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USES OF SOCIAL SOFTWARE IN PERSONAL AND ORGANIZATIONAL SETTINGS

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Abstract

Grass-roots social software, such as instant messaging and blogs, has increased its popularity dramatically and invaded the lives of millions of Internet users. Not only used for personal purposes, individuals also use such technologies for organizational-related communication. Some of these employees use the social software provided by their organizations, while some of them install their favorite applications in their office machines for communication. Not all organizations are willing to adopt such newly emergent technologies, as a result, different attitudes toward the use of social software in the workplace are identified. Individuals' use of social software is not only influenced by the software per se; organizational policies and established norms also play significant roles in influencing the behavior. A research framework addressing the reasons and processes of social software uses is then developed. Future research for this social phenomenon is also proposed.

Keywords: Social software, Instant Messaging, Blogging, Organizational Policies, Established norms

Introduction

The use of computers for communication can be traced back to the 1960s (Hiltz et al. 1993). However, not until the 1990s, did the use of computers for communication increase dramatically. In the current Internet era, commonly used communication tools include email, instant messaging (IM), online discussion forums, wikis, and weblogs (blogs). The Internet and software features contribute the most in boosting the ubiquitous use of these technologies as Internet technologies allow social software to be accessed anytime and anywhere and the easy-to-use software features further promote adoption and diffusion.

Social software is particularly popular among teenagers and young adults. Although generally perceived as software for fun, social software is adopted not only by trendy individuals, but also businesses. Blogs and wikis, are occasionally used to support high-school (for examples, see <http://supportblogging.wikispaces.com/Links+to+School+Bloggers>) and tertiary teaching (Du et al. 2006). Organizations use IM as a tool to converse with their customers (Locke et al. 2000; Nardi et al. 2000). For example, HP provides real time technical support to its customers by using IM (see, http://welcome.hp.com/country/us/en/contact_us.html). Many businesses use blogs as one of their marketing tools to get closer to their customers (Wright 2006). For example, General Motors promotes its new cars in its corporate blog (see, <http://fastlane.gmblogs.com>). Besides, many articles about social software have been published in newspapers and practical magazines, such as New York Times and BBC news. A tidal wave of social software approaching our society is obvious.

Many adept social software users use their favorite software in the workplace, either officially or unofficially, for personal and work-related communication. Social software used in the workplace can be beneficial, for instance, IM, can definitely increase communication efficiency (Muller et al. 2003; Nardi et al. 2000; Patton 2003). However, any computer-mediated communication tool has its own advantages, disadvantages, social dynamics and opportunities (Hiltz et al. 1985). Social software may create serious security problems to organizational networks (Bhagyayati 2005; Hickey 2006; James 2003; Osterman 2006), leaking organizational information, and reducing employee productivity (Bhagyayati 2005). Despite the recent popularity of such newly emergent social software, most organizations still do not provide proper guidelines or policies to their employees, and it is not uncommon that employees are terminated due to improper use of social software (examples, see http://news.com.com/Google+blogger+I+was+terminated/2100-1038_3-5572936.html and <http://news.bbc.co.uk/1/technology/3974081.stm>).

It is apparent that organizations should take the advantages of social software in building better relationships with their customers (markets are conversation (Locke et al. 2000), talk to your customers in their own way, especially with the younger generation customers who are going to lead the trend of the market) and encouraging more efficient internal communications (younger generation will soon be the main stream of workforce, and the majority of them have already acquired the skills and habit of using social software for communication), but at the same time, they should provide proper guidelines for their employees to use social technologies in an appropriate way.

Although much research has been done on studying the impact of social software from sociological perspectives, not much

research has been done on studying grass-roots social software uses in organizations, in particular, the impact of established norms and organizational policies on the uses. In the next section, the phenomenon of social software use is described. Then, different theoretical explanations for social software uses are discussed. The research methodology is then stated, and finally, the paper concludes with implications for future research and for practice.

The Phenomenon: Personal and Organizational Uses of Social Software

Social software is defined as any type of ‘computing application that serves as an intermediary or a focus for a social relationship’ (Schuler 1994); social software use defines the ‘interplay between individuals’ social behaviors and their interactions with computing technologies’ (Dryer et al. 1999). It enables users to meet, connect or collaborate through computer-mediated communication. . Examples of social software are telephone, email, instant messaging (online chat), Internet Relay Chat, Internet forums, blogs, wiki, social network services, social bookmarking, virtual worlds and massively-multiplayer online games. Newly emergent social software differs from top-down organizational communication applications as it is not about control but co-evolution (Boyd 2003): individuals first communicate with their own peer network, influence each other within their own peer network or even extend to other people of other networks (Boyd 2003; Hinds et al. 1995), and the social influences through these social circles can be tremendous.

Like the most popular communication tool in the last few decades, the telephone, email is currently the most popular social software being used for both personal and organizational purposes. Email enriches information-rich-communication (Ngwenyama et al. 1997), provides persistent organizational memory (Tassabehji et al. 2005), accelerates information dissemination (Sproull et al. 1986), encourages knowledge sharing (Tassabehji et al. 2005), improves information flow in organizations (Tassabehji et al. 2005) and supports virtual collaborative communities (Wellman et al. 2005). Its functions, ensuring authentication and non-repudiation, are extremely important in business transactions. Even though it was once criticized as a fancy hype (Weber 2004), it has eventually developed into the most important organizational communication application.

Email is the most widely used online communication medium, and in the near future, no other communication tool can supplant its popularity, however, its attractiveness seems to be fading among teenagers and young people (Mackenzie 2006; Wellman et al. 2005). For the younger generation, email is considered to be the traditional communication tool that is suitable for adults and business, but not for theirs, especially for their peer group social interactions (Wellman et al. 2005). Except for official and formal communication, the majority of the younger generation tends to use newly emergent social software, such as, IM and blog, to converse with their peers.

The following scenario can be easily found in organizations: *Bob is working in his office, using email to communicate with his supervisor to clarify the tasks just assigned to him. At the same time, he is using MSN to chat with his university fellow-classmate, seeking for advice to perform the tasks. Meanwhile, he is reading the comments received from his blog*

postings asking for an efficient way to complete similar tasks. Bob is concurrently using three types of social software, email, instant messaging and blogging technology, to solve his work-related problems. One difference between email and the other two social software is the process of the initiate adoption. In most cases, email is implemented in a top-down approach, that is, an organization chooses a particular email application, implements it, and institutionalizes its uses. On the other hand, grass-roots social software is usually initially adopted by end users. Although, the majority of organizations allow their employees, to a certain extent, to use organizational email applications for personal and social communication, its technology 'spirit' (DeSanctis et al. 1994) is designed not for social interaction and the initial adoption is neither from a bottom-up approach. The adoption is thus not purely from an individual's *free will*.

An instant messaging (IM) application allows individuals to chat with other individuals over the Internet. (Note: The abbreviation IM refers to both the application per se as well as the action of online chatting). It is a form of real-time communication with typed text. Consumer IM clients are cheap to obtain and easy to use – it is usually free for downloading from the Internet. IM users can chat through the chat windows with just one simple click from the buddy list. In addition to the basic textual chat and emoticons (e.g. ☺, ☹), advanced features, such as real-time audio and video conferencing, file sharing, photo sharing, away messages and even mobile phone calls are available in most IM tools (for examples, see, msn.com or aol.com). This rich medium allows its users to conveniently communicate with their acquaintances, and closer relationships can thus be maintained. IM differs from email in the way that it provides real-time chatting. The buddy list with the availability status allows users to know whether the communication target is immediately available (Isaacs et al. 2002b; Ljungstrand et al. 2000; Osterman 2003). As a result, IM users expect instant reply, while email users may already consider same day reply as efficient (Quan-Haase et al. 2005; Wellman et al. 2005).

Some organizations start using IM as their internal and external organizational communication tool (de Vos et al. 2004; Huang et al. 2004; Li et al. 2005; Quan-Haase et al. 2005). Employees can interact with their colleagues through enterprise IM tool within the organization intranet. One major HongKong-based international bank has installed IMB@Lotus@Sametime® for its employees to IM. Some organizations adopt IM to communicate with their business partners and customers. For example, HP technical support staffers can solve clients' immediate problems by using IM. Customers just need to type in their queries/problems with the IM tool provided in the company website and HP technicians can immediately give answers through the same tool. If needed, software can also be transmitted to the customers' machines through the same connection to help fix problems.

Even with the provided enterprise IM tool (which is usually run within organizational intranets), employees may not be able to communicate with the outside world, hence, some of them possibly will download consumer IM clients to their office machines, and start conversations with colleagues and friends. This definitely increases communication efficiency, however, it also creates problems to organizations (Ewards 2002; Paulson 2004). IM creates a big hole in the organizational network which is easy for hackers to trespass (Bhagyayati 2005; Osterman 2006). The number of IM-related worms and malware increased significantly in 2006 (Osterman Research 2006). If the IM conversations are needed for later occasions, archival and encryption created other problems. Leaking sensitive organizational information and decreases in employee

productivity (Bhagyayati 2005) are always other organizational concerns.

Yet a comparably new Internet technology, blogging technology is now driving the contagion of online social network and social relationship building (Ip et al. 2007). A blog is a website where individual, group, or corporate online journal entries are posted and displayed in a reverse chronological order, a typical blog combines text, images, audio, video, and links to other blogs, web pages, and other media related to its topics (Encyclopedia Britannica). Blogs provide up-to-the-minute posts, allowing authors to freely express their passions and point of view (Nardi et al. 2004a). With archival functions, blogs provide persistent digital memories (Czerwinski et al. 2006), together with the commentary (allowing audiences to post feedbacks to the blogs), archives, and RSS feeds (the notification of any changes of the contents of subscribed blogs), deeper relationship and online communities among bloggers can thus be sustained (Blood 2004). The growth of blogging is rapid. For example, Xanga.com, the first annual growth was just 100 diaries when it was launched in 1996, but now there are over 20 million diaries posted, and daily visits to Xanga.com number 42 million. Blogger.com has grown to become the 15th heaviest trafficked website (source: alexa.com as of April 30, 2007) since its launch in Aug 1999. Individual bloggers utilize blogs to post personal diaries, to communicate with friends, and to arrange activities. Some organizations use blogs for internal information dissemination, customer interaction, and marketing purposes. According to the AMA/ePolicy 2006 survey, about 8% of US companies operate business blogs. Among these companies, Sun Microsystems is one of the most enthusiastic. It provides a blog site and clearly states “This space is accessible to any Sun employee to write about anything”, and its CEO, Jonathan Schwartz, uses his blog to release personal opinions as well as organizational information to the public.

Although 75% of US companies have proper guideline on email uses through imposing organizational policies, in 2006, there were still 31.6% of US companies had fired employees due to their misuse of email. ‘Misuse’ of IM and blog also create problems to individual employees. Around 2% of US companies had terminated their employees for the contents in the employees’ IM conversations and personal blogs (reported by AMA/ePolicy 2006 report on IM and blog usage).

Theory and Research

In this paper, social software uses are referring to the social software use patterns. We aim at studying the use patterns from different dimensions. These dimensions are: the purpose (why), content (what), participants (whom), form (how), time (when), and place (where) of communicative interaction (Yates et al. 2002). The initial use of social software can occur in either non-work environment or workplace. In our study, we aim at investigating the emergent use pattern in the workplace. We believe that the emergent individual social software use is influenced by either individual social software use, or organizational communication software use, or both. In prior to identifying the use pattern, we need to understand the reasons of social software adoption as well as the reason of carryover between different social domains (that is, from non-work environment to the workplace and vice versa).

Individual-level Theories (Diffusion of Innovations, Technology Acceptance, Task-Technology Fit, and Media Richness)

Social software, in most cases, is freeware downloadable from the Internet. Individuals can have the opportunities of free trials of the software until they are satisfied with the technology. Furthermore, the majority of social software is quite easy to use, for example, a MSN user can start to chat with his friends with just one simple click from the buddy list; numerous pre-defined templates are available in the majority of blog service providers. The opportunities for the social software potential users to experiment with the software (Roger (1995) described it as trialability) and the general perceived ease of use of the technological features (Davis 1989; Venkatesh et al. 1996; Venkatesh et al. 2000) are the drivers of social software uses.

When social software is used for communication, no matter whether individual social uses or organizational business uses, tasks must be performed with certain software features. Different types of tasks have better fit with different types of communication media (Markus 1994). For example, blogging technology provides support in maintaining peer relationships by allowing individuals to leave messages in their blogs to invite their peers, even those on the other side of the globe, to read and leave comments (Ip et al. 2005; Ip et al. 2007; Xu et al. 2006), and its archival function is useful in keeping persistent memory (Erickson et al. 2004; Ip et al. 2005; Ip et al. 2007; Schull et al. 2006) for future retrieval. On the other hand, IM can provide instant online conversation that creates a type of intimate relationship.

When individuals want to communicate with their peers, they have to choose one medium, and among the alternatives, they will probably choose the one which fits the necessary tasks the most. Different types of social software provide different types and levels of social cues and timely interaction. For example, commonly used emoticons can easily allow the IM users to show their emotion; IM users can also know who is online through the status shown in the buddy list (Cameron et al. 2005; Huang et al. 2004; Isaacs et al. 2002a; Nardi et al. 2000). The better the fit between the technology and the tasks (Goodhue 1998; Goodhue et al. 1995) is, the more frequent uses of that social software will be; the richer the medium is, the more complicated and equivocal messages can be conveyed (Daft et al. 1984; Daft et al. 1986; Daft et al. 1987). Thus, we believe that many social software users start to use the technology due to the fit between the technology and the tasks as well as its richness.

Social Influence Theories (Subjective Norm and Habit)

No communication can occur when there is only one involved party, it can only be carried out when two or more parties participate. The success of any communication media does not rely on any individual's use, but on others' response to his use (Soe et al. 1993). When an individual wants to communicate with a group of people, he has to use the same medium which the group uses, and when the individual perceives the social pressure to use particular communication medium to

interact with that social group (Mathieson 1991), subjective norms (Ajzen 1991; Fishbein et al. 1975) existed. Subjective norm is a person's perception that 'most people who are important to him think he should or should not perform the behavior' (Fishbein et al. 1975). In the context of social software, if an individual wants to talk to his friends, and, if, almost all of whom are using IM, he has to use IM or risks being left out of communication. By examining the above situation, we can see that an individual's use of social software is not only driven by technological features, but also the social influences imposed on him.

Some users may bring their favorite social software to their workplace and start to use for communication with their friends and colleagues. Contrarily, other users may have used social software for business purposes in the first instance, then start using for personal purposes. This kind of carryover may be caused by the user's habit of using that technology. Habit is defined as a set of learned sequences of acts that become automatic responses to specific situations which may be functional in obtaining certain goals or end status (Verplanken et al. 1997). In the IS context, it is the use of a particular IS that has become automatic in response to certain situations (Limayem et al. 2003). So, when the social software is already available, for example, Window Live Messenger goes along with MS Windows, habit explains the behavior of social software carryover between two different social domains.

Established Norms

Established norms, implicitly, influence an individual's uses of social software in the workplace (Janson et al. 1997; Te'eni 2001). Different from subjective norms, which is an individual's subjective perception value, established norms are representation of the degree of consensus in a social system (Coleman 1990), and reflect the ways of acting that are accepted by the group members (Ullman-Margalit 1977). Examples of established communication norms include speed of replies, multiple conversations and formality of message contents. Norms have moderating effect on human behavior (Kankanhalli et al. 2005), and can influence a collective's choice of communication media (Janson et al. 1997; Te'eni 2001; Turner et al. 2006). For example, if a workgroup emphasizes on speedy communication, and if IM is available or not inhibited in the working environment, there is a great tendency that individual employees will use IM as the communication medium as instant communication can be performed. Or, if the group norm encourages formal vertical communication, IM may only be used among peer group members for lateral communication only. Thus, we posit that **an individual's use of social software is influenced by the established norm in his immediate working environment.**

Organizational Policies

Not all organizations are willing to allow their employees to use social software in the workplace. Many organizations have banned their employees from accessing the Internet, in fear of their access to blogsites, downloads of IM clients, and the like. Despite the speedy communication, consumer-grade IM clients may decrease workplace productivity (Bhagayati

2005), have potential damage to the organizational network (Osterman Research 2006), be potentials of leaking sensitive information, and change the organizational communication structure (Paulson 2004). These major concerns make organizations hesitant to adopt consumer-grade social software.

According to the AMA/ePolicy 2006 survey, there are 75% of US companies have email usage and content policies, 31% have IM policy, and 7% have policies on governing the contents on employees' personal blogs. Four different types of organizational policies on social software uses can be found – *Promotion*, *Permission*, *Prohibition*, and no *Policy*. The companies with promotion policies encourage their employees to use social software as one of their communication media. Example is Sun Microsystems. Companies with permission policies are those allowing employees to use social software, but without any explicit encouragement. HP is one example. Companies with prohibition policies stop their employees from using any social software, except organizational implemented email systems, to perform communication. The majority of conservative banks fall in this category. Finally, a lot of companies do not have any policies on the social software uses.

Real-life examples show that a handful of bloggers and IM users have been fired due to the contents of their blogs and IM conversations. For examples, Michael Jen was terminated by Google after his comparison of pay and benefits between Google and Microsoft shown in his personal blogs (Majchrzak et al. 2000; Zmud et al. 1990); Queen of Sky, Ellen Simonetti, was dismissed from Delta Air by showing her *inappropriate* Delta-uniformed photos in her blogs (Hansen 2005). It is obvious that these bloggers' personal social software uses were intervened by their employers. We believe that the uses of social software, both in personal and organizational settings, are influenced by organizational policies. Therefore, we posit that **even though an individual has adopted social software as his frequently used communication media, his personal and organizational-related uses are influenced by organizational policies.**

This article has brought out the importance of organizational policies and established norms on social software uses. A qualitative research is going to be conducted, aims at answering the following two research questions:

1. What are the emergent patterns of social software use in the workplace?
2. How are organizational norms and policies affecting individual's use patterns of social software?

With the understanding of these questions, we are able to propose social software policies to organizations to better manage the use of this type of newly emergent technology. Our research framework (Figure 1) shows the potential explanations to the use of social software within and beyond workplace, and the emergent individual social software use patterns from different theoretical perspectives. In the next section, the research designed aims at answering these questions is described.

Research Methodology

In-depth knowledge of this real life social phenomenon is a prerequisite to suggesting any practices and policies to organizations to guide proper use of social software. A descriptive and exploratory study is going to be conducted for this purpose.

Research Design and Procedures

To study this social phenomenon, qualitative research strategy is going to be adopted, as mentioned by Yin, when a “how or why question is being asked about a contemporary set of events over which the investigator has little or no control, qualitative research methodology is more appropriate” (Simonetti 2004) in exploring the phenomenon in deeper detail. To understand the real situation, it is essential to get information from real social software users, therefore, in-depth interviews will be conducted.

To investigate how different organizational policies affect individual’s social software uses for personal and organizational-related purposes, different organizations with different organizational policies, namely, promotion, permission, prohibition, and no policy, are to be targeted. Between cases analysis can provide a better picture of the impact on social software uses by different policies.

Established norms are developed through the interaction and collaboration between group members, thus, to understand how established norms affect the uses, two workgroups from each organization are to be selected. The targeted workgroups are groups carrying different business tasks so as to identify different types of group norms. Interviews with open-ended questions guided by an interview protocol are to be conducted. Such semi-structure interviews allow us to talk to different types of social software users, such as active users, normal users, and non-users. Through their different level of uses, we can understand how their different use patterns affect and are affected by the established group norms and communication practices.

In addition to interviews, individual IM logs (an individual’s one single day’s IM log with sensitive data removed), blog (consensus will be obtained in advance even the blog is publicized), and organizational published policy statements will be examined. With these multiple sources of data, we have the confidence that in-depth understanding of the individual’s social software use pattern will be obtained.

Organizations are multi-leveled. To understand the individual social software use patterns (in terms of why, what, whom, how, when, and where) in organization, we need to investigate the phenomenon in multiple levels, ranging from individual level, to group level, and finally to organizational level. The unit of analysis of this study is the embedded individual social software users within an organization. Through interviewing individual employees, we can understand their social software use patterns. Together with the identified established norms, we can understand how the established group norms influence the use patterns. Take a step further, by studying the published organizational policies, we are able to know how organizational policies affect the social software use patterns in the workplace.

Interview will be conducted in a one-to-one manner, and permission for audio-taping will be requested at the beginning of

each interview. Transcribed interview scripts will be coded by two researchers so as to ensure the reliability of the analysis. The procedure of analysis will follow the suggestions from Yin (2003). As the interviews are to be conducted at May 2007, we expect the findings can be discussed at the conference.

Implications for Research and Practices

With the research questions answered, the expected findings can be described at three levels. At the *individual* level, use patterns of different types of social software users, their use patterns between different social domains, before and after joining the workgroup, are to be identified. At the *group* level, how established norms and communication practices are shaping and being shaped by individual group members' behavior can be known. Finally, the influences of *organizational level* policies on individual's use behavior are recognized.

With our research framework and the expected findings from individual level to organizational level, a multi-level explanation of this emergent phenomenon can be developed. It is contributable to have such multi-level explanation to describe the social phenomenon which is the interplay between individuals and organizations. Finally, with the findings of how organizational policies influence individuals' social software use behavior, suggestions and guidelines are to be provided to practitioners. Organizations can consider our suggestions to develop their organizational policies to grasp the opportunities offered by these newly emergent technologies and at the same time prevent any problems brought by the uses. Simply blocking employees from social software in the office will surely solve the problems, but, there are a lot of opportunities are also blocked (Osterman 2006).

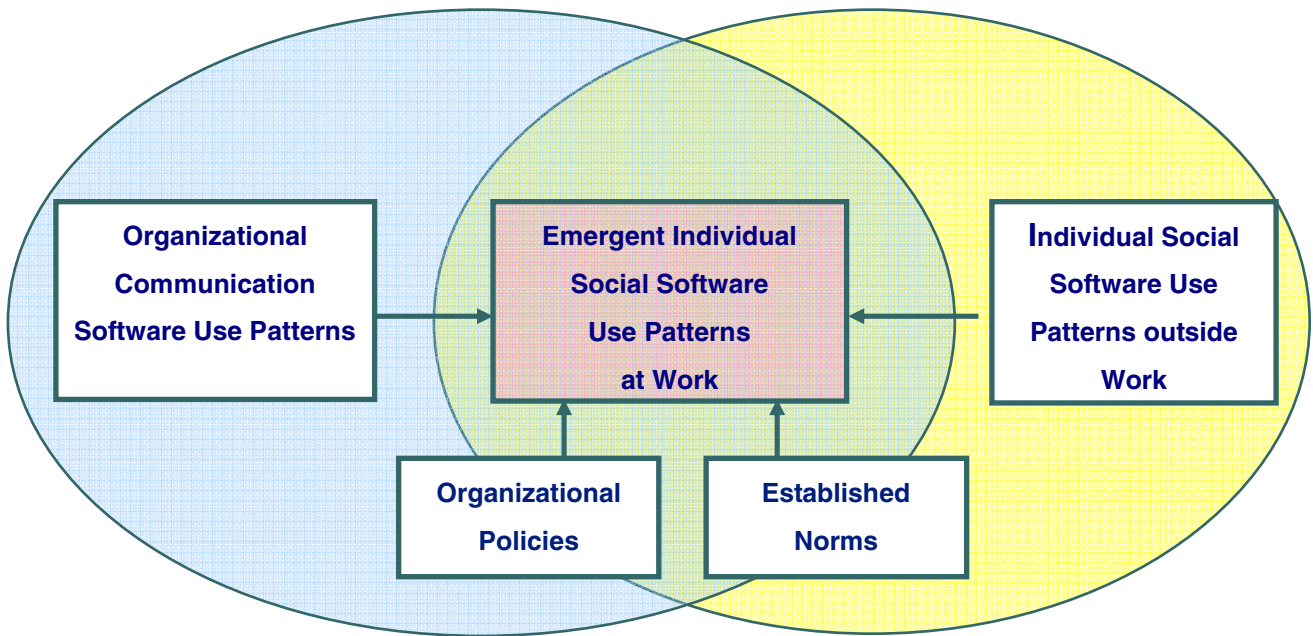


Figure 1: Research Framework

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