Knowledge Sharing in the Workplace: A Social Networking Site Assessment

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Abstract

Enterprise executives are taking note that great potential exists for enhancing knowledge sharing and linking experts within the organization when incorporating social software technologies into their operations. But there are warnings of potential negative effects if ineffective use or even misuse of these technologies occurs. There is relatively little empirical research examining the business impact of social software implementations evolving from Web 2.0 applications when considering the effects of trust on knowledge sharing. This paper attempts to fill this gap in the research by proposing a theoretical framework to study the effects of trust, risk and benefits, critical mass, and social influence on knowledge sharing intentions of employees using social media technology in the organization.

1. Introduction

Knowledge – always a fundamental asset for the organization – and the effective sharing of that knowledge has been a primary objective for the enterprise seeking a competitive advantage, and has become even more crucial in the digital economy. Efforts to transfer knowledge efficiently and effectively continue to be the focus of organizations as they incorporate various types of social software, or social media, into their knowledge management processes. These technologies offer the opportunity for collaboration among employees to increase exponentially as compared to traditional forms of communication such as the company newsletter, the weekly meeting or even email.

The research literature suggests that employees working in virtual environments are the next evolutionary stage of organizations, being as transformational as the industrial age and transforming the landscape now as organizations begin to employ social media tools [51; 63; 26]. As organizations continue to increase their virtual workspaces, a stream of research has focused on investigating virtual team members using various forms of computer mediated communication (CMC) that have become associated with the term social media. Researchers have found that technologies such as chat, groupware, internet telephony, computer conferencing systems, blogs, and Wikis have opened up new avenues for spontaneous communication in organizations and presents opportunities not possible just a few years ago [28; 51; 59; 76].

In a case study on the impact and value of corporate blogs, researchers found that the blog was a sustainable forum that could lead to benefits of “a shared understanding of organizational roles, increased sense of group cohesiveness, improved work processes, and improved professional and personal ties,” [5, p. 358]. It has even been suggested that wikis can not only benefit the organization, but the IS discipline as well. As purveyors of information technologies, the argument is made that IS academicians above others should embrace the new Web 2.0 technologies to enhance our core practices of research, review, and teaching [40].

In the organization, employees – especially those working in virtual teams – that utilize social media technologies are changing the corporate landscape by being able to engage in more dynamic and flexible interactions than traditional face-to-face teams [59]. “Virtual teams represent a new form of organization that offers unprecedented levels of flexibility and responsiveness and has the potential to revolutionize the workplace,” [61]. Additionally, knowledge capabilities that are enhanced by using information technologies were found to contribute to firm innovation [39].

Inexpensive and accessible Web 2.0 tools can be used to capture, structure, and maintain knowledge from experts in an organization to both create and retain value of scarce knowledge [31]. This makes the use of these social media tools attractive to the organization in light of ever tightening budgets in today’s business environment. As Andriole states, “Web 2.0 technologies are rapidly making their way...
into corporate technology infrastructures and architectures,” [3, p. 68]. However, in several interviews within those organizations, the author found that many have yet to fully utilize the technologies available or capitalize on the benefits such technologies can bring, due to large part to concerns of security and privacy [3].

There is a call for “vigilant collaboration” in order to overcome the challenges of these security and privacy concerns [36]. Noting that online knowledge collaborations can be risky for the participants, the authors suggest that by using deep appraisals of each other’s actions, participants can collaborate and share knowledge while at the same time protecting oneself from harm. Even though many organizations have turned to social media technologies to enhance their knowledge collaboration, many have not been able to fully embrace those technologies or realize the full benefits such technology can bring because of concerns of security and trust [3; 11; 36].

If these issues are, in fact, inhibitors of realizing the full organizational benefits of social media technologies, then it is necessary to investigate ways to overcome these concerns. As researchers point out, even though employees are often the weakest link in information security, they can also be one of the best assets in efforts to reduce risks that are related to security [11]. With the potential for businesses to gain so many benefits from incorporating social media into their knowledge sharing endeavors, further research into issues of trust and intention to share knowledge need to be examined. This research can provide companies the ability to enhance the realization of benefits from the use of collaboration technologies and the social and intellectual capital they can create.

The purpose of this paper is to propose a conceptual framework to measure the knowledge sharing intention of employees using a company social networking site (SNS) based on the employee’s perceptions of trust, risk/benefit, critical mass, and social influence. The remainder of the paper includes the relevant literature on the theories of reasoned action and technology acceptance, along with a review of the research on knowledge sharing and trust, and the importance of critical mass and social influences in a social networking environment. Finally, the conceptual model and propositions are presented, followed by a discussion of research and practical implications.

2. Literature review

2.1. Theoretical background

Technology acceptance models represent the dominant paradigm of individual acceptance and use of information systems [7; 41; 52; 75]. These models are rooted in the theory of reasoned action (TRA), which suggests that a person’s attitude toward a particular behavior is either positive or negative and is affected by subjective norms, or the perception that most of the people who matter to an individual believe the action should or should not be performed [23]. With its roots in social psychology, TRA was the basis of Davis’ [18] Technology Acceptance Model (TAM) which has been extended numerous times, primarily looking at user acceptance of information systems as determined by perceived ease of use and perceived usefulness.

Building upon the foundations of TRA and TAM, the unified theory of acceptance and usage of technology (UTAUT) was introduced as an attempt to bring together the most significant predictors determined from a study comparing previous theories of acceptance and usage [75]. UTAUT suggests that expectancies of performance and effort, along with facilitating conditions and social influence are direct determinants of intention to use. Social influences are defined similarly to subjective norms in TRA, or simply as the degree to which an individual believes that others who are deemed important to that individual believe the action should or should not be performed [75].

TAM and UTAUT models have been modified to include other benefits that are more salient when considering the use of an SNS in hedonic contexts. The intention to use and actual use of SNSs was empirically tested by combining factors from both models to develop a Social Network Site Adoption model [68]. The study combined traditional acceptance factors of perceived ease of use and perceived usefulness with the social factors of normative pressure (or subjective norms) as well as trust, critical mass (the point where enough users have adopted the innovation to make it self-sustaining), and playfulness.

When looking at interactive media technologies, research has shown that network externalities, or the reliance on the usage of peers as a requirement of interactive media use, may lead to higher perceptions of usefulness [19]. The study indicates that social norms are a strong predictor of usage intentions. Research has found that the more SNS usage increases, the more critical mass is achieved among the SNS community [68]. Sledgianowski and
Kulviwat [68, p. 76] define critical mass as “the point where enough users have adopted an innovation so that there is an acceleration of adoption of the innovation where upon it becomes self sustaining.” As the current research is focused on social networking site users, the constructs of social influence and critical mass are considered to be key determinants of knowledge sharing intention.

2.2. Knowledge sharing

Knowledge is an integral element of an organization’s resources, and frequently stressed as one of the most important assets a firm possesses. Knowledge has been described as the foundation of a firm’s competitive advantage and one of the key drivers of the firm’s value [10; 29; 30; 71; 78]. This organizational advantage is created by an organization’s ability to create and share knowledge, resulting in greater social capital and thus intellectual capital [55; 73; 78]. Social capital theory has also been investigated as a basis to analyze the collaborations of online interactions [36].

Online knowledge collaboration occurs when either the Internet or the intranet are used as a vehicle for the exchange of knowledge [36]. The value of knowledge is two-fold in that once created, it can be used repeatedly by many others in the organization, and also by the fact that knowledge, once shared, creates the stimulation of new knowledge [2; 59]. Knowledge creation is facilitated in the social processes of interaction and communication practices that exist in the virtual environment provided by social media [63].

Research has pointed to the importance of individuals’ willingness to share the knowledge they have acquired or created with others in the organization [10]. Recent studies indicate there are two types of knowledge sharing: full knowledge sharing where the knowledge is given freely, and partial knowledge sharing where some of the information is protected or withheld [24]. Individuals in the organization must also have the means with which to make their knowledge available to others in their firm [73]. Just as important is the necessity of the speed and efficiency of the social community within the organization that allows the dissemination of available knowledge [55]. Researchers investigating why people contribute knowledge to others in an electronic network found that a significant predictor was the perception that participation enhanced one’s professional reputation, and thereby his or her social capital [78].

Increasingly organizations are finding that effectively managing their knowledge resources is a crucial step toward gaining or maintaining a competitive advantage [2, 15]. There is a distinction made between simple information management – essentially the consolidation of data – as compared to knowledge management, which is a complex process that involves recognizing, creating, transforming, and distributing knowledge [29]. Inexpensive and accessible Web 2.0 tools can be used to capture, structure, store, share and maintain knowledge from experts in an organization to both create and retain value of scarce knowledge [35]. It is this easy availability which makes these forms of knowledge sharing so appealing to businesses.

2.3. Trust

The concept of trust has been researched in terms of both antecedent factors as well as affect in numerous approaches, categorized as having different dimensions, including disposition to trust, institution-based trust, and trusting beliefs [14; 42; 43; 79]. Disposition to trust is the willingness to depend on others, while institution-based trust refers to structural or environmental mechanisms in place that will ensure trustworthy behavior of individual members, and finally trusting beliefs are concerned with the firm’s integrity, ability and benevolence [43;79].

The various dimensions of trust have demonstrated different impacts on behavioral outcomes depending on the context of the various studies examining these elements. Studies have investigated trust in e-commerce environments where trusting beliefs were significant predictors [40], and others have examined trust in virtual teams in the organization where disposition to trust was a significant predictor [37; 59; 69].

The current study examines knowledge sharing in the organization through the use of a company SNS, and focuses on the disposition to trust other users of the company SNS, as well as institution-based trust, or the elements of security put in place by the organization to ensure trustworthy behavior of company SNS members. Trusting beliefs regarding the firm’s integrity, ability and benevolence when using the company SNS are believed to have a marginal effect, since the risk of knowledge sharing lies primarily in what other members are likely do with the information shared rather than the site itself.

Thus, the central trust is in those people with whom the knowledge is shared, as sharing has been shown to increase recipients’ power over the one sharing while decreasing the sharer’s own power over those particular others [24]. Therefore, in the context of knowledge sharing, trust is defined as the
willingness to depend on others and the belief that other members of the company SNS are knowledgeable and will reciprocate with their own sharing of knowledge.

Trust is a crucial element for realizing the potential benefits of using social media in the organization to promote knowledge sharing. Trust has been identified as an important determinant of successful performance in virtual environments in much of the extant literature [37; 54; 59; 69]. The importance of trust in knowledge sharing has been shown to be especially important in virtual teams, and thus to team effectiveness [69].

While trust is an important element in any virtual transaction, it is especially critical within the context of a virtual team environment [59]. This study found that as virtual teams operate in conditions of uncertainty, coordinated action of the virtual team members can only be achieved if trust among the members exists. The importance of trust in virtual team environments is highlighted because the technology used in virtual workspaces can change the context of human relationships by changing their physical infrastructures, tasks, and social dimensions [37].

Other research found that teams with higher levels of trust are better able to handle the complex and uncertain aspects of a virtual environment than teams reporting low levels of trust [36]. The study supports the notion that trust and communication are interlinked, each depending in some manner on the other. The theory of swift trust is appropriate in virtual teams that may meet only for limited time periods. The concept of swift trust is based on the notion of trust being imported from previous experiences, as members of virtual teams have little or no history of working together, and thus, no basis for forming interpersonal relationships necessary for trust in the traditional sense. In such instances, members of a virtual team will de-emphasize the interpersonal relationship building at the inception of the team’s creation, instead importing trust initially and then maintaining that trust through member actions [36].

Similar research also found support for swift, action-based trust in virtual group dynamics [70]. The authors report that members of a virtual team who developed trust early in the group’s inception were better able to resolve conflicts and solve problems, giving credence to the swift trust theory. Other factors that contribute to perceived vulnerabilities in online collaborations include socially ambiguous identities as participants share only partial information about themselves, do not share common interests, and also the limited social cues that are provided in an online environment [38].

Research indicates that virtual teams experience high levels of conflict and face greater difficulty in building trust [17; 32; 61]. Additionally, greater trust in an SNS has been found to have a direct effect on intention to use that site as well as to continue to stay loyal to that provider [68]. This research of SNS adoption found that trust has a significant positive effect on intention to use an SNS.

Thus, the potential benefits from collaborating through social networks can be erased by the drawbacks of the inability to develop trust among the users. Gartner, Inc., an information technology research and advisory company, reported on the emergence of social media in many businesses. Their report highlighted the fact that while business opportunities from “social intelligence” are driving the investments into social media in the organization, there is also fear and uncertainty that is holding many back or hampering their efforts to successfully integrate these technologies into their knowledge sharing operations [4].

2.4. Risk and benefit

Research suggests that trust of web-based information systems (IS) is mediated by individual perceptions of risks and benefits associated with the website. Perceived benefit and perceived risk are constructs adapted from economics and psychology literature by IS researchers to study intention to use and actual use of an online IS [12; 42]. The concepts of perceived benefit and perceived risk in IS research can be found in the literature related to online purchasing activities and adoption of e-services [22; 34; 42; 57].

Perceived benefits were found to provide potentially strong incentives to purchase a product or service online [42]. This study defined perceived benefit as a “consumer’s subjective perceptions about the potential positive values from the online transaction with a certain Website,” [42, p.6]. This study contextualized perceived benefit in terms of utilitarian benefit, providing a value through a product or service. As the current study is looking at knowledge sharing, perceived benefit is extended to include benefits in the context of social presence, or social capital. Assessing social capital as an aspect of knowledge sharing in an SNS environment must include the value participants assign to their knowledge-sharing activities and tools [5]. Therefore, perceived benefit is defined in this study as the subjective perceptions about the potential
positive values resulting from the online interactions with the company’s SNS.

Research also found that acceptance of e-commerce is influenced significantly by reducing perceived risk [42; 57]. Perceived risk has been defined as the potential for loss in the pursuit of a desired outcome of using an e-service [22]. Research suggests that people’s confidence in their decisions is affected by perceived risk or uncertainty [34]. As such, perceived risk is considered to be a person’s assessment of the combination of uncertainty and potential loss involved with a specific activity. In the adoption of information systems, perceived risk is found to be a significant moderator to better explain users’ acceptance within the TAM model [34].

Prior literature suggests there are different facets to perceived risk which include: performance risk, financial risk, time risk, psychological risk, social risk, privacy risk and overall risk [42]. The current study’s context is related to the perceived risk that is encountered by employees sharing knowledge in a social networking environment. This type of behavior exposes an employee to risks of various levels of each of these factors and therefore is defined as potential uncertain negative outcomes from the interactions while engaging in social networking site use. Prior research suggests that an individual facing a high level of risk will evaluate his or her level of trust with another party to determine the likely outcome of their interaction [43]. It has also been proposed that an SNS user’s privacy concern (one of the risk elements) will have a negative effect on usage behavior of an SNS [62].

2.5. Critical mass

When evaluating the potential benefit from using an SNS, users will consider the importance of other participants that can contribute to the knowledge sharing experience. Obviously, in order for there to be a community to share knowledge with, there must be a certain number of users participating. The more that SNS usage increases, the more critical mass that is achieved among the SNS community. Critical mass has been defined as “the point where enough users have adopted an innovation so that there is an acceleration of adoption of the innovation where upon it becomes self sustaining.” [68, p. 76]. Further, the authors suggest that in the context of SNSs, perceived critical mass is the point where the adopter perceives that the site has a significant number of members that he or she can associate with. Their research found that critical mass has a significant positive effect on the intention to use an SNS. For the purposes of knowledge sharing through the use of an SNS, the current research adopts this definition with the modification of the workplace being the environment of study. Therefore, for the current research, critical mass is defined as the point where the employee perceives that the SNS has a significant number of members that he or she can associate with.

Of significance in determining critical mass are the associations the members perceive in terms of common interests, shared work experiences, skills, etc. [48]. This study found that critical mass was not just important in terms of the number of users of the system, but also the importance of those users that make up the critical mass. Social influence and critical mass were both found to be critical factors in the adoption of an instant messaging service [27].

2.6. Social influence

Social influence or social norms is defined as “the degree to which an individual perceives that important others believe he or she should use the new system,” [75, p. 451]. Expectations of others are especially significant in the context of a social networking site because it refers to the extent to which members in a society (coworkers in this case) influence each other’s behavior and experience social pressure to perform in a particular manner [68]. Social norms were found to be strong predictors of usage intentions as the more users perceive social norms, the more they perceive the service as useful [19].

When looking at using the Internet at work, researchers found that social influence is positively related to intention to use [13]. In mandatory settings, such as in the organization, it is suggested that social influence is only important in the early stages of experience with the technology [75]. Positive social influence to use an online social community was found to increase the online community self-disclosure in a group of working professionals [60]. Therefore, a positive social influence is thought to increase the employee’s knowledge sharing intentions in the company’s SNS.

2.7. Social media

The popularity of some Web 2.0 technologies – collectively known as social media or social software to indicate their interactive nature – has been well documented and researched. Social media technologies include collaboration tools such as social networking sites, blogs, wikis, podcasts, RSS feeds, folksonomies, mashups, social bookmarking/tagging systems, and crowdsourcing.
Gartner reports that businesses are getting social in terms of social features being integrated into applications and lines are blurring between transactional tools and social environments [4].

Some of these information technologies such as social networking sites Facebook, Twitter, and YouTube are instantly recognizable and their impact on individual behavior has been increasingly examined [20; 31; 46; 67; 68]. But others such as blogs, wikis, and social bookmarking are just beginning to receive attention in the research literature regarding their effect on individuals, groups, and the organization itself [5; 40; 77].

Interviews, observations, and surveys with managers and executives in various organizations revealed that wikis, blogs and RSS feeds had the greatest impact on business value for those implementing them [3]. While it has been noted that wikis present the potential to be inaccurate due to their anonymous authorship, they have also been found to self-regulate as the result of so many participants error-checking and editing the content [77]. Researchers suggest that as purveyors of information systems, IS academicians especially should embrace wikis and other Web 2.0 technologies to enhance our core practices of research, review, and teaching [40]. Wikis and blogs exist to serve the users’ community and the resulting collection of user-generated content is deemed “collective intelligence,” [77].

It has also been suggested that as baby-boomers begin to leave the workforce in growing numbers, they take with them critical amounts of “tacit knowledge, operational heuristics, stories and organizational history,” [35, p. 908]. The author proposes that wikis and other forms of social media can be an effective and inexpensive way to capture, store, structure, share, and maintain that knowledge. This type of knowledge sharing process also offers the added benefit of providing the tools expected in the workplace of a younger workforce that has become accustomed to such levels of connectivity and interactivity.

While social networking sites such as Facebook have received increasing attention in the information systems literature, the focus has predominantly been on the hedonic context that such social media technologies cater to [20; 31; 46; 67; 68]. However, their impact in the enterprise is still in the early stages of investigation [3; 66; 77]. While researchers note the organization’s concern about privacy and security, especially when intellectual property or proprietary information is involved, they also point out that Web 2.0 collaboration tools with their social features can provide the organization with a powerful and inexpensive way to share valuable knowledge and link experts within the firm [3; 66].

Document-centric collaboration tools are no longer adequate to fully support and promote innovation and productivity within the organization [66]. The rich context that social software can provide through the integration of audio, video, social profiles, expertise location, and community-building services make the use of social networks in the enterprise an enhancement to traditional knowledge collaboration efforts. A crucial part of social networking software is the social profile which allows detailed information about the user’s experience, knowledge, and a place to store his or her own user-generated content, as well as a method for finding other expertise within the organization [66].

Much of the extant research on social networking sites has focused on the individual’s satisfaction or user acceptance and continuance intentions, and largely in a hedonic context [20; 31; 46; 67; 68; 74]. Enjoyment or playfulness has been incorporated in a consistent manner when researching the use of social media sites [45; 47; 50; 53]. Early research conducted into the use of web technologies introduced the perceived playfulness variable into an extended TAM model [53].

When investigating user acceptance of hedonic systems, research found that predictors vary depending on the context in which the system is used, being either utilitarian or hedonic [74]. Similarly, research looking at the use of a hedonic system such as an SNS found that the intrinsic motivator of perceived playfulness or enjoyment one gains by using the system has the strongest impact on intent to use [68]. Research also found empirical support for the measure of perceived playfulness as a determinant of satisfaction with a web site [50]. Additionally, research has shown support for including perceived enjoyment in the technology acceptance model to explain user attitudes about blogging, another web activity [33].

2.8. Social media research and level of analysis

Research of social media at the individual level has primarily focused on issues of user satisfaction, acceptance, trust, and continuance intention. The group level of analysis is predominantly centered on performance of the team or group and the organizational level is focused on performance and knowledge sharing. The gap in the literature appears to be the investigation of knowledge sharing at the individual level among employees using social media in the workplace. Therefore, the focus of this
research is on the knowledge sharing intention of employees using a social networking site based on elements of trust, risk and benefit, critical mass, and social influences.

3. Conceptual model and propositions

Based on the theories of TRA and TAM, the proposed conceptual model examines the following constructs: Trust in SNS, Risk and Benefit, Critical Mass, and Social Influences, and Knowledge Sharing Intention. IS research has shown inconsistent results for the relationship between knowledge sharing intentions and actual knowledge sharing behavior, from either not at all related, weakly related, or substantially related [9; 24; 49; 72]. It is the intention of this study to test the strength of correlation between knowledge sharing intention and actual knowledge sharing behavior to allow better understanding of the relationship between the intention and the behavior. The model and associated propositions are depicted in Figure 1 below.

Prior research indicates the importance of trust in online transactions and interactions, as employees evaluate the potential negative consequences of risks and potential positive benefits of using the company’s SNS and therefore the current research proposes that:

**P1:** An employee’s trust in the company’s SNS will be negatively related to the perceived risks associated with using that site.

**P2:** An employee’s trust in the company’s SNS will be positively related to the perceived benefits associated with using that site.

As noted previously, the potential risk exists for several uncertain negative outcomes from interactions that occur while engaging in and as a result of social networking site use. Therefore, the current research proposes that:

**P3:** An employee’s perceived risk associated with using the company’s SNS will be negatively related to the knowledge sharing intention.

**P4:** An employee’s perceived benefit associated with using the company’s SNS will be positively related to the knowledge sharing intention.

Perceived critical mass has been shown to be an antecedent to intention to use an SNS as well as other social media technologies, such as groupware and instant messaging [68]. Therefore, the current research proposes that:

**P5:** Perceived critical mass will be positively related to knowledge sharing intention when using the company’s SNS.

Social influences or the expectations of others are especially significant in the context of a social networking site in the workplace because it refers to the extent to which members in a society (coworkers in this case) influence each other’s behavior and experience social pressure to perform in a particular manner [68]. Therefore, the current research proposes that:

**P6:** Social influences will be positively related to knowledge sharing intention when using the company’s SNS.

Given theoretical foundations indicating that behavioral actions are based on behavioral intentions [23; 75] and support in some studies for the relationship between knowledge sharing intentions and actual knowledge sharing behavior [9; 49], it is proposed that:

**P7:** Knowledge sharing intentions will be positively related to knowledge sharing behavior.

4. Expected contributions

Social media offers the opportunity to enable rapid mass collaboration among employees using it for knowledge sharing in the workplace [4]. The potential exists for knowledge sharing to greatly increase among employees using social networking sites in their workplace, gaining an advantage to the employee in terms of greater social capital and to the organization in terms of greater intellectual capital [3; 5; 55]. Researchers found when investigating why people contribute knowledge to others in an electronic network that a significant predictor was the perception that participation enhanced one’s professional reputation, and thereby his or her social capital [78]. The authors found that social capital develops and plays an important role in the exchange of knowledge in online communications.
Trust has been shown to have a major impact on participants’ interactions in an online or virtual environment. In a virtual environment, the willingness to share information with others is tempered by the inability to assess the trustworthiness of other members. A strong positive relationship was found between trust and knowledge sharing in teams working in virtual environments [69]. Other research has found that the achievement motive played the biggest role in members being willing to share their knowledge, and that the effect was strengthened when members had more trust in others [79].

Therefore, this research can provide a framework for organizations to guide them as they continue to incorporate social media technologies into their knowledge sharing processes. Potential adopters of social networking sites within their organizations must carefully consider the benefits to be gained against the risks that are inherent. It is the imperative of the organization to facilitate efforts to increase the benefits while mitigating the risks, but first an understanding of why their employees are motivated to share is necessary. This research can provide such insight to practitioners. In addition, this research can further the literature into the use of these emerging technologies in the workplace.

5. Conclusion

Businesses have the potential to gain many benefits from incorporating social media into their knowledge sharing endeavors. In order to capitalize on that potential, further research into issues of trust knowledge intentions, and actual knowledge sharing should be examined. This research can provide companies the ability to enhance the realization of benefits from collaboration technologies and the social and intellectual capital they can create.

6. References


