Association for Information Systems
AIS Electronic Library (AISeL)

ICIS 2009 Proceedings

International Conference on Information Systems (ICIS)

2009

A Techno-Social Approach for Achieving Online Readership Popularity

Helen S. Du
The Hong Kong Polytechnic University, cshelen@inet.polyu.edu.hk

Christian Wagner
City University of Hong Kong, iscw@cityu.edu.hk

Follow this and additional works at: http://aisel.aisnet.org/icis2009

A Techno-Social Approach for Achieving Online Readership Popularity

Research-in-Progress

Helen S. Du
Department of Computing
The Hong Kong Polytechnic University
cshelen@inet.polyu.edu.hk

Christian Wagner
Department of Information Systems
City University of Hong Kong
iscw@cityu.edu.hk

Abstract

Understanding what drives readership popularity in online interactive media has important implications to individual practitioners and net-enabled organizations. For instance, it helps generate a success "formula" for designing potentially popular websites in the increasingly competitive online world. So far, research in this area lacks a unified approach in guiding the design of online interactive media as well as in predicting their successful adoption and use, from both technological and social orientations. Drawing upon the media success literature and related social cognition theories, we establish a techno-social model for achieving online readership popularity, accounting for the impacts of technology-dependent and media-embedded characteristics. The proposed model and hypotheses will be tested by a content analysis of 100+ very popular weblogs and survey of 2000+ active weblog readers. This research carries significant value for sustaining community- and firm-based user networks that have been recognized as an important source of social and knowledge capitals.

Keywords: Online readership, media popularity, usability, sociability, web design, web 2.0

Introduction

Readership popularity, *the number of readers or visitors to a website*, has been an important issue to online practitioners and net-enabled organizations. It is often used as a key surrogate for e-business success (Blood 2002). The success stories of YouTube and Facebook are renowned examples that large firms, such as Google and Microsoft, are recognizing the potentially lucrative market value of these prominent online interactive media sites due to their rapidly growing readership (and user) popularity. With recent technology advancement and the emergence of online interactive media known as the *second generation of web* or web 2.0 (e.g., folksonomies, social networking sites, weblogs, and wikis), readers today are no longer passive consumers' of web content, they collectively manufacture and choose content from a mass of competing sources. Readership popularity becomes an important source of social, economic, and knowledge capitals that benefit the society as well as individuals.

However, studies find that readership popularity is difficult to achieve with more adopters getting into the marketplace to compete for audience and user attention (Menchen 2005; Nardi et al. 2004). On one hand, users (and readers) are forced to cope with information overload with escalating amount of information and choices made available online. On the other hand, they receive limited social/environmental cues to assist their information seeking as the electronic medium inserts an extra layer of mediation. Therefore, how to attract new readers and how to maintain a high level of audience activities are crucial to the sustainability and ultimate success of online interactive media and net-enabled organizations alike.

Prior studies in media adoption and web design lack a unified solution. Researchers in the area of web design have largely responded to these problems by suggesting recommendation aids (e.g., Häubl and Trifts 2000; Wang and Benbasat 2007) and navigational tools (e.g., Head et al. 2000; Webster and Ahuja 2006) to facilitate information filtering and/or to reduce *web disorientation*—the tendency to lose one's sense of location on the web. These design efforts tend to focus on technical and cost aspects, assuming that users are analytical with respect to a wealth of social information and variety of choices on the web, but ignoring the heuristic power of human cognition. Studies have observed that people in social interactions of both online and offline situations often rely on simple decision rules or social schemas available in their immediate judgmental environments (Chaiken 1987; Sundar et al. 2007). But, few studies have considered the influence of existing social scripts and embedded environmental cues to online users' behavioral change and decision making. Theoretical approaches to explain media adoption have primarily focused on social influences (Soe and Markus 1993).

Inspired by Orlikowski and Barley's (2001) techno-social research framework, and drawing on the media success literature and related social cognition theories, the main objective of this research is to investigate key design-related factors for achieving readership popularity in web 2.0 enabled online interactive media. In particular, this study will address the following research questions: *What are the key technology-dependent and media-embedded factors that drive online readership popularity, and how are these factors related?*

Literature Review and Conceptual Development

Information systems (IS) research in electronic media is generally concerned with the use or choice of a medium or a communication system for interactions across the human-computer interfaces as well as among technology-mediated users. A review of the literature found two major streams of underlying theoretical perspectives guiding the study of electronic media, namely *technology-dependent perspective* and *social construction perspective*. Following these two lines of research, we review related theories, namely utility theories, social influence theories and social cognition theories, and develop a conceptual understanding of the technology-dependent factors (namely, interior navigability and person interactivity) and media-embedded factors (namely, source credibility and content freshness) in determining how the emerging online interactive media are used and the degree to which they are successful.

Technology-dependent Perspective

Technology-dependent perspective posits that media adoption and use is strongly associated with the inherent material characteristics of media. This line of research replies on utility theories to explain how (perceived) use is driven by the (perceived) costs/benefits that individuals derive from the technology (Kraut et al. 1998). Theoretical

approaches explaining media success or failure have been more or less focused on distinctive objective features of the media.

Following the technology-dependent perspective and the utilitarian explanations of media, improving usability of a communication medium or an online media site has been a major theme in HCI studies, and is often used as a critical success criterion (Agarwal and Venkatesh 2002; Sherman 2006). Prior research has found that hypertext requires a higher-level relational processing or is more cognitively demanding than other types of electronic information (Wenger and Payne 1996). Even high-skilled users experience disorientation problem as they move around within the hypermedia (Edwards and Hardman 1989). Recent web-based usability studies (Nielsen 2000; Palmer 2002) specifically examine the common problem of web disorientation, and suggest that **interior navigability**—the ease for users to navigate within a website (Zhou and Leung 2007)—is a key technology attribute for designing better and more usable websites.

While usability affects the ways in which users interact with the technology (or user-machine interaction), sociability, another important success criterion, influences person-to-person (or social) interaction via the supporting technology (Preece 2000). Media richness theory (Daft and Lengel 1986) and social presence theory (Short et al. 1976) are two prominent utility theories that concerning sociability among technology-mediated users. While media richness theory emphasizes the information processing capability and social presence theory stresses the connectedness among users, both regard the degree of social presence and media richness in terms of how interactive and expressive a medium is (Kraut et al. 1998). **Person interactivity**—the ability of a medium to facilitate person-to-person interaction (Hoffman and Novak 1996), generates feelings of social presence for the users through the availability of open channels allowing for two-way communication (Fortin and Dholakia 2005). With this conception, studies (Liu and Shrum 2002; Rafaeli and Sudweeks 1997) examining the technology effects to increasing sociability among online users primarily focus on person interactivity.

Social Construction Perspective

The second stream of media research, namely the social construction perspective, argues that the effects of media are less a function of the technology but more of how they are (perceived to be) used in the social contexts (Carlson and Zmud 1999; Trevino et al. 2000). In contrast to the individual-level utilitarian explanations primarily used under the technology-dependent perspective, this line of research generally focuses on two categories of theories in explaining how the media are used and the degree to which they are successful, namely theories and social cognition theories. Social influence approach considers media effects to behavioral change based on social/contextual determinants emerged from the interactions between people and the media. A fundamental consideration of social influences is that people matter. Normative influence model (Fulk 1993) and critical mass theory (Markus 1990) are two prominent social influence theories. While social influence approach focuses on *socially constructed use of the media*, social cognition approach emphasizes *socially constructed meaning (cognition) embedded in the media*. This study is interested in the latter category as media-embedded traits are important design elements potentially influential to the behavior of social actors (e.g., reader activities in online interactive media), and their impacts (for instance, on readership popularity) has not yet been fully worked out in the IS literature.

Social cognition is a growing area in social psychology that studies how people perceive, think about, remember, retrieve and apply social information. Researchers following social cognition approach apply a set of assumptions and models. They argue that people are social actors who are often selective with respect to a wealth of information by drawing distinctions and categorizations based on existing social scripts or embedded environmental cues (Abelson 1976; Schultze and Vandenbosch 1998). Most semantic information in a social interaction never reaches consciousness; social cognition however is governed primarily by minimal contextual cues activating standard behavior scripts (Langer 1989). When information is given by, for instance, an authority or expert, individuals may mindlessly categorize it as credible without critically examining the content. Such cognitive shortcuts triggered by existing social scripts or embedded environmental cues are consistent with the assumption that when possible information may be processed heuristically rather than systematically (Maheswaran et al. 1992). The *heuristic model* (Chaiken 1987) of social information processing is a primary social cognition model supporting this argument.

The heuristic model asserts that many social cognition cues are processed by means of simple schemas or decision rules. According to the model, people use simple rules available in their judgmental contexts to assess the validity and quality of a message without fully absorbing its semantic content (Maheswaran et al. 1992). For example, a rule

such as "statements by experts can be trusted" may be applied in response to a cue conveying high expertise. Similarly, a "length implies strength" rule may associate long messages with compelling positions. Cognitive heuristics invoked by existing social scripts or embedded environmental cues can either directly lead to simple decision rules or mental shortcuts as in the heuristic processing, or serve to frame, bias, or otherwise guide more systematic processing of content without fully absorbing or elaborating upon its semantic meaning. Unlike systematic processing, which requires a considerable amount of processing capacity to engage in a message- or issue-relevant thinking, heuristic processing is relatively less effortful and thus may predominate in many social cognition settings due to the considerations of cognitive economy (Eagly and Chaiken 1984), or as a filtering mechanism, allowing users to more efficiently manage and consume information sources in the "virtually limitless" online environment (Rieh and Belkin 2000).

Studies have consistently observed that individuals in social interactions of both online and offline situations tend to form social categorizations and expectations based on simple decision rules or minimal contextual cues (Chaiken 1987; Sundar et al. 2007). Sender characteristics appeared in the context of message presentation and surface characteristics of messages are such heuristic cues typically used in social interaction (Chaiken et al. 1989). Based on the heuristic model of social cognition approach, recent web-based media studies (e.g., Rieh and Belkin 2000; Sundar et al. 2007) have begun to recognize the heuristic power of the media-embedded characteristics, such as source credibility (a sender characteristic appeared in the context of media presentation) and content freshness (a surface characteristic of media messages). **Source credibility** refers to the "believability" (Fogg 1999) of sources. Content freshness, as the name suggests, is something relating to latest, relevant, regularly updated content as opposed to old, stale or obsolete content on the website. The term **content freshness** is relatively new, and is often used to refer to the "up-to-dateness" (Lewandowski 2008) of a website's content.

Need for Theoretical Extension

To summarize, researchers who draw on the social construction perspective stress the socially constructed media characteristics; sometimes overlook the importance of objective media properties (Kraut et al. 1998), and their ability to shape practice or user behavior (Orlikowski and Barley 2001). In contrast, researchers who draw on the technology-dependent perspective emphasize the objective media characteristics; often ignore social/institutional contexts in which the technologies are developed and used (Kling 1987). Despite the advances in the two streams of literature, there is lack of an integrated theoretical underpinning in guiding the design of online interactive media as well as in predicting their successful adoption and use, from both the technology-dependent and social construction perspectives. More specifically, few IS studies have yet studied the impact of media-embedded characteristics to online users' behavioral change and decision making, and their relationships with technology-dependent media characteristics. The next section presents a unified theoretical model and related hypotheses, extending the study of media research and web design into a techno-social perspective.

Research Model: A Techno-social Perspective

While the technology-dependent perspective and social construction perspective of media lead to the development of different models and explanations, much can be gained from the integration of the two (Yoo and Alavi 2001). This study applies a unified conception to emphasize the technological aspect of media as well as to recognize its social-contextual characteristics for achieving readership popularity in online interactive media. Inspired by Orlikowski and Barley's (2001) *techno-social* research approach, we establish the research model and hypotheses (see Figure 1) for achieving online readership popularity.

Technology-dependent perspective assumes that users are utilitarian in nature (Kraut et al. 1998). Their use of media, therefore, largely depends on the benefits or costs derived from using the technology. Research suggests that well-organized web content eases users' cognitive effort to locate required pieces of information and to stay oriented as they navigate within a website (Head et al. 2000; Park and Kim 2000). A media site that is better organized and less disorienting to its readers/visitors can potentially lead to more audience or higher readership. Similarly, a media site that can better support the channels of person-to-person interaction or message exchange may lead to higher level of readership. Research (Bezjian-Avery et al. 1998) suggests that enhanced person interactivity increases users' control on information sent and received, for instance, by lowering their effort to link to and comment on others' work. Hence, drawing on the literature in technology-dependent perspective of media and utility theories,

we argue that technology-dependent media characteristics, namely interior navigability and person interactivity, are potential key design variables associated with readership popularity of online interactive media (H1A and H1B).

Social construction perspective suggests that media in use is situational, and may exhibit different characteristics than the media as conceived (Miranda and Saunders 2003; Yoo and Alavi 2001). Socially constructed and media-embedded environmental "cues" and "social scripts" may trigger cognitive heuristics or mental shortcuts, and when possible will influence users' perception, evaluation and decision on the information exchanged. Content freshness cues, such as recency and frequency of the web content updates, are structural features that convey "situational relevance" (Saracevic 1996) of the content with regard to current events or new information. While *author-contributed* content freshness cue (e.g., new posts) prompts "an immediate assessment of information need" heuristic (Sundar et al. 2007) to the readers/visitors, *audience-contributed* content freshness (e.g., new comments) is a socially constructed cue that can trigger "bandwagon" heuristic (Sundar 2008)—suggesting to the audience to "jump on the bandwagon" and simply "follow the crowd". Similarly, source credibility of an online interactive media site or the "believability" (Fogg 1999) of its web content prompts cognitive quality and authority heuristics (Olaisen 1990) to the recipients (i.e. readers/visitors). Hence, drawing on the literature in social construction perspective of media and the related social cognition theories, we argue that media-embedded characteristics, namely content freshness and source credibility, are potential key design variables associated with readership popularity of online interactive media (H2 and H3).

Figure 1. Research Model
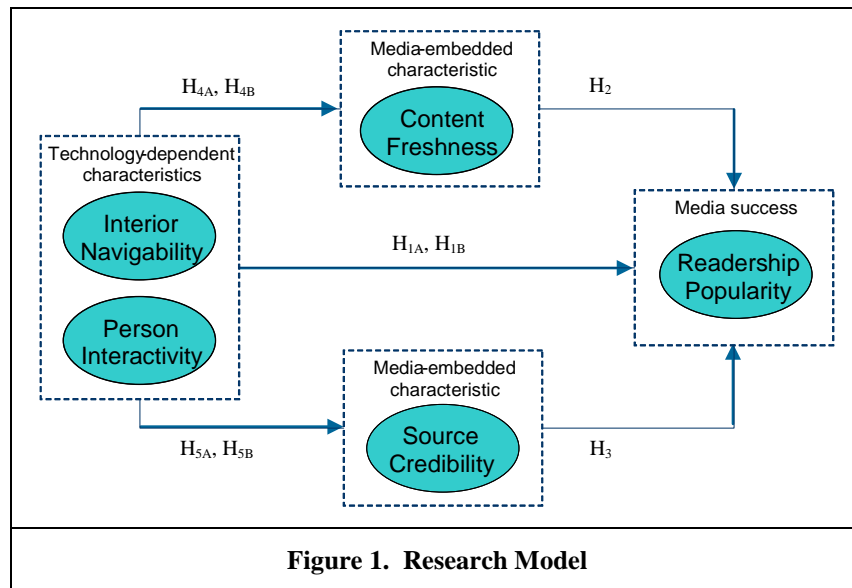
Techno-social perspective emphasizes technology's shaping capability to the users' (both authors' and audiences') assessment of the contextuality of meaning in computer-mediated social interaction. Interior navigability provided by the media technology enables the authors to focus on writing while the technology takes care of organizing, storage, link creation, and so forth. The less time and effort authors have to spend on these ancillary tasks, the more time they should be able to devote to content, thus resulting eventually in better and more content (Du and Wagner 2006). Similarly, well-organized and structured interface eases audiences' efforts to locate information that are of their most interests (Webster and Ahuji 2006), so they may be more likely to respond to them with comments or feedbacks. Person interactivity generates feelings of social presence, and hence may increase the level of user involvement (Fortin and Dholakia 2005). For instance, a media site with higher person interactivity that facilitates effective social interaction among authors of relevant interest (e.g., via linking and referencing), between authors and readers (e.g., by allowing to make comments and providing automatic content subscription), as well as among readers (e.g., through sharing of social bookmarks), may trigger more timely reactions and active content contribution by both authors and active audience. Hence, in recognizing the media technology's shaping capability to both authors and audiences in online social interaction, we argue that key technological features of media, namely interior navigability and person interactivity, can potentially influence the salience of content freshness cues embedded in the media (H4A and H4B). Moreover, drawing on the techno-social perspective of media and in

recognizing the media technology's shaping capability to online readers and visitors, we further argue that key technological features of media, namely interior navigability and person interactivity, can potentially influence the salience of source credibility cues embedded in the media (H5A and H5B), as these features help to enhance the professional "look and feel" (Sundar 2008) of the web interfaces.

Research Plan and Methodology

In conformation with the research objectives and to validate the proposed research model, we intend to conduct this research in two stages. In stage I, we will use content analysis technique to collect, trace, and analyze 100+ very popular weblogs from Technorati's top-100 (www.technorati.com/pop/blogs) list for a period of 6 months. In stage II, we will administrate a survey of approximately 2000 weblog audiences (of the sample weblogs in stage I) to further validate the theoretical model.

The Content Analysis Study

Among the set of popular online interactive media and enabling technologies, weblogs are chosen as the context of our study mainly for three reasons. First of all, weblogs have attracted the participation of millions of online users and readers, and have also gained considerable business attention. There are over 100 million weblogs worldwide (www.technorati.com/about). About 40% of American Internet users are weblog readers (Lenhart and Fox 2006). According to a recent report by Forrester Research, General Motors's corporate blog (http://fastlane.gmblogs.com/) delivered an estimated $410,470 worth of customer insight and marketing at an approximate cost of $255,675 in year 2006—a *return on investment* of 67% (Claburn 2007). Second, weblogs are a general type of online interaction spaces for shared public interpersonal communication (Rosenbloom 2004). Building upon the *first generation* of web pages, weblogs have within them typical features and functionalities that can be found in many of today's online interactive media, also known as web 2.0. Third, weblogs have a relatively longer history of development—first started in the late 1990s as compared to other types of popular online interactive media, such as social network sites and folksonomies. Hence, weblog users have long been faced with the problem of readership popularity (Sifry 2005) with more intense competition among them than users of other relatively more recently developed online interactive media. Although wikis were introduced earlier than weblogs, their adoption is not as rapid as weblogs. This makes the study using weblogs a more urgent choice given that there are very few related studies in this domain. In addition, as the study focuses on the impacts of both technology-dependent and media-embedded factors, it is important to have a variety of supporting technologies and vast amount of different websites as the baseline for empirical research. Given the various types of weblogs and supporting technologies available online, they provide a rich context for the investigation of online interactive media.

Technorati's top 100 weblog list is to be sampled because it is the best-known weblog search engine among other leading service sites including BlogStreet (www.blogstreet.com) and TruthLaidBear(TTLB) (www.truthlaidbear.com), currently monitoring over 100 million of weblogs worldwide. It tracks inbound links to the weblogs to determine their popularity and provides real time ranking of top 100 most popular ones. Inbound links have become the de-facto success metric recognized among bloggers, and have also been used to evaluate weblog success in empirical research (e.g., Herring et al. 2005).

In the blogosphere, bloggers read other blogs, link to them and reference them in their own writing. Such characterization of the blogosphere appears to be most faithfully represented by a small set of extremely popular weblogs, known as the A-list (Herring et al. 2005). A-list weblogs are widely read, and frequently linked to by other weblogs or websites. So, this study took a unique perspective, investigating 100+ highly successful weblogs rather than random sampling (At this time, we do not know the exact number of the sample as some weblogs will move into or drop out of the top 100 list during the data collection period). Some may argue that such a sampling choice introduces the problem of limited generalizability. However, the primary interest of this study is to assess the *best practice* of these "A-list" weblogs in the *blogosphere* (the world of all weblogs). Furthermore, based on our previous study [reference to be provided in the final version], the A-list weblogs span a significant range of popularity, with the most popular weblog being almost nine times as popular as the one-hundredth, thus capturing a good range of variance within this sample.

A *multi-source multi-rater* data collection approach will be used. Measures of readership popularity (the dependent variable) will be obtained from Technorati. Radership popularity information (i.e. inbound links and rank) of every

weblog appeared on Technorati's top-100 list during the 6 months sampling period will be recorded everyday at about the same time. *Inbound links* of a blog tracked by Technorati is the number of inbound links (from other blogs or websites) to the blog. This value implicitly represents a collective choice made by many blog users, with each inbound link as a particular vote by a distinct online reader. *Rank* of a blog ("1 to 100") is generated by Technorati based on the relative order of its inbound links in the entire base set (i.e. 100 million+ blogs). We use inbound links based measure for readership popularity because each inbound link is in fact an "e-subscription" by a distinct online reader, consistent with the popularity measure of traditional media based on the number of readers' subscription.

Measures of the other variables (i.e. the independent and control variables), however, will be directly coded from the 100+ finally selected weblog sites by at least three independent raters. The initial coding instrument is adopted from the first author's PhD dissertation [reference will be added after the double-blinded review], and will be further refined by several rounds of pre-tests to ensure high rater reliability. Table 1 highlights the literature from which the initial coding instrument is based.

A number of control variables will be considered, for instance, the entry *age* ("number of months since creation") of a website, the main *theme* of the weblog content [Technorati categorizes weblogs into six theme types: Business, Technology, Entertainment, Politics, Sports and Lifestyle], and number of authors (single versus multiple). In addition, interface consistency during the evaluation period will also be controlled.

Given the longitudinal design of the content analysis study, we are able to analyze the data and validate our base model in different ways. For instance, we can analyze the popularity growth patterns of the weblogs overtime, and study the extent of impact of the technology-dependent and media-embedded variables. We can also aggregate the data by month, quarter, or semi-annual using aggregation techniques (e.g., Borda rule, cf. Du and Wagner 2006). In addition, the statistically established prediction model (say using the first quarter data) may be validated against the future rankings of the same set of weblogs, i.e. those of the second quarter rankings. The prediction accuracy of the theoretical model will be calculated based on the number of pair-wise disagreements between the predicted ranking list (τ_1) and the actual ranking list (τ_2), using the metric *Kendall tau distance* $K(\tau_1, \tau_2)$.

The Survey Study

From the content analysis study (in stage I), we will identify a set of A-list weblogs from Technorati as the sample cases. An email survey will be conducted to some of their audiences.

A web crawler script will be developed and used to automatically identify all *active weblog audiences* from each of the 100+ sample weblogs. An active weblog audience is defined as a reader/visitor who has made a comment to a post (of a sample weblog) during the content coding period, and who has also provided his/her email. A questionnaire will be administrated to the 25 unique and most active weblog audiences (per sample weblog)—a total of 2000+ weblog audiences. The questionnaire specifically corresponds to the coding instrument developed in stage I (see Table 1 for a review of literature on the measurement). The subjects will be asked to respond to the questionnaire based on their experience with the specific weblogs from which they are identified as active audiences. The purpose of this self-reported assessment of the manifest variables is to cross-checking against the raters' assessment (in stage I). Such triangulation of measurement serves to enhance reliability of the results.

Table 1. Measurement References			
Construct	Definitions	Measures	Measurement References
Readership Popularity	Number of readers/visitors to a website	Inbound links, rank	Du and Wagner 2006
Interior Navigability	Ease for users to navigate within a website (Zhou and Leung 2007)	Three dimensions: Surface layout, navigation support and dynamic arrangement	Palmer 2002; Zhou and Leung 2007
Person Interactivity	Ability of a medium to facilitate person-to-person interaction (Hoffman and Novak 1996)	Four dimensions; Depth, breadth, push and pull	Miranda and Saunders 2003; Preece 2000
Source Credibility	"Believability" of a source (Fogg 1999)	Three dimensions: Author expertise, message trustworthiness and site credentials	Watten and Burkell 2002
Content Freshness	"Up-to-dateness" of a website's content (Lewandowski 2008)	Two dimensions: Author contributed and audience contributed content freshness	Sundar et al. 2007

Implications and Conclusion

The proposed study contributes to the growing body of electronic media research and web design literature at both the theoretical and applied levels. From a theoretical perspective, this study aims to incorporate both utility theories and social cognition theories to establish a techno-social model for achieving online readership popularity. The research model entails several important theoretical implications. First, it suggests the importance of interior navigability and person interactivity in designing successful online interactive media. Second, it calls for design attention to influential media-embedded contextual cues, such as source credibility and content freshness. Third, it further argues that certain technological features may help to enhance the salience of media-embedded contextual cues, and hence lead to more effective media for social interaction and engagement. In general, the research model provides an integrated theoretical framework in guiding the design of online interactive media as well as in predicting their successful adoption, from both the technological and social-contextual perspectives.

So far, empirical studies on media characteristics and their impacts have been mostly conducted in a well-controlled lab (e.g., Sundar et al. 2007) or using survey (e.g., Zhu and Zhou 2002). This study, however, plans to analyze the content of 100+ highly successful weblogs in a natural setting, along with the survey of approximately 2000 weblog readers (at least 20 readers per sample weblog). From a methodological perspective, the development of a coding instrument to quantify content related media characteristics for systematic and objective content analysis will be a key empirical contribution. As a result of this study, we are able to offer theory-driven and empirically validated design guidelines for building potentially successful online interactive media or web interfaces.

From a practitioner's perspective, this study seeks to generate guidelines for designing potentially popular online interactive media sites. First of all, the media technology needs to be *designing for usability and supporting sociability* (Preece 2000). Secondly, information provided needs to be up-to-date and credible in order to capture audiences' collective attention.

In summary, this research will add to our understanding on the best design strategies of some very successful online interactive media sites. The significance of such investigation will continue to be rise with the enduring growth in the use of these media for social networking, information sharing and collective knowledge discovery in- and out-side of net-enabled organizations around the globe.

References

Abelson, R. P. "Script processing in attitude formation and decision-making," in *Cognition and Social Behavior*, Carroll, J. S. and Payne, J. W. (Eds.), Lawrence Erlbaum Associates, Hillsdale, NJ, 1976, pp. 33-46.

Agarwal, R. and Venkatesh, V. "Assessing a firm's web presence: A heuristic evaluation procedure for the measurement of usability," *Information Systems Research* (13:2), 2002, pp. 168-186.

Bezjian-avery, A., Calder, B. and Iacobucci, D. "New media interactive advertising vs. traditional advertising," *Journal of Advertising Research* (38:4), 1998, pp. 23-32.

Blood, R. *We've Got Blog: How Weblogs Are Changing Our Culture*. Perseus Publishing, Cambridge, UK, 2002.

Carlson, J. R. and Zmud, R. W. "Channel expansion theory and the experiential nature of media richness perceptions," *Academy of Management Journal* (42:2), 1999, pp. 153-170.

Chaiken, S. "The heuristic model of persuasion," in *Social influence: The Ontario Symposium* (Vol. 5), Zanna, M. P., Olson, J. M. and Herman, C. P. (Eds.), Lawrence Erlbaum Associates, Hillsdale, NJ, 1987, pp. 3-39.

Claburn, T. "Corporate blogging pays for GM," *InformationWeek*, January 26, 2007. www.informationweek.com/news/management/showArticle.jhtml?articleID=197001026

Daft, R. L. and Lengel, R. H. "Organizational information requirements: Media richness and structural design," *Management Science* (32:5), 1986, pp. 554-571.

Du, H. S. and Wagner, C. "Weblog success: Exploring the role of technology," *International Journal of Human-Computer Studies* (64:9), 2006, pp. 789-798.

Eagly, A. H. and Chaiken, S. "Cognitive theories of persuasion," in *Advances in Experimental Social Psychology* (Vol. 17), Berkowitz, L. (Ed.), Academic Press, New York, 1984, pp. 268-361.

Fogg, B. J. "Persuasive technologies—Now is your chance to decide what they will persuade us to do—and how they'll do it," *Communications of the ACM* (42:5), 1999, pp. 26-29.

Fortin, D. R. and Dholakia, R. R. "Interactivity and vividness effects on social presence and involvement with a web-based advertisement," *Journal of Business Research* (58:3), 2005, pp. 387-396.

Fulk, J. "Social construction of communication technology," *Academy of Management Review* (36:5), 1993, pp. 921-950.

Häubl, G. and Trifts, V. "Consumer decision making in online shopping environments: The effects of interactive decision aids," *Marketing Science* (19:1), 2000, pp. 4-21.

Head, M., Archer, N. and Yuan, Y. "World Wide Web navigation aid," *International Journal of Human-Computer Studies* (53:2), 2000, pp. 301-330.

Herring, S. C., Kouper, I., Paolillo, J. C., Scheidt, L. A., Tyworth, M., Welsch, P., Wright, E. and Yu, N. "Conversations in the Blogosphere: An analysis from the bottom up," in *Proceedings of the 38th Hawaii International Conference on System Sciences*, Hawaii, 2005.

Hoffman, D. L. and Novak, T. P. "Marketing in hypermedia computer-mediated environments: Conceptual foundations," *Journal of Marketing* (60:3), 1996, pp. 50-68.

Kling, R. "Defining the boundaries of computing across complex organizations," in *Critical Issues in Information Systems*, Boland, R. and Hirschheim, R. (Eds.), John Wiley, New York, 1987, pp. 307-362.

Kraut, R. E., Rice, R. E., Cool, C. and Fish, R. S. "Varieties of social influence: The role of utility and norms in the success of a new communication medium," *Organization Science* (9:4), 1998, pp. 437-453.

Langer, E. J. *Mindfulness*. Addison-Wesley, Reading, MA, 1989.

Lenhart A. and Fox, S. "Bloggers: A portrait of the Internet's new storytellers," *Pew Internet & American Life Project*, July 19, 2006. www.pewinternet.org/PPF/r/186/report_display.asp

Lewandowski, D. "A three-year study on the freshness of web search engine databases," *Journal of Information Science* (34:6)*, 2008, pp. 817-831.

Liu, Y. and Shrum, L. J. "What is interactivity and is it always such a good thing? Implications of definition, person, and situation for the influence of interactivity on advertising effectiveness," *Journal of Advertising* (31:4), 2002, pp. 53-64.

Maheswaran, D., Mackie, D. M. and Chaiken, S. "Brand name as a heuristic cue: The effects of task importance and expectancy confirmation on consumer judgments," Journal of Consumer Psychology (1:4), 1992, pp. 317-336.

Miranda, S. M. and Saunders, C. S. "The social construction of meaning: An alternative perspective on information sharing," Information Systems Research (14:1), 2003, pp. 87-106.

Markus, M. L. "Towards a critical mass theory of interactive media: Universal access, interdependence and diffusion," in *Organizations and Communication Technology*, Fulk, J. and Steinfield, C. (Eds.), Sage Publications, Newbury Park, CA, 1990, pp. 194-218.

Menchen, E. "Blogger motivations: Power, pull, and positive feedback," *The 6th International and Interdisciplinary Association of Internet Researchers*, Chicago, IL, October, 2005. http://blog.erickamenchen.net/MenchenBlogMotivations.pdf

Nardi, B. A., Schiano, D. J. and Gumbrecht, M. "Blogging as social activity, or would you let 900 million people read your diary?" in *Proceedings of the 2004 ACM Conference on Computer Supported Cooperative Work*, Chicago, IL, November, 2004, pp. 222-231.

Nielson, J. *Designing Web Usability*. New Riders Publishing, Indianapolis, IN, 2000.

Olaisen, J. "Information quality factors and the cognitive authority of electronic information," in *Information Quality: Definitions and Dimensions*, Wormell, I. (Ed.), Taylor Graham, London, UK, 1990, pp. 91-121.

Orlikowski, W. J. and Barley, S. R. "Technology and Institutions: What can research on information technology and research on organizations learn from each other?" *MIS Quarterly* (25:2), 2001, pp. 145-165.

Palmer, J. W. "Web site usability, design, and performance metrics," *Information Systems Research* (13:2), 2002, pp. 151-167.

Park, J. and Kim, J. "Effects of contextual navigation aids on browsing diverse web systems," in *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI'00)*, 2000, pp. 257-264.

Preece, J. *Online Communities: Designing Usability and Supporting Sociability*, John Wiley & Sons, New York, 2000.

Rafaeli, S. and Sudweeks, F. "Networked interactivity," *Journal of Computer-Mediated Communication* (2:4), 1997. http://jcmc.indiana.edu/vol2/issue4/rafaeli.sudweeks.html

Reih, S. Y. and Belkin, N. J. "Interaction on the web: Scholars' judgment of information quality and cognitive authority," in *Proceedings of the 63rd ASIS Annual Meeting*, Kraft, D. H. (Ed.), American Society for Information Science, Silver Spring, MD, 2000, pp. 25-33.

Rosenbloom, A. "The blogosphere," *Communications of the ACM* (47:12), 2004, pp. 31-33.

Saracevic, T. "Relevance reconsidered," in *Information Science: Integration in Perspective*, Ingwersen, P. and Pors, N. O. (Eds.), Royal School of Library and Information Science, Copenhagen, 1996, pp. 201-218.

Schultze, U. and Vandenbosch, B. "Information overload in a groupware environment: Now you see it, now you don't," *Journal of Organizational Computing & Electronic Commerce* (8:2), pp. 1998, 127-148.

Sherman, P. *Usability Success Stories: How Organizations Improve by Making Easier-to-use Software and Web Sites*, Gower Publishing Limited, Aldershot, Hampshire, 2006.

Short, J., Williams, E. and Christie, B. *The Social Psychology of Telecommunications*. John Wiley & Sons, London, 1976.

Sifry, D. "State of the blogosphere, part 3: The A-list and the long tail," in *Sifry's Alert*, March, 2005. www.sifry.com/alerts/archives/000301.html

Soe, L. and M. L. Markus. "Technological or social utility? Unraveling explanations of Email, Vmail and Fax use," *The Information Science* (9:3), 1993, pp. 213-236.

Sundar, S. S. "The main model: A heuristics approach to understanding technology effects on credibility," in *Digital Media, Youth, and Credibility*, Metzger, M. J. and Flanagin, A. J. (Eds.), MIS Press, Cambridge, MA, 2008, pp. 73-100.

Sundar, S. S., Knobloch-Westerwick, S. and Hastall, M. R. "News cues: Information Scent and cognitive heuristics," *Journal of the American Society for Information Science and Technology* (58:3), 2007, pp. 366-378.

Trevino, L. K., Webster, J. and Stein, E. W. "Making connections: Complementary influences on communication media choices, attitudes, and use," *Organization Science* (11:2), 2000, pp. 163-182.

Wang, W. and Benbasat, I. "Recommendation agents for electronic commerce: effects of explanation facilities on trusting beliefs," *Journal of Management Information Systems* (23:4) 2007, pp. 217-246.

Wathen, C. N. and Burkell, J. "Believe it or not: Factors Influencing Credibility on the Web," J*ournal of the American Society for Information Science and Technology* (53:2), 2002, pp. 134-144.

Webster, J. and Ahuja, J. S. "Enhancing the design of web navigation systems: The influence of user disorientation on engagement and performance," *MIS Quarterly* (30:3), 2006, pp. 661-678.

Wenger, M. J. and Payne, D. G. "Comprehension and retention of nonlinear text: Considerations of working memory and material-appropriate processing," *American Journal of Psychology* (109:1), 1996, pp. 93-130.

Yoo, Y. and Alavi, M., "Media and group cohesion: Relative influences on social presence, task participation, and group consensus," *MIS Quarterly* (25:3), 2001, pp. 371-390.

Zhou, Y. and Leung, H. "MNav: A Markov model-based web site navigability measure," *IEEE Transactions on Software Engineering* (33:12), 2007, pp. 869-890.

Zhu, J. H. and Zhou H. "Information accessibility, user sophistication, and source credibility: The impact of the Internet on value orientations in Mainland China," *Journal of Computer-Mediated Communication* (7:2), 2002.