

Knowledge Management: The Energy Source of the Organization



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Section I: Introduction

Imagine if someone were to turn off the electricity in an organization. There would be no light, climate control, communication and productivity would grind to a screeching halt. But there is another source of power that is not as visible but without it the company would be as lost as it would be without power - and that power is the flow of knowledge and expertise. Without an effective knowledge sharing and collaborative environment, the organizational power spike will simply become an electrical shortage.

The better the organization is at harnessing their employee's knowledge as their energy source, the more successful they will become in keeping their competitive advantages in the market place. Companies must find a way to share knowledge, collaborate more efficiently and continually improve their processes to keep the knowledge grid at its maximum potential.

Knowledge Sharing and Collaboration

The problem that I want to address at my workplace is how do I find information easily and effectively in one place? I spend countless hours toiling through hundred of emails searching for answers that are archived somewhere in one of my folders or in someone else's brain. Because I work in a company has a global presence, there are times where I cannot simply pick up the phone to reach out to my United Kingdom and Asia Pacific's counterparts in order to find what I'm looking for because they are unavailable. How can our organization extract this knowledge so that it can be found easily?

Human capital is the resources that each of our employees has available within their own mental and physical capacity. Currently, everyone is working within their own areas of expertise. A co-worker working on a specific project, application or service has his or her own document repository and the only way we can have exposure to it is to ask the teammate for it. What if the co-worker leaves for vacation? Even worse, what if the teammate leaves the company? They would then take their intimate organizational knowledge with them and the company will lose that intellectual property for good unless there is a way to promote knowledge sharing and collaboration. Another reason for knowledge sharing is that it increases productivity through social capital. The resources I can "borrow" from others, if I have good social and technical ties, multiplies the effectiveness of work.

Overarching Research Question:

"How do I improve and facilitate knowledge sharing and collaboration in my company?"

There are three research cycles for my research project:

Research cycle one - If I implement a blog/forum and introduce it to my peers, would they contribute relevant information and knowledge so that it could be accessible when needed?

Research cycle two - If I introduce a Wiki to our internal community of practice, would this further facilitate knowledge sharing?

Research cycle three - If I interviewed my team to find out what their thoughts were about our recent research cycles, what would I discover from these one on ones that would improve our SharePoint site so that the team would use the site more often?

Section II Review of Literature

Knowledge Management: The Energy Source of the Organization

Power is what keeps the lights on in an organization. In the corporate world, this source of energy comes in the form of knowledge and that knowledge is what keeps a business profitable, not its year-end performance. The employees are the knowledge bearers of the company, the intellectual capital, and the 'power' players of the organization. Knowledge is a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information. How knowledge is stored, located, shared, and used within the community will determine the overall health of the corporation.

Today, it is a business requirement to efficiently exploit what the business actually knows not only what it owns (Cummings, 2001). In its most simple sense, this refers to the effective use of an organization's knowledge and its ability to learn from past experiences. These past experiences come in the form of individuals, groups and from what Lave and Wenger (1991) refer to as "communities of practice" (CoP).

What types of knowledge does an individual possess and what value does this knowledge have for others? How does the individual share his or her knowledge within an organization? Knowledge management systems include elements such as: trust, ethics, incentives, human relations, leadership, culture, organizational infrastructure, social networks, social capital, creativity and innovation, strategy, best practices, human competencies, knowledge sharing proficiencies, and learning (Jain, 2009).

The purpose of this review is to contribute to a better understanding of the knowledge sharing between individuals and business units within an organization. Companies need to find ways to utilize tools within their environment to foster the extraction and storage of knowledge in hybrid ways for future reference and use.

Expertise and Knowledge Sharing in the Corporate Setting

It is often frustrating looking for a past document, email or file. When the information you are looking for is not readily available, what do you do? Do you ask a neighbor or a peer? What if he or she is not there? Do you pick up the phone to call someone? This is a problem that many organizations face today. A knowledge management system would assist in “filing” the information stored within the brains of an individual and with the help of technology. Knowledge management refers to the ability to develop, share, deposit, extract and deliver knowledge such that it may be retrieved and used to make decisions or to support the process (DeTienne, 2004). The tools must be available to the individual at the right moment in order for him or her to perform their job.

Knowledge sharing has been conceptualized by (de Vries et al., 2006) in terms of two knowledge-sharing behaviors, knowledge donating and knowledge collecting. The key differences between knowledge collecting and knowledge donating that they have indicated are:

Knowledge Collecting: (willingness)

- When I need certain knowledge, I ask my colleagues about it.
- I like to be informed of what my colleagues know.
- I ask my colleagues about their abilities when I need to learn something.
- When a colleague is good at something, I ask them to teach me how to do it.

Knowledge Donating: (eagerness)

- When I've learned something new, I tell my colleagues about it.
- I share information I have with my colleagues.
- I think it is important that my colleagues know what I am doing.
- I regularly tell my colleagues what I am doing (de Vries et al., 2006, p. 116.).

The two knowledge-sharing attitudes, eagerness to share knowledge and willingness to share knowledge are defined as: 1. Willingness to share is defined as the extent to which an individual is prepared to grant other group members access to his or her individual intellectual capital. If my manager asked one of his direct reports to “share” his knowledge on a specific technology, he does not have a choice but to share it willingly. 2. Eagerness is defined as the extent to which an individual has a strong internal drive to communicate his or her individual intellectual capital to other group members. This person does not need his manager to tell him to share his intellectual capital; rather, he volunteers it to his peers, with no strings attached (de Vries et al., 2006, p. 117).

There are also two distinct types of knowledge that influence sharing (Nonaka, 2001). All knowledge is personal in nature and explicates dimensions of tacit and explicit knowing in organizations. Tacit knowledge is hard to formalize and communicate and is rooted in action, involvement, and commitment in a specific context (Nonaka, 2001) it is composed of both cognitive elements, such as mental models, beliefs, and viewpoints, and technical elements, consisting of skills and know-how that apply to a specific context. Tacit knowledge in a company is known as being stored in the human brain and expressed by human behavior and actions. Explicit knowledge on the other hand, is knowledge that is easily codified and articulated with natural language. Tacit is sometimes referred to as know-how and explicit is as know-that. It is generally related to stored data, text, pictures, sound, etc. According to Kalseth and Cummings (2001) the organization is not automatically more competent than others because its members are highly educated and good learners. In fact, he argues that the opposite is often the case. Highly competent individuals may be less likely to share knowledge with others.

Knowledge sharing is a unique attribute. Companies try to hire the most intelligent, team-driven, self-starting personnel possible. It is the quality of an organization's employees, how they perform their work, how they cooperate and collaborate, and on what common grounds their decisions are taken, that distinguishes the successful organizations from the failures (Cummings, 2001). It has been suggested that the knowledge-creating company should consistently create new knowledge, share it throughout the organization and capture it within new technologies, processes, products and services (Ensor, 2001). One way to share and collect this knowledge from individuals is to establish communities of practice. Communities of practice are “social networks” that are formed within the organization to assist in the transfer of knowledge.

Communities of Practice within the Company

Internal communities of practice has been defined as “a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Lave & Wenger, 1991). Although there are many definitions of CoPs in research literature, the common way of describing it is that communities of practice are groups of people who share a common passion or purpose and who interact with the intent to share knowledge. CoPs emphasize the importance of the social aspect of learning in the formation of new knowledge and does not seem to place as much emphasis on the role of leaders external to the community or on the culture outside the community (Ruona, 2009).

According to Wenger (1991) the goals of CoP accomplish the following:

- Help drive strategy by pragmatically linking knowledge sharing to strategic plan implementation
- Support the start of new lines of business
- Facilitate problem solving by linking together individuals with expert subject knowledge
- Transfer best practices
- Support the development of professional skills
- Help companies recruit and retain talent by offering employees the ability to tap into intra-organizational initiatives that appeal to individual interest and expertise

In such a fast-moving economy, communities of practice enable companies to improve

performance for a variety of reasons. For example, CoPs offer companies an alternative way to handle unstructured problems and also to reduce, rework and reinvention of the wheel by enabling members to more easily reuse existing knowledge assets (DeTienne, 2004). In an environment where certain processes are similar, it is important to store these processes in a repository somewhere so that future inquiries are easily found. Employees can search a database, a Wiki and blogs to find answers to problems that have been worked on and solved in the past. A CoP would add the necessary information in this repository for their community, and other communities to view as well in order to share their knowledge.

Communities of practice would be beneficial to immediate local presence as well as beneficial to a company with a global presence. With technological tools such as the intranet, virtual communities of practice could be formed that may increase the scope and timeliness of knowledge sharing (Ardichvili, 2005). An example of this type of sharing would be a global company sharing their repository with other groups in the United States, United Kingdom, India, Asia Pacific, and Australia. This would be advantageous once all communities inject their knowledge into the repository, giving the company virtually a 24/7 access to solving problems that may arise from anywhere in the world, without suffering a major time delay.

Barriers to Sharing

There are several barriers that impinge on knowledge management and knowledge sharing. What is the incentive for an individual to share his/her knowledge? Why should one trust another with the knowledge they have accumulated throughout the years? Trust is the most critical prerequisite for knowledge exchange. Without trust, knowledge initiatives will fail, regardless of how thoroughly they are supported by technology and rhetoric (DeTienne, 2004). Trust was divided into 2 distinct categories: (1) trust in others, or knowledge-based trust, and (2) trust in the organization as a whole, or institution-based trust (Ardichvili, 2005). Where lack of trust exists, a great amount of sharing will not happen.

One reason why individuals do not share willingly or eagerly is that they view “knowledge as power.” By sharing this power that they’ve created throughout the years, they fear that they may lose some of this power, and with it their competitive edge over other workers. People view knowledge as a method of securing their jobs so they are reluctant to share what they know with others. Employees will be hesitant to contribute to a knowledge database if they think that by doing so they will in some way devalue themselves to the organization or that the information they contribute will somehow be used against them (Orlikowski, 1993).

The organization itself was viewed as a barrier to knowledge sharing. According to a study by the Journal of Knowledge Management, of the 431 senior managers interviewed, eighty percent responded that the culture of their organization in some way “hindered the development and introduction of knowledge management strategies and programs” (Chase, 1997, p. 27). For example, companies that base evaluation, promotion, or compensation on “relative numbers” instill in workers the perception that sharing knowledge will jeopardize the employee’s chances of advancement or success (Nakra, 2000).

Employees will adopt the organizational norms. An organization needs to support the sharing of resources instead of empowering employees to adopt the “knowledge is power” mentality. Companies have implemented programs that inspire management and thus inspire their direct reports. This would have a waterfall effect from the top down approach, and will remove barriers to knowledge sharing.

Organizational Support from Top Management

Organizational culture was found to be a vital factor to an organization's ability to create value through leveraging knowledge assets (Cole-Gomolski, 1997). It is often cited as one of the most difficult factors to achieve as well as one of the biggest barriers to knowledge management’s success. An organizational culture that encourages knowledge sharing, creation, and contribution to organizational knowledge structures was found critical to the success of the knowledge management system. The impact of top management and leadership support is greater for knowledge management as it is an emerging discipline and employees have needed the added incentive of a total commitment from their organizations top management and leadership (Zheng, 2009). Without proper support from management, like most projects in any company, the knowledge management initiative will have little chance of succeeding.

Incentives and Rewards for Sharing

Self-interest has been found to be a principle motivator for many people’s actions. Because knowledge management is, at its roots, dependent on people’s actions, organizations willing to implement knowledge management strategies are now finding that they should also be prepared to implement new reward policies and programs in order to motivate employees to take part in knowledge management programs. These incentives can either be tangible or intangible in nature. Tangible incentives could include links to performance bonuses, plane tickets, movie tickets, gift certificates whereas intangible rewards might consists of empowerment, praise from managers and senior executives, special recognition programs, or even placards. Incentives – tangible or intangible, big or small, will ultimately teach employees what the company really

Davenport and colleagues (1998) stated that offering incentives as a means of enticing staff to engage in knowledge management activities was one of the most common success factors; however, it was also one of the most difficult factors to sustain during the lifetime of a knowledge management initiative. According to Chase (1997), unproductive reward and recognition programs were one of the major obstacles to creating knowledge-focused companies. Not all technology solutions are a “one size fits all,” the same set of rewards may not work for every company due to variations in cultures and employees (DeTienne, 2004).

Although there are those who perceive rewards and incentives to be indispensable to knowledge sharing (e.g., Gupta & Govindarajan, 2000; O’Reilly & Pandy, 1980; Quinn et al., 1996), others have argued that tangible rewards alone are not sufficient to motivate knowledge sharing among individuals. Professionals participate in knowledge sharing activities because of the intrinsic reward that comes from the work itself, and in some cases, formal rewards may be perceived as demeaning by professionals who are motivated by a sense of involvement and contribution (Ipe, 2003).

Utilizing Technology as a Knowledge Repository

The right amount of information at the right time has long since been an important factor for performance in all kinds of organizations. However, the amount of information now available, both internally and externally, is enormous (Cummings, 2001). Tools such as the Wiki and the Blog would make searching for knowledge easier, as well as facilitate collaboration with other technologies readily available such as Office communicator (IM), email and IP Phones. As Quiggin, 2006 states, “...the innovations associated with blogs and wikis are important in themselves, and the process of creative collaboration they represent is becoming central to technological progress in general”.

Collaborative web editing spaces – (Wikis’)

A Wiki is a series of web pages that can be structured and completed by anyone who has been granted relevant access. Wikis can be used to create knowledge resources or as a collaborative working or project management tool. Wikis are designed to facilitate editing by as many people as possible. A wiki enables documents to be written collectively (co-authoring) in a simple markup language using a web browser. A wiki is a collection of pages, which are usually highly interconnected via hyperlinks; in effect, a very simple relational database. The name was based on the Hawaiian term *wiki wiki*, meaning “quick” or “informal” (Quiggin, 2006). Wikis are increasingly used by closed groups in government, corporate, and educational environments. They have been used internally for items specific to the department. Items such as procedural documents can be linked so that technology managers can input their knowledge into areas where their employees can find them easily. Wiki's and Blogs are not just for fun; they can also be used as a business enabler.

Business case for Wiki’s and blogs:

- For internal work communities with an ongoing need to communicate and collaborate.

- For project teams creating and sharing knowledge on a new area in IT.
- For office-centered general news and other communications (Ward, 2006).

Wiki's have been used for knowledge management systems in the past. As Wood, 2009 asks, "If I design and implement the use of a wiki to develop and maintain employee learning materials, will it result in reduced development time, less redundancy, increased transparency, and higher quality of materials". Wood's studies have found that the wiki assisted in the collaboration of members in his work force. Nine out of the 13 team members logged on to the wiki providing 2,374 total edits to the wiki itself.

Shared reflections (Blogs)

Blogs foster regular and timely personal communication and dialogue for a defined team, community or interest group. Blogs serves many purposes, from online diaries to corporate public relations. In many cases, a blog post serves more to initiate a conversation, held in public view, than as a discrete piece of communication from author to reader. In important respects, blogs (at least full-scale blogs with comments and trackbacks) are collaborative productions. Blogs will be used to solicit a "quick" response to a question or concern. Blogs have been used to document a project. For example: If a project cut over was to occur in the weekend, a Blog can document items that went wrong. An analyst that supports the project can then view the blogs to assist in troubleshooting the issue.

Blogs entice people to write down what they know and to share it widely. A project blog or a department blog not only surfaces and shares knowledge, but it also makes the blogs searchable and archives it. And once a company gets used to internal blogs, it's only natural (if anything about a corporation can be said to be natural) to open up some blogs to trusted customers and partners, bringing them into the intellectual bloodstream of the organization (Quiggin, 2006).

Conclusion

Knowledge sharing in organizations is a complex process. Organizations should encourage employees to establish relationships between individuals for its creation, sharing and social use of knowledge. Knowledge is shared informally through formal channels, and much of the process is dependent on the culture of the organization's work environment. With established communities of practice and incentives for sharing, the organization will have an advantage over their intellectual property. Companies that are investing in their employees and in the technology to harvest their knowledge will be ahead in terms of keeping that intellectual property *in house*. With Wikis, Blogs, Forums and other Web 2.0 tools in the enterprise, companies will look to keep most of the knowledge that the employees have created in an area easily accessible to everyone, anywhere and anytime.

Section III Research Cycles and Evidence Collected

First Research Cycle

Has there ever been a time where someone has asked you a question that you've answered already? This question may be a little more complex than the ones that would just require a simple recollection from memory but would require a five step procedural process in order to solve the inquiry. The challenge is to either remember step by step on how you would answer that question again or find out where you placed that knowledge or shall we say email, document or whatever it is that you are looking for. An organization should be able to learn from past experience and not 'reinvent' the wheel over and over again.

What could be implemented at the work place that would assist in collaboration? In my immediate community (Information Security), we are currently using SharePoint as a document repository. Our team has not really done anything with the blogs and forums so I decided to research it further.

So for my first cycle, I asked:

"If I implement a blog/forum and introduce it to my peers, would they contribute relevant information and knowledge so that it could accessible when needed?"

Within my immediate group, we have nine co-workers that report to my immediate manager. My initial work came from researching the technologies that we had at our disposal. Our group had an internal SharePoint site that was administered by a co-worker. The blog/forum area was already created on April 15th, 2009. This was an encouraging development for me because the technology was already implemented and all we had to do was introduce it to the group and train them if needed.

Every two weeks, I had one-on-one meetings with my immediate manager. I informed him of my ideas for my action research and he was excited for me and for the potential this project will have for our team. I wanted him to support my initiative, albeit it was work related as well as for my personal schoolwork. I knew that without management support any initiative within the work place would be difficult to accomplish. The impact of top management and leadership support is greater for knowledge management as it is an emerging discipline and employees may need the added incentive of a total commitment from their organizations top management and leadership (Conley & Zheng, 2009).

As of August 4th, 2009, our blog/forum site officially kicked off with me being the first contributor of a blog.

Evidence used to evaluate the action

Cycle 1 was initiated in early August 2009 and is ongoing. Since it was the initiation of the knowledge sharing that was the focus of my action research, I am reporting on the outcomes from August to December.

During the August to December time period, I monitored the site for contributions to the blogs/forums. I also had trigger emails sent out to all the people subscribed to the service. I wanted people to opt in if they wanted to be part of the blogs/forums. I did not want people to receive the emails if they did not want to, but they still had access to the area where we kept the information so that they could browse the blogs on their own leisurely time. I provided instructions to the team during a team meeting my manager had held. I explained the workings of the blog/forums and then left it to them to participate and contribute.

Evaluation of the Data Collected

In SharePoint, the administrator could collect utilization reports for each specific site. I wanted to keep track of how many blogs were being posted and by whom and how many people contributed to the blogs by commenting on it.

These were the blogs/forums contributed:

Vulnerability Note for Clientless SSL VPN. (Browser Security)	Truong, Michael	12/21/2009 12:57 PM
Wireless networks	Rivis, Mark	12/17/2009 3:40 AM
News - Malware rebounds as cause of data loss (Infosecurity.com; 04 Dec. 09)	Kurihara, Michael	12/8/2009 4:40 PM
Beyond PCI webinar	Truong, Michael	11/7/2009 3:10 PM
Dark Reading and Black Hat Joint Virtual Event December 9th	Truong, Michael	10/24/2009 10:55 AM
Google Wave to be released to 100,000 testers Wednesday	Truong, Michael	9/29/2009 4:15 PM
Citrix Question for the Analysts	Truong, Michael	9/22/2009 9:54 AM
DLP (Data Leakage Prevention) documents from ISC2 Symposium	Truong, Michael	9/15/2009 1:21 PM
WPA/TKIP Vulnerability Wireless (Moving MK's email)	Truong, Michael	8/28/2009 9:50 AM
Analyst Question!	Truong, Michael	8/18/2009 1:56 PM
Google Wave	Truong, Michael	8/7/2009 3:20 PM
De-Brief and Quarterly Awareness sessions.	Truong, Michael	8/4/2009 9:40 AM

Figure 1 Blogs and Forums Contributed

From August 4th, 2009 until December 30th, 2009, our SharePoint site had 12 posts to our Blog/Forum, 10 of which were contributed by me and 2 by team members (one from my immediate manager). Of the 12 posts, 3 contained comments by other members of the team. Three of the blogs/forums were actually questions that went out to all analysts soliciting feedback (Analyst Question, Citrix Question for the Analysts, and Wireless networks). Of the 3, all received feedback in the form of a comment.

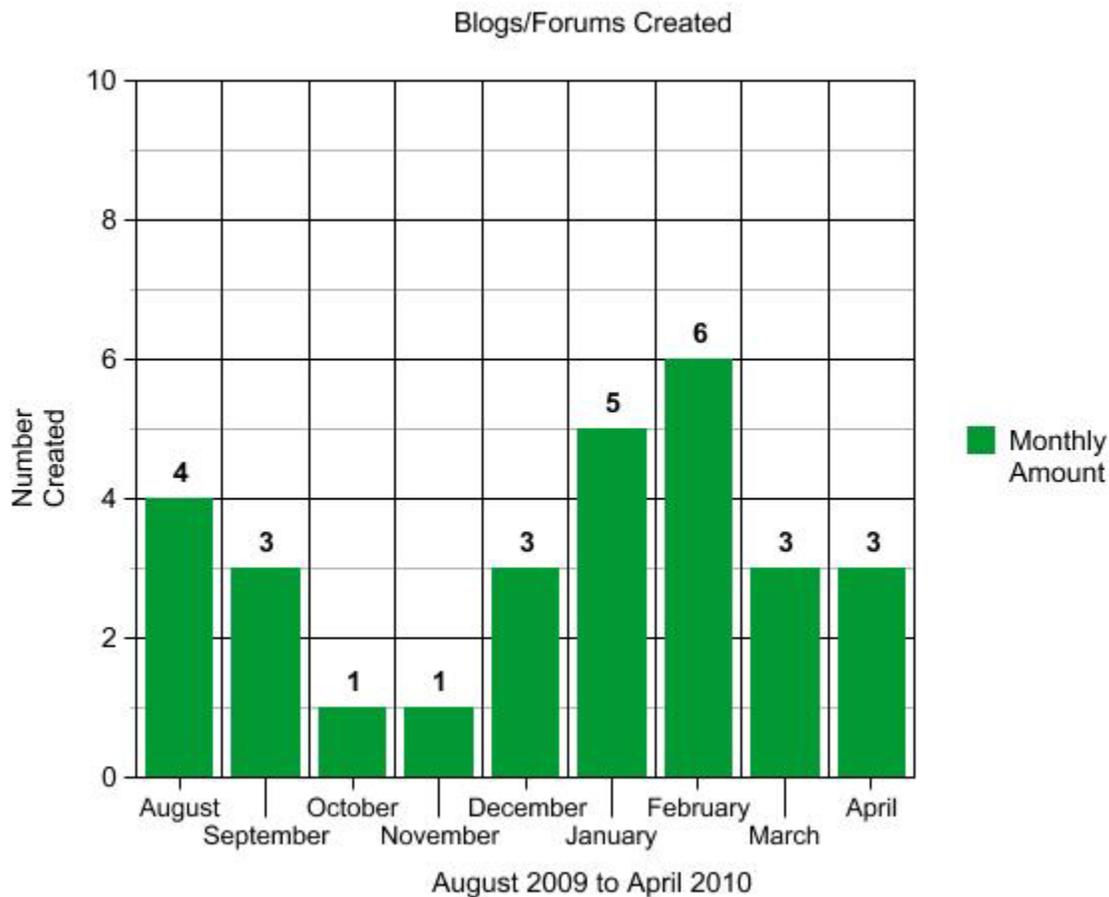


Figure 2 Blog/Forum posts from August 2009 thru April 2010

During a meeting with my immediate manager on November 11, 2009, we discussed making cosmetic changes to SharePoint. This is when I sat down and created a Wiki Usage and Blog usage documentation. In these documents I explained the purpose of the Wiki's and Blogs/Forum sections and how people should approach using them. Once I created the document and had it reviewed by a peer, I sent the document out via email on November 24th, 2009.

One of the immediate goals of the blogs/forums was to share knowledge and collaborate. I was initially looking for sharing of knowledge from each other's specialty skills, but the blog/forums ended up looking like it was used for a different purpose. The trend that I saw was that the

blogs/forums were a cut/paste tool for people to share articles pertaining to our specific field of work, instead of my visions of sharing and collaborating of work related issues and problems.

Reflecting Back on the First Cycle

The most important thing I learned from the first cycle was that having the technology in place does not necessarily mean people will use it. When I first started my first action research cycle, I thought people would have shared the same enthusiasm as I had for new things, change, sharing, and collaboration. But apparently I ran into challenges such as lack of enthusiasm, lack of participation and lack of initiative. One reason for employee resistance to knowledge sharing is that many people view their expertise as an intangible asset they are unwilling to part with. Put differently, many workers these days view their knowledge or expertise as a source of power that is critical to their value as employees (Nonaka, Toyama & Konno, 2001).

When I first approached my immediate manager with the idea of collaboration and knowledge management as an action research project, he was enthusiastic for me and very supportive. Once I told him what I was about to do with Blogs/Forums and Wiki's, his words still stick with me today, "good luck with that!" Apparently this is not the first time our group has tried to share knowledge, collaborate through the use of web 2.0 tools. Simply creating a database or introducing new technology does not produce the creation, sharing or transfer of knowledge (DeTienne, 2004).

Luckily, our company already had the SharePoint technology in place so we didn't have to incur any additional cost of implementing the system. Internal cost estimates for a new SharePoint 2010 system was in excess of 2 million dollars with the cost of software licenses, hardware, and of course training and administration of the system.

During this five-month research cycle, there were only two posts to our blog/forum that were not initiated by me and 6 comments. I do not deem this as a success or a failure, but I do share some responsibility for the lack of direction. I believe that had I established a specific goal for the blogs/forums that would have set the ground rules for what the expectations were for the usage of the blogs/forums. As a result I created the Blog/Forum/Wiki usage document (November 24, 2009). The document contained specific use cases, instructions and expectations for the Blog/Forum/Wiki. Without a goal, I believe that my peers would not participate as freely with direction. Our SharePoint site originally had tags that corresponded to our Information Security Policy. This made it difficult to choose which ones that each blog/forum belonged to. Once a person created a blog/forum, they would also have to choose which categories the blogs/forums were to go in so that in the future, searching for the blog/forum would be easier. The site was not too user friendly. My manager asked me to take a look at the site and make cosmetic changes to it so that it would be friendlier to those who weren't participating.

Our SharePoint site originally had tags that corresponded to our Information Security Policy. This made it difficult to choose which ones that each blog /forum belonged to. Once a person created a blog/forum, they would also have to choose which categories the blogs/forums were to go in so that in the future, searching for the blog/forum would be easier. The site was not too user friendly. My manager asked me to take a look at the site and make cosmetic changes to it

so that it would be friendlier to those who weren't participating.

Another disappointing outcome of the first cycle was the lack of posts and participation by other members of my team, especially those whom I thought for sure would participate. I ended up posting 10 of the 12 articles. Within the 12 articles, 3 of them were posts that were specifically soliciting a response to the group. So, drawing from that conclusion, I believe that if we were to use the blog/forums in such a way, it would be more beneficial for collaboration. If I were to ask a question specific to a technology, a process, or policy then perhaps we can get others to speak their minds on what their ideas and opinions were. Going back to my original idea of the posts, I was hoping that we would use the post to share knowledge and ideas.

The group ended up using the blog/forums to post website articles and not necessarily post their own specific knowledge. It was more like sharing what others wrote or articles, instead of sharing what they knew.

So what could I do better in preparation for my second cycle? As I move forward with the Wiki, I think that I have to be more active. Active to me meant being more involved personally with each of the co-workers. This means I would have to do a sit down, or a face-to-face meeting with each of the members of my team. Perhaps this will clear up the misconceptions and lead to less misuse of the tool and the intentions I have for the knowledge management and collaboration activity of SharePoint. Being passive in cycle 1 had led me to believe that I had to change my style and perhaps my approach in order to have more active participation in my group.

Second Research Cycle

Working as a researcher by oneself would be easy in terms of knowledge management. One would only need to manage the self-knowledge repository. Working in team environments is entirely different than going at it by yourself. There are different personalities, work ethics, and ways of dealing with stress and there are plenty of other intangibles that are beyond the scope of this research. So how would a group of co-workers improve upon collaboration and knowledge sharing? It has been argued that in order to transfer and share knowledge throughout the organization, companies should seek to establish communities of practice. CoPs are *social networks* that are formed within the organization to assist in the transfer of knowledge (Ensor, Cottam, Band, 2001).

How do we get employees to further share their knowledge within their team dynamics? Moving forward from cycle one where we introduced a blog/forum, I asked myself the question:

"How would introducing a Wiki to our internal community of practice with personal interactions further facilitate knowledge sharing?"

For my second cycle, I wanted to have the service managers (those who managed a specific technology, e.g. Web content, IM etc.), our internal community of practice that reported to my manager post their processes on an internal Wiki on our SharePoint site. Their knowledge is the key to their daily performances and if the department captures this knowledge somehow, then the idea would be that everyone in the team would benefit from learning something new. The knowledge will also help each individual in answering questions from other departments or business units if that specific service manager was out of the office. In such a fast-moving economy, communities of practice enable companies to improve performance for a variety of reasons. For example, CoPs offer companies an alternative way to handle unstructured problems and also to reduce rework and reinvention of the wheel by enabling members to more easily reuse existing knowledge assets (DeTienne, 2004).

Data Collected for Research Cycle 2

Cycle two was initiated in early December, 2009 and is ongoing. For research purposes, Cycle two's data will be collected until the last week of March of 2010. I sent out an email to my

department on November 24, 2009 and attached the Wiki usage documentation. The document explained the goals and expectations to the department. I also created a welcome page for the department, with instructions on how to create the Wiki.

Wiki Content

Welcome to our GTS Security Services wiki site!

You can get started and add content to this page by clicking **Edit** at the top of this page, or you can learn more about wiki sites by clicking **How to use this wiki site** in the Quick Launch.

What is a wiki site?

Wikiwiki means quick in Hawaiian. A wiki site is a Web site in which users can easily edit any page. The site grows organically by linking existing pages together or by creating links to new pages. If a user finds a link to an uncreated page, he or she can follow the link and create the page.

In business environments, a wiki site provides a low-maintenance way to record knowledge. Information that is usually traded in e-mail messages, gleaned from hallway conversations, or written on paper can instead be recorded in a wiki site, in context with similar knowledge.

Other example uses of wiki sites include brainstorming ideas, collaborating on designs, creating an instruction guide, gathering data from the field, tracking call center knowledge, and building an encyclopedia of knowledge.

Click on the [VIEW ALL PAGES](#) to the left to see the Wiki sites! or [CLICK HERE](#)

Creating links to pages

You can link to another page in this wiki site by enclosing the name of the page in double brackets on the edit form. For example, type `Home` to create a link to the page named Home and `How to use this wiki site` to create a link to this page.

To create a link to a page and have the link display different text than the page name, type a pipe character (`|`) after the page name, and then type the display text. For example, type `Home Page` to create the link labeled Home Page that points to the page named Home.

To display double opening or closing brackets without making a link, type a backslash before the two brackets. For example, `[[or]]`.

Figure 1 Welcome to the Wiki with instructions

From December 2009 to March 30, 2010, there were 29 Wiki entries. Seven members of the group contributed to the creation of the Wiki in itself. Although there were only seven creators, most of the staff contributed to the contents of the Wikis, although not all.

New		Actions		Settings		View: All Pages	
Type	Name	Modified By	Modified	Created By	Created		
	Home	Truong, Michael	2/12/2010 10:15 AM	King, Daniel E	8/4/2009 9:34 AM		
	How To Use This Wiki Site	Truong, Michael	2/12/2010 10:14 AM	King, Daniel E	8/4/2009 9:34 AM		
	Acronym Wiki	Truong, Michael	2/12/2010 10:16 AM	Truong, Michael	12/1/2009 10:51 AM		
	WebWasher Use Cases	Truong, Michael	12/22/2009 10:55 AM	Truong, Michael	12/22/2009 10:51 AM		
	WebWasher FAQ	Savage, Kevin	1/8/2010 4:15 AM	Truong, Michael	12/22/2009 10:56 AM		
	QualysGuard - Generating a PCI DSS vulnerability report	Rivis, Mark	2/3/2010 2:30 AM	Rivis, Mark	1/6/2010 12:14 AM		
	QualysGuard - Scheduling a PCI DSS vulnerability scan	Rivis, Mark	2/3/2010 1:59 AM	Rivis, Mark	1/6/2010 1:07 AM		
	Requesting Higher Proxy Access (UK)	Savage, Kevin	1/8/2010 3:11 AM	Savage, Kevin	1/8/2010 3:09 AM		
	Web Washer - blocking access to malicious IP addresses	Rivis, Mark	1/11/2010 2:47 AM	Rivis, Mark	1/11/2010 2:47 AM		
	InTrust - installing and uninstalling agents	Rivis, Mark	2/8/2010 6:03 AM	Rivis, Mark	1/21/2010 6:53 AM		
	Employee Remote Access Request (US)	Truong, Michael	3/2/2010 2:28 PM	Truong, Michael	1/25/2010 10:15 AM		
	GTS Software Security Services (Static-Dynamic Scans)	Truong, Michael	2/22/2010 1:19 PM	Truong, Michael	1/25/2010 10:43 AM		
	SharePoint Administration	Truong, Michael	3/4/2010 2:46 PM	King, Daniel E	1/28/2010 10:36 AM		
	Requesting a US PCI External Quarterly Vulnerability Scan	Wong, Duane	2/1/2010 1:21 PM	Wong, Duane	2/1/2010 1:11 PM		
	PCI Program Management-US	Wong, Duane	2/2/2010 1:34 PM	Wong, Duane	2/1/2010 1:41 PM		
	Change Management Board and Project Event assignment	Wong, Duane	2/2/2010 1:00 PM	Wong, Duane	2/2/2010 12:49 PM		
	Internal Audit Observations Management	Wong, Duane	2/2/2010 3:06 PM	Wong, Duane	2/2/2010 3:06 PM		
	InTrust - removing a lost agent from the database	Rivis, Mark	2/3/2010 2:27 AM	Rivis, Mark	2/3/2010 1:57 AM		
	Risk Register Management	Wong, Duane	2/4/2010 1:29 PM	Wong, Duane	2/3/2010 7:55 AM		
	InTrust - Main Page	Rivis, Mark	2/9/2010 1:52 AM	Rivis, Mark	2/4/2010 12:49 AM		
	Marimba	Rivis, Mark	2/8/2010 5:59 AM	Rivis, Mark	2/8/2010 5:59 AM		
	Quest	Rivis, Mark	2/8/2010 6:17 AM	Rivis, Mark	2/8/2010 6:17 AM		
	esm-not-coll2	Rivis, Mark	2/8/2010 6:22 AM	Rivis, Mark	2/8/2010 6:22 AM		
	esm-not-coll3	Rivis, Mark	2/8/2010 6:24 AM	Rivis, Mark	2/8/2010 6:23 AM		
	esm-not-sol1	Rivis, Mark	2/8/2010 6:26 AM	Rivis, Mark	2/8/2010 6:26 AM		
	GSOC Cost Worksheet	Truong, Michael	2/18/2010 9:48 AM	Truong, Michael	2/8/2010 10:02 AM		
	ASAP Wiki	Truong, Michael	2/18/2010 9:46 AM	Truong, Michael	2/8/2010 10:23 AM		
	InTrust service development	Rivis, Mark	2/9/2010 2:59 AM	Rivis, Mark	2/9/2010 1:53 AM		

Figure 2 Wikis created by the team

The other relevant data that I have collected included items such as: Revision history, Wiki Site visitation (the number of times the site was looked at), email correspondence and meeting notes that I took when I had the face-to-face meetings with the service managers.

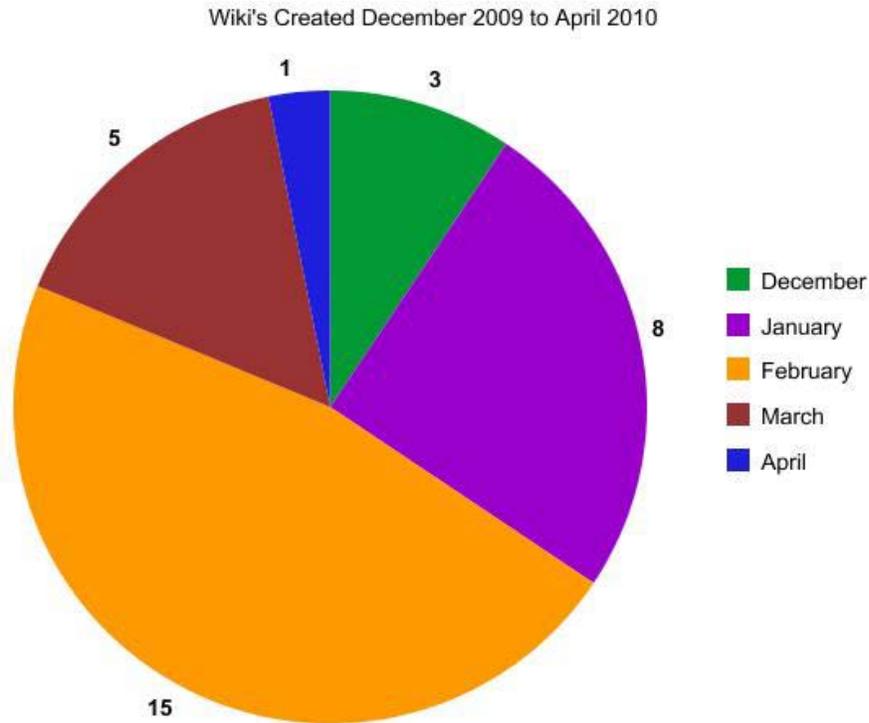


Figure 3 Chart of Wikis created

Data Evaluation

Upon reflection from [Cycle 1](#), I wanted to be more interactive for this current cycle. I asked my manager to let me use 30 minutes of his weekly staff meeting to discuss with the staff the weeks to come, and the Wiki goals that I had for the team. I wanted my manager to also be more interactive and supportive with the Wiki/Blog/Forums. The first Wiki was created December 1, 2009. It was a starter Wiki that I thought was a good icebreaker for the group to participate in. It was called the “Acronym Wiki.” The idea of this wiki was that it contained abbreviations of Business Units and internal corporate shortcut phrases that a new employee or even a seasoned veteran could reference.

The face-to-face Wiki meetings officially started on December 15th, 2009. I had a 1-hour discussion with my co-worker and he was confused about what the expectations of the Wiki were. We then discussed several ideas and from that meeting, he understood what was needed from the Wiki, and in turn the meeting also cleared my thoughts as well. I was clearer on what I needed to do with each individual from then on.

The face-to-face meetings would occur until I have at least met up with all of the co-workers that reported to my immediate manager. Our group included team members from the United Kingdom (UK) so I had email correspondences with them instead of the usual face-to-face. In certain meetings, I found myself explaining the process to my co-workers and they seemed to understand the goals that I was trying to accomplish. There were also times where I faced some pushback from my co-workers. There was a sense of ownership or barriers to sharing. Some of my co-workers would just not look me in the eye or would state that they did not have time to do such a thing or say "I'll take a look at it when I'm free."

I found that some of my co-workers would be more diligent in creating the Wikis and some were not. Strangely, one of the evidence that I collected pointed to the UK participating more than the US counterparts. We only have 2 direct reports in the UK, and of the 29 Wikis created, they themselves created 13. In the US, we have 9 direct reports scattered in California and in Illinois, of the 16 Wikis created in the US, there were only 5 authors, one of them being me. I also kept in mind that I did not have a face-to-face meeting with our UK counterparts. Is there a cultural difference? Do our UK counterparts manage their time better?

The team managed a total of 29 Wiki entries within a four-month time span. There are currently 4 more service management items left to Wiki upon. We've had a couple of service outages and vacations in the past couple of weeks so my immediate manager sent out a reminder email to the team soliciting participation to the Wiki.

Reflecting Back on the Second Cycle

As I started on my second research cycle, I kept in mind the things that I did during the first cycle. I was not active in facilitating or getting my co-workers to participate. By not being participatory, I believe that my co-workers were not taking the blogs/forums seriously. I took a step back and wrote down the items that I could do in order to facilitate collaboration and knowledge sharing. So for the second research cycle, I decided to start a face-to-face meeting with my co-workers. I wanted to have a sit down with each member so that I could explain to them the goals of the Wiki and how it is supposed to work. By having the face-to-face meetings, I hoped that this would assist them in gathering their thoughts around what they could provide onto the Wiki and I was there to help them in creating the Wiki in case they did not know how to create one or know how to even get to the site. I started scheduling a weekly one-hour meeting with each service manager from that point on, each week meeting with a different co-worker.

My initial thoughts were that I would meet with my co-workers and they would then see the importance of the Wiki and then produce a Wiki for the company within a week or so. They indirectly knew that my immediate manager supported the initiative. We even had bi-weekly status meetings with my manager to explicitly talk about my status with my projects, which included the Wiki. During my a one-on-one with my immediate manager, I suggested that he be more active in the forums and also send out a reminder email out to his direct reports so that it would remind them to post their Wiki entries. I eventually met up with all of my co-workers (except for my UK counterparts) and some started authoring Wikis and others did not. The initial participation was higher than that of cycle one, but lower than what I anticipated.

After meeting with the service managers, I thought more about the actions that I just took with my co-workers. Participation was still marginal, but my UK counterparts were more active in creating their Wiki entries than my US counterparts. I noticed that I did not meet face-to-face with my UK counterparts and so I wanted to know if it was actually me that was the barrier to collaboration. From December to the end of January, we had 11 Wiki creations, 5 of which were created by me, 1 from a US peer and 5 from our UK folks. I then started sending out reminder emails as well as walk by reminders to the group.

Upon further reflection of my actions, as I recalled from past personal experiences, I never gave anyone a due date on when they should get the Wiki's created. I needed to stress the importance of the Wiki and then ask the co-workers to give me some sort of date that they would have this Wiki created so that they would be accountable for that date. Without accountability, people tend to not take things seriously where I work. I then reconnected with members that have not created the Wikis and got them to commit to a due date so that I could report this to my manager in the future. I thought that by doing this, and being more forceful, it would be better than being the nice guy. By not being forceful, people generally do not take you seriously and will not do what you ask of them because they have no incentive to do so. As a result, from February to the end of March we had 18 Wiki contributions, a 7 Wiki increase from the first two months.

There were a couple of things that I've learned from this cycle and from investigating into the subject that changed my perspective on knowledge management and collaboration. First of all the most important item that I thought was a barrier to sharing was that some of my co-workers felt that knowledge is indeed power. If they shared what they knew, they thought that it would make them less powerful or less valuable to the company. During the time of the research, my organization was going through cost savings by slashing jobs, the last standing employees wanted to feel that they had something tangible to hold on to and would thus keep them from being laid off. People view knowledge as a method of securing their job. So they're reluctant to share (De Long & Fahey, 2000). Secondly, I believe that another barrier was the organizational culture of the US versus the UK teams. The UK team was eagerly sharing their knowledge with the US team, but in contrast, the US team did not really share their knowledge with the UK team. I found this surprising in my research. Strangely enough, I did not physically meet with the UK team and they participated more than the US team. A wide range of cultural factors has been identified as conducive to different processes of knowledge management, such as prioritization of knowledge, critical attitude toward existing knowledge, trust, care, openness, proactiveness, innovativeness, entrepreneurship, warmth, support, risk and reward (Zheng, 2005). Trust was a factor in the participation of this cycle. I've learned that with all the layoffs, cutbacks and off

shoring of resources, the employees did not trust management and the organization. Our team has lost its core group of employees within the past couple of months and was reluctant to participate. Where lack of trust exists, a great amount of sharing will not occur.

Heading into research cycle 3, my intentions are to have a couple of interview questions for all of my co-workers. I will ask them the questions to see if I can gather their inputs into ways of making our collaboration and knowledge management better and more successful.

Research Cycle 3

Upon completion of research second cycle 2, I realized that I did not ask any of my team members for their input prior to launching my action research. We already had SharePoint in place so we basically took the “use what you have” approach, an opportunistic “borrow, adopt, adapt, and cobble together” strategy (Wenger et Al., 2009). I was involved in planning with my immediate manager and so I may have missed any collaboration requirements from my team. In fact, I feel that there would be a higher participation rate if I designed the site to accommodate the team’s need.

Now that I’ve implemented a Blog/Forum in research cycle 1 and the Wiki in research cycle 2, I wanted to get feedback from my team on how I could improve upon the SharePoint site so that it would make it more appealing to them so that they would use it more on a daily basis. I wanted to understand what my team’s thoughts were when it came to their individual intrinsic motivations as well as their barriers to sharing their knowledge.

For my third research cycle, I asked:

“If I interviewed my team to find out what their thoughts were about our recent research cycles, what would I discover from these one on ones that would improve our SharePoint site so that the team would use the site more often?”

A major advantage of an interview is its adaptability (Bell, 1999). I wanted to extract the team members responses so that I could gather that data to improve upon the collaboration efforts. By understanding their thoughts, I hope to enhance their individual experiences by implementing change to the internal SharePoint site.

Research cycle three was initiated on April 28th, 2010 during the weekly staff meeting. I provided my weekly updates on my regular projects and then provided the team an update to the SharePoint project. Soon after the staff meeting, I scheduled the one-on-ones with each of the 11 team members. Of the 11 members solicited, 10 responded. During the sessions, I asked each member of the team the same questions in the same order. For those team members that were off-site, (UK) I sent them the questions in advance so that they could send them back to me.

The five interview questions were:

- How often do you use SharePoint for your job function? Daily, Weekly or Monthly basis?

- What can be improved in the communication of the use of the Wiki/Blog and SharePoint document repository?
- Do you think that SharePoint assist in problem solving by linking together individuals with subject knowledge?
- What do you think the barriers are to collaboration and knowledge sharing?
- Do you feel that if we shared our expertise, would it help develop our own professional skills?

Each session was scheduled for one hour and I told each team member that this project had no bearing on any performance reviews nor will the information be relayed back to management in any way. I wanted to get a truthful response from everyone so that I could improve the process and ultimately improve upon SharePoint.

Data Collected for Research Cycle 3

For research cycle 3, I conducted interviews with my immediate team. For those who were in the Costa Mesa, California office, I did face-to-face interviews with them (6 of them). For the remaining team members, I sent them the interview questions in advance and called them on the phone to discuss the questions. For each question that was asked, I wrote down the key points that were talked about on my notepad. I then collected all the responses and listed them with frequency, not for all of the different types of replies.

Method

The discovery sessions yielded some interesting outcomes. I initially thought that everyone on the team had a bookmark to the internal SharePoint site that was created for our collaboration. When I interviewed my team and asked how often they visited the site, 40% were daily users, but 20% did not know where the site was and had to dig through their past emails to find the SharePoint (see Figure 1). I was under the impression that everyone knew where to find the site so that they could contribute to the SharePoint site.

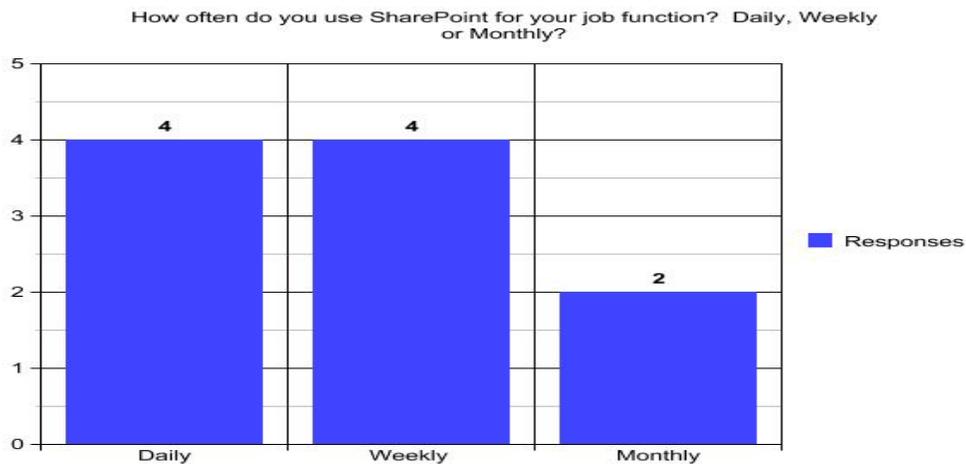


Figure 1 How often a co-worker visits the SharePoint site.

Communication through Blogs and Wikis

The second interview question was aimed at improvements to the SharePoint site. I wanted to see if I could improve the SharePoint site so that it would be easier to navigate and collaborate. The site was already in use in August 2009, so I wanted to see if the team had any issues with the site in terms of usability. The responses of the team indicated that a third of the team reported that there were problems around the usability or ease of use of SharePoint. They thought that it was hard navigating through the environment and there were no standards on where information was kept. Another third of the team thought that the improvement of the use of the wiki could come when there was more collaboration around the articles in the blogs and forums. One team member felt that the wiki and blog was function well in this respect. Other suggestions included linking our content to external sources or for someone in the group to provide commentary on the posted articles.

Problem Solving Mediated by SharePoint

The goal of our team learning is to align people's thinking and energies through dialogue to transform the collective thinking of individuals into something bigger than the sum of its parts (Senge, 1990). I asked the team to share their ideas were surrounding collective thinking and how our team would benefit from sharing our knowledge in SharePoint. In our discussions, four of the team members indicated that they felt that SharePoint assisted in problem solving by linking together individuals with subject matter. Two of the team member centered their responses to this question about problem solving by discussing the issue of completeness of the content. One person brought the importance of our need for an editor, while another focused on their perception that the sites was more helpful for one person but not all of the people. Team mates felt that additional instruction is needed so that the system would be utilized in a more effective manner.

Barriers to Effective Knowledge Sharing

An important question, for any knowledge management system, that I wanted to ask the team was: What do you think the barriers are to collaboration and knowledge sharing? As I researched knowledge management, I found many barriers to sharing. One reason for employee resistance to knowledge sharing is that many people view their expertise as an intangible asset they are unwilling to part with. Put differently, many workers view their knowledge or expertise as a source of power (Nonaka, Toyama & Konno, 2001) that is critical to their value as employees. Table 1 shows the key words that were given as answers to my question about barriers to collaborate.

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Key Words for Barriers to Knowledge Sharing

Knowledge is power	4	Awareness	2
Job Security	3	Ease of use	1
Organization/Mgmt Support	3	Complexity of Info	1
Time	3	Fear (technical)	1
Silo	3	Apathy	1
Forcefully	2	Culture	1
Perfection	2	Effort	1
Completeness	2	Distance	1
SharePoint Structure	2		

Table 1 Key words to describe barriers to knowledge sharing

The notable trend I wanted to point out for this data set was that some of the respondents replied to a couple of key words that were dependant on each other. For example, 40% of the respondents thought that knowledge is power and in turn 30% of the respondents also thought by keeping the knowledge themselves, that would in turn give them job security in a siloed environment. People view knowledge as a method of securing their job. So they're reluctant to share (De Long & Fahey, 2000). The trend also pointed to upper management support. Thirty percent of the response was geared towards Organization/Management support. Employees are now working longer hours with less staff (30% responded with less time to do their work). The impact of top management and leadership support is greater for knowledge management as it is an emerging discipline and employees may need the added incentive of a total commitment from their organizations top management and leadership (Conley & Zheng, 2009).

Professional Development through Shared Expertise

The final interview questions were asked of all of the team members. The thought was that if everyone shared their experiences and knowledge, then everyone should develop a particular skill that they did not start out with thus upgrading their professional skills. Figure 2 shows the response to: Do you feel that if we shared our expertise, would it help develop our own professional skills?

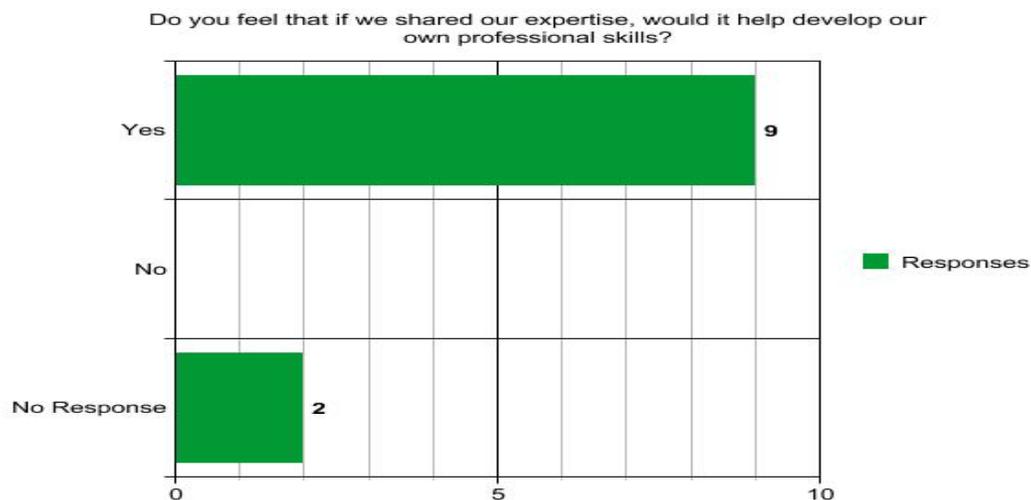


Figure 2 Responses to sharing expertise

Although I feel that the response rate was a general *yes*, participation on the SharePoint was not as high as the response yielded. Three members of the team did not contribute to the wiki, and only 4 members of the team contributed to the blog/forums on a regular basis. There seemed to be a trend that people did not participate voluntarily. What has been discovered is that, first, people will not voluntarily share knowledge unless they feel some moral commitment to do so and second, people will not share unless the dynamics of change favor exchange (Northouse, 2003). Through the interview process, the general responses that I gathered was that my team members were reluctant to share with their peers because they had no incentive to and they were not immediately told to do so by management.

Reflecting Back on the Third Cycle

Research cycle 3 was a crucial cycle for my action research. I wanted to have an informal conference call with my co-workers so that I could understand their thoughts on the first and second cycle. To them, it was just their thoughts on my approach to the whole SharePoint project. The main goal of this cycle was for me to get into their thought processes so that I could understand where they were coming from a usage perspective. I wanted to explore the general feeling of the team on using SharePoint to share knowledge and their reactions to the collaboration functions of the technology. I also wanted to understand better what the barriers were that might be impeding their knowledge sharing. I made the face-to-face/phone interviews extremely informal. I wanted my co-workers to share with me their thoughts truthfully so that I could improve upon the approach moving forward and to better enhance the product in the near future.

Being part of the technology team, I did not expect the team to push back on SharePoint. Going into the action research, I had an understanding that most of the teammates were already aware of SharePoint and thought that most of them already had the team page bookmarked, or knew where the site was. Finding out this was not the case for two of my team members was disappointing. Throughout the project 2 of the team members had to rely on their archived emails in order to find the SharePoint site. The whole project was mainly about collaboration and knowledge sharing, so I felt that I totally missed those two co-workers. Did I overestimate the technical knowledge of my team? Did I need to actually show them how to work on SharePoint? Looking back to the interview answers, my teammates pointed out the ease of use, fear (technical) and time was a factor in sharing knowledge (Table 1). This may have pointed to the fact that I needed to take more time to assist individual members of the team in learning SharePoint. Team members did not really know how to use the site and felt that it was too burdensome of a tool for them. The team did not have the time to overcome the implementation dip, their performance and confidence in the new tool and their understanding of it was low.

Taking stock, I had an internal thought that the technology is easy, knowledge sharing is easy and why should it be hard to grasp? By going through research cycle 3, I found that SharePoint is not just a tool you can implement without prior training so that employees can properly navigate within it. There also has to be some sort of value for the employees. There are two types of commitments in my immediate team, an external and internal commitment. External commitment is triggered by management policies and practices that enable employees to accomplish their tasks. Internal commitment derives from energies internal to human beings that

are activated because getting a job done is intrinsically rewarding (Northouse, 2003). I've learned that the cultural norm for our group is tied in strong ways to issues of job security and insecurity. Our company has been laying off employees recently and therefore, many of the members of my team see their knowledge as power or resource and by keep that knowledge to themselves, they are a valued resource to the company. The interviews touched upon this subject and I have learned that everyone in the group had a specific reason not to fully participate in the collaboration. Technology is not easily learned and is not a one-size-fits-all for everyone. Every user of the system has a different experience, some were more warming to the technology and others were more non-receptive of the technology. I've also learned that my approach needed to adapt to every individual. Some teammates need more attention and tutoring while others were perfectly fine when left alone. In the upcoming cycle, I will need to introduce a tutorial to the team so that everyone is on the same learning level with one another. I will need to create a computer based training session with each member to gauge their level of expertise within SharePoint.

Change is never an easy task to implement. A computer system can have iterations of changes, versioning and updates to their internal operating systems. As I thought about my fellow co-workers, I came to the realization that some of them feared change. They too did not want to learn a new technology or did not want to forcefully incorporate yet another tool into their tool chest. Some humans have the social-psychological fear of change and the lack of technical know-how or skills to make the change work for them (Northouse, 2003). Every system has to go through an adoption process and I did not give enough thought into supporting that process. I built the requirements in SharePoint without soliciting input from my teammates. Looking through my eyes, I was eager to share my knowledge through the forums/blogs and wikis. I jumped head on into the project with my set of goals without gathering the thoughts and ideas from my teammates. I violated the first rule of a project, gather business requirements and build the system to support the needs of the users. These users were my co-workers and I needed to ease them to the technology. I assumed that they would understand the business need so my approach was flawed upon completing the interview.

As I reflect back on the third research cycle, I needed to be more empathetic to my fellow co-workers. My approach was extremely focused on getting the specific task completed without reflection on how it needed to get done. SharePoint was my answer that I was looking for in terms of knowledge sharing and collaboration. It provided a central repository for document management, collaboration through blogs/forums and process documentation with the use of the Wiki. The group's thought was they already had a share drive on the network and they were perfectly fine with the current way of doing their jobs. Perhaps I should have slowed down to understand each co-worker's technique prior to launching a full on project on making them change. I was moving full steam ahead, like a pacesetter racecar prepping for the big race. Little did I know there were only a few co-workers behind me, the rest were nowhere near where I was. It was not that they were unable and unwilling, but they did not see the value of the project. Each individual had their own incentives and barriers to sharing knowledge. If I knew then what I know now, I would indeed interviewed and solicited my team members first so that I could understand what their needs are then build a project to technically support their vision or mission.

Final Reflection: Powering the Organization with Knowledge

Electricity is what keeps the lights on, air conditioning cold, computers processing and companies in business. If the electricity goes out, then the organization will go out of business. The famous phrase 'scientia potentia est' is Latin for "For also knowledge itself is power" phrased by Sir Francis Bacon in his work *Mediatioes Sacrae* (1597). In modern times, this term is recognized as, "knowledge is power." What his phrase was meant to convey was sharing knowledge is widely recognized as the basis for improving one's reputation and influence, thus power. Organizations that are successful in harnessing this power by creating a successful knowledge management system will have a competitive advantage and a sustainable future in the global economy.

The misconception that organizations have towards Sir Francis Bacon's phrase was that they deem knowledge within an individual as power, whereas in actuality, it should be knowledge creates a powerful team, or community of practice. One employee within an organization can't possibly run an entire organization. As Bennis and Biederman quotes in their book *Organizing Genius*, (1997), "None of us is as smart as all of us." By sharing knowledge as a team, problem solving and procedural improvement will be further enhanced and made more effective.

Action research provided me with the structure on how I would approach knowledge sharing and collaboration in my organization. The action research cycles enabled me to progressively solve issues of sharing and collaboration within my immediate community of practitioners. Action research is a systematic, reflective study of one's actions and the effects that I took to my workplace. Through meta-cognition, I was able to self-monitor and self assess my actions so that I could input new and improved ways of problem solving to improve my own approach so that I could improve my organization.

Sharing at Work Made Easy

The life of a consultant is not an easy one. When you are done with one company, you pick up and move on to the next. With every new company, there's a learning curve. New employees typically plug their laptop into the power outlet and then wait for instructions on what to do next. The beginning of my career at my current organization was just that, plugged in and ready to work. Work on what? I had no idea. There weren't any instructions, only the job description that I had in my binder which I brought with me to work the first day. For my action research, the idea that I had was how would I get this new employee up and running without any supervision? How do I improve and facilitate knowledge sharing and collaboration in my company? If I assisted in creating a knowledge repository that would capture information in the form of a blog, forum or wiki, would it enhance knowledge sharing and collaboration?

I've been in many situations where I was looking for a form, a document or simply a definition of an acronym. It was an extremely frustrating feeling of going to your peers constantly so that they can point you in the right direction. I introduced a blog/forum to the team to facilitate knowledge sharing. I wanted the team to communicate through the use of this specific technology so that the knowledge is documented and can be searched upon in the future. After a couple of weeks of low to non-participation, I started wondering why no one wanted to share

their problems or issues. I took a step back to think about why this was happening. I then realized that I really did not give clear instructions to the team so I then created a usage document outlining the proper usage or direction of the new blog/forum sections in SharePoint. Soon after with the publication of the usage document and the communication to the team in my manager's weekly staff meeting, sharing and collaboration increased steadily.

The first iteration was to throw the blog and forum into the sandbox and see if the team mingled. The second cycle was more interactive. I was more active in conducting one on ones with my co-workers to assist them in inputting data, or knowledge into our newest creation, the wiki. I wanted to be more participatory in this cycle because I did not receive the high levels of participation that I was expecting out of the team. I thought that if I was in their space/face, then they would in turn produce a wiki entry for the team. I noted that the participation level was higher, but then there were still some teammates that did not care to participate in the knowledge sharing. I kept on asking myself why. Why did some participate and why did others not? The organization was in limbo at the time and we were laying off employees so I thought that because people deem knowledge as power, they needed to keep that to themselves so that they are looked upon as an asset and thus cannot be laid off.

After the second research cycle, I began to think about how my approach and my delivery could have alienated some of my team members. I know that our team really operates as a single person supporting a technology and some of them were not really used to working as a team. I wanted to explore the way I implemented my solution onto the team and wanted to solicit their feedback so that I could improve upon our site. From the one on one interview that I conducted with my co-workers, I found out that some were more open to knowledge sharing, some did not want to share in risk of losing their jobs, there were no extrinsic values to sharing and some were actually not interested in the project because they had no incentives from management. I realized that this collaborative effort was much more difficult than I initially thought. One size does not fit all and I needed to understand each team mate's goals so that I could assist them in meeting their goals so that our team would have successful sharing environment. I needed to be more socially involved with my co-workers so that they could trust me and then share with me, then ultimately with the entire team.

Lessons Learned

From what I thought was an easy plug in, my action research project was an adventure in managing personalities, technology and organizational restructuring that was beyond my immediate control. How hard can it be to create a knowledge repository, and have people input their expertise into it so that everyone who has access to it would improve themselves? I made the mistake of assuming that everyone in my team would collaborate eagerly as I would and did. I did not create a good enough action plan or business requirement as the corporate world would call it. A difficulty with action planning is that sometimes people assume that life will go according to plan, which is seldom the case, so they get agitated when the unexpected happens (McNiff & Whitehead, 2006). I've always thought that two heads were better than one and in general, my co-workers would agree. I was now tasked in showing them how it's better.

The research cycles taught me that I needed to include my co-workers in the planning process of

my action research. Since I'm not the only user of the system, I needed to have their input into the technology so that everyone would get something out of it. I also needed to have their buy-in. I needed to establish a better working relationship with them so that they could trust me and provide more constructive input into the repository. I found myself asking why this or why that during all of the research cycles. Reflecting on every decision, outcome and process was key in discovering how I felt about a situation and how I could improve upon the future situations. As I understood my co-workers in a more intimate way, they too were more eager and willing to share their knowledge with me. Different types of knowledge that not only pertained to work, but to their personal lives as well. I feel that my relationship with all of my co-workers have improved as a result of my action research.

When the individual soul is connected to the organization, people become connected to something deeper-the desire to contribute to a larger purpose, to feel they are part of the greater whole, a web of connection (Fullan, 2001). My belief was to be the best at what you do. I was intrinsically motivated at my organization. How will I get my co-workers on the same page?

Upon completion of the three research cycles, my organization has purchased SharePoint 2010 for the company wide implementation. Although the decision was not initiated around my research, I was assigned to assist in implementing the system because of my prior research experience. We are hopeful that the new collaboration system will foster new communities of practice and with new communities, new opportunities for knowledge sharing and collaboration.

The Extension Cord

Plugging the laptop into the wall without purpose will only turn it on. There has to be a purpose in life. Human beings have an innate inner drive to be autonomous, self-determined, and connected to one another. And when that drive is liberated, people achieve more and live richer lives (Pink, 2009). I will continually reflect upon my practice so that I can assist in fostering change in my organization and more importantly, change within me, which is the heart of Action Research. I will also extend the extension cord that is connected to the wall so that my co-workers can plug in and we can all reap the benefits of a fully collaborative community of practice.

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