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Innovation Through Social Networking in Communities of Practice

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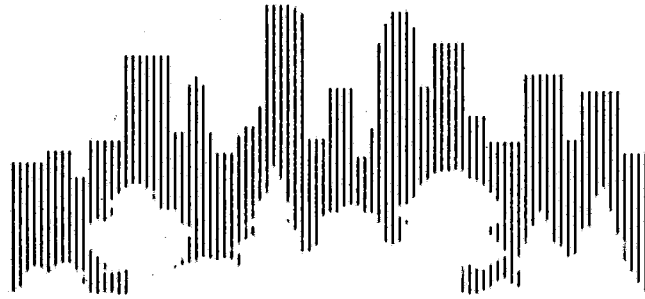
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MASTER OF ARTS IN LEADERSHIP

Patricia K. Brill

**Innovation Through Social Networking in
Communities of Practice**

2011

**INNOVATION THROUGH SOCIAL NETWORKING
IN COMMUNITIES OF PRACTICE**

PATRICIA K. BRILL

**Submitted in partial fulfillment of
the requirement for the degree of
Master of Arts in Leadership**

**AUGSBURG COLLEGE
MINNEAPOLIS, MINNESOTA**

2011

MASTER OF ARTS IN LEADERSHIP
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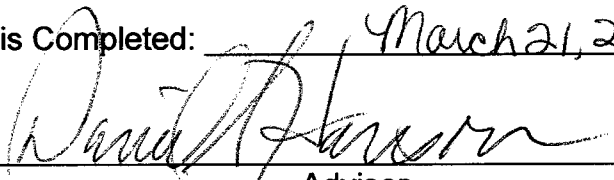
CERTIFICATE OF APPROVAL


This is to certify that the Master's Non-thesis Project of

PATRICIA K. BRILL

HAS BEEN APPROVED BY THE Review Committee for the Non-thesis Project
requirement for the Master of Arts in Leadership degree.

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ABSTRACT

INNOVATION THROUGH SOCIAL NETWORKING
IN COMMUNITIES OF PRACTICE

PATRICIA K. BRILL

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Innovation helps bring competitive advantage to organizations. Without competitive advantage organizations are in danger of not surviving. Two initiatives have recently emerged to support innovation: Communities of Practice (CoPs) and Social Networking. Communities of Practice provide an opportunity to organizations where innovation is created through the knowledge-sharing and informed ways of working. Social Networking is being utilized in organizations to foster collaboration and expose expertise for employees to tap into.

The purpose of this study is to determine the value of combining CoPs with social networks. This will be done by studying communities in the MIX (Medtronic Information Exchange) social networking environment. Communities of practice may be inclined to utilize the capabilities of MIX, thus increasing innovation in the organization.

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INNOVATION THROUGH SOCIAL NETWORKING IN COMMUNITIES OF PRACTICE

Introduction

To maintain a competitive advantage and be a leader in this ever changing marketplace, it is necessary for an organization to be innovative according to Soekijad (2004). Communities of Practice (CoPs) are being recognized as tools for creating innovation in organizations. For the purpose of this research, CoPs are defined as informal structures within organizations that bind people together through informal relationships and sharing of expertise and experience, in which new insights can be transformed into knowledge. Brown and Duguid emphasize that "in order to be innovative, organizations should focus much more on informal knowledge sharing and informal ways of working, both of which take place in CoPs" (as cited in Soekijad, Mirjam, Huis in 't Veld, & Enserink, 2004, p. 4).

A successful CoP at Hewlett Packard, that has proven to contribute to the continued success of an organization, is described by Wenger (2000). This CoP consists of several product-delivery consultants from around North America that hold monthly teleconferences. They focus on an HP software product called High Availability which minimizes computer downtime for customers. This community succeeded in standardizing HP's software sales and installation processes and established a consistent pricing scheme for HP sales people. The participants in this CoP learn together by focusing on problems that are directly related to their work, making their work easier and more effective. By building both their

communities and shared practices, they develop capabilities that have proven to be critical to the continuing success of the organization.

CoPs develop people's professional skills and help companies recruit and retain talent in addition to driving strategy, creating competitive advantage, and helping to solve organizational problems, according to Wenger (2000). Wenger also suggests that CoPs are effective for fostering professional development in companies which may show a strong link to creating the learning and growth of individuals and leadership avenues within organizations.

Social networking is of high interest to organizations looking for new and better ways for employees to collaborate and to open up new avenues for creating innovation. According to McAfee (2009) "Thanks to a new class of collaborative technologies, organizations can now leverage information in valuable new ways, including: capturing accumulated knowledge, connecting employees who need information with the experts who have it, and enabling the best ideas to emerge organically" (Jacket cover). For the purpose of this paper, Social Networking is defined as the practice of expanding knowledge by making connections with individuals of similar interests. Bringing CoPs into the social networking environment possibly gives CoPs the tools to capture the collective intelligence of the community and may be the key to tapping into innovation and ideas.

Lockheed Martin is one such company that created an internal social network called Unity. Because of the company's size, 140,000 employees worldwide, they felt the need to create a way for employees to collaborate and

share information across global boundaries. According to Henneman (2010), Patrice Jackson, Senior Program Manager for Information Sharing and Collaboration services at Lockheed Martin, “credits Unity with helping the corporation become more efficient and more innovative. Employees find the right people with the right knowledge faster” (p.1).

According to Soekijad (2004) inter-organizational networks are an important asset to an organization if innovation is acquired. CoPs are an environment where ideas are generated to create innovation and learning within the organization, and might be a key survival tool to an organization in difficulty that may lead that organization on the road to recovery. CoPs positively affect the performance of an organization and overcome the traditional slow-moving hierarchy by sharing knowledge and dealing with unstructured problems outside of the traditional structural boundaries as discussed by Lesser (2001).

The concept of innovation for the purpose of this research will be those new ideas that are created that contribute to the competitive advantage of the organization. This can be in the form of a new challenge or finding a better solution to an existing problem. Without a competitive advantage, organizations are in danger of not surviving and innovation helps to bring competitive advantage to organizations.

The research cited above by Henneman (2010), suggests that there may be an advantage for CoPs to utilize social networking. Two initiatives have recently emerged to support innovation: Communities of Practice (CoPs) and Social Networking. The study proposed will investigate CoPs and the

relationship between innovation and Medtronic's internal organization's social networking tool MIX (Medtronic Information Exchange). The MIX social networking tool was created as an effort to create a collaborative global space internal to Medtronic employees only, that encourages innovation. This tool has the potential to allow communities of expertise that span Medtronic horizontally, to connect people, cultivate expertise, foster relationships, improve access to information, drive competitive edge, save time, and improve efficiency. This research addresses the question: Do CoPs that utilize MIX generate an environment that fosters more innovation within the organization than CoPs that do not utilize MIX?

It is voluntary to create a community in the MIX environment in this organization and only 12 CoPs have done so. The value of a CoP may be shown by the new ideas and innovation that comes from that community. If this research can show the value of having a community in MIX, CoPs might be inclined to utilize the capabilities of this social networking tool thus increasing innovation in the organization.

Literature Review

This review of literature is organized around Communities of Practice (CoPs) and (a) Competitive Advantage, (b) Social Networking, and (c) Innovation. According to Bolwijn and Kumpe, “innovation has been seen to replace efficiency and quality as the main source of competitive advantage for firm’s” (as cited in Swan, Newell, Scarborough, & Hislop, 1999, p. 1). Many innovation processes are becoming increasingly interactive, requiring simultaneous networking across multiple “Communities of Practice” sometimes on a global scale. This review of literature will focus on studies conducted from 1996 – 2008.

Competitive Advantage

Sinha (2004) studied Communities of Practice and sought to determine if CoPs provide competitive advantage to the organization. A total of 42 global organizations participated in the study that consisted of an email questionnaire web survey. In Sinha’s study, data was collected through the web survey and was sent through emails to 150 managers in organizations situated in various countries. These countries included Canada, India, Puerto Rico, China, Russia, United Kingdom, and the United States. This was conducted in two phases. The first phase consisted of managers completing a survey asking them to identify areas of competitive advantage. Only 42 out of the 150 managers who were sent the email chose to participate. The second phase consisted of requesting the manager to forward the URL to the professionals working in their areas. There were 106 professionals participating. The professionals were

asked to complete the same survey. The questionnaire focused on several identified variables. These variables included stage of development of the CoP, social capital, national culture and computer mediated communications as they related to CoPs. Likert scales were used to measure these variables.

Sinha's (2004) survey revealed that managers feel there is a competitive advantage in CoPs by generating new ideas and solutions and sharing experiences and knowledge among colleagues. However, because of the small number of managers that responded to this web survey, it was found that there was not a significant correlation between CoPs and the perception of competitive advantage. The professionals that were surveyed found no significant relationship between CoPs and Competitive Advantage.

The Sinha (2004) study did determine that CoPs could significantly improve social capital in a particular domain. Lesser and Storck (2001) suggest that business performance is positively influenced by the social capital that resides in CoPs. The majority of the professionals and managers who responded to this survey did not belong to departments that focus on business needs so they may not think in terms of competitive advantage.

Schenkel and Teigland's (2008) longitudinal study sought to determine organizational competitive advantage based on knowledge sharing through CoPs. The study took place at a multi-billion dollar construction project at the construction site of the Oresund Bridge, a five mile multi level bridge connecting Denmark and Sweden. The relationship between CoPs and organizational

performance was studied using interviews, surveys, and company records to determine this correlation. This study was done in a controlled environment.

The interviews and surveys used in Schenkel and Teigland's (2008) study focused on questions related to everyday work processes and how complex tasks and problems were solved as well as what communication and interaction processes were used. Twenty-eight individuals were interviewed using an interview guide and 138 managers, engineers, supervisors and superintendents were surveyed. Variables used focused on frequency of communications, and interactions individuals have with specific CoPs.

Performance data in Schenkel and Teigland's (2008) study was collected from the company records. Using performance data based on defined measures of deviations, data was gathered on 784 deviations during this period of time. The data was analyzed using learning curves based on productivity which was linked to produce volume which in turn should produce increased productivity related to learning within the CoP. The study established a strong relationship between communication channels and performance which in turn increased the organizations competitive advantage. Open communication created opportunity for knowledge sharing which created avenues for competitive advantage. Because the CoPs provide an environment where there are open communication channels, there is a correlation between CoPs and competitive advantage.

Various research methods in Schenkel and Teigland's study were used along with a good sampling of participants. This provided the researchers the information they needed to make appropriate conclusions.

Social Networking

Gunawardena, et. al (2008) conducted a study to understand learning among groups of people who have a common interest or goal that utilized social network tools. Two methods were developed to perform this research. The first method was to explore social networking tools to understand the social networking structure and the second method was to review learning theories to develop a community of practice and experience it. Through using these methods they would learn through interaction in the CoP while utilizing the social networking tools.

Throughout Gunawardena, et. al's research, a collective intelligence process in social networking became clear. Five phases were discovered in Gunawardena, et. al's research that led to the CoP collaborating in this social networking environment, resulting in shared learning. The initiation of this process is in the context of the site and individuals using the site which leads to discourse, action, reflection, and finally reorganization.

Gunawardena, et. al's methods achieved their goal of understanding the collaborative learning process that is found in CoPs when utilizing social networking tools. Gunawardena, et. al's research showed that by being exposed to tools found in the social networking environment, such as the wiki and social book marking, knowledge sharing and collaboration was enhanced. This research also determined that it is important to remember that a barrier to using networking tools is information overload, coupled with time constraints and

understanding how to use these tools effectively. Further research in this area might be useful.

Gadman and Cooper (2001) explored networking knowledge and why it is essential to the business strategy for organizations to allow people to share data through electronic communication systems in CoPs. Among the variables used in this study was knowledge sharing through networking using a variety of telecommunication systems as it relates to creating innovative solutions for an organization. The study involved interviews, observations, and interpretations with 50 conference members and 100 people from organizations in the US, UK, Europe and the Middle East. Questions were based on key attributes of communities such as how collaborative projects originated, what incentives there were for people to participate, how people joined projects, and the nature of projects. The data collected was compiled and patterns of similarity and differences were established.

The Gadman and Cooper study determined there are communication challenges in global organizations trying to connect people across borders and business units. Interdependent communities play a role in keeping an organization at a competitive advantage and creating innovative solutions to keep up with the demands of customers. This study also shows that collaboration and knowledge sharing using collaborating technology within a CoP, is a significant factor in responding faster to changing customer demands, and developing and launching new products faster than the competition. Gadman and Cooper found that CoPs have a significant impact on strategy

execution and organizational effectiveness as they lowered the role of formal reporting structures related to the way that important work is accomplished.

Gadman and Cooper's study on global CoPs was a good sampling and gave a global perspective which created a good contrast view to the studies that were not global. The global communities were required to use other communication and knowledge-sharing tools in order to collaborate since many of their collaborations were not face-to-face. However, the effectiveness of knowledge-sharing within CoPs was very similar to the CoPs that were not global.

Innovation

Bjork and Magunusson's (2009) used a three-step process to explore the interrelationship between idea providers' network connectivity and innovation idea quality using social network analysis. The first step involved using data from a Swedish company where both researchers actively collaborate with a network of the providers of ideas was created over a period of three years. The result was 1,740 ideas generated by 364 persons. The second step involved computing the normalized degree centrality for each innovation idea, and the third step explored the interrelationship between the quality of innovation ideas and the normalized degree centrality.

Results of Bjork's and Magunusson's study indicated a clear interrelationship between the quality of the innovation ideas created and network connectivity. Performance was better in the more connected category than in the least connected. An important finding shows a significant proportion of high-

quality ideas resulted from individuals vs. groups. In groups it showed that connectivity diminished high quality ideas. This study shows that connectivity plays a different role for individuals who are generating ideas than groups who are generating ideas.

Significant findings for Bjork's and Magunusson's study show the importance of supporting individuals' social interaction with other people to increase high quality innovation ideas. Ideation process support and facilitation, as well as the knowledge of what influences the quality of ideas created, increases the understanding of what leads to high quality innovation ideas. Because of the finding in this study that connectivity diminished high quality ideas in groups, it will be important to continue research on what factors are behind the effect on the lower proportion of high quality innovation ideas in the highly connected groups.

Soekijad, et.al. (2004) study investigated an inter-organizational community in The Netherlands that focused on small-scale industrial estates involved in creating new practices for developing innovative industrial areas and estates. Through participative observation, questionnaires and short interviews, during the period of September 2001 through February 2003, Soekijad, et. al. gathered data from CoPs involving 25 people, Core Teams, and other members. Data gathered included information on expectations of its members and aspects that were learned from being a member of this company. The intention was to link the expectations, new ideas, and acquired insights of the members to the activities and lifecycle of the community.

Soekijad, et. al. hoped to find three important characteristics: situatedness, knowledge sharing, and collective learning in order to create new practices for developing innovative industrial areas and estates. Situatedness according to Soekijad (2004) refers to “situated learning which involves people learning within a particular (practical) context and through social interaction” (p.4). The study showed that the three variables they hoped to find were found in the CoP. The CoPs main goals to learn from and with each other and to develop innovative concepts were effective. All participants reported that learning took place related to understanding the concerns and issues of other participants, and insight was acquired related to the wasteful use of space at the industrial estates.

These learnings and insights acquired by the CoP in Soekijad, et. al.’s study were shown to lead to increased performance which led to developing creative innovative ideas. The identification of this community as being considered an inter-organizational CoP was of significance because of the shown collective learning and knowledge sharing that took place to enhance the performance of the organization. Another key finding from this study was the realization that for an inter-organizational CoP there is a need for more managerial input to facilitate the CoP. This is significant for future CoP development.

Lesser and Storck’s study of 2001 focused on seven CoPs using interviews as a method for determining that CoPs create value for an organization. The CoPs were chosen based on a described definition of a CoP, were in different stages of development, and crossed several industries globally.

This gave the study the opportunity to consider various kinds of contributions to organizational performance. This study's hypothesis was that the development of social capital among community members influenced organizational performance. Lesser and Storck wanted to show the relationship of social capital and the value of CoPs so this was the variable used in this study. Questions asked were focused around what value communities provide at both an individual and organizational level. For each company that participated, they interviewed between 5 and 10 members of existing CoPs. A mind map was developed that helped to create categories used to review the interviews. They were able to determine the key sources of individual and organizational value from these.

Lesser and Storck's study showed that the business outcomes that are influenced by CoPs and influence organizational performance decreased the learning curve of new employees. In turn, they were able to respond more rapidly to customer needs and inquiries which reduced rework and prevented reinventing the wheel and produced new ideas for products and services.

The value of CoPs shown in Lesser and Storck's study will require managers to support CoP development for their employees. A study on managers knowledge of the importance of CoP development for their employees will be important as well as how to engage managers to support CoP development. Lesser and Storck's study was significant in showing the correlation between CoPs and its positive impact on organizational performance.

Swan, et.al. (1999) researched the role of networks and networking for knowledge management (KM) through interactive innovation processes. They

present the research of two case studies that were taken from a larger study on the roles of networks and KM in interactive innovation projects. Swan, et. al. studied innovation development for each case over a two year period of time including three one-week site visits to interview project members. The two firms studied are Ebank and Brightco. Ebank is a multinational firm across 70 countries and a large IT investor especially in Europe. Brightco is a multinational manufacturer and service provider of specialist materials handling equipment located across Europe, Asia and the US, headquartered in Sweden.

It was determined in Swan, et. al.'s study, that at Ebank, the development of network technology to increase knowledge sharing across the geographies was not achieved. Conversely, Brightco was successful in implementing a network which was utilized by the majority of divisions across Europe. Ebank used a supply-driven approach while Brightco used a demand-driven approach to KM. The supply-driven approach utilizes IT-based tools for creating the networks to provide knowledge sharing. The goal is to capture and transmit knowledge. This assumes that knowledge will be used and that users understand how to apply the knowledge. This study shows that this assumption proved to be wrong. The demand-driven approach focuses on creating and applying knowledge. Understanding the stakeholders are critical for creating importance for networking and encourages utilizing the knowledge shared which is vital for innovation. Another important factor discovered in the success of these innovation projects in this study is the encouragement of sharing and building

relationships with other stakeholders so that the broader goals of the project being designed are understood and envisioned.

Swan, et. al.'s study shows the importance of involving other stakeholders, in addition to IT, to create a networking environment that encourages knowledge sharing for innovation in global organizations. As shown in this study, this increases the ability to communicate, share, and manage information that spans global space. By using these two case studies in their research a good comparison of success and failure was shown in creating networks for knowledge sharing leading to innovation.

Summary

Studies reviewed here reveal that CoPs generate new ideas, solutions and sharing experience and knowledge among colleagues. CoPs can significantly improve social capital in a particular domain. There is a strong relationship between communication channels and performance which in turn increases the organizations competitive advantage. Open communication creates opportunities for knowledge sharing which creates avenues for competitive advantage. There is a correlation between CoPs and competitive advantage and positive impact on organizational performance. Social networking tools such as wiki and social book marking create knowledge sharing and collaboration in CoPs. Using collaborating technology in CoPs is a significant factor in responding faster to changing customer demands and needs and developing and launching new products faster than the competition. CoPs have a significant impact on strategy execution and organization effectiveness.

Learning and developing innovative concepts are effective in CoPs. Also noted was the importance of involving stakeholders when creating networking environments to maximize successful communication sharing and managing information. It is important to use the appropriate communication tools to be an effective CoP.

Two studies related to CoP effectiveness showed inconsistencies. Schenkel's study suggests that the three CoPs that were successful in creating competitive advantage and performance were face-to-face collaborations, and the one study group that collaborated in an environment where there was less face-to-face collaboration during the study was ineffective. On the other hand the Gadman study showed significant effectiveness of CoPs that collaborated globally without face-to-face collaboration. More study needs to be done to determine how and why global CoPs are successful in collaborating since more and more organizations are being globalized.

The question of management encouragement and support for CoPs and building leaders through CoP involvement still remains. It seems to be important that for CoPs to be successful, management must support them at some level. How do we get management to support and encourage participation in CoPs? It's clear from these studies that CoPs are important to the organization in the areas of knowledge sharing and organizational performance. Furthermore, these studies suggest that these areas can lead to organizational innovation and competitive advantage.

Methods

As stated in the Abstract, the purpose of this research is to evaluate the relationship between innovation and Medtronic's internal organization's social networking tool MIX through CoPs. Analysis was done to provide greater insights into the influence MIX has to generate an environment that fosters more innovation within the organization. The primary question, do CoPs that utilize MIX generate an environment that fosters more innovation within the organization than CoPs that do not utilize MIX, was researched.

The researcher used a qualitative approach to research the generation of innovation within the MIX environment and outside of the MIX environment. This approach was selected as the best way to capture information required to answer the primary question as indicated above.

Subjects in this study included CoP leaders that utilize the MIX environment and CoP leaders that do not utilize MIX. It is public knowledge within the organization who these leaders are. It was the intention of the researcher to secure 24 subjects to ensure that there is a good cross section of CoPs within the company. The researcher targeted the 12 CoPs that have communities in the MIX environment, this is all there is at this point in the study, and 12 CoPs that do not have communities in the MIX environment. The 12 CoPs that do not have communities in MIX were selected based on how active they are. Activity was based on the number of meetings they had in the past fiscal year. The 12 most active CoPs were chosen.

Each identified subject was sent a recruitment email (see Appendix D) inviting them to be a part of this research study. Each study subject who accepted the invitation to be a part of this study was asked to read and acknowledge a consent communication (see Appendix B) where the research discloses the purpose of the study and all the risks and benefits. Participation was encouraged in an effort to strengthen and expand knowledge of the value of having a MIX community to foster innovation.

An in-depth interview was done between the CoP leader and the researcher. (See Appendix C for interview questions) Questions strove to seek information regarding the value of a CoP, collaboration methods within the CoP, contributions of the CoP to members and the organization, knowledge and awareness of MIX, and innovation efforts that the CoP has created and provided to the organization.

Of the 24 subjects identified for this research study, 16 accepted to be a part of this research. Ten subjects utilized the MIX environment and 6 did not utilize MIX. The researcher felt this number of subjects provided enough information to analyze the data to consider significant findings for the research question.

The interview data was analyzed and compared. The researcher sought to find common themes in participant responses to interview questions through this analysis and comparison. Results were examined and noted, and based on data gathered from participant interviews, common themes became clear. In addition, the results of this analysis provided information and data to compare

and contrast, and draw conclusions. The results of this research provide valuable insight into the influence of MIX on generating an environment that fosters innovation within the organization and the value of the MIX environment for CoPs.

The responses from this study are summarized below. Common themes as well as any limitations related to this research methodology and information to pursue additional research related to this topic is shared.

Findings

Communities of Practice

Two common themes emerged around how leaders defined a successful CoP: knowledge-sharing and collaboration. These two themes were identified as critical factors to increase job enhancement and networking opportunities. According to Wang, Yang, and Chow (2007) "We can view CoPs as engines of knowledge creating and sharing" (p. 529). Research shows that success of a CoP depends on funding to bring in speakers, as well as passionate leadership taking the initiative to consistently be committed to making sure meetings, interactions, and connections continue on an on-going basis. Study participants indicated success in their CoPs ebbed and flowed. Interaction between members often takes a lot of energy to initiate which requires engaged leaders to support this effort.

Responders in this study indicate frustration with their CoP MIX community because of lack of participation. There are more lurkers, people who tend to go on the community and read about what's happening, than participants. One study subject indicated that a community in MIX was created based on a somewhat new area of interest. After a time of little participation, it was realized that employees tended to go to the community to learn but because the topic was so new, very little participation took place because there was not enough experience yet to discuss the topic knowledgeably. Subjects indicated there may be information that people take away and are using but the community doesn't see what is actually happening with that information.

This research shows the value of a CoP for the organization includes providing access to cutting edge resources, availability to expertise, and providing an avenue for collaboration. Collaboration pulls people together cross-functionally and cross-business resulting in the ability to leverage off each others experiences enhancing the ability to problem-solve and innovate. According to Debra Louison Lavoy, "Collaboration can bring together a divergent set of perspectives, which has been shown to lead to better decision-making and problem-solving" (as cited in Lamont, 2010, p. 2). According to the subjects in this research, the value of a CoP for individuals includes providing individual technical development and growth, and a mechanism to develop careers that broaden an individual's toolset. CoPs provide an environment that connects new employees and new acquisitions quickly which creates an environment of inclusion that fosters a collaborative environment.

Specific contributions a CoP provides to the organization and members were difficult to identify. There is not a mechanism for a CoP to track or capture how meetings or knowledge shared has impacted a specific product or an individual. Two specific contributions identified were, presentations contributing to help forward microscopy technology and awareness of geometric dimensioning and tolerancing symbols and standard specifications.

Social Networking in MIX

Social Networking utilizing the MIX environment, launched one year ago, is a relatively new concept in the organization. Study participants responded they were surprised and disappointed in members lack of adoption and

engagement, as well as the difficulty in working within this environment. Lack of participation is noted to be due to the following factors: a learning paradigm, meaning this is not the standard way people are use to learning; members not realizing the true power of using it in their professional work day; it continues to be easy to pick up the phone or communicate via email; people are not required to use it. Study subjects indicated if employees were required to utilize MIX it would be more integrated with their jobs and advantages would be more apparent. It is not clear to research participants if this social networking environment is giving CoPs the tools to capture the collective intelligence of the community that tap into innovation and ideas, although one subject indicated that MIX helps with the initial connection to others.

Culture is the largest barrier to using MIX as suggested by several of the study participants in this research, meaning the culture of how people work today. Many of the study participants are happy with the way things are being done, for example using email and telephone, and can do their work without participating within MIX. Another barrier is time. People are busy in their work day and it is challenging to get people to find the value and time in order to use the tool. Championing the MIX is time consuming as well, so it is indicated that leaders must be passionate and understand the value in order to take the time to promote the value of the tool and make it a priority. Because of this, inertia to join MIX is low.

The majority of respondents indicated the biggest advantage MIX provides is a global universe where connections can be made that wasn't there

before. It connects information to people and provides the potential to find experts and others interested in similar technology. According to Lamont (2010) “Social networking can help individuals find others in their company who share common interests and answer the important questions of who knows what” (p. 1). MIX creates a wider base of people to connect with to find answers, information, and knowledge.

Innovation

Study participants indicate MIX is a powerful tool in generating knowledge-sharing and innovation. According to one study participant, “We don’t have any other tool like that and that’s where we hold the key to innovation. We can connect people through their knowledge, not by their title or division they’re working in” (DS). The tools MIX provides, such as the wiki, live feeds, tags, ask a question, discussions and conversations, are seen as a way to connect people globally and share information which leads to innovation. “One of the most promising areas for social networking is innovation, which often depends on finding and collaborating with the right colleagues” (Lamont, 2010, p. 1). It seems clear that all study participants understand the potential MIX has to enhance innovation. One study participant indicates, “I see MIX as expediting the jump to direct innovation as opposed to someone taking their time researching. It gives you a jump start” (RG).

This research indicates that little collaboration is initiated between members, and communication between members is rudimentary in CoPs who do not utilize MIX communities. It is suggested that innovation may happen but in

an indirect way, for example, meetings may generate ideas or a question which spark a novel way of a direction to a problem. There is no way to nurture innovation and communication is contained to a few vs. many in the MIX global environment.

Many MIX CoP community leaders interviewed indicate they cannot point to specific examples of innovation because they are not privy to them. They know interaction is going on, people are learning and carrying that information back to their jobs but cannot pinpoint ties to a specific innovation. There is anticipation that the more the tools in MIX are utilized, capturing the innovation contribution will eventually be seen.

Innovations in the form of methods introduced for complex implants and instruments and the collaborations that happen globally have unrealized potential for the organizations competitive advantage in the MIX environment according to one study participant. "Anytime a network is created in Medtronic it's an advantage for the product their working on and the future" (AB).

Analysis of Results

All study participants agree about what a CoP is and what makes it successful. Knowledge-sharing is the main priority for these leaders. Overall results led the researcher to conclude that leaders of CoPs who had MIX communities believe that utilizing the MIX environment will lead to increased collaboration and knowledge-sharing. Several leaders of CoPs that do not utilize MIX agree that collaboration and knowledge-sharing can be increased in the MIX environment. Two study participants had examples of how MIX has led to innovation and most believe MIX provides increased opportunity to foster innovation within the organization. However, participants indicated that innovation was difficult to show because there is not a mechanism to capture and track how knowledge-sharing has impacted a particular product or individual. Leaders are encouraged that when the MIX tool is utilized by more employees, innovation will become more apparent.

Leaders of CoPs who do not have MIX communities are apprehensive because of the fear of time commitment to create a successful MIX community. It is clear that for some the value of a MIX community is not apparent and the current culture of using email and telephone for communication is satisfactory. Because of the low level of participation in MIX, full potential of the tool is yet to be seen. Most of these leaders are waiting to see proof of the value of MIX before committing the time to lead a MIX community.

Limitations of Study

The full benefits of this qualitative study are limited due to the small sample size of study participants. Because the MIX environment has only been active for 1 year, the number of CoPs with MIX communities was limited to 12. The study was intended to have equal number of CoPs with MIX Communities and CoPs without MIX communities represented in this study.

The researcher invited 12 CoP leaders with MIX communities and 12 CoP leaders without MIX communities to be a part of this study. After 2 attempts at recruitment emails, a total of 16 leaders agreed to participate. While the groups were not evenly distributed, 10 CoP leaders with MIX communities vs. 6 CoP leaders without MIX communities, the researcher does not believe this created an imbalance in the information collected.

Discussion

This study attempted to evaluate CoPs and the relationship between innovation and MIX and answer the question: Do CoPs that unitize MIX, generate an environment that fosters more innovation within the organization than CoPs that do not unitize MIX?

Research in this study shows that the MIX tool provides the opportunity to generate an environment that fosters more innovation within the organization. The tool provides an environment that is open to Medtronic employees globally which allows collaboration and expertise that fosters the opportunity to create new ideas. These ideas may lead to innovation that in turn may contribute to the competitive advantage in the organization. As suggested by Storck (2001) "The

social capital resident in communities of practice leads to behavior change which in turn positively influence business performance” (p. 1). Communities of practice that do not utilize MIX do not gain the benefit of this global connection, collaboration, and expertise. This is not to say CoPs that do not utilize MIX do not contribute to innovation, but the study provides insight into the increased opportunity for innovation in CoPs that utilize the MIX tool.

From a leadership perspective, the study showed that the “leader was key” (MB) to the success of a CoP. “Consistent commitment from the leadership” (PW), “having their finger on the pulse of technology” (SO), and knowing what is of interest to the community, were characteristics a leader must have in order for the CoP to be successful. Success of a CoP revolved around knowledge-sharing and collaboration that increased job enhancement and networking opportunities. The study showed that the social networking MIX environment provided an enhanced opportunity for knowledge-sharing and collaboration. Given this information, we may conclude that leaders of MIX communities that bring the above characteristics have increased probability of providing a successful CoP learning experience for members, which in turn may increase the opportunity for innovation in the organization. Knowing this, it will be important for the organization to support and influence employees to lead in this environment.

Future Research

As shown in this study, the MIX tool plays a significant role in providing the opportunity for collaboration and acquiring expertise globally, which creates a rich environment for allowing innovation to develop. However, the MIX

environment has been in existence only one year, so additional research is warranted on gathering more data on innovation resulting from this tool possibly a year from now when the tool has been embraced and utilized by more employees.

Another area for research may be to examine leadership in the MIX environment. It was determined by this study that leadership is most important to the success of a community, so researching leadership roles and characteristics in this social networking environment may provide crucial data that may lead to a rich innovative environment for an organization. Understanding leadership roles and characteristics may provide the organization the information it needs to encourage and build leadership opportunities within the MIX environment.

Conclusions

Research shows that MIX creates an environment that supports the value of a CoP in generating knowledge sharing and collaboration. This study contributes to the debate about whether utilizing the social networking environment MIX, contributes to innovation in the organization or not. This is an important and timely topic as the organization is moving in this direction. Implications for innovation in the organization through the MIX environment are positive. Data gathered to show this tool's influence to improve competitive advantage for the organization has potential to be significant.

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Appendix A: Interview Consent Communication

Innovation Through Social Networking in Communities of Practice

Interview Consent Communication

You are invited to be in a research study investigating the use of social networking in Communities of Practice (CoP) and the relationship of innovation contribution that leads to competitive advantage in the organization. The researcher has targeted 12 CoPs that utilize Medtronic's social networking tool MIX and 12 CoPs that do not utilize MIX. You have been chosen as a study participant because you are a leader of a Community of Practice that either utilizes Medtronic's social networking tool MIX or doesn't utilize the MIX.

This study is being conducted by Patty Brill as part of her Masters of Arts in Leadership thesis project at Augsburg College. Her advisor is Daniel Hanson, Assistant Professor of Communication Studies, Augsburg College. Patty is an employee of Medtronic working in the capacity of Administrator of the Medtronic Technical Forum.

Background Information:

The purpose of this study is to investigate CoPs and the relationship between innovation and Medtronic's social networking tool MIX. Gaining a greater understanding of the correlation between CoPs who have MIX communities and CoPs who do not, may provide insight into the impact MIX communities have to provide innovation within the organization. Capturing this information will produce results that can be assessed and examined and provide insight into the value of having a MIX community to foster innovation in the organization.

Procedures:

If you agree to be in this study, we would ask you to take part in a one-time, in-depth interview either face-to-face or by phone with the researcher, Patty Brill. Interview questions will focus on what the value of a CoP is to its members and the organization, collaboration effectiveness and how innovation is generated in the CoP, and utilization or non utilization of the MIX environment and its advantages and barriers. This interview is determined to be about a half hour in length.

Risks and Benefits of Being in the Study:

Risk of being in the study: While your name will not be disclosed, the particular CoP will be known. Therefore, it may be possible to identify you because of your association with that CoP

Only subjects who have given consent to be in this study will be used.

There are no direct benefits to participation. The indirect benefits to participation include enhanced knowledge that could result in usage of MIX communities possibly improving the opportunity of innovative contribution to the organization. A copy of the final thesis will be given to the Knowledge Center and available at the Lindell Library at Augsburg College. Study participants are welcome to read the completed thesis.

Voluntary Nature of the Study:

Your decision whether or not to participate will not affect your current or future relations with Augsburg College, Medtronic, or the researcher. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Patty Brill. You may ask any questions you have now. If you have questions later, you may contact me by phone at work (763) 505-3012 or email at patricia.k.brill@medtronic.com. The researcher's advisor is Daniel Hanson, Assistant Professor of Communication Studies, Augsburg College. He can be reached at work (612) 330-1540 or email at hansond@augsborg.edu.

I have read the information related to this research and consent to participate in this study.

Researcher's Signature

Participant's Signature

There is a possibility that quotes will be used in the research paper. If you consent to participate in this study your permission will be requested to quote your responses.

Participant's Signature (Permission to use quotes)

Appendix B: Interview Questions

**Innovation through Social Networking in Communities of Practice
Interview Questions**

Studies have shown that CoPs provide an opportunity to organizations where innovation is created through the knowledge sharing and informed way of working found in CoPs.

General questions for both CoPs with and without MIX Communities

1. How do you define a successful CoP?
2. Is your CoP successful based on your definition?
3. What contributes to the success of your CoP?
4. What is the value of a CoP for the organization and members?
5. What are some of the biggest contributions your CoP has made to the organization and members?

MIX Community Questions

6. What has been a surprise with working in the MIX community environment?
7. What has been a disappointment with working in the MIX community environment?
8. Does your MIX community generate collaboration for knowledge sharing that creates opportunities for innovation?
 - a. If so, what are some examples?
9. How has MIX been helpful in generating knowledge sharing and innovation?
10. How do you determine the possible advantages of MIX?
11. What are some examples of innovations that have been generated because of utilizing the MIX environment?
12. Would you recommend a MIX community? If so, what would you say to convince someone who is not using MIX to use it?

Non MIX Community Questions

13. Thinking about collaborating as working together to contribute to innovation, how does your CoP connect in order to collaborate with others?
14. How does your CoP generate innovation in the organization?
 - a. Give some examples of innovation generated by your CoP
15. Are there barriers to using MIX?
 - a. If yes, what are they?
16. Why are you not utilizing the MIX environment?
17. What do you see as the advantages of not utilizing a MIX community?
18. Would you utilize the MIX environment if you saw proof of increased collaboration and innovation by CoPs that utilize the MIX?

Appendix C: Recruitment Email

To: Community of Practice Leader
From: Patty Brill
Subject: Request Interest in Research Study: Innovation Through Social Networking in Communities of Practice

You are invited to be in a research study investigating the use of social networking in Communities of Practice (CoP) and the relationship of innovation contribution that leads to competitive advantage in the organization. The researcher has targeted 12 CoPs that utilize Medtronic's social networking tool MIX and 12 CoPs that do not utilize MIX. You have been chosen as a study participant because you are a leader of a Community of Practice that either utilizes Medtronic's social networking tool MIX or doesn't utilize the MIX.

This study is being conducted by Patty Brill as part of her Masters of Arts in Leadership thesis project at Augsburg College. Her advisor is Daniel Hanson, Assistant Professor of Communication Studies, Augsburg College. Patty is an employee of Medtronic working in the capacity of Administrator of the Medtronic Technical Forum.

Background Information:

The purpose of this study is to investigate CoPs and the relationship between innovation and Medtronic's social networking tool MIX. Gaining a greater understanding of the correlation between CoPs who have MIX communities and CoPs who do not, may provide insight into the impact MIX communities have to provide innovation within the organization. Capturing this information will produce results that can be assessed and examined and provide insight into the value of having a MIX community to foster innovation in the organization.

Procedures:

If you agree to be in this study, we would ask you to take part in a one-time, in-depth interview either face-to-face or by phone with the researcher, Patty Brill. Interview questions will focus on what the value of a CoP is to its members and the organization, collaboration effectiveness and how innovation is generated in the CoP, and utilization or non utilization of the MIX environment and its advantages and barriers. This interview is determined to be about a half hour in length.

There is a possibility that quotes will be used in the research paper. If you consent to participate in this study your permission will be requested to quote your responses.

Risks and Benefits of Being in the Study:

Risk of being in the study: While your name will not be disclosed, the particular CoP will be known. Therefore, it may be possible to identify you because of your association with that CoP

Only subjects who have given consent to be in this study will be used.

There are no direct benefits to participation. The indirect benefits to participation include enhanced knowledge that could result in usage of MIX communities possibly improving the opportunity of innovative contribution to the organization. A copy of the final thesis will be given to the Knowledge Center and available at the Lindell Library at Augsburg College. Study participants are welcome to read the completed thesis.

Voluntary Nature of the Study:

Your decision whether or not to participate will not affect your current or future relations with Augsburg College, Medtronic, or the researcher. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

Contacts and Questions:

Please let me know if you have any questions, or you may contact my advisor Dan Hanson, Assistant Professor of Communication Studies, Augsburg College. He can be reached at work (612) 330-1540 or email at hansond@augsborg.edu.

Please respond to this email acknowledging that you have read this communication and respond by saying, “Yes, I give my consent to participate in this research study” or “No, I do not give my consent to participate in this research study”.

If you agree to participate you will be sent a consent form that you will be asked to sign and bring with you to the interview. An interview will be scheduled via your Outlook calendar.

Thank you.

Patty Brill
763-505-3012
patricia.k.brill@medtronic.com

