

WEB 2.0 BASED COLLABORATION IN A MICROBLOGGING ENVIRONMENT: EFFECTS ON ORGANIZATIONS AND WORK PROCESSES

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Abstract

In our contribution we will explore how Web 2.0 based collaboration platforms influence communication and collaboration in working groups. The impact of using Microblogging platforms for project management will especially be considered. Our assumption is that information sharing by Microblogging contributes to workplace awareness but also constitutes social relations, because all information has relational aspects and sharing information happens with reference to norms of behavior and interpretation schemes. Another assumption is that the design of computer-mediated communication has impact on these social aspects, too. All of this together shapes a social frame of encounter – similar to Goffman's Frame. In order to work these assumptions out refer to two cases: an applied research projects and a private company that both use different communication platforms. Both Web 2.0 environments are based on Microblogging/Status-Sharing methods. In the proposed paper, data from these platforms will be discussed.

1. INTRODUCTION

Web 2.0 applications such as Twitter or Facebook are rapidly changing communication and information sharing in social life. Availability of information, its rapid diffusion and documentation via a more or less pervasive technology provides new standards of communication activity in terms of speed, access and availability. The use of Web 2.0 in work processes is, however, still in an initial stage, although already well used applications such as wikis or collaboration platforms can enhance work activity significantly and are widely discussed.

Web 2.0 based collaboration platforms offer new elaborated ways of communication and cooperation in working groups. Microblogging platform provides the technical means and social norms in order to communicate not only important information but also allegedly insignificant information. This offers communicating and the reification of informal communication. Collaboration platforms like these therefore integrate both, the informality and tacitness of groups on one hand and the explication of knowledge on the other hand. Whilst the nature of collaboration via such platforms is informal, the reification of the communication provides structure and documentation of formal as well as informal information. Research from the 1980s and 1990s has already shown that the social structure of organizations change if collaboration turns from face-to-face conversation to computer mediated communication (Kiesler et al. 1984; Sproull & Kiesler 1986; Walther 1992). Walther especially points to the reification aspects of computer-mediated communication (CMC). With Microblogging/ Status-Sharing, however, the mode of collaboration differs significantly from CMC environment of the 1980s and 1990s.

In terms of working groups' efficiency and learning, the concept of awareness is very important. Project management often suffers from opacity due to the lack of awareness of what is going on the projects. Gutwin and Greenberg (2002) worked out a framework that describes a platform concept for ICT environments and focuses on people-centered information sharing. Even though Web 2.0 platforms are not by themselves people-centered they are always settings that create social relations. Information sharing always means to be in social relations.

In this paper we would like to draw the attention to the relations between awareness, technology and social relations. We will start with an outline about the idea of Web 2.0 and of necessity of awareness in working groups. Then we will focus on Microblogging platforms and show how this technology is able to contribute to awareness concepts and what role it might play in group communication. We then point to social relations that are constituted by these platforms. As a certain kind of socio-technical setting, Microblogging shaped new situations of communication within organizations. By looking at two cases we will discuss this situation of encounter by formulating a hypothesis about the influence of the technical design (thread structure) and functions (the *Like* button).

2. COLLABORATION AND WEB 2.0

The following depiction shall give an overview of the development from content management to Microblogging. The development illustrates the switch from central controlled tools to ubiquitous available communication systems.

Tools like Wikis and blogs, with which the user is able to contribute his own content to the World Wide Web, have been named "Web 2.0" (O'Reilly 2005). The barriers of

usage are very low compared to content management systems (cms), which have been the knowledge management tools of the 1990s and the early 2000s. Nowadays it is self-evident that people can contribute to web content. But just a few years ago this was very difficult. Web content management systems were difficult to handle. It was necessary to have a webmaster or a technical editor who would put the content into the internet (or intranet). It often took days or even weeks before the content was accessible to the public or the organization respectively. According to O'Reilly (2005) this has changed when new tools became available. These tools facilitate the user to publish content himself. In terms of handling the technology, there is no need to have a gate-keeper function (by a webmaster) any more.

These tools started with the public internet. The emergence of Wikipedia is the most famous example for this kind of contribution: *user generated content*. Blogging platforms emerged with which users took part in journalism, and challenged the institutionalized news corporations. The Huffington Post may be seen as the most visible spawn from this movement. However, *user generated content* has been at issue in companies as well. The need for gate-keeping with old content management systems was a hindrance in terms of knowledge sharing. Having the power of *user generated content* of the official internet in mind, there have been emerging ideas to transfer these kinds of knowledge production into corporations and working groups.

For professional usage of *Web 2.0*, McAfee (2009) coined the term "Enterprise 2.0". McAfee refers to the technical base as it is known with reference to O'Reilly (2005). But with Enterprise 2.0 there is more than just contribution of content. First there is the need for having a corporate culture that is willing to share knowledge and to collaborate by digital means. Furthermore, there is the structure of content that is important: "Platforms are simply collections of digital content where contributions are globally visible (everyone with access to the platform can see them) and persistent (they stick around, and so can be consulted and searched for)." (McAfee 2009: 48) Visibility and persistence contribute to a kind of awareness that is at issue since the beginning of the internet. This issue is discussed under the label "awareness".

3. WORKPLACE AWARENESS

Gutwin and Greenberg (2002) created the term "Workspace Awareness" in order to describe analytically what is needed for collaboration by digital means with groupware. The conception of awareness is closely related to the idea that it is important to know what other people are doing. This ensures a transparent working environment, for example, in order to avoid double work or allocate resources more efficiently. The basic elements of making this visible is to ask questions about people related issues like they are shown in Figure 1 and Figure 2. According to Gutwin and Greenberg, designing an ICT groupware that offers solutions to those people-centered questions would – as a first step – contribute to transparency in working groups: "The elements are a starting point for thinking about the awareness requirements of particular task situations, and provide a vocabulary for describing and comparing awareness support in groupware applications." (Gutwin and Greenberg 2002: 422)

Category	Element	Specific questions
Who	Presence	Is anyone in the workspace?
	Identity	Who is participating? Who is that?
	Authorship	Who is doing that?
What	Action	What are they doing?
	Intention	What goal is that action part of?
	Artifact	What object are they working on?
Where	Location	Where are they working?
	Gaze	Where are they looking?
	View	Where can they see?
	Reach	Where can they reach?

Figure 1: Elements of workspace awareness relating to the present
(Source: Gutwin and Greenberg 2002: 421)

Category	Element	Specific questions
How	Action history	How did that operation happen?
	Artifact history	How did this artifact come to be in this state?
When	Event history	When did that event happen?
Who (past)	Presence history	Who was here, and when?
Where (past)	Location history	Where has a person been?
What (past)	Action history	What has a person been doing?

Figure 2: Elements of workspace awareness relating to the past
(Source: Gutwin and Greenberg 2002: 422)

Gutwin and Greenberg take into account that each activity within an environment bears information aspects: “information transfer that emerges as a consequence of a person’s activity within an environment” (ibid.: 423).

Gutwin and Greenberg summarize their understanding of awareness as follows:

- “Management of coupling: Assist people in noticing and managing transitions between individual and shared work.
- Simplification of communication: Allows people to the use of the workspace and artifacts as conversational props, including mechanisms of deixis, demonstration, and visual evidence.
- Coordination of action: Assist people in planning and executing low-level workspace actions to mesh seamlessly with others.
- Anticipation: Allows people to predict others’ actions and activity at several time scales.
- Assistance: Assists people in understanding the context where help is to be provided.” (Ibid.: 432)

Coupling means “that people keep track of others’ activities when they are working in a loosely coupled manner” (ibid.: 426). This coupled manner is to be managed by means of management tools as well as software design. The aim is to make communication as simple as possible. Archetype is the communication in face-to-face situation. Deictic references means that pointing or gesturing in face-to-face situations are important parts of information sharing, e.g.:

“B: <holds up a piece> No, not that.

B: <holds up another piece> This thing? It could be that thing <points to diagram> ...

A: Yeah, could be that thing ...” (Ibid.: 427)

There are digital platforms that offer coupling, simple communication, coordination, and assistance. Well known in the private sphere of the internet is for example Facebook. It offers pointing in websites by usage of so-called ‘like-buttons’ and indicates that users like certain topics. If someone is uploading pictures to his own webpage, the community will get a notice. The same thing happens if someone is using certain applications within the Facebook environment. Here the Facebook platform offers – by design – a simple means to simplify communication by offering nonverbal means of communication.

Coordination of action means that awareness of the work of others’ may help avoid conflicts that occur in processes of division of labor, such as conducting unnecessary tasks, double-work, etc. When awareness within the workplace is high, people might be able to anticipate the future actions of others. This facilitates the coordination of group work. Assistance is a big issue in digital workplaces. Orlikowski (2000: 418ff.) shows in a case study how a working group shapes its groupware (Lotus Notes) in order to facilitate support issues.

Shaping awareness is an issue that has been discussed since the dawn of the internet. However, technology was not yet ready to offer the environment of communication that would meet the kind of awareness that Gudwin and Greenberg have had in mind. Furthermore, the authors address the design of software rather than organizational concepts. They state that there are “three tasks that the groupware designer must undertake in supporting workspace awareness: understand what information to provide, determine how the knowledge will be gathered, and determine when and where the knowledge will be used.” (Ibid.: 438)

In the following discussion we will show that these tasks are not necessary with respect to Web 2.0 and especially not with respect to Microblogging.

4. MICROBLOGGING: TECHNOLOGY AND COMMUNICATION PRINCIPLES

Microblogging platforms are not only platforms for information sharing, instead they offer the possibility for people to be socially connected. Just like a situation of social encounter goes along with expectations and norms (Goffman 1986),¹ platforms for computer-mediated communication constitute an environment (Fulk et al. 1987) or a *computer frame* (Höflich 2003) in which expectations and norms are backgrounds for social action. But these are different from face-to-face communication (Kiesler et al. 1984; Sproull & Kiesler 1986; Walther 1992). With reference to the newest Web 2.0 technologies and communication principles, Microblogging constitutes a different frame from those of older computer-mediated communication forms (Hauptmann and Gerlach 2010; Hauptmann 2011). The remainder of this paper will focus on this device and describe the contribution to workspace awareness as well as social relational aspects.

¹ Goffman speaks of Frame in order to describe this situation in which certain kind of social action happens. Encounter in a church is different from an encounter during a party.

Since the introduction of Twitter in 2006 the Web 2.0 movement has, once more, been facing a new dynamic. Microblogging platforms like Twitter, Yammer, Statusnet or Communote, are means to distribute information by setting barriers of communication even lower than with Wikis and blogs. The last mentioned have been able to lower technical barriers. Microblogging on the other hand, has not only set the technical barriers very low but additionally, takes advantage of some cultural principles of communication and socializing in order to enhance knowledge sharing and collaboration.

Twitter was the first Microblogging tool widely used.² The Twitter platform is publicly accessible. Everybody can take part. However, there are many twitter clones that can be used behind a company's own firewall.³ Hence, the communication can be restricted to certain groups, which is crucial for professional use. First, the user interface is very simple and accessibility is nearly ubiquitous (even with mobile phones). This, along with ego-networking features makes tools like Twitter a very fast tool for information distribution. Furthermore, it enables informal communication on a digital channel, which has not been available up to this point. These three features may be explained further.



Figure 3: User Profile in Twitter

Simplicity & Accessibility: Twitter welcomes a user with a simple question: “What’s happening?” (see Picture 1) There is just one field in which the user may state his comment. The message must not be longer than 140 characters (there are 160 characters allowed with SMS). Twitter clients are omnipresent in the digital world. There are web

² By mid 2009 Twitter has had about 50 million user profiles (Kwak et al. 2010).

³ Additionally Twitter offers the possibility to enclose profiles for protected use.

pages that offer twittering. Also, there are mobile clients which make twitter accessible from anywhere.

Ego-networking: With Twitter and many clones each user establishes an ego-centered network in that he or she subscribes to other people's messages which are shown in the timeline of the user's profile page. Others can subscribe to the user's messages that will then pop up in their own timeline (following principle, see Figure 3). This establishes a complex and decentralised network (Figure 4). If this network is large enough Micro-blogging offers some simple mechanisms that make the existence of this decentralised network very powerful.



Figure 4: Ego network in relation to other ego networks

One example is the usage of re-tweeting function. A follower re-tweets a message of a sender by forwarding it (similar to E-Mail). This message pops up in the timelines of the re-tweeter's followers. Hence this message will be distributed into another network, and if it will be re-tweeted again, into another network, and so forth. Well known is the rapid distribution about the news of the airplane-crash into the Hudson River in 2009. Janis Krums was on the boat nearby when the plane landed forcedly into the river. He instantly made a photo with his iPhone, loaded it up to the internet and linked it to an appropriate message in Twitter ("There's a plane in the Hudson. I'm on the ferry going to pick up the people. Crazy", see Figure 5). This message was re-tweeted by Krums's followers, and followers of followers re-tweeted it again. It took just a few minutes until the message (and the picture) was around the world - faster than the news agencies.⁴

⁴ For additional information see Kwak et al. (2010).



Figure 5: Janis Krums' message on twitter about the Hudson plane crash

Enabling informal communication: People are introduced to each other in order to inform their peers (i.e. 'followers' or members of the network) not only about the very important issues at stake but also about informal topics. Microblogging is by its origin, i.e. due to the legacy of Twitter, institutionalized for the sake of informal communication. Institutionalized here means that there have been emerged certain usage habits that form social expectancies about communication style.⁵ Using email would be another possibility, but there is always the complaint that this overfills the email in-boxes. Microblogging, on the other hand, does not flood the in-boxes. There is no expectancy of completeness either. Oulasvirta et al. (2009) state that Twitter users do not expect immediate answers: "In the context of microblogging, when replies are missing, it is easier for the initiating speaker to assume the audience is not present than to think there is non-interest or disapproval."

Moreover, there is no need to decide who the receiver of the message should be.⁶ Also there is no CC and no BCC. The normal (institutionalized) mode of using Microblogging is to write something out in the blue - i.e. "to whom it may concern". Different than emails (and especially from Chat-Systems) there is no need to answer messages, although it is possible to do so. The process of communicating 'polite nothings' (e.g. the introduction and a polite finish of an email) is not usual. Twitter itself only allows 140 characters which do not offer the opportunity to write circuitous messages. By its origin communicating with Microblogging means stating the fact and nothing else. This fact, however, could be the state of personal mental state, how people feel, what they are doing right in the moment, what they read, etc. With Microblogging the user generated

⁵ This argument draws on (neo-) institutional sociology (see Berger & Luckmann 1966; DiMaggio & Powell 1983; Meyer & Rowan 1977; Zucker 1977).

⁶ There is, none the less, the possibility to address a message post and make it private. This would correspond to E-Mailing.

web becomes enriched with extended knowledge assets, far beyond codified information. Transparency may reach a new level.

As simply as these technical features and communication principles sound, they enhance information sharing as well as group relations, i.e. having the potential for being a device for enhancing group coherence. Easy usage, a powerful distribution channel, and the opportunity to share non-codified knowledge are the powerful features of this tool. Zhao & Rosson state that Twitter is used to “keep the pulse’ on people” (2009: 251), just as Gutwin and Greenberg (2009) state as a necessary feature of groupware. But what is it exactly that makes this communication technology so efficient?

5. COMMUNICATING WITHIN COMMUNITIES

Short messages along with some order-functions like keywords (called hashtags and are words with a “#” as prefix) and especially the avatars (small pictures that indicate the sender) enable the possibility to ‘comb through’ many messages simultaneously. The keywords allow for filtering messages according to a person’s own interests besides the following of people. People, on the other hand usually send more or less interesting messages. Once we know our network we may prefer some people, while at the same time we may disregard others because their messages are usually not very helpful. However, Figure 6 indicates a typical dashboard to show messages. Because the messages are very short, we comb through this page in a few seconds. If we know the network, i.e. the sender of messages, we are even faster because we would probably avoid those messages that are written by those whose topics are of minor interest.⁷



Figure 6: Twitter Client that allow filter operations

Combing-through is an important practice and a kind of a media competency that allows for handling a huge amount of information that derive from the dynamics of ‘long tail’.

⁷ Column No. 1 shows message streams from Facebook that offers similar status messaging than Twitter. Column No. 2 shows all followers in Twitter. Column No. 3 shows a search for the term ‘etherpad’ in Twitter. Column four shows a search for ‘riverthames’.

Microblogging assists this process of knowledge adopting in the World Wide Web as well as in well defined professional groups.

Accepting communication, this is, according to Luhmann (2009), an important condition for successful communication within a group. Several studies show how fragile knowledge working in communities of practice can be. For example, there are phenomena that Ferreday & Hodgson (2008) call 'tyranny'. A kind of tyranny derives from the expectation and therefore from the demand to participate. There might be the demand of "privileging the community over the individual", or that "individual emotions have to be overcome in the interest of the group" (Ferreday & Hodgson 2008, p. 644). Email communication is demanding as well. The expectation to answer is high and communicating 'polite nothings' is expected. Microblogging, on the other hand, is less demanding in this respect. Not being read does not mean not being accepted. For in a large network, there would always be someone who reads, someone who answers and someone who benefits.

What makes many Web 2.0 tools successful is this kind of informal characteristics. Ultimately success derives from a certain mental state of the contributors. They should feel that they are not just doing their duty but that they can contribute something that is really helpful and that they can do this with the slightest effort and in a purposive, goal-orientated way - leaving behind all the dynamics of 'second purposes' (being polite, addressing somebody's feelings, etc.). These 'second purposes' are quite often laborious. If users really want to post about their feelings, this would not be a second but a first purpose. It would be the information that wants to be addressed. Microblogging and Status-Sharing might be the only media of many-to-many communication through which the addressing of emotions is accepted.

In relation to issues like these issues that concern with informality in communities, Ferreday & Hodgson (2008) point to a thread that derives from large time-gaps between face-to-face collaboration meetings: the need to renew social ties. Ferreday & Hodgson investigated collaboration in the academic realm. By posting to a so-called "'5 minute social' thread" of a forum in the time between meetings, the participants are asked to write about anything but academic topics. The initial calling came also from a student: "It feels like a very long time since we were all last together - and a very long time until we will be again. Can we take 5 minutes out of academia for a social thread? I mean no offence to my current set in any way shape or form, but I'm missing my last set and news from everyone else - on life in general ..." (Ferreday & Hodgson 2008, p. 645).

The asynchronous mode of Social Media, and Microblogging especially, offers an alternative: "In contrast to live conversation, asynchronous microblogs are in principle able to keep dialogue alive over long periods of time." (Oulasvirta et al. 2009) Hence, with Microblogging, there would be no real gap between meetings, workshops, etc. Furthermore, the effort of setting up and coordinating a learning network would be reduced to a minimum. Groups that collaborate by Microblogging would not need "a structure to the network and a leader and/or facilitator who manages a rhythm and flow of meetings, stewards content in the shared collaboration spaces, and works behind the scenes to connect people and sustain relationships" (Anklam 2009, p. 418).

These effects taken together – i.e. invoking communication that would not be conducted otherwise, concentrating on the core of the message, and invoking a habit of disclosure – implicates that communicating by Microblogging and Status-sharing is similar to "water-cooler conversations" (Zhao & Rosson 2009: 243). However, having informal con-

versations over long periods of time and the reification of conversations are important differences. In terms of communicating in knowledge-driven organizations this means that serendipity effects may be increased, i.e. “a discovery through chance” (Merton 1957: 12) which was not thought of beforehand.

6. COHERENCE OR JUST ANOTHER KIND OF TYRANNY

Having the positive effects in mind that are described above, the question arises: are there just benefits of communicating digitally? No, most probably there are certain drawbacks. First of all, communicating about people as we have discussed with respect to workplace awareness, always means communicating of relational aspects between people. Most often this is non-codified communication and therefore, it is risky in terms of misunderstanding. Early studies have shown that the transmission of certain kind of information is best conducted by face-to-face interaction. Media need to be ‘rich’ where information is complex, which is especially the case with unstructured information (Short et al. 1976; Daft & Lengel 1984; 1986). It is not only the “*What*” of communicative aspects that are at stake but also “*how*” communication happens. This means that each communication has an information aspect and a relational aspect (Watzlawick et al. 1967). A certain tone adds to the mere information another piece of information. Who is sending the message or what gesture is he making also plays a role. In computer-mediated communication the channels of transmission are restricted as there are just written words. Gesture and mimics that play an important role in relational communication, are absent with computer-mediated communication.

But as for example Kiesler et al. (1984), Sproull and Kiesler (1986), and Walther (1992; 1996) have shown, although it would lack some of the human transmission features and perception senses that go along with face-to-face, the communication of relations is not entirely absent when computer-mediated communication happens. Instead relations alter in such environments compared with face-to-face interactions just because there is no such a clear communication of social status (which could be for example by gesture, dressing, age). Furthermore, it is not only the conditions of media that shape the kind of communication within the group and its expectations and norms of behavior, but the people themselves shape these norms and expectations by using these media (Fulk et al. 1987). This means that groups may shape their own environment in which even relation aspects are transmitted by the computer-mediated means. Taking this aspect seriously means that all kinds of norms and values that shape face-to-face encounter are, though in a different manner, present in computer-mediated communication as well.

Most obviously this is the case with chat-environments. Chatting, in some respect, is very similar to face-to-face communication. With chat the usage of language resembles oral conversations: sentences are rather short and often fragmentary, having many particles of oral rather than written language (Storrer 2001); there is hardly any planning like in written text and feedback happens immediately, etc. It is a language of nearness adopted rather than of distance (ibid.).⁸ In the process of chatting emoticons are used very often in order to communicate the *how* or the *why* of a message, i.e. as an illocutionary speech-act (Dresdner & Herring 2007).

However, Microblogging might be seen as somewhere in between chatting and rather more asynchronic media like emails. As seen above, conversations are mostly short and

⁸ Language of nearness may also mean a love-letter. On the other hand, speaking with an answering machine might be rather considered as a language of distance.

a description of the context is generally obsolete. In contrast to chatting there is no need to answer immediately. With chatting this is a big issue similar to a face-to-face encounter where it is expected that there is 100% attention given to the conversation partner (Goffman 2005). But Microblogging has its own structural conditions that call for attention. Some of them will be shown next.

7. A FIRST LOOK INTO TWO CASES: MICROBLOGGING AND ITS SOCIO-TECHNICAL SETTING

Microblogging and Status-sharing are very likely to have some kind of impact to the future of working groups. The market research institute Gartner predicts that microblogging-like communication environments will replace email communication to a great extent within the next few years (Gartner Consulting 2010). Hence, this ICT will shape an ecosystem that could be described as a place where people meet. In fact this has been done, e.g. by Höfllich (2003), who, with reference to Goffman's Frame-Analysis (1986), describes the setting of computer-mediated communication as a setting of encounter in which, similar to face-to-face- encounters, norms, values, and expectations shape the background of acting.⁹

In the remainder of this paper, we will discuss some of the impacts that the ecosystem – or speaking with Goffman: the interaction frame that may be called Microblogging – may have in organizations. Therefore we will focus on one of the five aspects of workspace awareness, that Gutwin and Greenberg (2002) mention (see chapter 3): simplification of communication. As we have seen already, there are many aspects in which Microblogging differs from other forms of computer-mediated communication. It has a lot to do with simplification of communication and therefore, with the hope to have an increasingly positive communication activity. We will focus on some of those features of software design with respect to two empirical cases which are described in the following text.

7.1 The Cases

There are several Twitter clones that are used within professional working groups. Our investigation focuses on two of them that are used in different environments. Both Yammer and Communote are so-called web-services, which means that the platforms are accessible with the web browser and the software application as well as the data is hosted with the service providers (i.e. so-called cloud computing). We investigated two different working environments (see Figure 7). One is a medium-sized Software corporation with about 200 employees of which about 60 communicate on the platform Yammer. We call it *Business-Soft*. The other is a research project group of 24 members that coordinate their actions with Communote called *Inno Research*.

⁹ See also Schmidt (2007) for an English summary of this issue with respect to Blogging.

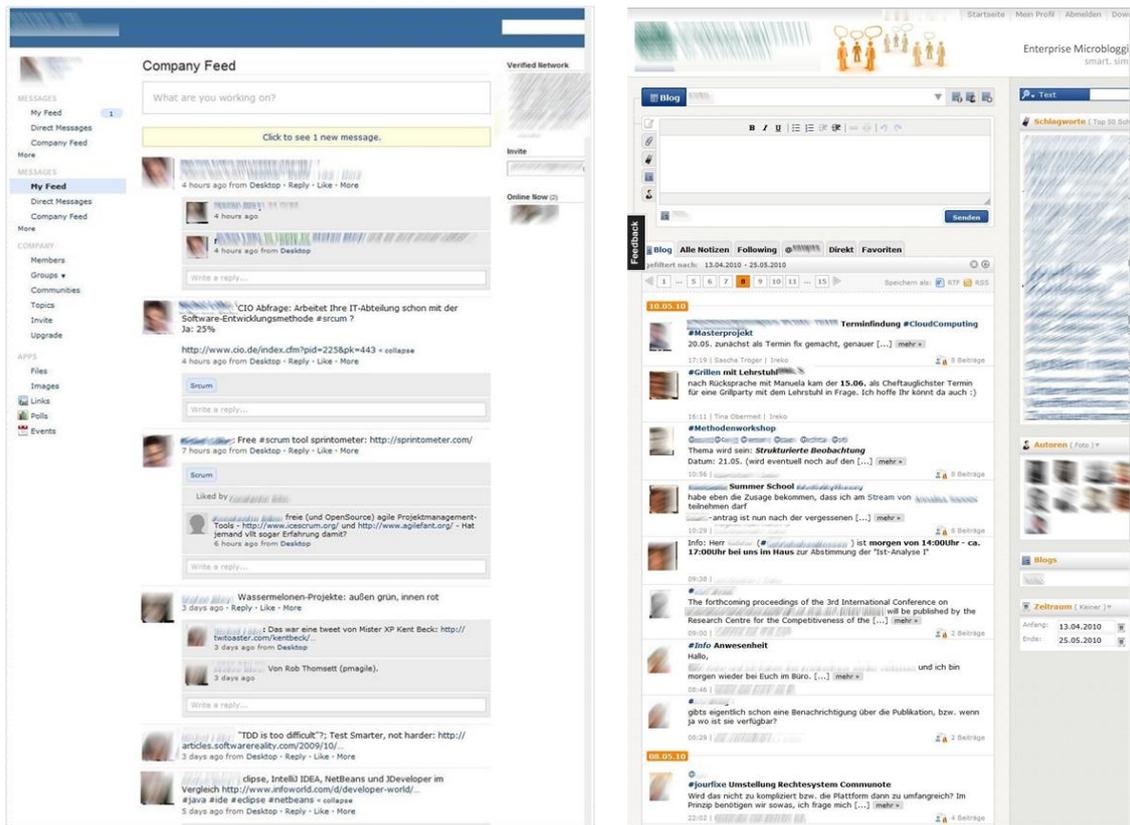


Figure 7: Business Soft collaborating with Yammer (left); Inno Research using Communito (right)

Both collaboration environments have been established by grass-root movements within the groups. This means in terms of Business Soft that an employee had the idea to share information on the Yammer platform, made a (free) account with Yammer and introduced some of his colleagues. There was a similar situation with Inno Research. Here, the group decided to collaborate with Communito. Communito should substitute emails completely.

Both software environments do not have the restriction to 140 characters that Twitter has. This means that people are able to write as much as they want. Therefore, the feature that was described in Figure 6 (being able to comb through a page) is not available here. This might be a loss in terms of having a good outline about many messages. But at least in the two cases that we studied, most times the daily amount of messages was somewhere between three and fifteen. Hence, it is not necessary to have 40 messages or more on one webpage.

We investigated the text corpora of the two cases in order to see how communication on these platforms happens. Furthermore, we conducted interviews with participants and looked at the design of these two different platforms. Following we will give a short outline about an issue concerning the relation between design features of Microblogging platforms and social organization. Concerning this we will formulate the hypothesis that different designs lead to different social organizations.

7.2 Theoretical Background

According to Giddens (1984) behavioral rules (norms) and ideological background (interpretation schemes) constitute human behavior. Both rules and ideology, have to be established by actions. Replicated activities constitute an activity pattern that shapes –

according to Giddens – norms and interpretation schemes. Norms and ideology are enacted by these patterns and overrule the declared rules. This means that although organizations are constituted as a set of declarations of rules there are activity patterns (norms and interpretation schemes as rules) that are deviant from these declarations. This is the real rule-set of the organization, the organization within the organization, so to speak. This rule-set can, with respect to Goffman (1986) be described as a Frame of social encounter. Then however, the environment in which the encounter situation happens contributes to the rule-set. A meeting-room calls for different behavior than a water-cooler situation. As we have seen, Microblogging more resembles a water-cooler situation. But this is not by definition how it is. It depends on the schemes of rules and situational interpretations and the replicated activities that are related to them. As Fulk et al. (1987) stated 25 years ago, the mode of using computer-mediated communication, i.e. the norms and interpretive schemes, is shaped not only by technical design but also by social circumstances. This includes structural aspects of the group (number of participants, topics, etc.)¹⁰ as well as the past behaviors and assessments of coworkers.

How do rules as norms emerge out of activity patterns? Following Ortmann's (2003; 2010) conception of *heredity by mimicry* allows to investigate the dynamics of orientations and adoptions of certain practices. According to Ortmann rule following may happen as with Giddens' structuration model: people are following the (non-declared) norms and orientations that are visible by the activities of others. However, there are situations in which these rules may change and even deviant activities may occur. In fact, according to Ortmann, each rule following will alter the rule however slightly and inconspicuously. But especially in situations of insecurity for example, if it is not clear what the rules are, or in new situations where no rules yet exist, instant mimicry, i.e. the emulation of single activities of others is a well observable activity pattern.

7.2 The Structural Force of Webpage Design and Functions

During the period of introducing of a completely new communication media it is not yet clear to the participants as to how to use it. Some may write their posts like and email, i.e. using clauses of polite openings and closings that belong to the Genre email (Yates and Orlikowski 1992). Some may have Twitter in mind when using Microblogging. These people would write their posts in a rather short manner without greetings, etc. Most of the people that have no idea of how to use Microblogging would look how others are using it. Particularly in organizations it might be important to think about the style of writing because it reflects professionalism. Therefore people's insecurity might be higher in some organizations than in other settings. One participant of the Inno Research group said that she was looking at how the protagonists, i.e. those who introduced the Microblogging platform, wrote their posts in order to copy that style. "We are in a professional environment and we have to communicate professionally", she said.

Yammer has got a thread structure, which means that the answers to an initial post will remain below the original post (see the grey-shaded posts in Figure 7), whereas in Communote all posts (including the answering posts) are in chronological order with the most recent on top. We have investigated that these different structures lead to a completely different mode of usage. One of the differences is the awareness aspect. We add to the workplace awareness as it is explained above another understanding of awareness, which is about the way of working together. What are the codes of commu-

¹⁰ See Herring 2007 for further structural conditions of computer-mediated communication.

nication in a working group or an organization? Having information about this might be very important, especially for novices (Lave and Wenger 1991) as their need of orientation is the highest.

The assumption is that Yammer's thread structure, along with other features such as the *Like-Button* in Yammer (which is well known from Facebook) will shape the interaction frame of this Microblogging environment with respect to rules of usage and expectations. This means that when such an environment has been installed, there are not yet any rules about how to use this device. Should I only post formal information or should I also post information about what I am reading professionally or also about what I am reading privately, or where I have been yesterday evening, etc. How should I write - in an official tone or instead in an informal tone, many emoticons or no emoticons, etc.?

Yammer, due to its thread structure which keeps the conversation of answering posts together, is more transparent than Communote in that it shows how a conversation takes place. We observed that a certain kind of communicative tone (many emoticons, witty language, etc.) was passed on from one answer to another within a thread. What happens is that a certain style of communication will be copied. Just like 'his smile is contagious' there are mimetic activities. We were able to observe them. These are observable for the participants, too. Especially the novices may internalize the style and interpret it as common communication norm. Powerful members of the group may be able to set an agenda in that their style of communication will be copied.

If we have posts in a thread structure that are witty, having many emoticons, etc., the whole webpage would cover this certain kind of conversation, i.e. this certain 'tone'.¹¹ Our assumption is that at the beginning of usage of a new Social Media like Microblogging people are orientating on the posting of the others (we have indications for this assumption deriving from interviews, see above) and that Yammer offers more orientation than Communote in order to do so. This would mean that for example the tone of conversation would be passed on in Yammer more easily than in Communote due the differences in design.¹²

The *Like* button that comes with Yammer has got similarly structural functions. First, it offers communication that even Microblogging would not offer: a *gesture* of agreement. Similar to an encouraging nod in face-to-face conversations, the Like button, with which people can indicate a thumb up sign for written posts, offers conversational features that have been absent up to now in computer-mediated communication. Interviews from the private company that use Yammer implicate that this is an important communication device in order to release informal communication that nonetheless is important for workplace awareness as well group cohesion. The Like button encourages feedback where normally no feedback is possible. "I use it for feedback. If it was not there, I would not give a written feedback", was a statement from an interviewee.

Our overall assumption is that design plays an important role in the establishment of communication style and its norms and expectations. As Microblogging and Status-

¹¹ See Herring (2007) about the issue of conversation tone with computer-mediated communication.

¹² This assumption, along with other elaborations of the *Social Media Interaction Frame* has been formulated in more detail in Hauptmann (2011).

sharing will increase in being part of tomorrow's workplaces this would mean that software design will have impact on organizational structures.

However, it is very difficult to test our particular assumption about mimicry. For, in our cases there are more variables that would influence the process of communication and that would interfere with our investigation setting (e.g. group structure, organizational rules, etc.). Therefore, we just want to put this assumption up for discussion and would like to find a research method to investigate this phenomenon.

CONCLUSION

Communicating computer-mediated is an important part of organizational work. In the near future Microblogging and Status-sharing will be a natural part of communication within organizations. Due to its omnipresence and its communicative principles that – in part – resemble face-to-face conversation, it will integrate into the communication structure of organizations with more impact than email has done. Hence, it is important to study the mode of conversation in detail. In this paper we have shown some communication principles that go along with using Microblogging in professional context. We pointed to new technical aspects of this communication device but also to the set of rules, norms, and expectations that go along with its usage. Both aspects together contribute to workgroup awareness. Microblogging is already institutionalized in order to communicate informal information that might be communicated only at the water-cooler instead. In terms of group awareness, the water-cooler is an area where important information is shared. As with communicating around the water-cooler, communicating by Microblogging might be an efficient situation where informal but nonetheless important information is passed on to others. However, it constitutes a social situation that has its own dynamics.

By pointing to just two topics, i.e. the design of a Microblogging platform and the *Like* button, we stated that these issues might have an impact on the situation of communication and therefore, for the structure of an organization. This would especially be the case, if we think about organizational development in the long run. As contingent as a situation of Microblogging at the beginning might be, it created a rule-set for communication. This rule-set might spread to other organizational settings, the more important Web 2.0 communication will become, the more intensely this might happen. For example at some time in the future, the language in meetings might correlate to the tone of Microblogging conversations. Or in terms of feedback, extensive usage of the *Like* button may have impact on other conversation situations within organizations. The structuration process would be as follows: By processes of imitation and mimicry at the beginning, when contingency is highest, certain activity patterns may be passed on and constitute the rule-set. What activity patterns that might be, depends on different factors. These might be social (e.g. group structure, power, agenda-setting) or technical patterns. We drew the attention to a possible impact that the thread structure and the *Like* button might have. Our assumption was that design and mimic behavior must be seen in a close relation that may even shape organizational structure.

Design and software functions are not only issues for technicians or designers but also for the social scientist. Because they shape a social software environment for encounter that, as a social frame, consists of rules, norms and expectations of group members. Design and software functions play a role for investigations of social behavior, but also for investigations that draw on the structures of organizations. Our contribution may offer a lens for further research towards issues of the Social Media Frame of Microblogging.

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