

Microblogging Inside and Outside the Workplace

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Abstract

Microblogging has recently generated a lot of research interest. Yet very little is known about how corporate employees use microblogging tools. This study examined microblogging in the workplace by conducting a content analysis comparing posts from individuals who were using an internal proprietary tool and Twitter simultaneously. In both settings, posts that provided information or were directed to others were more common than posts on status. Within these categories, it was more frequent to provide information externally than internally but more common to ask questions either through broadcast or directed posts internally than externally. Qualitative interviews explored users' motivations regarding microblogging behavior. The paper concludes with a discussion of the implications of microblogging for business use.

Introduction

Microblogs are short messages that people use to provide updates on their activities, observations and interesting content, directly or indirectly to others. By December 2008, 11% of Americans had posted to a microblogging site (Lenhart and Fox 2009) and by August 2009 there were over 32 million people on Twitter (McIntyre 2009).

The few published studies on the use of microblogging suggest that it can be useful for sharing information, keeping up to date on current events, and having broadcast or directed communication with others (Honeycutt and Herring 2009; Huberman, Romero and Wu 2009; Java et al. 2007; Naaman, Boase and Lai 2010; Zhao and Rosson 2009). But less is known about its use by people in the workplace. Moreover, existing research has only studied Twitter use, a publicly available microblogging tool (Zhao and Rosson 2009). We know from existing research that workplace use of publicly available technologies differ from use of proprietary versions of such tools (DiMicco et al. 2008; Efimova and

Grudin 2007; Skeels and Grudin 2009), especially with respect to issues of privacy and confidentiality.

This study sought to understand the use and value of microblogging in the workplace by analyzing over 5000 microblog posts from a group of employees. These employees were unique in that they used both an internal proprietary tool to post internally and Twitter to post externally. By comparing internal and external posts from the same users we explore how posts directed at a workplace only audience might differ from posts that are directed to a broader audience of non-work as well as work colleagues. Interviews with a majority of these employees allowed us to learn more about their reasons for posting internally or externally, and the value they got from posting and reading microblogs.

Twitter

In Twitter, posts or 'tweets' appear in temporal order in a public timeline, where they can be read by anyone who is 'following' that person or views her public profile. The concept of 'following' is non-reciprocal unlike 'friending' in social network sites that require consent by both parties before a connection is made. Depending on their preferences, a request to follow a microblogger is either granted automatically or with permission from the microblogger. In either case, there is no formal or implicit requirement to follow the person making the request.

There are several conventions used by microbloggers to convey information within the limit of 140 characters.

- Hashtags (#) followed by a word or code e.g. #icwsm, are used to group related posts together.
- Posts may be directed to a particular person by putting an @username at the beginning of the post. Even though the post is directed to a person others can still view it, provided the account is public.
- Microbloggers can 'retweet' someone else's post by copying the post and the person's username.
- Microbloggers often add URLs to a post. To keep within the character limit, they use a URL shortening service.

Previous Research

There are, as yet, only a few published studies describing the use and benefit of microblogging in the workplace. Zhao and Rosson (2009) interviewed 11 active microbloggers to gain insight into the conversational aspects of Twitter and the benefits it brings to informal communication in the workplace. Through a content analysis of Twitter posts, Namaan et al. introduce 'Meformers' users expressing information about themselves, and 'Informers' users interested in sharing general information (Naaman et al. 2010). In their dataset, the majority of users fell into the 'Meformers' cluster. Java et al. (2007) and Huberman et al. (2009) take a social network approach to examine how the pattern of friends and followers correlates with the frequency of microblogging. These studies note the benefits of microblogging including information sharing, information seeking, and friendship. In terms of the frequency of posts, they found that status accounted for the majority of activity followed by conversations defined by the use of the @ symbol to direct a post to a particular person. Of less frequency were posts that shared information via a URL, or posts that reported news. Zhao and Rosson don't report quantitative data but suggest that personal stories can build better awareness of others, establish common ground for communication and facilitate a perception of connectedness. They also suggest that the brevity, mobility and broadcast nature of microblogs contribute to information sharing and expertise seeking. Thus, far from being just about status, these studies point to a much broader range of content that shows up in microblogs. These studies, however, may just be scratching the surface of how microblogging can be used.

Study Design

Building on this research, we describe a study with two main goals. One is to deepen our understanding of the workplace benefit of microblogging by conducting a detailed content analysis of a sample of microblogs. Features of microblogging lend themselves to several benefits. As noted earlier, status messages may be useful as a way of staying in touch with friends, family, and especially people who are remote or with whom there is limited interaction. The use of @ to direct a post to someone may improve communication by initiating a brief dialog.

We suggest there may be additional benefits that have not yet been identified by existing research. For instance, since microblogging is a broadcast medium, people can use it as a form of 'crowd-sourcing' to ask questions or ask for help. Research (Constant, Sproull and Kiesler 1996; Weisz, Erickson and Kellogg 2006) suggests that this is a good way to get qualified answers to questions especially if sent to a large audience. Another feature of microblogging which has not received much attention until recently is retweeting (boyd, Golder and Lotan

2010). Passing information to others while acknowledging the source, builds shared knowledge and can help the reputation of the person being retweeted.

The second goal of this study is to examine how people appropriate social technologies for public and private use, by comparing the microblogs from employees who were using a public tool, Twitter, and an internal proprietary tool called BlueTwit. We are curious to see in what ways microblogs from the same people differ when targeted to an internal audience of other employees or to an external audience using Twitter that includes friends, family, colleagues and strangers.

Internal Microblogging (BlueTwit)

BlueTwit has many of the same features as Twitter with two important differences. It was only available from within the firewall and had a limit of 250 characters instead of 140.

Method

We combined quantitative and qualitative research methods to study employees at IBM who were using BlueTwit and Twitter over the same time period. IBM is a large multinational company specializing in information technology products and services.

Data Collection

The primary method of data collection was a content analysis of microblogs from both Twitter and BlueTwit over 4 months (March June 2009). This analysis was augmented with semi-structured interviews with 25 of the 34 users for whom we had data. The primary developer made the internal data available to us. From an initial group of 1257 people who had posted to BlueTwit, we found 86 people who had declared their Twitter ID's on several social software applications within the company. We used those Twitter ID's to obtain their Twitter data through the Twitter API. Because we were interested in comparing BlueTwit and Twitter posts, we limited our study to people who were regular and frequent users of both tools, which we defined as people who had at least 20 posts in each tool. We found 34 people who met this criterion. Over the 4 month period, these people had a total of 19,067 posts in the two tools. Since it was not feasible for us to hand code all 19,067 posts, we sampled 4 weeks of data by randomly selecting a week in each of the 4 months. This process resulted in a total of 5,387 unique posts. Of these, 3,152 (58.5%) were from Twitter and 2,235 (41.5%) were from BlueTwit.

Content analysis

Development of Coding Scheme. Our initial coding scheme was developed based on findings from Java et al. (2007) and Zhao and Rosson (2009). Java et al. categorized Twitter posts into 1) daily chatter, 2)

conversations, 3) sharing information/URLs, and 4) reporting news. Zhao and Rosson categorize tweets as 1) frequent life updates, 2) real time information, and 3) people based RSS feeds. Categories from these two studies overlap. For example, daily chatter is similar to frequent life updates, and sharing information/URLs is similar to people based RSS feeds. We attempted to capture these categories by creating the categories of *status*, *provide information*, and *directed posts*. Status is similar to daily chatter and frequent life updates. Provide information is similar to sharing information/URLs, reporting news, and people based RSS feeds. Directed posts is similar to the conversations category of Java et al. Additionally, based on our usage and understanding of Twitter, we added the categories *retweet*, *ask question*, and *directed with question*. To make the coding scheme as objective as possible, we developed a detailed rule sheet. This guided us in identifying characteristics that distinguish the codes from each other. Each post was categorized with a single code. In instances where the post could conceivably fall into two categories, we chose the code more dominant. Uncertainty about the context of the post was coded as *unknown*. Special attention was paid to the intent of the posts, not just the literal words. Table 1 summarizes our coding categories and includes appropriate examples.

Category	Example
Status: Answers the canonical ‘What are you doing now?’ Focusing on ‘now’ makes this category activity focused rather than purely providing information. This does not include anything that was in the past, with the exception of a ‘just’ modifying something completed. Includes greetings.	<p>“Downloading a newer SL client ready for my next and final meeting of the day.”</p> <p>“Good Morning World. It’s going to be even better after a cup of coffee :-)”</p>
Provide information: Posts that contain information, comments, opinions, news articles, and video links. Posts that are frivolous, express humor, irony, sarcasm, self-reflection, phatic in nature, rants or lighthearted fall into this category.	<p>“Chart API in JavaFX http://tinyurl.com/pe8qbo #JAVAFX”</p> <p>“I love it when other people waste my time. I really do.”</p> <p>“It is Thursday afternoon. Why do I feel like I’ve accomplished so very much, yet so little?”</p>
Retweet: Retweet of information falling into the provide-info-work category. Identified by ‘RT’, ‘via’, ‘thx’, ‘Retweeting’ etc. modifiers.	<p>“RT @QWDF: Stumbled across a brilliantly bad album of TV theme covers on #spotify. http://bit.ly/rATQR”</p>

Ask question: Questions that are eliciting a response or looking for feedback.	“Anyone know if there’s an easy way to view just unread mails in Notes?”
Directed posts: Posts that fall into the ‘provide info’ category but are directed at someone through ‘@username’ or explicit mention of a name. Sometimes people use RT to provide the context of the post and write their reply with “<<” or “>>” signs.	<p>“@POIUY Top 10 Programming Fonts: http://bit.ly/14fb2F”</p> <p>(with RT): “RT @FCD: Wow! Thanks to everyone on Twitter and Facebook for the kind birthday wishes << oh la la... Happy birthday, Tom! Enjoy it :D”</p>
Directed question: Posts that fall into the ‘ask question’ category but are directed at a specific individual through an ‘@username’ or a direct reference of their name. Some users use ‘RT’ to provide the context of the conversation and use ‘<<’ or ‘>>’ to start their post.	“RT @HIURJK - Anyone (that means you Bill) have any suggestions on how to increase the value of a Website using Social Media? << Do you have the Web link that I can check out to provide some suggestions or are you talking in general John?”

Table 1. Coding categories and examples. Usernames are changed to protect anonymity.

Coding Scheme Execution. Our coding scheme was fine tuned iteratively with two coders who were employees of the company under study. The posts were ordered chronologically with the identity of the author and source removed. Because of the brevity of microblogs it is sometimes difficult to determine context. However, since the posts were ordered chronologically, the coders could often look at posts surrounding a particular post to determine its context. Additionally, since the coders were employees of the company, they were familiar with the various terms, references, and acronyms used. Coders independently coded posts and then met almost daily after a day’s worth of coding. They then compared their codes and evolved the coding scheme rules. They recorded their disagreements in a separate spreadsheet for Kappa calculations and resolved their disagreements for data analysis. The authors used this method to manually code all 5,387 posts. They then went over the dataset again to recode posts based on the evolution of the coding scheme. At the end, the overall level of agreement between the two coders based on Cohen’s Kappa (Cohen 1960) was 0.82 ($p < 0.01$). The data was analyzed using a within-subjects design ANOVA with tool (2 levels) and category of post (6 levels) as the main variables.

Results

The 34 people in our study were based in 15 different countries with the majority coming from the US or the UK. The majority (82.35%) were male which is consistent with other studies of workplace use of social software (Efimova and Grudin 2007). They had used BlueTwit for an average of 187.5 days (*min* = 46, *max* = 244) and Twitter for an average of 468.12 days (*min* = 46, *max* = 838). They were also following or were followed by a large number of people especially on Twitter, as shown in Table 2. These numbers for Twitter are markedly higher than similar data in previous studies (Huberman et al. 2009) and probably reflects the growth in Twitter users overall as well as that the people in this study were sufficiently active to have generated many followers.

From the corpus of 5,387 posts, representing 4 weeks of posts on Twitter and BlueTwit combined, there were 426 posts which we were not able to code because they were written in a foreign language (*N* = 128), they were ambiguous (*N* = 61), or they were directed to someone but otherwise ambiguous (*N* = 237). We removed these cases from our analysis, leaving a corpus of 4961 posts. Mean posts across coding categories are shown in Figure 1. To reduce individual differences of posting behavior in Twitter and BlueTwit, we grand mean centered our data for Twitter and BlueTwit separately by subtracting the number of posts of each coding category from the grand mean of posts for Twitter and from the grand mean of posts for BlueTwit.

Quantitative Results

To examine differences in content and microblogging tool, we ran a factorial repeated measures ANOVA. The results of the ANOVA are shown in Table 3. The main effect of category and the interaction between category and tool were both significant. An ANOVA on the raw

	Followers (<i>SD</i>)	Following (<i>SD</i>)
Twitter	338.88 (510.65)	282.06 (351.14)
BlueTwit	33.62 (45.47)	39.29 (57.99)

Table 2. Mean followers and following for Twitter and BlueTwit.

Variable	Mean Square	F	df
Tool	1274.12	2.48	(1, 33)
Category	36528.1	9.86**	(1.1, 36.85)
Tool*Category	1312.62	3.89*	(2.1, 68.36)

Table 3. ANOVA for tool and category of post. Degrees of freedom were corrected using Greenhouse Geisser estimates as the assumption of sphericity was violated.
* $p < 0.05$, ** $p < 0.01$

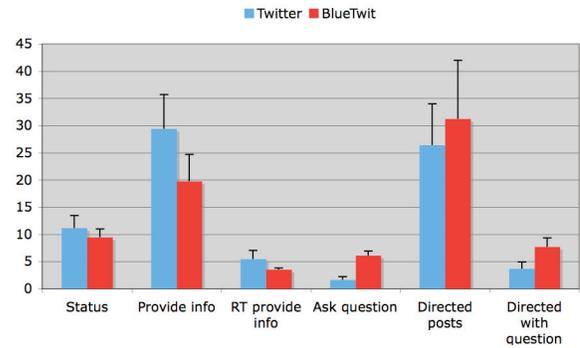


Figure 1. Mean Twitter and BlueTwit posts by category

data, as opposed to mean centered data, produced the same results.

Although there were more posts in Twitter than in BlueTwit, the difference between these tools was not significant implying that our population of users were just as willing to post internally as externally despite the longer availability of the external tool.

It was not surprising to find differences between the categories of post. However, contrary to a common perception that microblogs are really just for posting messages about personal activities, coded here as status, we found that workplace employees are mostly using the tools to post information and to engage in brief directed conversation with status as only the third most frequent type of post.

The significant interaction between tool and category indicates that workplace users are posting different content internally than externally. In particular, Figure 1 shows that status, provide info, and retweet were more frequent in Twitter, whereas ask question, directed posts, and directed posts with questions were more common in BlueTwit. Pairwise dependent t-tests revealed significantly more Twitter posts were used to provide information ($t(33) = 2.02, p = 0.05, r = 0.33$), but significantly more BlueTwit than Twitter posts were used to ask questions ($t(33) = -5.86, p < 0.001, r = 0.71$) and ask directed questions ($t(33) = -2.4, p < 0.05, r = 0.39$). These results provide partial but encouraging support for the notion that microblogging differs inside and outside the workplace; more personal, directed interaction takes place internally whereas more information is shared externally.

Qualitative Results

We conducted semi-structured hour long interviews with 25 out of the 34 users in our study. With the permission of users, the interviews were recorded and then transcribed.

The majority of our users accessed both Twitter and BlueTwit through an external application such as a firefox plug-in, a plug-in from the corporate email system, or a mobile or desktop application. The majority of users reported doing some intelligent filtering such as setting up

groups¹ or using search terms on Twitter, but not for BlueTwit. Since BlueTwit was an internal application, it did not have as many users as Twitter. Consequently, users would just follow the public timeline of all posts since it was not as overwhelming. A participant called it the 'pulse' of the company since by browsing it, users could get a feeling of what had the attention of others in the company. This may also explain the low follower and following counts for BlueTwit in Table 2.

Where the quantitative results provide a statistical picture of what content people were posting, the interviews provided insight into the motivations for microblogging as well as the reasons for reading and posting microblogs.

Confidentiality. There was no ambiguity about posting confidential information; all participants exercised common sense and were very clear that they would never post any information that might be construed as confidential on Twitter or even BlueTwit. Nor did anyone express any difficulty in determining what was confidential. Similarly, participants were wary about posting anything which might be construed as critical of the company on Twitter, preferring to post that information on BlueTwit. For example,

"if all that <the tweets that are posted internally> went outside I would feel that you would be somewhat exposed because inside people are more willing to share more readily their direct experience whereas outside they are probably not likely to say here's something that went really wrong... although would not be seen as a bad thing..."

Along the same lines, they also preferred to use BlueTwit to post on anything that might be company specific:

"I'll refer to technologies that no-one outside may even know about or normal processes that aren't even relevant to other people."

Conversation and Help from Colleagues. Employees equated interaction on BlueTwit as family conversation. Users could engage in constructive criticism of company products since all discussion was internal. They would avoid doing that on Twitter because they did not want to give the company a bad name. It was also an efficient way to get help compared to the helpdesk since many of the company's developers were on BlueTwit.

"I couldn't find any blog or wiki which would help me. So I posted an update on BlueTwit and someone from Canada who I had never been in contact with sent me an update, well you can do it like this here and here and... this really saved my day! I received the answer in 5 minutes!"

There was also interesting instances of participants indicating that they would read the internal posts to see if anyone needed help.

"I do go to the main stream sometimes but I feel like that is almost a role I have because I am aware of a lot of the technology... I can often answer or tell people... did you want any help with this or like that?"

This sense of obligation to others often stems from a sense of belonging to a community (Jiang and Carroll 2009) and raises the interesting question of whether there is a greater sense of community amongst internal microbloggers than amongst sub-groups of external microbloggers.

Real-time Information Sharing and Awareness. Over and over again, we heard that the value of reading Twitter was to get access to good information sooner than through other sources. It allowed access to thought leaders without having to know them personally. For instance one person said:

"As far as Twitter is concerned the value is two-fold: learning much of what is happening in the marketplace, picking up trends, and picking up news... get a lot of news items earlier that way than any other way..."

While another said:

"Twitter is for early breaking news. I get to know what's happening. When there is something new from Google, I get to know quickly."

Consistent with earlier research (Zhao and Rosson 2009), our participants talked of using Twitter as an alternative to an RSS feed or feed reader, because the information was already filtered to match their interests and they knew enough about the people providing the information to be confident in the quality of the information they provided. Retweets in particular signaled to users that this information is of value and worthy of passing along. Retweets from familiar users that one trusts lent credibility to the information and provided a filter in terms of which information to focus on. For instance,

"With Twitter I know it's a human that has selected the information that is saying that you should read this article. RSS feed is robotic selection for topics while twitter is human selection of what I should see. And it's the quality of my network"

Microblogs frequently include links. In our sample, 15% of the internal posts and 26% of the external posts included a URL. This is a higher percentage than previously reported (Java et al. 2007) which may reflect changes over time since the previous study was published in 2007, or it may be due to differences in our populations. In the population we studied, links provided value by, for instance, validating what someone had said, expanding on the point being made or simply providing

¹ Twitter lists were not available at the time of the study.

reference to relevant information. Some participants also used links to reference their or others' blog postings or to draw attention to other social tools. For example,

"Usually the thing I tweet about is a reference to an interesting article. Usually the tweet itself does not add enough content to be relevant."

Reading BlueTwit allowed employees to become aware of what their colleagues were working on. One participant mentioned *"I try to figure out who's doing what based on their tweets."* Some participants reported using this information to connect with others in the company with shared interests. Sometimes, these would be employees they would have otherwise not known about. BlueTwit was also used for social purposes. For example, some people used BlueTwit to broadcast lunch and dinner plans asking others if they were interested in joining.

Microblogging can increase the visibility of a topic compared to discussing it over email or instant messenger. Since microblogs are generally public and searchable, more people have access to it. Some employees reported using microblogging when they wanted to get more visibility on an issue.

Participants did mention that the sheer amount of information on Twitter can get overwhelming, and not all of it is useful. According to some *"Twitter is for chatting, not for serious things."* Participants mentioned occasionally 'dipping' into the stream just to get a sense of what's going on, rather than reading each and every post. Although BlueTwit contained mostly work related posts, possibly because of being an internal tool, some users had concerns about spending too much time wading through various pieces of information. Finding intelligent ways of filtering information in microblogging tools such that only information relevant to an individual user is visible is needed for widespread use of microblogging in the workplace.

Reputation Management. Our participants were very conscious of the value of posting information for enhancing their own reputation, as a form of impression management (Vazire and Gosling 2004). One person said:

"Value as an employee is to be visible inside the company. You have to be visible to show people. I help my community with new solutions. To give and get."

Yet another participant mentioned,

"If I only ask questions then people will see me as someone who only asks questions. But if I answer, people will see me as someone as who knows and who can help."

One way participants felt their reputation was increased was when others would retweet their posts. Retweets by others conveys a signal of relevance and importance, and was thought to increase the standing of a user as a conveyor of good information.

Interestingly, many people posted to Twitter as a way of raising the company's profile by providing information

that would be of value to others, which in turn could help to develop their own professional standing. For instance,

"I'm getting a degree of advertising out there in terms of the external evangelizing I'm doing so that's broadening my audience and is generating other followers and generating requests for doing presentations to conferences."

Feeling Connected. An important side effect of microblogging is that people report feeling more connected with others (Zhao and Rosson 2009). This was especially true for mobile workers. It kept them connected to other colleagues and the company and alleviated the feeling of isolation. The frequency of updates also plays a role in fostering a feeling of connection. Even though there is no explicit 'friending' model as there is in social network sites, there is a level of familiarity that comes from reading posts even from strangers or people who are not well known. Several people commented on the sense of connectedness that came with participation in microblogging. A typical comment,

"I feel like I know these people. When it does come a time when I meet them or I might need to engage with them on something there has been an element of rapport established... we don't actually know each other but we do, from the interactions we've had in that space."

On the other hand, some participants were beginning to struggle with getting the right balance between work and personal topics. As one person said,

"The problem is how much personal focus I can really put into it <the Twitter posts>. I have tried to grow the personal side in a way that doesn't impact on the company and if I had more time I would probably end up with another Twitter id and separate the personal out into that. But then the danger is that your work-life balance or your work-personal work balance might get thrown off and maybe having it all in one space keeps it in check."

Discussion

The rise in the popularity of microblogging on public sites such as Twitter has been accompanied by a growing adoption of microblogging in the workplace. A few preliminary studies have begun to track the use of microblogs in the workplace (Zhao and Rosson 2009) but there are no published studies that provide a comprehensive and quantitative view into employee microblogging behavior. This study sought to deepen our understanding of microblogging in the workplace, and how people appropriate social technologies for public and private use. We achieved this by conducting a detailed side by side content comparison of a corpus of microblogs generated by a population of employees who were using a proprietary internal tool, BlueTwit, at the same time as Twitter.

Consistent with previous research, we found that workplace use of microblogging covers a wide range of

purposes including status updates, general information, and directed conversation. Contrary to previous research which identifies status as the predominant use (Java et al. 2007), or informing others about oneself (Naaman et al. 2010), the main purpose of microblogging found in this study was to provide information or engage in conversation. The enforced brevity of microblogs is meant to encourage people to write about their activities and the Twitter tag line invites people to say ‘What are you doing’². Despite this prompt, status was not the most common type of post in our data. It represented only 18% of the posts compared with providing information (38%) and directed posts (29%). Status updates are often cited as a way of maintaining a form of ‘ambient awareness’ (Skeels and Grudin 2009; Zhao and Rosson 2009). In personal use, status messages can help to increase a sense of connectedness, especially with less well-known people. In business use, status messages can help maintain awareness of availability, especially in a distributed workplace where people have limited opportunity for face to face interaction. However, as long as microblogging is broadcast rather than narrow-cast to a specific group, the coordination value is minimized. Amongst our participants, status was often used to signal availability. For instance, people might microblog about leaving and returning from vacation.

Directed posts use @username as a convention to direct a post to a particular person although they can still be read by others. A directed post may also signal some degree of familiarity between the two, since a microblogger is more likely to send a directed post to a friend rather than a stranger (Huberman et al. 2009). One of the ways that social content appeared in directed posts was through the use of words like Thanks! or some other type of informal acknowledgement of the other person. These types of non-content, phatic communications (Makice 2009) are an important and lightweight way in which people maintain their relationships with their friends and followers. Directed posts represent an interesting way to direct communication to particular people in an otherwise broadcast medium and often sparks a brief ‘conversation’ which has the characteristics of a threaded discussion or a private chat in a public space. These discussions start with one person posting on a topic. Another person will then respond and direct that response to the original poster by using @ followed by the person’s name. These discussions were more common with BlueTwit because there were fewer people, which made it easier to follow the discussion, and a longer character limit, which made it easier to include enough content to be informative.

One of the benefits of microblogging that has not received as much attention in the literature is its use for ‘crowdsourcing’ (Malone, Laubacher and Dellarocas 2009), especially for getting answers to technical questions. We saw evidence of this use in our categories of ask questions and directed questions. These questions,

however, were mostly directed to an internal audience despite the value of the larger external audience. Many of the questions concerned specific internal technology use, which would be best answered by internal experts. However, many of these experts were also available on Twitter which raises the question of why post internally. Some respondents indicated that they got a rapid response when they posted a question internally although we don’t know whether this was real or just their perception nor under what circumstances a smaller more focused audience may be preferred over a large one.

Implications

Despite their inherent simplicity, microblogs are evolving into a richly nuanced medium for maintaining awareness, building relationships, and finding and sharing valuable information from internal and external sources. In this section we consider the broader implications of this study for the workplace and for the design of new technologies.

This study raises several questions for workplace use of publicly available social technologies. Research suggests that social information is an integral part of information sharing and forming social networks. One of our findings is that information oriented posts are more frequent externally. This raises the question of whether people who only access internal information are at a disadvantage when it comes to the latest news and forming the kind of social networks that support better information sharing.

Microblogging is used to communicate with a large audience of followers. There are some clear advantages to size, such as the benefit of gaining access to the knowledge from a large number to obtain technical assistance and links to interesting information. But there may also be advantages in using microblogging with a small group where the use of status and asking questions might predominate as methods of establishing coordination, especially in distributed teams.

Research has looked into the use of internal corporate blogs (e.g. Kolari et al. 2007). Although our purpose was not to compare microblogging with blogging, some participants did mention their thoughts on this. The brevity of microblogs makes it quick and simple to compose a post. But it takes more effort to compose blog posts, but individual blog posts are more informative.

Twitter is limited to 140 characters because it was originally designed to be used with mobile technologies that had that limit on text messages. BlueTwit, however, was initially designed for a web browser and was not constrained to the same limits. In this study we were not able to conduct a systematic evaluation of the effect of character limitations on behavior but anecdotally we did see that the longer limit on BlueTwit may have contributed to turning directed posts into threaded discussions. Further exploration of the differences due to the number of characters may help influence the design of future microblogging tools.

Finally, we uncovered many additional features of microblogging which were beyond the scope of this

² This has been recently changed to “What’s happening?”

paper. For instance, the model of follower/following, is almost a hybrid of the more established subscription model associated with news feeds and the 'friending' model for social networking. Like the subscription model, people can sign up to follow/subscribe to someone without requiring confirmation of the relationship. However, unlike newsfeeds, the follower/following model has the feel of forming a personal heterogeneous community of people with like-minded interests.

Limitations

In order to focus on differences between public and private usage we used a population who regularly used both Twitter and BlueTwit. Because of this requirement it is possible that our population may skew towards early adopters compared with the general population of people who use only one tool or another. On the other hand, the participants came from a wide variety of countries and almost every business unit in the company so they had diverse backgrounds, reporting structures and responsibilities.

Microblogging, like many other social technologies, is still evolving. The results of this study must thus be construed in the context of a particular time in the evolution of the technology.

Conclusion

Our study examined the use of public microblogging for public and private use by comparing internal and external microblogs from the same group of people. There were significant differences in content. The internal microblogs were generally used to solicit technical assistance or as part of a conversation. The external microblogs were used for status updates and to share general information. Interviews highlighted the value of microblogging for getting early high quality information from trusted sources. As with any emerging technology, there is much research left to be pursued on microblogging.

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