

Blogging Practices: An Analytical Framework

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This article proposes a general model to analyze and compare different uses of the blog format. Based on ideas from sociological structuration theory, as well as on existing blog research, it argues that individual usage episodes are framed by three structural dimensions of rules, relations, and code, which in turn are constantly (re)produced in social action. As a result, "communities of blogging practices" emerge—that is, groups of people who share certain routines and expectations about the use of blogs as a tool for information, identity, and relationship management. This analytical framework can be the basis for systematic comparative and longitudinal studies that will further understanding of similarities and differences in blogging practices.

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Introduction

Within the last few years, a new genre of computer-mediated communication has emerged (Blood, 2002; Herring, Scheidt, Bonus, & Wright, 2005; Miller & Sheperd, 2004). Weblogs, or "blogs," are frequently updated websites where content (text, pictures, sound files, etc.) is posted on a regular basis and displayed in reverse chronological order. Readers often have the option to comment on any individual posting, which is identified by a unique URL. Through such comments and references to other online sources in the postings, as well as through links to favorite blogs in the sidebar (the "blogroll"), blogs form a clustered network of interconnected texts: the "blogosphere."

Specialized search engines and meta-directories like blogpulse.com or technorati.com have tracked between 50 and 85 million blogs as of June 2007, although the exact number of blogs is impossible to state at any given point in time due to the highly dynamic and decentralized character of the blogosphere. While the growth rate of the blogosphere seems to have slowed down recently (Sifry, 2007), these numbers are remarkable even if one considers that a substantial number of blogs

might be abandoned after a couple of weeks or months or are created for the sole purpose of search engine optimization.

Parallel to this rapid diffusion of the blog as a genre, a considerable body of research has been conducted on the uses and impact of blogs. Various authors have presented empirical findings on the sociodemographics of bloggers, as well as their motivations and habits (Herring, Scheidt, et al., 2005; Huffaker & Calvert, 2005; Lenhart & Fox, 2006; Nowson & Oberlander, 2006; Schmidt, 2007). According to these studies, the majority of blogs are of the personal journal type, which deals with the bloggers' personal experiences and reflections; within this group, female and teenage bloggers are in the majority. While the journal blog may evoke images of the solitary diary, it (as will be argued in more detail below) also facilitates interaction with other bloggers and readers, thus allowing for the emergence and sustaining of communities of shared interests and subcultural identification (Hodkinson, 2006; Wei, 2004).

In addition to analyses of personal blogs, there has been extensive research on the relation between blogs and journalism (Haas, 2005; Lasica, 2002; Matheson, 2004; Tremayne, 2006). Other studies have focussed on particular practices, for example blogging about political topics (Bahnisch, 2006; Bruns, 2007; Singer, 2005) or as part of internal or external organizational communication through "corporate blogs" (Charman, 2006; Efimova & Grudin, 2007; Kaiser, Müller-Seitz, Pereira, & Pina, 2007; Kelleher & Miller, 2006). A slightly different perspective is employed by looking at blogs as channels for expert communication and personal knowledge management, for example with regard to academics (Ewins, 2005; Halavais, 2006; Walker, 2006) or professionals from other disciplines (Bar-Ilan, 2005).

Finally, some authors approach blogs from a network perspective. This includes studies looking at the information flow within the blogosphere (Adar & Adamic, 2005; Adar, Adamic, Zhang, & Lukose, 2004; Gruhl, Guha, Liben-Nowell, & Tompkins, 2004), as well as structural analysis of emerging networks (Herring, Kouper, et al., 2005), sometimes within topical clusters such as the war blogosphere (Tremayne, Zheng, Lee, & Jeong, 2006) or with respect to certain blog providers (Schmidt, forthcoming). While many of these works focus on the English-speaking blogosphere, a growing number of studies examine other country- or language-specific blogospheres (Esmaili, Jamali, Neshati, Abolhassani, & Soltan-Zadeh, 2006; Merelo, Orihuela, Ruiz, & Tricas, 2004; Schlobinski & Siever, 2005; Trammell, Tarkowski, Hofmohl, & Sapp, 2006) or blog networks within certain hosting platforms, such as LiveJournal (Herring et al., 2007), twoday.net (Schuster, 2004), and Wallop (Lento, Welser, Gu, & Smith, 2006).

The cited research already indicates that people make use of the format in various ways, contexts, and organizational settings. Given these differences, this article claims that we can speak about "the blog" only in a very general sense. As Bruns and Jacobs (2006) put it: "Our discussion of blogs, bloggers, and blogging must become more sophisticated; it makes as little sense to discuss the uses of blogs as it does to discuss, say, the uses of television unless we specify clearly what genres and contexts of use we

aim to address” (p. 3). Although the studies mentioned provide valuable insights into specific uses, so far there has been no concise and systematic formulation of an analytical model of blogging practices that can integrate the varying motives, routines, and consequences of appropriation and usage of this new communicative genre. This article aims to contribute to a better and more complex understanding of blogs by presenting such a heuristic framework that is grounded both in ideas from general sociological theory and in existing blog research.¹

Analytical Framework: Blogging Practices

The starting point for the analysis is to recognize the idea from sociological structuration theory that all social action is characterized by a “duality of structure and agency” (Giddens, 1984). In order to fully explain aspects of social life, one has to connect the micro-level of individual action and the macro-level of social structures by explaining the mechanisms of how the macro-level structures are framing the micro-level actions, and how the micro-level actions are in turn (re)producing the macro-level structures. Applied to the phenomenon of blogs, this approach leads to the idea of blogging practices, which in the most general sense consist of individual episodes in which a blogger uses specific software to attain specific communicative goals. These episodes are framed (but not solely determined) by three structural elements: rules, relations, and code. Through a blogging episode (which might consist of selecting, publishing, and networking; see below), the blogger (re)produces aspects of the guiding rules, (re)establishes social relations, and stabilizes or changes the way software-code is designed and employed.

Rules

In a sociological sense, rules are generalizable procedures and routines which act as schemas for action, guiding situational performance by providing shared expectations based on both previous actions and generalized knowledge (Reckwitz, 1997). With respect to computer-mediated communication, Höflisch (2003) distinguishes two different types of rules, which can be adapted for the analysis of blogging practices: adequacy rules and procedural rules.

Adequacy rules connect certain uses and sought gratifications to certain media, thus guiding the process of media selection. They consist of shared expectations about the appropriateness of given media to obtain certain gratifications. There are no single or distinct combinations of sought gratifications and specific media; rather the adequacy rules will differ for various recipient/user groups (e.g., based on age, gender, formal education, socio-cultural milieu) that might apply the same format for different reasons. In their study of blogs, Lenhart and Fox (2006) found that creative expression and the documentation of personal experiences are the predominant motivations for keeping a blog (similar findings are reported by Nardi, Schiano, Gumbrecht, & Swartz, 2004), but that about half of the bloggers also give reasons such as influencing other people or meeting new people.

Adequacy rules are relational in the sense that they depend on the characteristics of a given media format compared to other media formats. As a “bridging genre” (Herring, Scheidt, et al., 2005) blogs combine features of other modes of computer-mediated communication, most notably the personal home page and the asynchronous interactions of newsgroups and discussion boards, into a new hybrid form: Compared to the personal homepage, blogs are more dynamic because content is updated more often, and other users can add comments.² They encourage interpersonal communication but, unlike other formats of synchronous communication (like Instant Messaging or chat), they do not necessarily entail instantaneous replies. They also give the author more control over the content and communicative setting, thus acting as a “protected space” (Gumbrecht, 2004) for communication and self-presentation.

Procedural rules frame the actual use of blogs once the decision to choose a blog from among other available media formats has been made. They can be further classified according to the components of the blogging episode, a concept referring to the individual (but socially framed) and situated act of using blogging software to achieve specific communicative goals. It can be analytically separated into the three components of selection, publication, and networking, which refer to different actions, different roles, and different strategy sets (see Table 1 for an overview).

1. *Selection Rules:* These rules refer mainly to the blogger as the recipient of media content (including, but not limited to, other blogs), who has to decide which online sources to select for reading. To a certain degree, these decisions are habitualized, and a user’s favorite set of online sources will be influenced by thematic or professional interests (e.g., regularly reading an expert blog to keep up to date), as well as by existing social ties (e.g., regularly reading a relative’s or a friend’s blog). Technical features of content aggregation, most notably RSS (Really Simple Syndication) feeds, help bloggers to better manage the vast amount of information available on the Internet, while providing a great deal of flexibility in adding or (less often) deleting sources to/from their own media palette. Shared routines and expectations that form selection rules are part of general strategies of information management in a mediated environment.
2. *Publication Rules:* These rules refer mainly to the blogger as the author of content who has to decide which topics to feature in his or her own blog, how to present the content (e.g., adding other channels than text, like pictures, podcasts, or video files), and how to design the blog in general. Differences in software might

Table 1 Overview of procedural rules

Type of procedural rule	Bloggers’ role	Context
Selection rules	Reader	Information management
Publication rules	Author	Identity management
Networking rules	Networker	Relationship management

influence these decisions, because hosting platforms usually provide some standard templates, while stand-alone software gives users more flexibility and control over the appearance. There also exist significant differences in writing style between male and female bloggers (Schler, Koppel, Argamon, & Pennebaker, 2006), and Herring and Paolillo (2006) have shown that these differences can mainly be explained by differing blog genres. However, speaking in one's own personal voice and being open for dialogue rather than engaging in one-way-communication are core elements readers have come to expect from blog communication, be it in private online journals, corporate blogs, or political blogs. Thus, publishing a blog is a way of self-presentation that has to meet certain expectations about personal authenticity while maintaining a balance between staying private and being public (Miller & Sheperd, 2004; Palen & Dourish, 2003; Scheidt, 2006; Viégas, 2005). Blogging anonymously or under a pseudonym (a decision made by about 30% of the bloggers surveyed by Schmidt [2007]) can be an adequate strategy to cope with this tension. Shared routines and expectations that form publication rules are part of general strategies of identity management in a mediated environment.

3. *Networking Rules*: These rules refer mainly to the blogger as a "networker" who establishes hypertextual and social relations consisting of semantic references to allow for continuous communication, as well as of social references to express a social tie to another person. Both aspects of relations can be established through different technical means, for example links within a posting or a blogroll, or adding a comment to another blog (Efimova & de Moor, 2005). Networking rules guide the blogger as to when to use which means. Shared routines and expectations that form networking rules are part of general strategies of relationship management in a mediated environment.

While blogging episodes are acted out by a single blogger, they necessarily involve other actors who produce content (which can be selected for reading), are readers themselves (thus influencing particular ways of identity management), and/or might be the destination of a networking act through referencing or commenting. It is also important to note that all three components do not have to be present in any given blogging episode, nor do they have to happen in a strict temporal order.

There are blogging practices such as running a link log or filter blog (which primarily consists of commented links to other online sources; see Blood, 2002; Bar-Ilan, 2005) where the three components come together: following a selection of online sources related to one's interests, guided by rules of information management; editing certain information for publication in one's own blog according to strategies of identity management (i.e., adding one's own remarks to the posting); and engaging in relationship management by publishing the posting with a link to the original source, thus connecting to its author. However, while filter blogs might be the most visible types of blogs, they are far from being the most common (Herring, Kouper, Scheidt, & Wright, 2004).

Yet even bloggers publishing a personal journal or a fictional blog (Thomas, 2006) with no outbound linking at all might still read other blogs (information management) or comment on other blogs (relationship management). Thus, the perspective employed here focuses on the individual blogger rather than the blog itself, giving the social actors analytical precedence over the textual manifestation of blogging routines. Nevertheless, both practices and texts are strongly tied together, because selection and publication rules influence form and content of single blogs, while networking rules influence the form of the whole blogosphere.

There are other ways to further classify procedural rules. Their degree of explicitness is especially important since it connects blogging practices to issues of power and sanctioning. At one end of the spectrum there are formalized norms such as laws concerning freedom of speech, the Terms of Service of blog hosting services, or blogging policies established by organizations to regulate potential conflicts of professional and private interests among their employees. On the other end of the spectrum there are the informal rules of the blogging community as a whole or of certain subcommunities within the blogosphere. These informal rules constitute what might be called "blog etiquette" (e.g., crediting the source of a link or refraining from posting flaming "troll comments") and are usually not stated explicitly but might nevertheless be called upon in cases of conflict. They are inspired in part by procedural rules from other formats of computer-mediated communication and in part by new social conventions that frame the new practices.

Different blogging communities may have different (but overlapping) sets of procedural rules that also act as indicators for affiliation. Only those who know and follow those shared routines and expectations will be considered part of the community and subsequently will have the chance to attain their communicative goals (e.g., see Wei, 2004 for a discussion of procedural rules within the Knitting Bloggers' community; see also Efimova, Hendrick, & Anjewierden, 2005; Lenhart, 2005). Therefore, procedural rules are always tied to aspects of power: Who decides upon and who reinforces these rules? Some attempts to make implicit procedural rules explicit are heavily contested, as in the cases of "Weblog Ethics" (Blood, 2002) or the "Bloggers' code of ethics" (Online News Association, 2003). These suggestions for guidelines, motivated by the goal to increase transparency and trust in blogging as a (semi-)journalistic practice, are met with suspicion by other bloggers who contest this particular notion of blogs. A comment on the Bloggers' code of ethics posting demonstrates these conflicting views on procedural rules:

What did you use as your foundation for this so-called ethics code for bloggers? Reading this, it looks like nothing more than your own personal opinion. (...) Just who the hell do you guys think you are, posting stuff like this as the final word on principles and integrity, as though those who follow you are better than those who recognize that you are full of garbage? If I want to pander to people's curiosity, then I have the right to do so. There's no law in any country that says I can't. (Comment by "Rooty," 12/17/2004)

Relations

The second structural aspect of blogging practices is relations, of which two kinds can be distinguished: hypertextual relations (hyperlinks) and social relations (social ties). While hypertextual relations result from blogging episodes, social relations can in addition be maintained by other means of communication and interaction that lie outside blogging practices (e.g., face-to-face interaction or the exchange of personal emails). Hypertextual relations are established through different mechanisms built into the blogging software, the most important being the “permalink”—a fixed URL for each single blog entry—which makes it possible to point directly to microcontent rather than linking whole blogs. The basic relation is between two blog postings, where one posting refers to another by including a hyperlink to the permalink URL of the cited posting. “Trackbacks” make these links reciprocal by adding a backlink from the cited to the citing post, thus allowing for the tracking of “distributed conversations” (Efimova & de Moor, 2005). A third way of establishing relations between blogs is through the use of comments, since they usually contain a link back to the commentator’s own blog (if existing) and might even include further references. In all three cases, the link as hypertextual relation can convey different aspects of social relations, such as expressing consent or dissent with the cited source, being a sign of friendship or professional affiliation, or just giving more context to the original posting by providing links to additional information (Marlow, 2005, pp. 110–117). Networking rules guide the decision for or against certain mechanisms—that is, how to connect to whom, depending on the context of the social relation.

Other technical means support the establishment of relations by aggregating links. The most common is the blogroll, a list of links to other blogs that are of particular interest to the blogger. Blogroll links also fulfill different purposes, for example recommending certain blogs, expressing personal acquaintance or friendship, or just being a sign of reciprocity if someone else blogrolled one’s own blog (Schmidt, 2007). For this reason, they are also an important part of identity management since they can provide some clues about the blogger’s interests and affiliations. Because a blogroll is either permanently visible in a sidebar or at least accessible from the front page of a blog, its links have more importance in comparison to links in a posting that will automatically be moved to the archive after some new content is posted. However, studies have shown that only about half of the surveyed blogs have included blogrolls (Herring, Scheidt, et al., 2005; Schmidt, 2007), so reducing the analysis of social networks to blogroll relations will not be sufficient.

The formation of relations is not limited to single blogs. Many blogging service providers aggregate links on their portal by featuring specific blogs or listing the most recent postings that have been published on the platform, thus giving temporary visibility to blogs within the platforms’ often very large community. Some hosters (like LiveJournal.com or multiply.com) combine blogs with additional networking features, allowing members to make social relations to other members explicit and provide postings with different levels of visibility: “Many [LiveJournal] users apply

these options enthusiastically to differentiate their records, for example, write about recently seen movies 'for all,' about their classes and exams to their 'classmates,' but tell their deeper emotional feelings to the limited number of close friends only" (Kozlov, 2004, p. 5).

On the micro-level, individual bloggers (in single blogging episodes guided by procedural rules) direct attention to certain sources by linking and commenting in their own blogs. On the macro-level, the aggregated result of these blogging episodes is a networked structure of the blogosphere that is characterized by a "power law." This means that their relatively few nodes have a high number of incoming links (usually referred to as the "A-List" [Trammell & Keshelashvili, 2005]), while the majority of nodes (usually referred to as the "long tail" [Anderson, 2006]) have only a few incoming links or are not connected to central clusters at all (Herring, Kouper, et al., 2005; Schmidt, forthcoming).

These emerging patterns of centrality and peripherality are not only an indicator of hierarchies of attention and popularity, but also influence the way information, ideas, and "memes" spread through the blogosphere. Drezner and Farrell (2004), who discuss the connection between micro-level behavior and macro-level consequences with respect to U.S. political blogs, argue that only a few "focal point blogs" suffice to structure a sphere of public political discussion and information exchange. Several other studies and experiments have shown that the power law distribution of incoming links exists on various levels of the blogosphere, with consequences for the epidemic-like diffusion of information (Adar & Adamic, 2005; Adar et al., 2004; Wu & Huberman, 2004). Since Google's PageRank algorithm highly values links to determine the relevance of a site, the densely interconnected and often updated blogs are also very successful in promoting content and sites to high ranks in search queries, thus improving visibility and channeling additional attention to the blogosphere.

Due to its size and "fuzzy edges" (e.g., which sites still count as active blogs, which have to be considered abandoned), the blogosphere is usually not studied as a whole, but rather with respect to certain blog clusters. These might, for example, form thematic blog communities concentrating on specific topics (Herring, Kouper, et al., 2005), or clusters might reflect social networks of professional affiliation or personal friendship. Looking deeper into this general structure one can identify various topical clusters that vary in their degree of temporal stability and numbers of blogs attached to them (see Efimova, Hendrick & Anjewierden 2005 for a sample analysis of a topical cluster on knowledge management). With respect to political topics, several studies have shown that differences in affiliation with ideological camps manifest in distinct sub-clusters within the blogosphere (Adamic & Glance, 2005; Tremayne et al., 2006).

One may also look at ego-centered networks, where outgoing links express connections of an author to his/her sources, while incoming links indicate connections of an author to his/her audience (for a general introduction to ego-centered networks, see Burt, 1984). Such blog-based networks provide two

resources: social capital and visibility. Social capital refers to the capability of an actor to mobilize resources through his/her position in a social network (Burt, 1992; Lin, 2001). These networks can be characterized by measures such as strength, density, and range, which are dependent on the regularity and duration of (re)produced relations as well as on the quality of the social relationship. For example, Granovetter's (1973) concept of strong and weak ties can be applied to blog-based networks: Strong ties usually exist prior to or alongside blogging, e.g., to friends or relatives. Blogs help to maintain these ties and may allow the blogger to mobilize emotional support and reinforce a social identity (Hodkinson, 2006; Lenhart & Madden, 2007). Weak ties, in contrast, might exist within the blogosphere alone and mainly provide visibility to certain topics and a means of information flow through the selective reception and transmission of information, as explained above.

Code

The third structural dimension of blogging practices is the code—that is, the blogging software and its underlying architecture. Two general types of blogging software exist: blog services and blog script packages. Services like LiveJournal, blogger.com, or twoday.net offer blog hosting on their servers. They are easy to use even for beginners and usually allow people to set up a basic blog in a couple of minutes, but in most cases the user's control over the amount of storage and the design of the blog is limited. Blog script packages (e.g., MovableType, Wordpress), on the other hand, can be installed, used, and fully controlled on the user's own web server. They require a certain degree of technical expertise for installation and maintenance, but give greater control over appearance and data.³ For both types a wide range of solutions is available, offering different features with regard to content creation, content management, and community building/management. Most of the software is available either as open-source or (in the case of blog services) free of charge, although some providers rely on including advertisements on the blogs to finance development and support. These relatively low entry levels in terms of costs and required skills contribute to the dynamic diffusion and adaptation of the blog format in various personal and professional contexts.

Software code is fundamental for blogging episodes because it enables or restricts certain actions, for example including pictures, changing the blog layout, or specifying social relations in blogrolls. While there is an identifiable standardized technical structure to most blogs (including, for example, the reverse-chronological order and the use of permalinks and archives), a blogger can modify and personalize the software to a certain degree, depending on individual skills. Such additional features can assist information management (e.g., adding and visualizing categories or tags to classify individual postings; providing RSS feeds for postings and/or comments), identity management (e.g., altering the basic layout and design, providing options to indicate "current mood," or show "music currently listening to" on the blog), and relationship management (e.g., by visualizing hyperlink or friendship

networks within a blog community). In addition, blogging tools can be combined with other software through open Application Programming Interfaces (APIs), which, for example, allow bloggers to insert recently published pictures from flickr.com or their bookmarks from del.icio.us.

Like other innovations in digital media (Lievrouw & Livingstone, 2002), blogs are underdetermined—in other words, the software code frames the blogging episode, but does not determine the use of blogs. Instead, it allows for a wide variety of uses and is in itself the result of social practices, most notably with respect to (1) the social construction and (2) the appropriation/adoption of code. Regarding the first point, as boyd (2007) has shown for innovation processes in social software in general, the further development of blogging software is also based to a high degree upon feedback loops between groups with different levels of technical expertise and knowledge. The development of the popular blogging software “Wordpress,” for example, is organized and communicated through (1) a blog that gives up-to-date information about new software versions and features, (2) a discussion board for frequently asked questions, and (3) a wiki where the coded features are documented by their respective authors. Since Wordpress is developed as an open source project, all interested users can modify and advance the code and its components. New versions are often released in an early stage of the development process to encourage user feedback (this is sometimes referred to as the “perpetual beta”). The resulting interactions of users and developers (who often use blogs themselves) lead to a high rate of sociotechnical innovation: “When any sizable number of bloggers start doing something, someone will construct a tool to automate it—further popularizing the activity” (Blood, 2004, p. 55).

Drawing on ideas of the Social Construction of Technology theory, we can also identify contingencies of the appropriation of blogs as technological systems (Bijker, Hughes, & Pinch, 1987; Lievrouw, 2002). Users show a great deal of interpretative flexibility when adopting blogs for their communicative needs and making them part of their individual or organizational media repertoires. The differentiation of various blogging practices is in itself an indicator of this flexibility, but it also includes unintended or disruptive uses, for example in the case of spam blogs (Kolari, Java & Finin, 2006). As has been argued by other authors (e.g., Herring, Scheidt, et al., 2005), the technical and structural frame of the blog genre does not determine specific content but rather allows for a wide range of uses.

Interdependence of Rules, Relations, and Code

The three structural dimensions of rules, relations, and code are analytically separate elements of blogging practices but are interdependent in various respects (see Figure 1). Procedural rules, most notably the networking rules, influence the size and composition of hypertextual and social networks emerging from ongoing blog-based interactions. Within some of these networks, communities of bloggers might emerge that share practices, develop a sense of group identity, and even explicitly define and

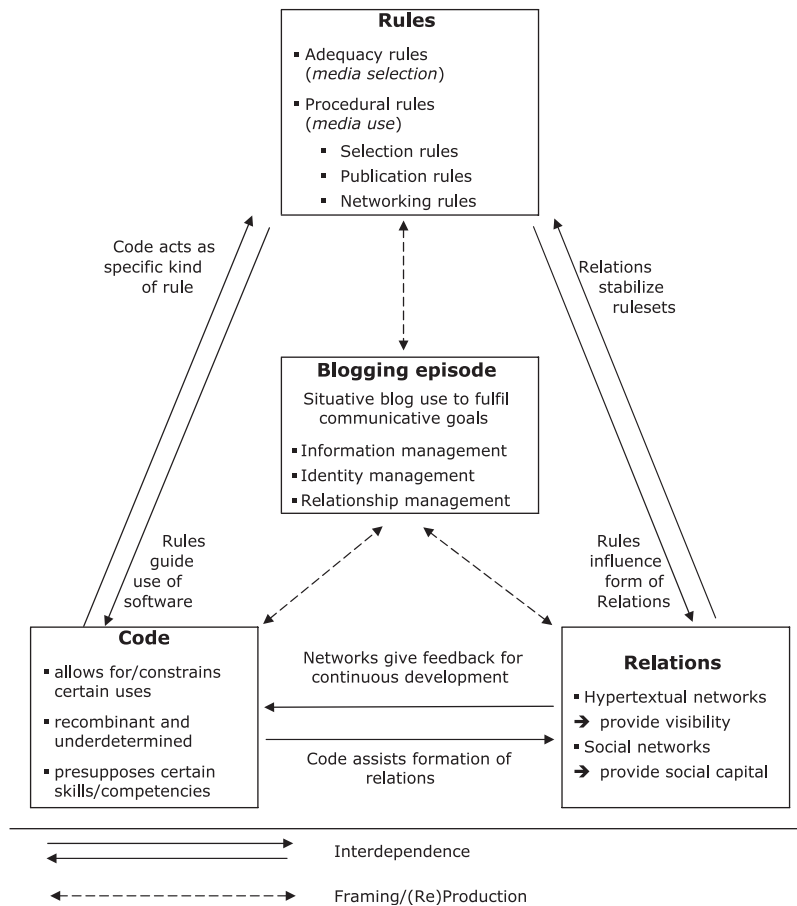


Figure 1 Blogging practices: Analytical model

enforce specific procedural rules (e.g., the knitting community described by Wei, 2004). One could call them “communities of practice”-not in the sense put forward by business theorists (Wenger, McDermott, & Snyder, 2002), but rather in a more general sense: groups of people who share certain routines and expectations about the use of blogs as a tool for information, identity, and relationship management. Such communities of blogging practices also act as a test bed for continuous software development, since they can either directly articulate feedback and requests for additional features or exhibit specific social dynamics that can be monitored by developers.

By incorporating shared expectations and routines into their individual ways of handling the format, bloggers not only fulfill their communicative goals, but also reinforce and reproduce the sets of adequacy and procedural rules. Depending on their position within these dynamic social networks, which in turn is a function of the relations obtained through blog-based communication, some bloggers

(the “A-List”) have greater chances than others to act as role models influencing blogging practices. Their status will lend them higher visibility inside the blogosphere as well as for “outsiders” such as non-blogging journalists (Herring, Kouper, et al., 2004) and might even grant them a certain degree of authority that can be mobilized to settle disputes over the correct use of blogs.

In summary, blogging practices show the duality of structure and agency inherent in all social action. Their structural elements of rules, relations, and code frame individual blogging episodes without being static. They are subject to negotiation and change, since they have to be (re)produced in single blogging episodes where bloggers can either reinforce these structural elements or contest them and add new aspects by developing alternative routines, expectations, and uses of code. As a result of these practices, the blogosphere, being both a network of interconnected texts and a manifestation of social networks, can structure attention and provide social capital. These emergent qualities are based upon single blogging episodes guided by rules of selection, publication, and networking and are employed in strategies of information management, identity management, and relationship management.

Conclusion and Further Research

This article has outlined an analytical framework to investigate blog usage from the point of view of communication sociology. It argued that the individual and situated use of blogs is framed by the three structural aspects of rules, relations, and code. As a technical form of online-based communication, blogs are relatively underdetermined; thus, different blogging practices have emerged (and continue to emerge) during a process of institutionalization of this new format. These practices consist of specific routines and expectations regarding the use of blogs to obtain communicative goals; they lead to the formation not only of hypertextual networks, but also of social networks of varying density. Some of these networks are “communities of blogging practices” in a very general sense (e.g., CEO blogs). But we can also identify smaller and more close-knit networks, which might range from users of particular blog platforms to rather small groups of bloggers sharing certain interests (e.g., knitting bloggers).

The framework not only integrates existing research findings that have been cited throughout the article, but can also be the starting point for a systematic and longitudinal study of changes and stability in blogging practices and online-based networking in general. From a methodological point of view, this would call for a variety of empirical approaches, drawing from different research traditions.

Standardized surveys, ideally employing a panel design, will further our knowledge about bloggers’ sociodemographics, motivations, and procedural rules. They should be complemented by ethnographic methods and discourse analysis to show how shared routines and expectations emerge, are contested, and are reproduced within certain communities. A qualitative content analysis of blog postings and

comments can also help to shed light on the finer points of identity and relationship management, as well as the discursive formation of procedural rules.

Such studies would have to take into account the actors' different positions within the structure of blog-based networks, which give them different degrees of visibility and status that influence their discursive power. Quantitative as well as qualitative methods of network analysis will help describe and explain the formation of hypertextual and social relations, while efforts to visualize complex network structures might not only broaden our scholarly knowledge about the blogosphere and its mechanisms, but could also become part of future software versions. These and other approaches will also increase our understanding of the way blogging practices influence the structuring of attention and information flows, as well as the provision of various kinds of social capital.

The analytical dimension of code is most often excluded from studies, although changes in functionalities and features might have a great impact on blogging practices. To analyze the interdependencies of code and actual use, researchers should not only draw on approaches from usability studies and social informatics, but they should also consider comparative research designs to identify the consequences of various technical options for information, identity, and relationship management. General insights from the sociology of knowledge might help explain how interactions between people with different levels of expertise contribute to the sociotechnical dynamics observable within the field of social software.

Finally, the framework could be incorporated into internationally comparative research designs, of which there is still a profound lack. The studies in Schlobinski and Siever (2005) have identified various differences among national blogospheres, but it is not settled whether cultural factors or institutional characteristics of the various media systems (or a combination of both) account for these differences in rules, relations, and code. Comparative studies would help close this research gap and also give insight into the relative importance of blogs within the larger landscape of media and social software. Internet users increasingly apply a whole repertoire of applications for online-based networking, self-presentation, and information management. Teenagers are especially eager to create content online and to manage their social relations with peers through an array of tools for interpersonal communication, among them blogs, Instant Messaging, social networking sites, and mobile phones (Lenhart & Madden, 2005). It will be an ongoing challenge to communication research to study the dynamic practices that form around the use of these technical innovations.

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Notes

- 1 This model has mainly been developed in and applied to a series of case studies and large-scale empirical surveys of the German-speaking blogosphere (see Schmidt, 2006; an English summary of the survey findings is presented in Schmidt, 2007).
- 2 While a majority of blogs offers the opportunity to comment on any entry, Mishne and Glance (2006) have shown that only about 15% of blog postings actually receive comments.
- 3 These differences lead not only to different compositions of user groups, but also to different levels of satisfaction with the software (Schmidt, Wilbers, & Paetzolt, 2006).

References

- Adamic, L., & Glance, N. (2005). *The political blogosphere and the 2004 U.S. election: Divided they blog*. Retrieved June 13, 2007 from <http://www.blogpulse.com/papers/2005/AdamicGlanceBlogWWW.pdf>
- Adar, E., & Adamic, L. A. (2005). Tracking information epidemics in blogspace. *Proceedings of the 2005 IEEE/WIC/ACM International Conference on Web Intelligence*, Compiègne, France. 207–214. Retrieved June 13, 2007 from <http://www.hpl.hp.com/research/idl/papers/blogs2/trackingblogepidemics.pdf>
- Adar, E., Adamic, L. A., Zhang, L., & Lukose, R. (2004). *Implicit structure and the dynamics of blogspace*. HP Information Dynamics Lab. Retrieved June 13, 2007 from <http://www.hpl.hp.com/research/idl/papers/blogs/blogspace-draft.pdf>
- Anderson, C. (2006). *The Long Tail. Why the Future of Business is Selling Less of More*. New York: Hyperion.
- Bahnisch, M. (2006). The political uses of blogs. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 139–149). New York: Peter Lang.
- Bar-Ilan, J. (2005). Information hub blogs. *Journal of Information Science*, 31, 297–307.
- Bijker, W. E., Hughes, T. P., & Pinch, T. (1987). *The Social Construction of Technological Systems*. Cambridge, MA: MIT Press.
- Blood, R. (2002). *The Weblog Handbook: Practical Advice on Creating and Maintaining Your Blog*. Cambridge, MA: Perseus.
- Blood, R. (2004). How blogging software reshapes the online community. *Communications of the ACM*, 47(12), 53–55.
- boyd, d. (2007). The significance of social software. In T. N. Burg & J. Schmidt (Eds.), *BlogTalks Reloaded: Social Software-Research and Cases* (pp. 15–30). Norderstedt: Books on Demand.
- Bruns, A. (2007). Methodologies for mapping the political blogosphere: An exploration using the IssueCrawler research tool. *First Monday*, 12 (5). Retrieved June 13, 2007 from http://firstmonday.org/issues/issue12_5/bruns/index.html
- Bruns, A., & Jacobs, J. (2006). Introduction. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 1–8). New York: Peter Lang.
- Burt, R. S. (1984). Network items and the general social survey. *Social Networks*, 6, 293–340.
- Burt, R. S. (1992). *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.

- Charman, S. (2006). Blogs in business: Using blogs behind the firewall. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 57–68). New York: Peter Lang.
- Drezner, D. W., & Farrell, H. (2004, August). The power and politics of blogs. Paper presented at the American Political Science Association. Retrieved August 4, 2006 from <http://www.danieldrezner.com/research/blogpaperfinal.pdf>
- Efimova, L., & de Moor, A. (2005). Beyond personal webpublishing: An exploratory study of conversational blogging practices. *Proceedings of the Thirty-Eighth Hawaii International Conference on System Sciences (HICSS-38)*. Los Alamitos, CA: IEEE Press.
- Efimova, L., & Grudin, J. (2007). Crossing boundaries: A case study of employee blogging. *Proceedings of the Fortieth Hawaii International Conference on System Sciences (HICSS-40)*. Los Alamitos: IEEE Press.
- Efimova, L., Hendrick, S., & Anjewierden, A. (2005, October). *Finding “the life between buildings:” An approach for defining a weblog community*. Paper presented at Internet Research 6.0: Internet Generations, Chicago. Retrieved June 13, 2007 from https://doc.telin.nl/dscgi/ds.py/Get/File-55092/AOIR_blog_communities.pdf
- Esmaili, K. S., Jamali, M., Neshati, M., Abolhassani, H., & Soltan-Zadeh, Y. (2006, May). *Experiments on persian weblogs*. Paper presented at the workshop “Weblogging Ecosystem: Aggregation, Analysis and Dynamics,” Edinburgh, UK. Retrieved June 13, 2007 from <http://www.blogpulse.com/www2006-workshop/papers/persian-weblogs.pdf>
- Ewins, R. (2005). Who are you? Weblogs and academic identity. *E-Learning*, 2, 368–377.
- Giddens, A. (1984). *The Constitution of Society*. Cambridge: Polity Press.
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–1380.
- Gruhl, D., Guha, R., Liben-Nowell, D., & Tomkins, A. (2004). Information diffusion through blogspace. *Proceedings of the 13th International Conference on World Wide Web* (pp. 491–501). New York: ACM Press.
- Gumbrecht, M. (2004, May). *Blogs as “protected space.”* Paper presented at the World Wide Web Conference, New York. Retrieved June 13, 2006 from <http://www.blogpulse.com/papers/www2004gumbrecht.pdf>
- Haas, T. (2005). From “Public Journalism” to the “Public’s Journalism”? Rhetoric and reality in the discourse on weblogs. *Journalism Studies*, 6(3), 387–396.
- Halavais, A. (2006). Scholarly blogging: Moving towards the visible college. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 117–126). New York: Peter Lang.
- Herring, S. C., Kouper, I., Paolillo, J. C., Scheidt L. A., Tyworth, M., Welsch, P., Wright, E. & Yu, N. (2005). Conversations in the blogosphere: An analysis ‘from the bottom up’. *Proceedings of the Thirty-Eighth Hawaii International Conference on System Sciences*. Los Alamitos, CA: IEEE Press.
- Herring, S. C., Kouper, I., Scheidt, L. A., & Wright, E. (2004). Women and children last: The discursive construction of weblogs. In L. Gurak, S. Antonijevic, L. Johnson, C. Ratliff, & J. Reyman (Eds.), *Into the Blogosphere. Rhetoric, Community, and Culture of Weblogs*. Retrieved June 13, 2007 from http://blog.lib.umn.edu/blogosphere/women_and_children.html
- Herring, S. C., & Paolillo, J. C. (2006). Gender and genre variation in weblogs. *Journal of Sociolinguistics*, 10(4), 439–459.
- Herring, S. C., Paolillo, J. C., Ramos-Vielba, I., Kouper, I., Wright, E., Stoerger, S., Scheidt, L. A., & Clark, B. (2007). Language networks on LiveJournal. *Proceedings of the Fortieth Hawaii International Conference on System Sciences*. Los Alamitos, CA: IEEE Press.

- Herring, S. C., Scheidt, L. A., Wright, E., & Bonus, S. (2005). Weblogs as a bridging genre. *Information, Technology, & People*, 18(22), 142–171.
- Hodkinson, P. (2006). Subcultural blogging? Online journals and group involvement among U.K. Goths. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 187–198). New York: Peter Lang.
- Höflich, J. R. (2003). *Mensch, Computer und Kommunikation: Theoretische Verortungen und Empirische Befunde*. [Man, Computer, Communication: Theoretical Positions and Empirical Findings.] Frankfurt: Peter Lang.
- Huffaker, D. A., & Calvert, S. L. (2005). Gender, identity, and language use in teenage blogs. *Journal of Computer-Mediated Communication*, 10(2), article 1. Retrieved June 13, 2007 from <http://jcmc.indiana.edu/vol10/issue2/huffaker.html>
- Kaiser, S., Müller-Seitz, G., Pereira Lopes, M., & Pina e Cunha, M. (2007). Weblog-technology as a trigger to elicit passion for knowledge. *Organization*, 14, 391–412.
- Kelleher, T., & Miller, B. M. (2006). Organizational blogs and the human voice: Relational strategies and relational outcomes. *Journal of Computer-Mediated Communication*, 11(2), article 1. Retrieved June 13, 2007 from <http://jcmc.indiana.edu/vol11/issue2/kelleher.html>
- Kolari, P., Java, A., & Finin, T. (2006, May). *Characterizing the splogosphere*. Paper presented at the workshop “Weblogging Ecosystem: Aggregation, Analysis and Dynamics,” Edinburgh, UK. Retrieved June 13, 2007 from <http://www.blogpulse.com/www2006-workshop/papers/splogosphere.pdf>
- Kozlov, S. (2004, January). *Achieving privacy in hyper-blogging communities: Privacy management for ambient intelligence*. Paper presented at the workshop “WHOLEs. A Multiple View of Individual Privacy in a Networked World,” Stockholm, Sweden. Retrieved June 13, 2007 from <http://www.sics.se/privacy/wholes2004/papers/kozlov.pdf>
- Lasica, J. D. (2002). Blogging as a form of journalism. In R. Blood (ed.), *We’ve Got Blog. How Weblogs are Changing Our Culture* (pp. 163–170). Cambridge: Perseus.
- Lenhart, A. (2005). *Unstable text: An ethnographic look at how bloggers and their audience negotiate self-presentation, authenticity and norm formation*. Unpublished master’s thesis, Graduate School of Arts and Sciences, Georgetown University, Washington, DC. Retrieved June 13, 2007 from http://lenhart.flashesofpanic.com/Lenhart_thesis.pdf
- Lenhart, A., & Fox, S. (2006). *Bloggers. A portrait of the internet’s new storytellers*. Washington: Pew Internet & American Life Project. Retrieved June 13, 2007 from <http://www.pewinternet.org/pdfs/PIP%20Bloggers%20Report%20July%2019%202006.pdf>
- Lenhart, A., & Madden, M. (2005). *Teen content creators and consumers*. Washington: Pew Internet & American Life Project. Retrieved June 13, 2007 from http://www.pewinternet.org/pdfs/PIP_Teens_Content_Creation.pdf
- Lenhart, A., & Madden, M. (2007). *Teens, privacy & online social networks. How teens manage their online identities and personal information in the age of MySpace*. Washington: Pew Internet & American Life Project. Retrieved June 13, 2007 from http://www.pewinternet.org/pdfs/PIP_Teens_Privacy_SNS_Report_Final.pdf
- Lento, T., Welser H. T., Gu, L., & Smith, M. (2006, May). *The ties that blog: Examining the relationship between social ties and continued participation in the Wallop weblogging system*. Paper presented at the workshop “Weblogging Ecosystem: Aggregation, Analysis and Dynamics,” Edinburgh, UK. Retrieved June 13, 2007 from <http://www.blogpulse.com/www2006-workshop/papers/Lento-Welser-Gu-Smith-TiesThatBlog.pdf>

- Lievrouw, L. A. (2002): Determination and contingency in new media development: Diffusion of innovations and social shaping of technology perspectives. In L. A. Lievrouw & S. Livingstone (Eds.), *Handbook of New Media: Social Shaping and Consequences of ICTs*. (pp. 183–199). London: Sage.
- Lievrouw, L. A., & Livingstone, S. (2002). The social shaping and consequences of ICTs. In L. A. Lievrouw & S. Livingstone (Eds.), *Handbook of New Media: Social Shaping and Consequences of ICTs*. (pp. 1–15). London: Sage.
- Lin, N. (2001). *Social Capital. A Theory of Social Structure and Action*. Cambridge: Cambridge University Press.
- Marlow, C. (2005). *The Structural Determinants of Media Contagion*. Unpublished Ph.D. Thesis, Massachusetts Institute of Technology, Boston.
- Matheson, D. (2004). Weblogs and the epistemology of the news: Some trends in online journalism. *New Media & Society*, 6, 443–468.
- Merelo, J. J., Orihuela, J. L., Ruiz, V., & Tricas, F. (2004). Revisiting the Spanish blogosphere. In T. N. Burg (Ed.), *BlogTalks 2* (pp. 339–352). Norderstedt: Books on Demand.
- Miller, C. R., & Sheperd, D. (2004). Blogging as social action: A genre analysis of the weblog. In L. Gurak, S. Antonijevic, L. Johnson, C. Ratliff, & J. Reyman (Eds.), *Into the Blogosphere. Rhetoric, Community, and Culture of Weblogs*. Retrieved June 13, 2007 from http://blog.lib.umn.edu/blogosphere/blogging_as_social_action_a_genre_analysis_of_the_weblog.html
- Mishne, G., & Glance, N. (2006, May). *Leave a reply: An analysis of weblog comments*. Paper presented at the workshop “Weblogging Ecosystem: Aggregation, Analysis and Dynamics,” Edinburgh, UK. Retrieved June 13, 2007 from <http://www.blogpulse.com/www2006-workshop/papers/wwe2006-blogcomments.pdf>
- Nardi, B. A., Schiano, D. J., Gumbrecht, M., & Swartz, L. (2004). Why we blog. *Communications of the ACM*, 47(12), 41–46.
- Nowson, S., & Oberlander, J. (2006). *The identity of bloggers: Openness and gender in personal weblogs*. Paper presented at the workshop “Computational Approaches to Analysing Weblogs,” Stanford University. Retrieved June 13, 2007 from <http://www.ics.mq.edu.au/~snowson/papers/SS0603NowsonS.pdf>
- Online News Association (2003, April 15). Bloggers’ code of ethics. *Cyberjournalist.net*. Retrieved June 13, 2007 from <http://www.cyberjournalist.net/news/000215.php>
- Palen, L., & Dourish, P. (2003). Unpacking “privacy” for a networked world. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 129–136). Fort Lauderdale, FL: ACM Press.
- Reckwitz, A. (1997). *Struktur. Zur sozialwissenschaftlichen Analyse von Regeln und Regelmäßigkeiten*. [Structure. Towards a Sociological Analysis of Rules and Regularities.] Opladen: Westdeutscher Verlag.
- Scheidt, L. A. (2006). Adolescent diary weblogs and the unseen audience. In D. Buckingham & R. Willett (Eds.), *Digital Generations: Children, Young People, and New Media* (pp. 193–210). London: Lawrence Erlbaum.
- Schlobinski, P., & Siever, T. (Eds.) (2005). Sprachliche und textuelle Aspekte in Weblogs. Ein internationales Projekt. [Linguistic and textual aspects of weblogs. An international project.] *Networx*, 46. Hannover.
- Schmidt, J. (2006). *Weblogs. Eine Kommunikationssoziologische Studie*. [Weblogs. A Study in Sociology of Communication.] Konstanz: UVK.

- Schmidt, J. (2007). *Blogging practices in the German-speaking blogosphere. Findings from the "Wie ich blogge?!"-survey*. Research Centre "New Communication Media" working paper 07-02. Bamberg. Retrieved June 13, 2007 from <http://www.fonk-bamberg.de/pdf/fonkpaper0702.pdf>
- Schmidt, J. (forthcoming). Zu Form und Bestimmungsfaktoren weblogbasierter Netzwerke. Das Beispiel twoday.net. [On form and factors of blogbased networks. The case of twoday.net] In C. Stegbauer & M. Jäckel (Eds.), *Formen der Kooperation in Computerbasierten Netzwerken*. [Forms of Cooperation in Computer-Based Networks.] Wiesbaden: VS.
- Schmidt, J., Wilbers, M., & Paetzolt, M. (2006). *Use of and satisfaction with blogging software. Empirical findings for the German-speaking blogosphere*. Research centre "New communication media" working paper 06-04. Bamberg. Retrieved June 13, 2007 from <http://www.fonk-bamberg.de/pdf/fonkpaper0604.pdf>
- Schuster, M. (2004). Applying social network analysis to a small weblog community: Hubs, power laws, the ego effect and the evolution of social networks. In T. N. Burg (Ed.), *BlogTalks 2.0* (pp. 96–109). Norderstedt: Books on Demand.
- Schler, J., Koppel, M., Argamon, S., & Pennebaker, J. (2006, Spring). *Effects of age and gender on blogging*. Paper presented at the workshop "Computational approaches to analyzing weblogs," Stanford University. Retrieved June 13, 2007 from <http://lingcog.iit.edu/doc/springsymp-blogs-final.pdf>
- Sifry, D. (2007, April). The state of the live web, April 2007. *Technorati Weblog*. Retrieved June 13, 2006 from <http://technorati.com/weblog/2007/04/328.html>
- Singer, J. (2005). The political j-blogger. 'Normalizing' a new media form to fit old norms and practices. *Journalism*, 6, 173–198.
- Thomas, A. (2006). Fictional blogs. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 199–210). New York: Peter Lang.
- Trammell, K. D., & Keshelashvili, A. (2005). Examining the new influencers: A self-presentation study of A-list blogs. *Journalism & Mass Communication Quarterly*, 82(4), 968–982.
- Trammell, K. D., Tarkowski, A., Hofmohl, J., & Sapp, A. M. (2006). Rzeczpospolita blogów [Republic of blog]: Examining Polish bloggers through content analysis. *Journal of Computer-Mediated Communication*, 11(3), article 2. Retrieved June 13, 2007 from <http://jcmc.indiana.edu/vol11/issue3/trammell.html>
- Tremayne, M. (Ed.) (2006). *Blogging, Citizenship, and the Future of Media*. New York: Routledge.
- Tremayne, M., Zheng, N., Lee, J. K., & Jeong, J. (2006). Issue publics on the web: Applying network theory to the war blogosphere. *Journal of Computer-Mediated Communication*, 12 (1), article 15. Retrieved June 13, 2007 from <http://jcmc.indiana.edu/vol12/issue1/tremayne.html>
- Viégas, F. B. (2005). Bloggers' expectations of privacy and accountability. An initial survey. *Journal of Computer-Mediated Communication*, 10(3), article 12. Retrieved June 13, 2007 from <http://jcmc.indiana.edu/vol10/issue3/viegas.html>
- Walker, J. (2006). Blogging from inside the ivory tower. In A. Bruns & J. Jacobs (Eds.), *Uses of Blogs* (pp. 127–138). New York: Peter Lang.
- Wei, C. (2004). Formation of norms in a blog community. In L. Gurak, S. Antonijevic, L. Johnson, C. Ratliff, & J. Reyman (Eds.), *Into the Blogosphere. Rhetoric, Community, and*

Culture of Weblogs. Retrieved June 13, 2007 from http://blog.lib.umn.edu/blogosphere/formation_of_norms.html

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston: Harvard Business School Press.

Wu, F., & Huberman, B. A. (2004). *Social structure and opinion formation*. HP Labs Research Paper. Palo Alto. Retrieved August 4, 2006 from <http://www.hpl.hp.com/research/idl/papers/opinions/opinions.pdf>

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