange of information) or convergence (development of shared meaning) in the communication process; in completing three functions associated with the task – production (performance of task), member support (individual relationships with others) and group well-being (coordination among teams in a group).

<table>
<thead>
<tr>
<th>Media Richness</th>
<th>Media Synchronicity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language Variety</strong></td>
<td><strong>Personal Focus</strong></td>
</tr>
<tr>
<td>Filter-style</td>
<td>Medium</td>
</tr>
<tr>
<td>Journal-style</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 2. Evaluation of Richness and Synchronicity of Filter-Style and Journal-Style Weblogs

Since weblogs are essentially means of personal expression – be it in the form of filter-style weblogs by providing filtered information on a news item or some other topic of interest, or as journal-style weblogs for sharing glimpses of the author’s life with readers; for weblog, passing on the information is the prime objective, rather than creating a shared meaning. Thus, emphasis is more on conveyance rather than the convergence aspect of the communication process. MST suggests that for group communication processes in which conveyance is the goal, the use of media providing low synchronicity (low feedback and high parallelism), coupled with high rehearsability and reprocessability will lead to better performance. Both filter-style and journal-style weblogs fare similarly in terms of rehearsability and reprocessability (see Table 2) and should perform equally well for conveyance. However, journal-style weblogs incorporating features such as Tag Boards, e-mail notifications to updates, etc. rank better in terms of immediacy of feedback. This makes them better positioned in terms of convergence, if there is a need to arrive at a shared meaning and understanding. Nevertheless, there still exists a concern if MST can be fully applied in the context of weblog because it is even difficult to define the task clearly, more so to quantify a good task performance in the case of weblog, which is what these media theories seek to explain.

Achieving better task performance in a technology-mediated environment could mean having better decision quality (Kahai and Cooper 2003), establishing a shared meaning or “common ground” (Cramton 2002), and a shorter time to reach conclusions (Dennis and Kinney 1998). However, none of these task performance measures has been seriously considered in the context of weblogs. This is because weblogs are mostly viewed as means of personal expression, written by ordinary people addressing small audiences (Nardi et al 2004) such as their circle of family and friends. Thus, there is relatively less requirement for vital decisions to be made, or reach consensus as compared to decision making in the organizational context. Moreover, the communicative exchanges between authors and readers of weblogs are asymmetrical with the authors holding exclusive control over the content, updating the weblogs several times a week or even daily, whereas reading or offering comments/feedback is voluntary. Hence establishing ‘common ground’ or mutually shared knowledge could be difficult. This is especially so in interpreting the meaning of the readers’ silence, or differences in parts of the content that is salient to either party (Cramton 2002). Interestingly, users of weblogs do value their ability to post and share their thoughts without the intensive feedback associated with other forms of communication (Nardi et al. 2004). Besides, acquiring mutual knowledge is more important in the context of geographically dispersed collaboration by work teams using technology. Since weblogs are not commonly used for such purposes and there is often little need to act upon comments and feedback from readers, establishing ‘common ground’ is insignificant in determining task performance in weblogs. Thus, it is difficult to assess weblogs in terms of convergence or task performance.

DISCUSSION

Blogging has evolved a lot since the time it originated. It started as purely filter-type weblogs, and went on to acquire many different forms. One reason behind this evolution is the abundance of easy to use technologies which resulted in many people jumping into the weblog bandwagon. However, as with any other technology, initial use shapes the perceptions of the technologies, which is turn affects future usage. Enhanced usage leads to people putting the technology to many kinds of use which are different from what was initially visualized thus leading to its adaptive structuration (DeSanctis and Poole, 1994).
For weblogs as well, by analyzing the contents of existing weblogs on the internet, we notice similar patterns of usage and consequent evolution of the technology. While, it has become easier for people to create and maintain weblogs, other mechanisms are being put into place which encourage users to regularly update their weblogs (e.g., popularity ratings on blogger.com or blo.gs); emergence of blogphile rings, which users can enter only if their blogs satisfy certain criteria and are regularly evaluated by a moderator, thus restricting sneak-ins into select circles; annual blog awards, which motivate authors to enrich their weblogs with interesting content that can stimulate reader’s interest, etc. All these recent developments make weblogs a rich and diverse field of study that has been largely untapped in its research potential.

In this paper, we have considered two forms of weblogs – the filter-style and the journal style - as these are the pre-dominant types existing today. Since both of these types are essentially viewed as means of personal expression, it is difficult to assess their capability in providing convergence, or how they would fare in terms of task performance. However, a quick survey of articles, web postings, news items etc., indicate that many people hold the opinion that weblogs have the potential for catering to needs at multiple levels such as the individual, organization and the society, such as an alternate form of journalism, sharing of knowledge within organizations (k-logs), propagating political agenda and building consensus among the members of the society. When the weblog is used for performing such goal-oriented tasks, it is might be easier to assess the impact of weblogs on task performance or how they fare in terms of supporting conveyance and convergence, and also for task completion, member support and group well being.

RESEARCH DIRECTIONS AND CONCLUDING COMMENTS

Looking back on the development and proliferation of weblogs over the last couple of years and examining them through the lens of CMC theories, we identify several interesting research avenues. Since weblogs have the potential to affect society and business at many different levels in many different ways, we organize this discussion of future research directions around the important technological, economical, and social problems and issues. We have identified three research streams centered on the information and technology: tool development and management of information (technology), economical impact of shared information (economics), and social networking through information dissemination (society).

Tool development and management of information: The genesis of weblog lies in the availability of easy-to-use weblog authoring software, which enable people without any prior knowledge on maintaining web pages or coding in HTML to enter the arena of blogging (Blood 2004). From the technology perspective, we do not expect to witness any major deviation from such trend; however, we foresee a greater emphasis on the information gathering and seeking devices. Today, we are witnessing a complex network of intertwined information with an abundance of links and cross-links forming a maze of interlinked web-posting. This poses as a great challenge for a reader with interest on a specific topic to gather large quantity of relevant information by navigating through this interlinked web-maze. Consequently, weblog aggregation websites, such as blogwise.com, emerged. However, empirical investigation on the effectiveness of these information aggregating websites in facilitating information seeking and inter-personal communication are severely lacking and is one area that holds a lot of potential for future research.

Economical impact of shared information: Weblogs are increasingly being used as tools for campaigning political activities, gathering opinion and disseminating information. One example is New York Times that utilizes the weblog to gather opinions and comments on news items or issues of interest. Since weblogs promote higher level of interaction between business and consumers, it overcomes the limitations of heavy asymmetric communication from business to consumers, reaps the benefits of collecting consumer information and opinions in a relatively cheap way, and fosters tighter relationship between business and customers. However, such interactions could be skewed towards creating false impressions to the business that the comments in the weblogs represent the opinion of the general consumer when in reality only a small set of highly motivated consumers might be providing all the feedback. Thus, it would be interesting to investigate issues such as: How dependable are the information provided by the bloggers and the readers at large? What is the impact of false information and extremely negative criticisms on business? Do consumers place heavier weight on information acquired from informal channels, such as weblogs? How do consumers evaluate and judge the information provided when making purchase decisions? If consumers do depend on weblogs to make purchase decisions, how can the business economize on bloggers in driving more favorable brand image and higher sale turnovers? How can the presentation formats (e.g., feature richness of the authoring tools) affect reader interpretation of the information? Research along this direction would yield significant practical contributions. At the organizational level, weblogs can provide relatively cheap and easy to implement tools for knowledge management, and for other purposes such as member support and group well-being aspects of communication.

Social networking through information dissemination: Weblogs are fast evolving into a communication medium with which people express themselves, exchange information on topics of interest and carry out vibrant online conversation with both
friends and complete strangers. Blood (2004) perceives weblog as a socializing medium where individuals form communities of interest. From a social perspective, research could focus on issues such as: Do bloggers tend to be more objective and expressive when commenting on others’ opinions who they do not know physically? How often do bloggers link to comments made by people they do not know in person? Will one become more critical and expressive when the bloggers’ identities are known? Will one be more restricted in expressing their true feelings if she is aware of the repercussions of doing that such as chances of being sacked or facing lawsuit for revealing corporate secrets? The ethical and social issues involving freedom of speech, right to privacy, and legal implications of information content on the weblog deserve more research attention.

In conclusion, this study assesses weblogs by drawing from prevalent CMC theories - media richness and media synchronicity, to examine various dimensions of weblog as a form of CMC application. Using these two media theories, we compare filter-style and journal-style weblogs which are the pre-dominant type existing today. At the same time, we discuss the potential of weblogs in satisfying individual, social and organizational purposes and identify some prospective research directions.

REFERENCES