HOW ORGANIZATIONAL CULTURE AND CHANGE ARE EMBEDDED IN AN

ORGANIZATION'S INTRANET

by

ELISABETH ELEANOR BENNETT

(Under the Direction of Bradley C. Courtenay)

ABSTRACT

The purpose of this qualitative case study was to understand how organizational culture and change are embedded into the intranet of an organization. To address this purpose, four research questions guided the study. These were: a) What is the organizational culture? b) How does the intranet provide an opportunity for learning about the organizational culture? c) How does the intranet promote organizational change? and d) How does organizational culture affect the development of intranet content? The exceptional case selected was a healthcare organization that had an established intranet strategic for fulfilling their organizational mission. Data in the forms of in-depth, semi-structured interviews, observations, and documents were collected over five months and analyzed using the constant comparative method. Twelve hospital employees participated in the study, representing a range of demographics such as different role types, gender, and race.

This study found that organizational culture in this case was people-centered, highly congruent with the espoused values of the organization, strategically decentralized, data driven, and organic in nature. Participants demonstrated how the intranet promotes aspects of the organization's culture and how the culture shapes the intranet. This interrelationship between the

culture and the intranet guided the development of a model of the embedding process in this

organization. There were three primary conclusions discussed in this study. First, cultural

knowledge is conveyed and renewed through the intranet. Second, network readiness and

continual change influence the embedding process. Third, a culturally relevant intranet enables

Virtual HR.

INDEX WORDS: organizational culture, intranet, knowledge management, change, hospital,
                intranet, human resource development, organizational learning

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DEDICATION

For the love of my children,

Grayson William and Helen Sophia

~

For the steadfast spirit of my husband,

Stephen Braswell Bennett

~

For my grandparents,

Leonard and Delia Carmichael,

Who sailed to the United States on the hope of opportunity.

Your imagination launched a thousand stories, Granddad.

ACKNOWLEDGEMENTS

This dissertation represents four years of life investment. It has been an intensive time of family building, career building, and personal development. My family has weathered job changes, job losses, medical crises, high stress, and moments of pure joy as we climbed past what seemed insurmountable. I am awestruck at the idea of being "done." My family is relieved to be starting a new phase of our life together. As C.S. Lewis might have phrased it, we are ready to take the adventure that comes to us.

As I reflect on a time that is drawing to a close, I have many, many people to thank. More than can be named here. To start, I must extend appreciation to the faculty of Adult Education at the University of Georgia, who all had a hand in shaping my academic development over the years of study. To my committee members, Drs. Laura Bierema, Janette Hill, and Sharan Merriam, I owe special thanks for their dedication and expertise. It was a pleasure to work with you! My sincerest gratitude goes to my major professor, Dr. Bradley Courtenay. He has been both a tremendous resource and source of encouragement, always willing to give me the benefit of his wisdom and his editorial pen. I know this dissertation would have been so much less without his guidance. Thanks, Brad!

This study would have been naught without an organization willing to open their doors to research. I thank the people at "Beacon Community Hospital" for letting me walk among them for five months and for granting me far more access to the intranet than I had thought possible when I first designed the study. And, for the folks in Information Services, I now understand about that red stapler that is labeled "in case of fire."

I am grateful to my parents and sisters for being a present help during difficult times. My parents, William and Margaret Walden, provided much-needed advice born of their struggles in life. I have four unique sisters who made their comfort and support very real to me despite geographical distance. I am thankful, too, for the kind words and love of my parents-in-law, Thomas and Nancy Bennett. My mother-in-law supplied me with industrial sized chocolate bars that were just enough to get me through numerous late nights.

My own family has grown during this journey. My sweet son, Grayson, was ten months old when I began the first semester of graduate work. After the second night class, I remember arriving home tired and a little overwhelmed. When Grayson saw me, he burst out crying because he knew something had changed in our life. That moment imprinted on me the cost of school. We soon learned how to chart the new course, one that we navigated for several years. Grayson has faced his own trials of illness yet the twinkle in his eyes has never diminished. My precious Helen arrived along the way. We had a rocky, colicky beginning but she has blessed me with countless hugs and kisses. In her own irrepressible way, she reminds me that joy can be found in the little things of our lives. It is for their future that I stayed the course.

I owe a deep and non repayable debt to my husband, Stephen Bennett, for his patience and understanding. He never once complained about taking care of the children when I was in night class or at conferences. He believed in what I was doing and encouraged me in so many ways. From handing me mugs of coffee first thing in the morning to sending me upbeat emails with lots of exclamation points (!!!!!!!!!) to ignoring the occasional self-doubt that had me questioning everything, he never wavered in his extraordinary support. Thank you, Sweetie!

Finally, I must acknowledge the One who searched for me in the ashes of my life, led me to a new beginning, and made it possible for me to know the wonderful people mentioned here.

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CHAPTER 1

INTRODUCTION

The culmination of the 20th Century was marked by rapid advancement of the Internet

and supporting Web technologies, which have reshaped the workplace and created distributive

communication channels through network infrastructure. During this period of intense technical

development, the United States transitioned to a knowledge and service economy. For

organizations to keep pace with global markets, the new economy demands both adaptability and

the application of specialized knowledge such as expertise. The ways in which organizations

consume information have become the critical factor for survival in the increasingly competitive

environment (Choo, 1995). To utilize information people must make decisions about what

information is valuable or applicable at a given moment. This process is handled in part through

interpretative skills that call upon prior knowledge, experiences, or values by which new

information is judged. Complicating this effort are conflicting information sources and a great

volume of messages that confound the ability of an organization to use the information

efficiently and effectively for innovation.

Information, knowledge, and intelligence have been used synonymously (Stoica, Liao, &

Welsch, 2004) although it is generally accepted that, when a distinction is made between

information and knowledge, knowledge is more integrated than information and tends to be

endowed with experiences, emotions, and intuitions. Knowledge can be used as an umbrella term

that is representative of what is known to humans whereas information tends to be more explicit

in nature and more easily communicated. As humans encounter biological limits such as memory

capacity that affect the amount and complexity of knowledge that any one person can maintain, organizations turn to digital technology to facilitate knowledge tasks, including what to learn, store, share, apply, ignore, and forget.

The field of Human Resource and Organizational Development (HROD) is important for helping organizations develop strategic systems and human expertise necessary for the present economy. The field is committed to improving an organization's future condition through positive change and by encouraging quality and expertise (Swanson & Holton, 2001). HROD, therefore, must assist in developing the knowledge competencies, processes, and communication flow necessary to achieve high performance in an era of rapid change. Assistance can be provided at the organizational level in terms of developing structure and work processes that meet organizational objectives, or at the group and individual levels to facilitate adult learning and performance. The focus of work in the information age, according to Harris (1998), is how people add value to a system as we move from low value-added jobs to higher value-added jobs. He defines value as "the perceived or calculated worth of a product, service, concept, or idea at a point in time" (1998, p. xix). This suggests a greater awareness of how one contributes to a whole production system is needed. Work is ultimately translated to value in the market and thus part of a larger system rather than discrete tasks that once may have been seen as disconnected from the whole (e.g. piece work or assembly-lines). This view helps us understand how a change in one area of a system can affect other parts of the system, whether a firm has control over all aspects of production or if portions are outsourced to other companies.

An important, albeit underemphasized, aspect of organizational systems is the social nature of work. Organizations are complex social systems (Fenwick, 2000) in which the culture can have a strong impact on workplace learning (Darrah, 1995) and performance (Kotter &

Heskett, 1992). Organizational research suggests that unused knowledge and skill are competitive disadvantages while shared understandings promote consistency (Denison, 1990). A challenge in the present economy is for organizations to know when to promote consistency and when to allow application of specialized and divergent knowledge. Choo (1995) stated that complex organizational systems are able to balance order and chaos through the ability to process information. Failure can occur in an information poor environment and also in an information laden environment where there is too much flow of information. Finding the right balance to react to the market and to create favorable future conditions is a preeminent concern in the modern workplace. Simply anticipating the future can have a tremendous impact on decision-making. The rumor of a production material shortage, for example, can have profound consequences even if the actual event does not materialize; belief is a strong motivator to act (Choo, 1995). This means the very beliefs and expectations of people in an organizational system can have critical consequences for viability of the organization.

Organizational Culture

One way that organizations promote consistency is through the social structure or culture of the organization that promotes shared understandings of how to act and think in an environment. Organizational culture (OC) is an elusive concept, however, traditional theories indicate that the shared values and beliefs among members are central themes (Deal & Kennedy, 2000a; Kotter & Heskett, 1992; Schein, 1997, 1999). Definitions of organizational culture can be as simple as "the way things are done here" (Drennan, 1992) to the complex that include almost all structures, behaviors, artifacts, and knowledge bits that create ideological practice in organizations (Sentell, 1998).

While organizational culture theories vary, a number of scholars argue that culture has multiple layers with some aspects more deeply embedded and others closer to the surface. Kotter and Heskett (1992) suggest organizational culture has two levels. The first is invisible and therefore very difficult to change. The second is more visible and includes group behavior norms. Schein (1997, 1999) delineates three levels of organizational culture. The first level, artifacts, is the most surface and easily observable level. It is made up of the physical surroundings, the presentation of the company, and daily behavior and processes. These facets of culture are readily observable but can only hint at meaning. The second level, espoused values, is fairly easily elicited by asking employees about corporate values. Two companies could have the same espoused values but have very different artifacts reflecting the values. The third level is shared tacit assumptions that reflect the deep beliefs, values, and assumptions that are historically linked to the founding of the firm and collective learning over time. This level is not easily articulated because it is often tacit or taken for granted.

The varying degrees of embeddedness of cultural knowledge may explain why development and change are difficult for organizations. The development of an organization is based on planned change in which specialists identify and act upon problems and opportunities in organizational culture, processes, and structure for the overall improvement of the organization and of individuals within the organization (French & Bell, 1999). French and Bell (1999) further indicated that the culture of an organization must be modified for change to be permanent, which explains why seemingly surface changes can be complex. Schein (1997) added that deep, conceptual levels of learning are the essence of organizational culture in groups where members share basic assumptions. Cultural values and deeply held assumptions may determine whether a change is accepted or not. The degree to which people embrace or reject new

technology, for example, has significant consequences given that technology has become a critical pathway for information flow in the knowledge economy. Lewis (1990) stated, "In the distribution of information, as with any resource, those groups whose values, status, and behavior patterns are already conducive to using a particular resource will be able to access and acquire it at a faster rate than others" (p. 620). Even small changes such as adding more employees to a corporate distribution list may affect corporate functions since it opens up a larger knowledge network for problem solving and also elevates risk if sensitive information is misused.

Organizations generally have a predominant outlook on knowledge that is part of the organizational culture (Wikstrom & Normann, 1994), which shapes what information is valued and how information is distributed. For example, hierarchical organizations might distribute information through the chain of command rather than directly to each employee. The tacit or deeply embedded facets of organizational culture may have a strong influence over knowledge tasks even if organizational members do not recognize it. Shared values and assumptions provide a frame of reference for applying knowledge within an organizational context. This knowledge is what makes explicit information useful and becomes a focus for corporate information technology strategy as organizations struggle with how to manage knowledge for competitive advantage.

Knowledge Management

The information age has been characterized by the term *dissensus*, which suggests a lack of universal societal consensus. Dissensus is described as "the resultant state of myriads of pieces of information being filtered through individual values and circumstances and then translated into special interests of individuals" (Spear & Mocker, 1990, p. 647). It is difficult to

determine what information is correct and useful versus fallacious or inapplicable. This age presents challenges for managing the volume and complexities of information available and it spurs a growing concern for understanding how people process information through specialized knowledge systems. Organizations look to new perspectives in Knowledge Management (KM) for guidance. KM is a new line of inquiry that developed rapidly in the late 1990s along the same trajectory as Internet technology. It arose from the disappointment in reengineering and on the promise of information technology (Easterby-Smith & Lyles, 2003). Knowledge management focuses on how knowledge is acquired, created, and distributed (Alvesson & Karreman, 2001; Lengnick-Hall & Lengnick-Hall, 2003) within organizations. KM literature delineates different levels and types of knowledge that affect organizational functions, including the difference between information and knowledge (Bhatt, 2001; Drennan, 1992; Drucker, 1998).

Although KM has been used synonymously with organizational learning (OL), a useful distinction is that OL focuses on the learning process whereas KM focuses on information technology (Cummings & Worley, 2005). KM is characterized by fusing the value placed on knowledge in the current economy with familiar information technology applications and, therefore, has been critiqued for having an overly technical focus (Easterby-Smith & Lyles, 2003). Most reports on knowledge management focused on technical aspects of the technology, including systems logic and software development, rather than the technology in relation to the social context (Hayes & Walshum, 2003). Alvi and Tiwana (2003) suggest that knowledge management has socio-cultural, organizational and behavioral dimensions as well.

Clearly, management of knowledge has been around for a long time. For thousands of years, humans have used technical advances to preserve and extend knowledge. Examples include cave drawings, hieroglyphics, pens, printing presses, and libraries. The very process of

scholarly publication manages disciplinary knowledge since it calls for special structures and formats so that the knowledge can be readily understood and used in a domain. Knowledge, culture, and technology are concepts that intersect when knowledge is applied in a specific context. Hendricks and Sterry (1986) defined technology broadly as "Knowhow." Although one could view technology as knowledge, they believe that know how is more than knowing; it is putting knowledge into action to expand human potential. The focus on action helps us understand why managing knowledge is important for organizations in the knowledge economy; it is about putting knowledge to work. Additionally, acquiring information is a necessary step for learning in organizations (Garvin, 2000). Where Knowledge Management differs from past information management practices is in the use of information technology to capture, create, manipulate, and disseminate knowledge at an accelerated rate.

Organizational Culture and Knowledge Management are connected in crucial ways. First, there are tacit and explicit domains for general and cultural knowledge. Explicit forms of knowledge are more easily written down, codified, and manipulated to create the organizational knowledge base. Data fields found in software applications, for example, represent pieces of information that the organization needs to capture to make sense of its operations; however, there is much more knowledge required for organizational members to actually understand and use the data. This knowledge may be locally defined, as would be with procedures or reporting mechanisms that are idiosyncratic to the organization or to a given product. It may also be defined by a wider culture or profession. Schein (1996) makes a distinction amongst typical subcultures in organizations that may be more internal to the organization versus those that often hold views consistent with a larger professional field external to the organization, as can be the case with managers who apply strategies common to the discipline of management.

Explicit cultural knowledge can be manifest within technology and may be manipulated with the intent to promote cohesiveness and consistency within the organization; however, deeper and more tacit knowledge is necessary to engage in sense-making activities. Here tacit knowledge or deeply embedded understandings provide a framework that guides behavior and action. Another connection is the role of values that are central to organizational culture yet are to varying degrees transparent in daily life because they are taken for granted. Starkman, Pinder, and Connor (2000) see values as the building blocks for behavior and choice, and fundamental to organizational culture.

It is at the values level that knowledge management and organizational culture are most directly connected since values affect the interpretation of information. According to Olstedt (2003), technology can handle tasks such as storage, sorting, displaying, disseminating, and calculating information but people must interpret and evaluate information. Knowledge, then, relies upon human interpretation and one factor in interpreting information is organizational culture; it is a lens through which members determine relevancy and application. Information is both an input and an outcome of interpretation, and can be integrated into existing knowledge to be preserved. Learning is important in this process because it helps determine what is integrated into the knowledge-base and it creates or reinforces mental structures through which future problems are solved. As technology becomes increasingly transparent and customized to the organization it should mirror the organizational culture and, therefore, be viewed as a site for studying organizational culture, change, and knowledge management.

Intranets

Knowledge management systems in the form of corporate intranets are sites for studying culture and change yet they have received little attention in HROD. Cummings and Worley

(2005) stated, "As information technology continues to influence organizational environments, strategies, and structures, OD [organizational development] will need to manage change processes in cyberspace as well as face-to-face" (p.13). If organizational structure is superimposed on extant human interactions (Weick, 1979) then intranets may be seen as superimposed on organizational knowledge and communication dynamics. They may also shape and change these dynamics, which is characteristic of communication technology (Palloff & Pratt, 1999). Intranets are best understood in terms of the rise of the Internet and their ability to solve organizational communication needs.

The Internet is the backbone of the global economy (Cummings & Worley, 2005) that opened up markets and information networks that had been non-existent or inaccessible in the past, however, this access is not uniform amongst international populations. At the forefront of growing digital divide are the United States, Canada, and Scandinavian countries (Schemann, 2003). Installation of network infrastructure since the 1990s made connecting to the Internet possible for many organizations and their employees. Critical issues for HROD during this time were job retraining and the externalization of the U.S. workforce, which were spurred by technical advances and foreign competition (Watkins, 1990). Once organizations were invested in network technology, they found that posting information via group folders and Web pages was an efficient way to capture internal information and processes, and to overcome boundaries of space and time that had hindered communication through previous methods.

The application of Web technologies to private organizational networks created a sophisticated and elegant use of information systems in the form of intranets. A basic definition of an intranet is, in fact, the internal applications of technologies developed for the Internet (Koehler, Dupper, Scaff, Reitberger, & Paxon, 1998). A more advanced description comes from

Marcus and Watters who define an intranet as "…a private knowledge network that provides secure collective access to integrated information, services, business applications, and communication" (2002, p. 26). Access to intranets outside of the organizational network infrastructure is mediated through regular Internet connections and termed "extranet." Extranets allow access to the organizational network through a firewall by typically requiring a user account and password. This authentication process is often based on broad roles people hold within the organization, which determine how much of the network they are allowed to see and alter. Authentication within any software application, whether internally or externally accessible, typically reflects the communication and authority structure of the organization. Some information, like benefits, mission statements or corporate news, is available for general consumption. Sensitive information, like compensation, disciplinary action, and proprietary product specifications, is restricted to people who have special responsibilities and accountability to the organization. Extranets add potential risk to the organization if computer hackers are able to connect to the internal network and disrupt operations or destroy information. For this reason, security is of paramount importance. Security procedures have the potential to shape organizational expectations of employees. They also allow remote members in branch offices to share in interactions mediated on-line.

Companies that have strategic partnerships with other companies may also extend access to specific areas of an intranet through extranets so that partners can obtain work orders, product notes, and other critical information. They can also participate in on-line planning through e-conferencing. This may be done real-time or asynchronously, and from great distances through the Internet. Traveling or telecommuting employees are able to sign-on to their company's intranet remotely and post reports, pictures, and sound bytes, or catch up on corporate news.

Employees who have been isolated from the organization can now interact through intranets. We know that shared experience and assumptions help to build organizational culture so it is logical that intranets are capable of mediating culture when there is prolonged interaction through the technology. This could solve some of the dissensus felt in the information age by allowing people to connect with the organization remotely and share information.

As organizations add applications and capabilities, intranets become strategic for accomplishing organizational objectives and unifying a diverse workforce. In some transnational companies, an intranet may provide the majority of what a field office knows about the larger organization. Managing knowledge through intranets, then, may help promote the consistency and shared understandings of an organizational culture that was once learned only through face-to-face interaction.

<div align="center">Statement of the Problem</div>

Organizational intranets have become increasingly common as a tool for distributing, accessing, and managing organizational knowledge, and accomplishing technology mediated tasks. Writing about American organizations in 2002, Marcus and Watters estimated that 100% of large companies, with greater than 5000 employees, and 85% of medium-size companies, with 1000 to 4999 employees, would have some form of intranet implemented by 2003. This is an astonishing number of intranets and subsequently high number of employees that access information through intranets, yet little is known about HROD issues such as the development of culture and change related to this access.

In the information economy, organizational culture and knowledge are increasingly becoming an organization's key resources for competing globally and for responding to the need to continually innovate and adjust to market changes. For intranets to be relevant within an

organizational context, shared knowledge and understandings are necessary to make sense of intranet layout and content. For example, human resource information is likely geared to different types of positions. Organizational members must know where they fit in the hierarchical or functional corporate structure to decide whether what information is applicable to solve a problem or accomplish an activity. The highly contextual nature of intranets and the manner in which they disseminate information and allow social interaction to occur on-line makes them an important aspect of organizational life to study.

Intranets may reinforce organizational culture because they could illustrate cultural stories, values, and history that promote corporate ideology and guide what behavior is expected in the organization. They also have the potential to change or counter the culture of the organization. This can be done purposely, as would be the case if new mission statements, performance expectations, and success measures are detailed on intranet pages. Change could be accidental or unintended if the organization simply does not attend to how information is presented. Policy language that sounds excessively rigid or punitive might draw a negative picture of the organization. Posting off-color jokes might send the message that sexual harassment is okay when it is actually antithetical to corporate policy. The development of intranet content presents both challenges and opportunities for HROD professionals to improve an organization. Even more importantly, though, intranets are dynamic cultural artifacts that intersect with organizational systems of meaning critical for success.

Because intranets reside on private, internal network servers, they are not accessible to the general public and are tailored to organizational needs. Intranets are highly contextual and so may influence, reinforce, or alter existing cultural and social practices. Discussions of intranets have focused primarily on the technical side of building intranets and managing knowledge.

Little is known about how organizational culture and corporate outlook on knowledge affect intranet development or how intranets shape organizational culture, change, and organizational learning. Given how important knowledge management and organizational culture are to organizations in the knowledge economy, the widespread use of intranets signals an important shift in strategy that should have corresponding consequences for organizational performance and survival. It also suggests that basic organizational assumptions and structures affect the integration of intranet technology into daily work as more and more knowledge processes store, disseminate, or create knowledge through intranets. Studying how organizational culture and change are embedded or made integral into an established intranet—that is, one that has been in use for at least three years and is considered by the organization to be strategic for fulfilling the organizational mission—yields insight into how intranets impact learning about organizational culture and how organizational culture can be structured into technology.

<div align="center">Purpose of the Study</div>

The purpose of this study was to understand how organizational culture and change are embedded in an organization's intranet. The research questions informing this study were:

1. What is the organizational culture?

2. How does the intranet provide an opportunity for learning about the organizational culture?

3. How does the intranet promote organizational change?

4. How does organizational culture affect the development of intranet content?

<div align="center">Statement of Significance</div>

This study is significant to the field of HROD because it explored the socio-cultural connection between organizational culture and intranet technology. Understanding

organizational culture and how it relates to change initiatives is critical for successful organizational improvement and performance. From a theoretical standpoint, this study begins to fill gaps in the research literature on how intranets facilitate learning about organizational culture and potentially change culture, thus extending what we know about the social impact of organizational technology used to extend human capability and learning. Structuring organizational culture into the intranet may also be evidence of organizational learning. This study furthers our understanding of organizational culture as it pertains to the present economy, and examines the relevance of traditional organizational culture theories in the knowledge economy. Some scholars have suggested we are in the midst of a transformation to a new era or paradigm requiring organizations to be change-capable (Sentell, 1998). Empirical research investigating change facilitated through technology builds new knowledge of organizational change in the present competitive environment.

From a practical standpoint, this study helps HROD professionals understand how an organization's intranet is used to promote improvement initiatives or foster desirable aspects of organizational culture, which is related to organizational learning. Because an organization's culture must be modified for a change initiative to become permanent (French & Bell, 1999), studying whether intranets support or hinder change efforts is important for guiding the future design of intranets. Organizational culture learned through intranets may help a change initiative succeed or create a barrier to success if inconsistent or counter messages are present. An empirically based case study draws a portrait against which HROD professionals may reflect upon their specific contexts and determine what messages are being sent, whether purposely or unintentionally, through technical communication channels.

Management of organizational information and knowledge is critical to the functioning of any organization or institution. Bentz and Shapiro (1998) suggest that, with the move to an information society, information technology has become an integral part of the social infrastructure and thus reshaped organizations. Organizational development should not ignore technology as a peripheral issue once it has been integrated into the infrastructure. Intranets have developed to fill organizational needs in the present economy and, given the technical ability to create a virtual space with rich multi-media resources, are an excellent place to study the intersection of organizational culture, change, and technology.

Definition of Terms

Organizational Culture: This definition, though original, is informed by Schein (1997, 1999). I define organizational culture as the shared beliefs, values, and assumptions that determine how members interpret events and act in an organizational environment.

Intranet: I define intranet as a private organizational network based primarily on Web technology and comprised of shared documents and software applications that help members fulfill organizational mission by accessing information and services.

Knowledge Management: I define knowledge management as the use of technology and cognitive strategies to manage (create, store, share) the large volume and complexities of information and specialized knowledge that surpass human biological limits to handle alone.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this study was to understand how organizational culture and change are embedded in an organization's intranet. The research questions informing this study were:

1. What is the organizational culture?

2. How does the intranet provide an opportunity for learning about the organizational culture?

3. How does the intranet promote organizational change?

4. How does organizational culture affect the development of intranet content?

Relevant literature for this study was found by searching such databases as *PsychInfo*, *Business Source Premier*, *Sociologic Collection*, and *Eric* using EBSCOhost through the University of Georgia library system. I conducted Boolean searches using combinations of such terms as "culture," "organizational culture," "corporate culture," "change," " values," "culture change," "knowledge," "knowledge management," "tacit knowledge," "intranet," "technology," "Internet," "hospital", "medicine," and "healthcare." Chapter two is subdivided into four parts. Part one looks at organizational culture theories. Part two covers organizational change with an emphasis on organizational culture change. Part three focuses on knowledge and knowledge management, particularly as they relate to intranet technology. Part four discusses intranet design and development.

Part One: Organizational Culture

Organizational culture is intangible and difficult to define. Traditional theories emphasize shared values and beliefs among members as central to organizational culture (Beyer & Trice, 1987; Deal & Kennedy, 2000a; Denison, 1990; Kotter & Heskett, 1992; Schein, 1997, 1999). The literature revealed no substantive differences between organizational culture and corporate culture so these terms can be used interchangeably, however, I selected organizational culture as my primary term because "corporate" is often associated with the legal business entity. Inferring corporation from corporate may result in narrowing the phenomenon to companies rather than all formal collectives.

Interest in organizational culture rapidly increased during the 1970s and 1980s, in many cases spurred by the competition American businesses were experiencing from Japanese companies. Deal and Kennedy (2000a) observed the rampant success of Japanese organizations, particularly in the area of electronics and automobiles. This success was attributed not to capital investment in new products but to differences in corporate and national culture that pivoted on the ability to innovate and develop new products. Theorists began understanding that the very culture of an organization could provide competitive advantage, and, in an increasingly global world, competition and innovation were coming from many new sectors. Morgan (1997) suggested that Japanese organizations are in harmony with their overall national culture and Drucker (2003) indicated that Japan has actively kept immigrants out, which effectively maintains the harmony, whereas, of developing countries, only Australia and Canada have a similar tradition of immigration to the United States. This suggests that there is less harmony between national and organizational cultures in the United States because of the greater diversity of ethnic and cultural backgrounds.

Fitzgerald (1988) noted that we have learned some important things from Japanese methods but the culture itself is not portable. This logic is confirmed by Hall (1973) who stated that culture is an interrelated set of activities that are connected to the past, which emphasizes the experiential nature of culture. Organizations in the United States, which tend to be more individualistic than collectivist (Adler, 2002), are likely to have both unique challenges and opportunities as they employ a workforce with diverse and sometimes competing cultures while attempting to shape a dominant corporate culture (Fenwick, 2000) to fulfill organizational mission.

Morgan (1997) presented organizational culture as one of several paradigms or "images" through which we can view and understand organizations. He suggested that the strength of the organizational culture lens is that it recognizes the symbolic significance of most facets of organizational life, places an emphasis on systems of shared meaning and interpretation, and reflects the socially constructed relationship between an organization and its broader environment. The downside of this perspective is that it can lead to negative consequences when managers practice a mechanistic form of ideological control, that is, they attempt to manipulate specific variables in the culture without understanding the full nature and consequences of organizational culture.

One example of this type of control is if management promotes a culture that rewards staff who routinely work extensive overtime without taking into account the quality and quantity of work produced. No one wants to be seen as the first person to leave the office so work days become longer and longer in a waiting game. An eventual outcome might be that work becomes less efficient, and those that are able to produce high quality work in a short space of time may leave the firm for another company with more reasonable hours.

Traditional Theories of Organizational Culture

Once scholars came to accept the phenomenon of organizational culture, theories developed that have influenced management for approximately two decades. Traditional organizational culture theories reviewed here were generated primarily by studying American businesses, although some scholars represent international perspectives as well. Definitions of organizational culture can be as simple as "the way things are done around here" (Drennan, 1992) to the complex that includes almost all structures, behaviors, artifacts, and knowledge bits that create ideological practice in organizations (Sentell, 1998). Deal and Kennedy (2000a) were some of the earliest theorists to write about corporate culture based on their research into organizations. This earlier version of their work does not provide a separate definition of organizational culture outside of a dictionary definition for general culture but they add corporate elements including the business environment, values, heroes, myths, ceremonies, rites and rituals, and cultural networks. Cultural networks are informal networks of members who help maintain the culture. Research supports that organizations have networks of cultural information that are not reflected in organizational charts (Bierema, 1994). Deal and Kennedy believe that "people are a company's greatest resource, and the way to manage them is not directly by computer reports, but by the subtle cues of culture" (Deal & Kennedy, 2000a, p. 15). Culture, in this view, is important for placing people rather than information technology at the heart of management efforts.

It is informative to juxtapose the positive outlook on corporate culture in Deal and Kennedy's original perspective (2000a) with their new perspective (2000b) that is more cynical of today's business climate. They believe basic social structures need to be rebuilt after years of downsizing, mergers, and reengineering that have gutted the core of organizations (Deal &

Kennedy, 2000b). Hall (2002) argued that the sometimes incompetent way that reengineering was done in the 1980s corroded employee commitment to a single organization and caused a shift to the protean career contract, which places responsibility for career development with the individual. I think it is possible that the adaptability, flexibility, and project-based nature of this contract may reduce the ability of organizations to maintain a dominant corporate culture, and that this effect may be confounded with the rapid advancement of technology in the information age that could serve to further isolate people from a core organizational culture. To compete effectively in the global economy, Deal and Kennedy (2000b) suggested that organizations need to repair the social context of the organization, reestablish informal communication networks, and prepare young or new employees to learn about foreign cultures. This suggests to me that traditional notions of organizational culture may still be valid but must shift to new communication channels, like information technology networks.

Kotter and Heskett (1992) analyzed ten companies that had low financial performance and twelve that had high performance. As part of the study, they interviewed seventy-five independent financial analysts whose primary responsibility was to track the performance of two or three of the target companies. Of the top ten lower and higher performing organizations, only one analyst did not indicate the organizational culture impacted performance. This is a particularly interesting finding because analysts are trained to view organizations through hard data to assess bottom-line health yet they perceived organizational culture as able to affect success.

To attempt to understand how organizational culture affects performance, Kotter and Heskett (1992) proposed three theories of organizational culture and long-term financial performance. Theory I links performance to strong cultures, however, not all organizations that

rated a strong culture were outstanding performers in their investigation. Organizations can be united and confident when selecting the wrong course of action. Theory II posits that companies that have strategically appropriate cultures are better performing but this theory makes organizational cultures appear static in nature and may not explain long-term performance in a dynamic business environment. Theory III proposes that adaptive cultures lead to high performance because they encourage a spirit of entrepreneurship and innovation. Adaptive cultures are better equipped to adjust to economic and environmental changes. The third theory seems to be the most appropriate for companies in the information age given the rapid nature of change.

Although Kotter and Heskett (1992) rely on a general dictionary definition of culture, they add that organizations have two levels of culture. The first is invisible and made up of goals and concerns that persist over time and, therefore, are difficult to change. The second is more visible and is made up of group behavior norms that affect how group members act and how new members are socialized. They believe organizational culture is not static; it arises through interaction over time and is connected to a firm's success. Learning is central to the development of organizational culture because "solutions that repeatedly appear to solve the problems they encounter tend to become a part of their culture" (Kotter & Heskett, 1992, p. 6). The concept of connecting daily interactions and learning with the evolution of organizational culture is important for understanding how activities mediated through technology may contribute to cultural development and socialization.

One of the most often cited theorists on organizational culture, Schein (1997, 1999), proposed a multi-level view of organizational culture that had invisible and visible elements in common with Kotter and Heskett. Schein developed a model that delineates three levels of

organizational culture. The first level, artifacts, is the most surface and easily observable level. It is made up of the physical surroundings, the presentation of the company, and daily behavior and processes. These facets of culture are readily observable but can only hint at meaning. The second level, espoused values, is fairly easily elicited by asking employees about corporate values. Examples include mission statements and the vision of the organization that articulate what the firm portrays as important. Two companies could have the same espoused values but have very different artifacts reflecting the values. I would add that technical artifacts, like intranet pages, may reflect organizational culture. The third level, shared tacit assumptions, reflects the very deep beliefs, values, and assumptions that are historically linked to the founding of the firm and collective learning over time. Again, learning is critical for cultural development. The third level is the deepest layer that is not easily articulated because it is tacit and taken-for-granted. It provides the plumb line by which events are interpreted and decisions made.

Additionally, Schein (1996) identified three typical sub-cultures that coordinate within an organization but represent distinct "…tacit assumptions about how the world is and ought to be…" (p. 11). Schein argues that a misalignment of the three sub-cultures may cause the failure of innovation and organizational learning. These subcultures are: (a) the operative culture, which is the core internal culture based on operational successes; (b) the engineering culture that represents designers and technocrats that drive core technologies; and (c) the executive culture of management. The operative culture is the only sub-culture that is truly internal and focused on the day-to-day aspects of production. The executive and the engineering cultures represent values and assumptions of broader professional fields. For example, managers may learn of the latest employee involvement technique at a conference and attempt to apply it to their company. The implementation is more likely to be unsuccessful if the values inherent in the technique run

counter to the extant culture. Schein's breakout of typical sub-cultures is particularly pertinent to studying intranets because IT professionals may reflect an engineering sub-culture that, along with management, may or may not address the concerns of the operative culture during the implementation and daily use of technology. Schein (1997), for example, states that IT professionals generally value flatter and leaner organizational structures over traditional hierarchies. Additionally, subcultures appear to be a factor in healthcare organizations. Studies have found a cultural pluralism among professional groups in hospitals, including a strong demarcation of professional roles called tribalism (Bate, 2000; Brooks & Brown, 2002). Similarly, Sheridan, Proenca, White, and McGee (1993) studied six hospitals and found they varied by the degree to which different professional groups within each hospital shared common work values with other groups within the same hospital. Examples of work values were empathy with the patient and valuing innovation.

Robbins (1998) is similar to Schein in viewing intersecting cultures. Robbins defined organizational culture as a "…system of shared meaning held by members that distinguishes the organization from other organizations" (1998, p. 595). He believes the dominant culture generally originates from the philosophy of the founder of the organization and the purpose for which the organization exists. New organizational members are socialized through exposure to stories, rituals, symbols, and language. Sub-cultures vary by the degree to which they share core values of the dominant culture. An illustration of sub-culture variations is found in communication. A large company with defined functional groups may value hierarchical, top-down information flow whereas the research and development sub-group may depend on cross-functional and peer-to-peer collaborative information flow to create innovative products.

Social practices within the organization and within sub-groups can transmit and reinforce culture. While they admit organizational culture is an elusive concept, Beyer and Trice (1987) indicated culture, defined as networks of shared norms and values, can be observed through organizational rites. Rites are elaborately planned activities and are cultural "outcroppings" or manifestations that function in much the same way that the tips of icebergs suggest a mass below the surface. They provide a starting place for studying organizational culture. In the same way that tips provide some information about the rest of the iceberg, rites offer insight into culture. Outcroppings, in this sense, may be similar to Schein's espoused values and day-to-day behaviors that hint at culture. Beyer and Trice identified six rites that exist in organizations. These rites are (a) rites of passage (e.g., moving from outsider to insider status), (b) rites of degradation (e.g., alienating a soon-to-be fired executive), (c) rites of enhancement (e.g., awards banquets that promote social power and identity), (d) rites of renewal (e.g, strategic planning), (e) rites of conflict reduction (e.g., grievance protocol), and (f) rites of integration (e.g., department retreats or office parties that encourage social bonding). Shared meanings amongst organizational members are an important ingredient to rites, which are enacted to mark shifts or changes. For the purposes of this study, rites may be outlined or announced on intranet pages, and so may provide clues to the culture of the organization.

In a hospital environment, Brooks and Brown (2002) found two broad types of ceremonies, similar to rites and rituals, when they studied a hospital in England that was undergoing a period of intense change. This hospital was considered to have a culture of tribalism, which is the demarcation and intense protection of professional "turf." Brooks and Brown (2002) found two broad categories of ceremonies. These were "Ceremonies of Preservation" and "Ceremonies of Change." Ceremonies of preservation were ritualistic actions

that employees took to maintain separation of professional groups. For example, janitors would mop floors at exactly the same time every day without consideration of need or periods of high traffic through the corridors. Nurses resisted the delegation of certain domestic activities, like food service to patients, so that their job duties would remain the same. Ceremonies of change occurred as the hospital administration attempted to alter the deeply entrenched practices of hospital staff. These included renaming ancillary staff as "care assistants" so to mark the adoption of new job duties. Additionally, the hospital started using the term "patient-centered" so that staff would focus on collaborating on the care of the patient rather than maintaining professional distinction amongst the different professional groups.

Another perspective on organizational culture comes from Cameron and Quinn (1999) and is illustrated in Figure 1. They developed the Competing Values Framework (CVF) based on
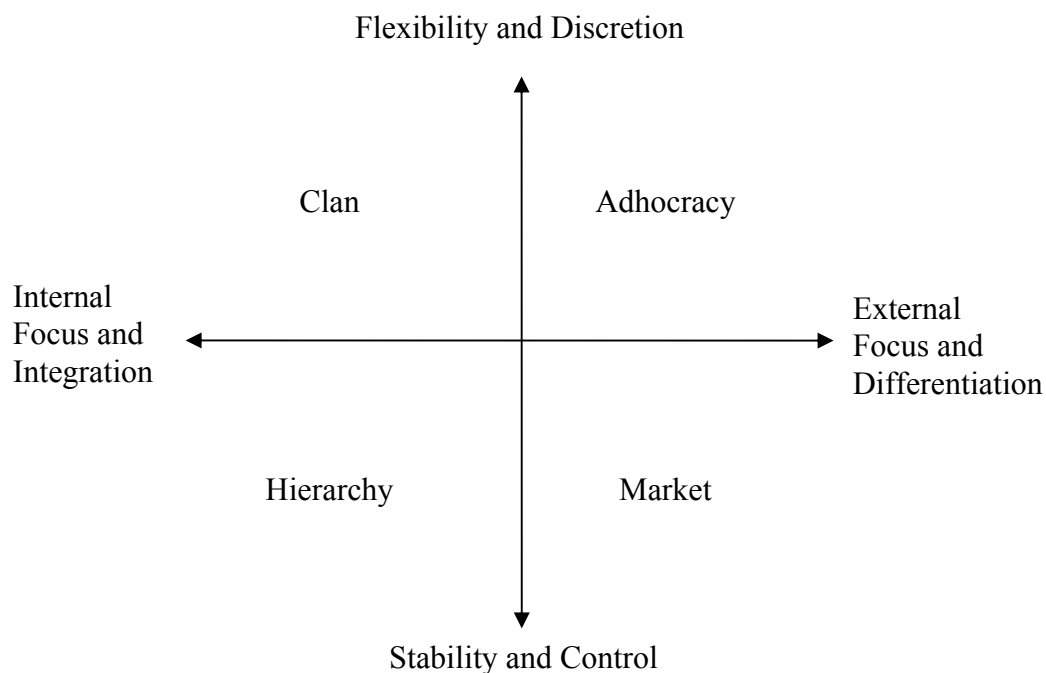

Figure 1. Cameron and Quinn's Competing Values Framework

research of indicators of effective organizations. Thirty-nine original indicators were subjected to statistical analysis and collapsed into two dimensions with four main clusters that form quadrants in Figure 1.

The CVF produces four archetypes of organizational culture that reflect different values along the dimensions of flexibility/control and internal/external focus. The Hierarchy culture tends to be stable and bureaucratic, seeking a high degree of efficiency and control through rules and centralized decision-making. The Market culture is focused on the external environment, including relationships with suppliers, customers, regulators, and other outside groups. Core values center around competitiveness and productivity accomplished by external positioning and control. The Clan culture functions more like a family committed to teamwork, employee involvement, and corporate responsibility to employees. Customers are considered partners and leadership tends to be more informal, friendly, and concerned with consensus. The Adhocracy culture emerged during the shift to the information age and it is highly responsive to environmental changes. Team membership is temporary as groups continually band together, disband, and reconstitute to meet innovation needs. It is characterized as organized anarchy where adaptability, creativity, and flexibility are valued for dealing with ambiguity as well as information overload.

Research conducted by Cameron and Quinn (1999) indicates that leaders tend to match the dominant organizational culture. For example, managers in a Market culture tend to be competitive, hard-driving, and good at directing members whereas Clan managers are likely to be mentors, team builders, and parental figures. Additionally, Cameron and Quinn suggest that young organizations move through a relatively predictable life cycle, often starting as adhocracies and moving to clan. As the organization grows, it requires more structure and

standardization found in hierarchies, which later may become market driven entities. Mature organizations may become adept at sustaining subunits that have any of the four cultures. Cultural change in the mature organization is less predictable.

How organizations process information has been linked to the archetypes in the CVF. Stoica, Liao, and Welsch (2004) conducted a survey study of small to medium enterprises in Washington State. They found that the scope of searching for information and responsiveness to the information was culturally sensitive, with the clan and adhocracy archetypes with the widest information search scopes and adhocracy and clan being the most responsive. Despite the higher levels of rules and structures that formalize information flow embedded in hierarchical cultures, adhocracies were the best at disseminating information widely throughout the organization. The processing of information necessarily touches upon how learning occurs in organizations.

Learning Organizations and Organizational Learning

There is much debate in the field of HROD about whether organizations can learn or whether all learning is confined to the individual level where people share learning. There are two distinctive differences between individual and organizational learning. First, learning at the group or organizational level is synergistic in nature and produces products greater than individual learning alone (Watkins, 1996). Second, an organization is said to learn when it embeds (Garvin, 2000) or crystallizes (Watkins, 1996) learning into organizational structures, including procedures, systems, norms, and products. There is broad consensus that organizational culture can support or inhibit learning.

Organizational learning. Organization learning (OL) occurs when the results of individual learning are diffused throughout an organization. Experience seems to play an important role in OL models (Kolb, 1996; Watkins & Marsick, 1993). Experiential learning

incorporates direct experience to promote richer learning and is considered more effective for adults because it is based in real-world problems (Saltiel, 1995). Given that theories of organizational culture suggest that culture must be experienced to be learned (Deal, 1986) and culture issues surface when an organization experiences needs for change (Schein, 1997), models that include experiential components in organizational learning help provide a connection for how learning occurs within the social context of an organization.

Problem-solving is important for developing organizational culture and is often the reason for learning. Recall Kotter and Heskett (1992) who believe that repeated solutions to problems over time tend to become part of the organizational culture. Problem-solving tends to involve the real-world challenges that organizations face that can determine success or failure. In this present environment of rapid change, organizations often *experience* problems that often do not fit prior decision making models or past solutions and therefore learning is essential.

Organizational learning models tend to emphasize action to promote a richer, deeper understanding or application of new knowledge. Garvin (2000) believes that all OL theories generally have three components in common. Organizations must first acquire information, second, interpret the information, and, third, apply it. To acquire good information, organizations must sort through signals (good information) and noises (irrelevant or bad information) in the external environment or within the organization. In the U. S. one only has to turn on a news station or sign-on to major news outlets to hear about "chatter" in the national security intelligence community. Officials must sort through a lot of noise to find credible information on which to act. Occasionally there is enough information to raise the terror alert status that was instituted after the September 11, 2001 attacks. The cycle of information acquisition, interpretation, and application should also help determine other forms of action, like

investigations or increased security at various ports. Terrorists and companies alike can benefit from flooding information networks with a great deal of noise so that another organization has a lot of difficulty determining what is real and actionable. Information technology can be used to filter out poor information as well as a way to flood networks. Hackers, for example, can attack certain websites by flooding the host system with requests causing denial of service to legitimate customers.

Watkins and Marsick (1993) developed the Continuous Work and Learning Model in which learning is triggered by a problem or challenge that is embedded in work. They believe that continuous learning occurs as a person engages in alternating cycles of judgment or reflection and action to create a spiraled learning pattern. The most efficient or ideal level of learning occurs when the following steps are undertaken in and around work:

1. Experience challenges

2. Frame the experience using prior experience or mental models

3. Interpret context (e.g., consider the people involved and resources available)

4. Examine alternative solutions

5. Reflect in and on action (e.g., thinking about what factors and constraints affect how one deals with experiences during or after action)

6. Produce the solution

7. Assess intended and unintended consequences

8. Plan next steps

An important contribution that the Watkins and Marsick model makes to this discussion is the idea that organizational problem solving takes into account the prior experiences or mental models and the organizational context to aid understanding and interpreting the problem. I

believe this is directly tied to the culture of the organization where contextual factors, expectations, and constraints form the first set of filters through which problems are processed. While a person could be largely bounded by the way in which problems are framed, the reflection component, if done well, could potentially countermand mistakes in the initial framing, interpretation, and generation of solutions.

Schön (1983) advanced reflection as an important component of professional practice. It is what allows for improvement and for generating solutions outside of established procedures and norms. Reflection can occur during action in which the professional taps into intuitive and tacit knowledge, sufficiently explicates enough of that knowledge to allow for criticism and possible restructuring of the knowledge. Sufficiency, here, does not mean that the tacit knowledge is wholly explicated. He believes that artistry in practice involves some things that can never be fully put into language but tacit or intuitive knowledge can be restructured if enough of it is subjected to critical thinking. Tacit knowledge is also considered to be the deepest level of culture (Kotter & Heskett, 1992; Schein, 1997, 1999).

To illustrate how tacit knowledge works in practice, Schön (1983) told how an investment banker, who is used to making decisions based on hard data, had an intuitive feeling that something was amiss when he was presented with a business plan by a bank in Latin America. The numbers in the plan appeared sound but he reflected on how the bank had treated him; they afforded him too much deference for a man of moderate authority in his investment firm. He decided to temporarily suspend business with the bank and subsequently avoided huge financial losses when the bank went into bankruptcy nine months later.

Reflection is a component of another well-known learning model that has been connected to organizational learning. Kolb (1996) argues that learning is deepest when it is connected with

experience and action, although he believes that reflection cannot occur at the same time as action whereas Schön (1983) believes it can. I think these two views can be reconciled by Schön's own suggestion that one may have to temporarily suspend action to engage in reflection. Kolb's Experiential Learning Model (Figure 2) shows that learning occurs along two dimensions that are broken into the four modes of Concrete Experience (e.g., fully engaging in new experiences), Reflective Observation (e. g, reflecting on experiences), Abstract Conceptualization (e.g., theorizing), and Active Experimentation (e. g., use theories to make decisions and solve problems).

The model shows a clock-wise process that tends to lead out from experiences. A typical problem solving process is represented in the outer ring (Pounds 1965 as cited in Kolb, 1996). It roughly fits Kolb's quadrants. This connection between problem-solving and experiential learning helps promote the idea that learning is critical at all stages of problem-solving. Although Kolb believes this model is able to explain organizational learning, it does not appear to explicitly address how the social environment affects the learning process. Given that culture is the way people solve problems and reconcile dilemmas (Trompenaars & Hampden-Turner, 1998), organizational culture is an important component to consider in the process.

Kolb believes that people have fundamentally different learning styles that are determined by their preference for certain modes of learning, and there is suggestion that these modes could also be the basis for organizational learning styles, and potentially cultural styles. These four styles are reflected in the quadrants that reflect their dominant learning abilities. Convergers, for example, have the dominant learning abilities of active experimentation and abstract conceptualization. They tend to be good at practically applying ideas. Divergers tend to be more imaginative and are able to view concrete events from multiple perspectives.

Assimilators are strong in inductive reasoning and strive to make theory logical and precise.

Accommodators are able to carry out plans and experiments that lead to new experiences.
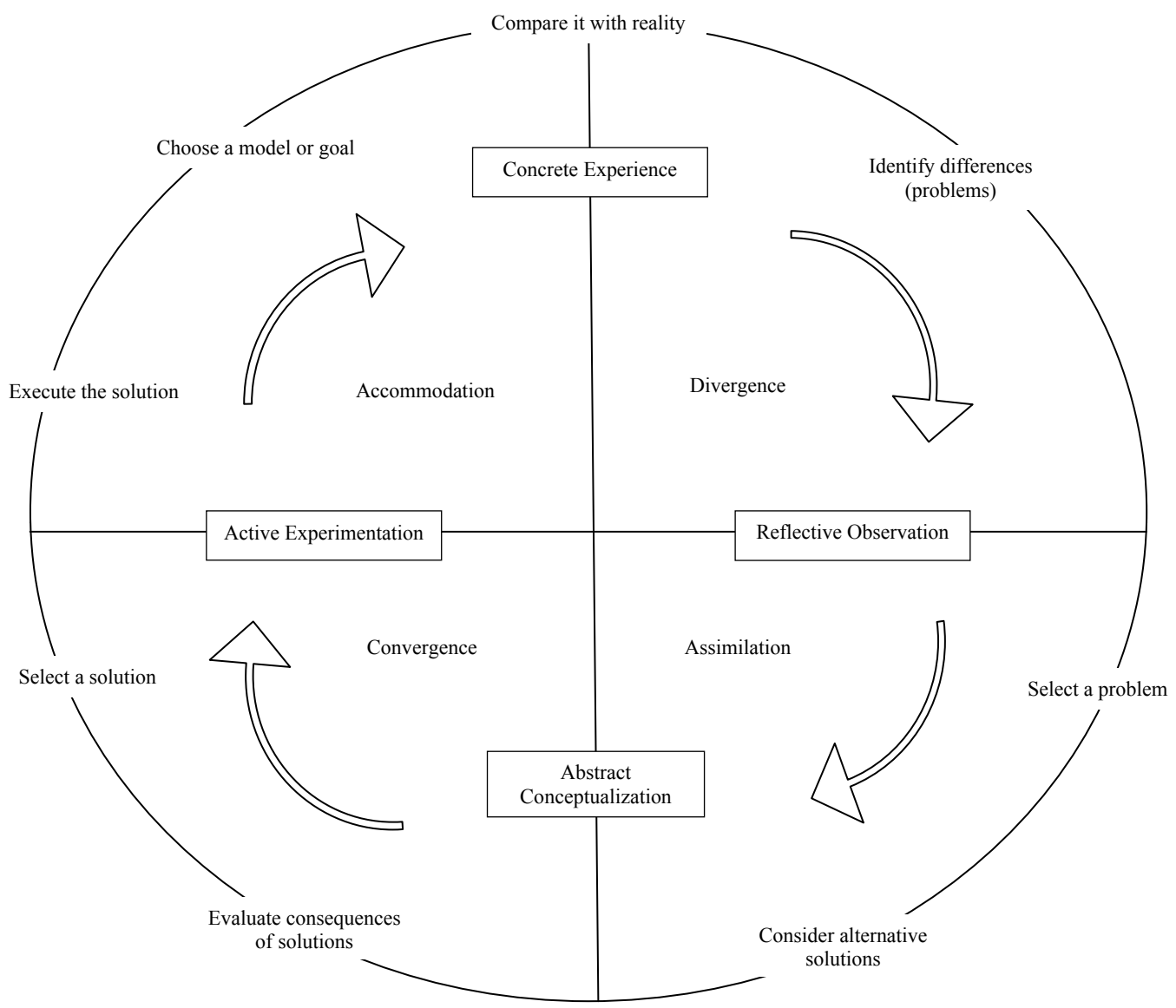

Figure 2. Kolb's Experiential Learning Model Overlaid with Problem-solving Process

These learning abilities may help explain how groups of people are able to come up with

superior decisions if they are able to maximize the strengths of different abilities to solve

organizational problems. Additionally, Kolb analyzed learning styles of different professions and

found that certain types of fields had significant differences in learning styles. For example, sociologists, economists, and chemists tended to be assimilators, business people were accommodators, engineers and nurses were convergers, and psychologists, political scientists, and people in language fields tended to be divergers. He believes that learning styles may help facilitate, or, conversely, hinder communication amongst functional units in an organization. This could also explain some of the differences in sub-unit culture and techniques for problem-solving based on professional fields, which gives credence to how sub-cultures can hold different assumptions.

Learning organizations. The concept of the "learning organization," which is characterized by an organization that learns very well, has become popular in the last fifteen years. There is a debate in the literature as to whether learning organizations represent variables that can be designed into a firm or whether they represent a type of organizational culture (Garavan, 1997); however, they are supposedly committed to learning at all levels and provide the needed flexibility and adaptability when change is omnipresent. The commitment to learning may upset a firm's equilibrium. Kofman and Senge (1993) suggest that years of competitive struggle during the rise of scientific and industrial knowledge caused fragmentation, and are the current source for cultural dysfunction. They describe how the shift to a learning organization requires a shift in how members think and interact to create communities committed to change. There are three important concepts in this view: (a) primacy of the whole or gestalt, (b) community nature of the self or web of relationships, and (c) language as a generative practice (i.e., language that encourages rather than inhibits new learning and knowledge). The emphasis here is on a system that promotes interaction and learning throughout the organization.

Senge (1990) believes that learning organizations have five disciplines that they routinely use. The first is personal mastery in which a person continues to clarify personal vision and engage in lifelong learning. The second is systems thinking in which we understand a part by contemplating the whole. The third is mental models, which are deeply ingrained assumptions, generalizations that influence how the organization understands the world and are the basis for action. The fourth is building shared vision, which binds people together toward a common future. The fifth is team learning in which the intelligence of a group exceeds individual intelligence. These facets allow an organization to continue to expand capabilities and possibilities that will help ensure survival in a changing business environment.

Regardless of whether a learning organization is a design or a culture, it is important to note that no two organizations are identical. Likely learning organizations have additional facets that guide their behavior, some of which may help performance and some that may inhibit functioning. Watkins and Marsick (1999) stress organizational learning systems only become a "critical mass" when they affect the hearts and minds of members. Building or sculpting a learning organization requires a culture that supports continuous learning. This process is accomplished by learning from change. Rowden (2001) believes that learning organizations are actually a response to the need for continual change.

Summary

Organizational culture theories describe culture as multi-level and multi-dimensional. The very deep levels tend to be tacit whereas the more surface levels are more explicit. OC can be manifest in the daily activities and artifacts of an organization. The deep, tacit levels are difficult to surface, although reflection may be an important tool for uncovering taken-for-granted assumptions. Because of the invisible nature of aspects of culture, organizations may not

realize their own culture until they attempt to implement change that is resisted. Organizational culture can have a stronger influence over group behavior than published policies and procedures. An example of this can be found in the story of Enron's collapse, which sent a financial and ethical shock to the business world. Sims and Brinkmann (2003) blamed Enron's corporate leaders who encouraged a culture of rule-breaking and intimidation that led to a breach of ethics and the eventual demise of the corporation. Many investors lost large sums of money, including retirement savings, when Enron collapsed. This suggests that deeply held cultural assumptions are able to override explicit policies, creating mixed messages and conflict for organizational members.

Learning and problem-solving are ways that organizations develop and maintain culture, as well as change culture. Capability to learn can also be a cultural trait that affects how an organization meets environmental demand and adjusts to external changes. The learning organization as an ideal learning environment is quite uncommon (Garvin, 2000) but holds promise for understanding how some organizations are able to survive in the present economy. Learning organizations should, theoretically, generate, preserve, and apply knowledge better than organizations that are less adaptable to change. Emphasis on organizational culture tends to occur during times of change or dramatic economic fluctuations so it is common to see literature that integrates organizational culture and change.

Part Two: Organizational Change

Organizations do not always understand their culture until they attempt to introduce change (Schein, 1997). Planned change is fundamental to the field of organizational development (Cummings & Worley, 2001; French & Bell, 1999) and is often described as moving from a current state to a desired state of being (Lewin, 1947). Learning is a dynamic and inextricable

part of the process of change for individuals and, consequently, organizations (Cummings & Worley, 2001). Organizational culture arises in part from collective learning and problem-solving (Kotter & Heskett, 1992) and, I suggest, it can affect change in two important ways. First, widespread or radical organizational change is more likely to be successful if planners take into account the culture of the organization and either design interventions that are congruent with the organizational culture or acknowledge and manage cultural conflict within the intervention. Second, organizational culture can be the very subject of a change intervention as an organization attempts to transform from one culture to another. Of paramount importance is understanding and appreciating the existing organizational culture before attempting to change it so that change can be reinforced in the desired direction (Beyer & Trice, 1987).

Resistance to Change

Organizations generally change because of external pressures rather than internal desires for change (Goodstein & Burke, 1991) and so change may be resisted. Understanding resistance is a key component to diagnosing an organizational system and implementing change. As the world becomes increasingly globalized and technological advancement accelerates, change has become an inescapable part of human resource and organizational development. Ruona (2001) indicates that systems theory is one of three theories that constitute the realm of human resource development (HRD) in which it helps practitioners gather data about the structure and behavior of a given system. It also acknowledges that change is an integral part of a system; perfect equilibrium is akin to organizational death. However, because systems tend toward equilibrium they resist incremental change. It is interesting to juxtapose this against the beneficial nature of change in the discipline of personal mastery that proposes individual, incremental change builds

proficiency (Senge, 1990). This could indicate a conflict between organizational resistance to change and personal need to build expertise.

Senge (1990) stated that although the theory of crisis change is widespread -- that is the notion that fundamental change requires a threat to survival -- it is an oversimplification of the change process. He believes that humans both fear and seek change, and that there is a creative tension or force that occurs when people realize the difference between current reality and a vision for the future. While Senge's notion is aimed primarily at individuals as part of the concept of personal mastery, I believe it can apply to organizations as well. When organizational visioning meets with resistance, how the organization holds to the vision, modifies it, or gives up on it altogether may have much to do with how it handles creative tension. Many of the organizational culture change models involve envisioning a future culture somewhere in the process of moving to a desired state.

Argyris' (1990) research into organizational defenses is helpful for understanding that resistance to change can occur as part of an organizationally sanctioned defensive routine. A defensive organization can have strong morale, satisfaction, and loyalty because participants can distance themselves from the responsibility to work toward excellence. Organizational defensive routines are actions or policies that prevent people and groups of people from experiencing embarrassment or threat at a sensitive or undiscussable topic. They also prevent the accurate diagnosis of problems; organizations cannot solve a problem that cannot be subjected to analysis. I see resistance as fundamentally sanctioned by the norms and values comprising organizational culture. These facets specify how correct communication should occur in the organization. For example, an organization may value consensus and so may discourage debate even when it is warranted.

Learning is critical for organizational change. Bateson (1994) suggested that rigid structures prevent reinterpretation of events into richer meaning so we must encourage learning how to learn throughout life. Argyris' (1990) perspective agrees that rigidity of mental structures inhibit deep understanding. Rigidity promotes error in thinking. He also draws a difference between learning that simply solves the presenting problem, or single-loop learning, and learning that solves the more basic problem of why problems occur, or double-loop learning. Double-loop learning allows the problem solution to feed into a change in governing values. He believes that organizations should develop a culture that rewards double-loop learning. Quite often, though, organization's reward skilled incompetence in which people are not even aware that their actions hinder learning and performance. To avoid the mixed messages and to promote double-loop learning, he suggests mapping out how an organization actually deals with problems, then help individuals diagnose the extent to which each contributes to creating and maintaining that map and, finally, reeducate employees to go from concentrating on espoused theory to theory-in-use. Theories-of-action appear similar to Schein's (1999) cultural level of espoused values but better recognizes that there is often a disconnect between different levels of values and actual actions.

Fitzgerald (1988) questioned whether organizational culture can actually be managed. He suggests throwing out Kurt Lewin's view of change, which is covered in the next section, because people that adhere to values are considered frozen rather than confluent, and we should, rather, seek theory about "…how individuals protect themselves from increasingly secular and manipulative society to their intuitively felt, taken-for-granted, and shared sense of lifeworld" (p. 13). This implies that we lose something very human when we break important underlying relationships and connections. Bridges (1980) believes that relationships are structured by unspoken agreements, and that change can bring people into conflict with these unspoken, and

often unconscious, structures. Reengineering in the late 20th Century may have violated unspoken agreements that were previously taken-for-granted and smashed the myth of the long-term career with one organization, giving rise to the protean career that places responsibility for career development on the individual (Hall, 2002). When people no longer worry about staying with one company, there is more movement and change occurring in organizations.

From the very early Hawthorne Studies, researchers have been increasingly interested in the social nature of organizations (Schwartman,1993) as it relates to performance and to change initiatives. Learning is an important mechanism for accomplishing change and it appears to occur at all levels of change. However, change can be effective or an outright failure. Organizational change models help us understand what happens during the change process and how to promote healthier change.

Organizational Change Models

Kurt Lewin's seminal work on change theory has had a tremendous impact on the theory and practice of organizational development. In his view people are in a state of "quasi-stationary equilibrium" in which forces for change in a particular direction are met with opposing forces that balance the state of movement so that social conduct ostensibly remains the same (Lewin, 1952). *Quasi* is used to indicate that no perfect stability can be achieved in a dynamic system. Change in a particular direction can be accomplished either by adding forces for the change or diminishing oppositional forces. Lewin viewed the latter method as the preferable way to encourage change because increased tension and pressure resulting from adding force may eventually result in higher resistance, emotion, and aggressiveness (1952).

Swanson and Holton (2001) noted that Lewin contributed to understanding in human resource development (HRD) of how adults are more differentiated or compartmentalized than

children, and thus are more rigid to change. Adults are also less affected by problems in one area of life permeating into other areas. Dedifferentiation, which is the breakdown of the compartmentalization, can occur if there are prolonged periods of frustration or helplessness. This boundary dissolution allows, for example, problems at work to affect home-life thus increasing the scope and consequences of the original problem. Prolonged and frustrating change efforts, then, can be detrimental to the health of individuals and organizations.

The permanency of a change intervention is determined by Lewin to be a function of three phases of change. Change starts with "unfreezing" the present state, "moving" to the new state, and "refreezing" at the desired state (Lewin, 1952). I see the value this concept has for change theory in that it focuses on the *process* of change, rather than *product*, and it accounts for the failure of some organizational change interventions when these phases are not adequately addressed. Lewin's work gave rise to "force field analysis" that HRD specialists use as a technique for problem solving, conflict analysis, and identifying change strategies (Swanson & Holton, 2001). He also strongly believed that change interventions should be researched during action, which started "action research" as a method of combining inquiry and action for improved organizational development (French & Bell, 1999). There are various forms of action research that have developed over the years, but primary components include an iterative and repeating cycle of planning, implementing, and fact-finding that helps organizations to research interventions in mid-process.

Lewin's model informs the work of a number of change theorists. For example, Fiol (2002) based her organizational identification change model on the three phases. They are: (a) deidentification (unfreezing), (b) situated reidentification (moving), and (c) identification with new core ideology (refreezing). However, Lewin's model seems incomplete because it does not

explain how the phases occur. He was one of the early change theorists of the 20th Century and his work developed during the industrial age in which change and advancing technology were as rapid at they are now. People are in the process of change, which means that the phases likely overlap and perhaps confound other change underway. Additionally, what happens during the phases is not well delineated.

Schein drew upon the work of Lewin's change theory, but recognized that it was not sufficient to fully explain phases of change. Schein stated that both he and Lewin realized that diagnosis, which is a decision about what is right or wrong about a setting, is inextricably tied to intervention and change (Schein, 1995). Schein (1997) added three processes that are necessary to create motivation to change during unfreezing. These are: (a) disconfirming data that causes disequilibrium, (b) the anxiety-producing connection of disconfirming data to goals and ideals, (c) psychological safety that allows change without loss of integrity. For effective change management at both the individual and institutional levels, threat (or survival anxiety) must be balanced with psychological safety so that there is motivation to change. Change is tied to learning, which is broken into manageable steps so that psychological safety is achieved. Without psychological safety change may not occur or may be in a detrimental direction.

The moving stage of Schein's (1997) model is called "cognitive restructuring" in which there is a fundamental change in core assumptions. He believes that overt behavior change is not necessarily enough to cause the redefinition of assumptions, and once coercive efforts are released, people go back to their olds ways. Refreezing occurs when the desired behavior and new cognitive structures are reinforced. For these reasons, feedback is an important mechanism for confirming the structures. The strength of Schein's change model is that it continues to emphasize the process of change, while adding mechanisms by which change can be stimulated

and reinforced. The downside is that this model seems to work best when change is planned and change agents use the process to help individuals negotiate change. Also, it does not address whether change can occur through intuition or emotion without full cognitive redefinition.

Change can be incremental or radical. Borrowing from evolutionary theory, Gersick (1991) presented the concept of "punctuated equilibrium" where periods of stability in organizational infrastructure that allow for incremental change are alternated with brief episodes of revolutionary upheaval. Only upheaval will change the deep structure of an organization. Cognition plays a vital role in change when groups turn from confusion to clarity during periods of dramatic change. Since formal structures are rationalized, change can disorient an organization until the deep tacit assumptions have been altered. Change, in this view, has a much broader systems perspective and links into more recent theories.

Mink and Riffle (2004) suggested that chaos and complexity theory is valuable for showing the interconnection of systems parts. Sentell (1998) used chaos theory as a lens for understanding organizational culture and change. He proposes the world is currently engaged in a transition to a new paradigm. Western, secular, rationalist humanism born of Newtonian and Leplacian science was the old paradigm in which laws describe a deterministic and mechanistic universe, which is analogous to the component parts of a well-made time piece that tick together synchronously. The crisis of paradigms in Western thinking stems from scientists and non-scientists alike questioning the belief that understanding natural laws by accumulating knowledge and facts will lead to a better world. The very notion of progress is being questioned.

The information age has brought with it the promise of computer modeling. Burdensome calculations required to model long-term patterns or multiple variables can be done far more easily and quickly than in the past, enabling glimpses into future possibilities. Sentell (1998)

discussed how computers have been used to test deterministic theories since 1960s, the results of which have perplexed scientists. Forecasting weather, markets, earthquakes, and the economy have not produced the results imagined. Nature is now being considered inherently disorderly and change does not necessarily progress toward some end.

Chaos theory stipulates that the long-term behavior of a system cannot be "…predicted with certainty unless the initial conditions of that system are known to an infinite degree of accuracy – which is impossible" (Sentell, 1998, p. 21). While this could lead to a sense of futility, Sentell believes the answer is to create change-capable organizations that can adapt to new conditions as they appear on the horizon. He proposes a model of organizational culture that is the most inclusive model of all the ones I surveyed, which is built on a foundation of "memes," that, like genes in genetic transfer, are the smallest units of information that are transferred to build ideology. The transfer occurs brain to brain. Resistance to change comes from the force of memetic assimilation, which I see as similar to the unfreezing in the Lewin and Schein models, however Sentell's model reduces the structures of assumptions down further. This is helpful for understanding how small details can cause big changes. He suggests there is cycle of mutual causation amongst culture, behavior, and success that determines how organizations develop and function.

Artificial structures, like organizational designs and products, make the world more knowable and predictable but these structures are becoming increasingly complicated and unpredictable. Based on nonlinear dynamics and psychology, Sentell (1998) built a ten step change process that is adapted below:

1. Begin by evaluating the organization's vision, including purpose, core beliefs and values, mission and "vivid image."

2. Develop organizational strategies consistent with the vision.

3. Determine the organizational behaviors consistent with the organization's vision and strategies.

4. Visualize and design the ideal culture to generate and sustain critical organizational behavior. Change-capable organizations are based on competence, which is determined by shared paradigms and existing structures and patterns of leadership.

5. Identify and evaluate the current behavior and culture of the organization.

6. Compare the current culture with the ideal culture and identify any gaps between the two.

7. Determine the actions required to close those gaps.

8. Develop a dynamic plan to transform the culture and close the gaps. Change is reinforced by experience with consequences. This plan must be based on interactivity of actions with room for contingencies. Training and development, and leadership are all critical pieces of the change effort.

9. Execute the plan. This requires commitment from leadership as well as sufficient resources and time.

10. Measure, monitor, and adapt as necessary.

Despite the linearity of the steps, this model suggests an iterative process, however, it does not account for the mechanisms by which assumptions are changed. Chaos and complexity theory contributes to effective change by helping organizations realize that unintended consequences may occur since systems are so interconnected. One of the weaknesses I perceive in using chaos and complexity theory for change is that it could tempt organizations into cumbersome and difficult-to-manage change efforts. This idea is supported by Drennan (1992)

who states that cultural change may fail if too much change is attempted at once and
management has conflicting priorities. For organizational developers, it is important to assess
how several change models and strategies may help with change effort.

Shepard (1975) presented a number of "rules of thumb" for change agents. Essential
aspects of the rules can be summed into two thoughts. First, one should view organizations as
organic rather than mechanistic, which requires flexibility and understanding of context. Second,
agents should realize there are interdependencies amongst subsystems. Change cannot be
accomplished in isolation; organizational developers should seek help in understanding the
complex social and cultural forces that affect success. An intranet, while appearing mechanistic
because technology codifies and structures data using systems logic, also cannot be isolated from
the culture that produced it without losing much of its relevance and significance. Organizational
members know why certain things are designed the way they are, which creates a shortcut to
action since background information does not have to be explained. Background information and
understandings can be severed, though, if change is done poorly. For this reason, organizations
can draw upon a broad range of tools to help accomplish successful change, including cultural
change.

Tools for Organizational Cultural Change

The Lewin and Schein models help us understand how that psychological safety is
important for moving to the desired state. Unlearning or pattern breaking is a method used to
disturb equilibrium and promote change. It was used at NASA during the Apollo program in
which questioning existing systems was encouraged but this characteristic had declined at NASA
at the time of the *Challenger* disaster (Barczak, Smith, & Wilemon, 1987). Still, adding a
systems-wide approach can help developers understand how interrelated everything truly is, and

that a change in one sub-system can ripple through to other sub-systems, thus modifying interactions within an organization. Intranets can facilitate use of change tools and strategies reinforce or change the direction of a change effort.

Leadership. Leadership is one of the most important aspects of culture and change theory and it can be used strategically if leadership techniques are congruent with change needs. Leaders can be the heroes that embody organizational cultural values and expectations (Deal & Kennedy, 2000a). Schein (1999) believes that the values and goals of founders have a profound influence on the creation and maintenance of organizational culture and leaders have access to the "levers" that change culture (Schein, 1986). Management is considered an ideological practice that promotes norms and values (Morgan, 1997) where one of the most critical aspects of a leader's role is to create a system of control through internalized values that free him or her from the demands of direct oversight (Denison, 1990). Ethical questions follow. For example, what should organizations reasonably demand of employees if these values conflict with individual family or religious values?

One of the struggles organizations face is the balance between individual and organizational values that fundamentally affect decision-making (Hultman & Gellerman, 2002) and whether the learning and growth of individuals through HROD should be company or community owned (Bierema, 2000). How an intranet both represents leadership and helps to maintain the balance between individual and organizational needs may be pivotal to its effectiveness to promote and reinforce healthy cultural change.

New technology, including intranet technology, can cause change that leaders must plan and implement. Some companies implement new technology and fail to alter human resource practices because the technology is considered to be independent from the social system

(Brynjolfsson, Renshaw, & Alstyne, 1997). Any time new cultural behaviors and skills need to be acquired, involving the learner in designing an optimal learning process helps build the psychological safety needed for change (Schein, 1999). Leaders impact whether or not psychological safety is achieved by members of the organization. One important thing for an organization to assess is what messages and attitudes are coming through leader's written, spoken, or audio messages posted on the intranet.

Power, selection, and control. Any time research or educational activities deal with social system, the issue of power needs to be addressed. Management has more direct and legitimate power but other individuals have informal power over information and other resources. Juustila (n.d.) suggests that the values built into technology are not necessarily the prevailing norms for an organization and information systems can become instruments of power games. This has implications for intranets because the collaborative way in which they are developed will likely reflect existing power structures and struggles. Viewing technology as a potential site of power struggle underscores the need to gather data from a variety of sources so that both discrepancies and consistencies emerge.

Even in a participative climate there are issues of power. Schied, Carter, Preston, and Howell (1997) believe that participatory organizations simply delegate power and authority to peers who are unconscious of being controlled this way. Managers and hiring committees can exercise power in the selection and promotion process. Selection can reinforce existing cultural practices and values, as was the case at Enron where people who valued short-term transactions and circumventing rules to make money lead to financial scandal (Sims & Brinkmann, 2003). Pratt, Mohrweis, and Beaulieu (1993) studied British accountants working for American firms located in the United Kingdom and found that these accountants tended to have values similar to

American accountants. The findings suggested that this was accomplished less by socialization after hire and more through recruitment and selection processes that favored candidates that fit the corporate culture.

Hiring people with characteristics that fit a future organizational culture is a tactic for changing organizational culture (Sentell, 1998). Burke (2002) considers selection as an individual level change strategy that changes culture over time. Determining the fit of people and positions can help build effective change. Hiring and firing policies, procedures, job description, and forms that aid selection, recruitment and promotion may be posted on the intranet (Evans, 1996) and may aid in cultural change through attrition. Realistically, though, this may be a slow process and there can be unintended consequences, like the loss of critical knowledge, if those that do not fit the new culture leave. Cultural fit seems to be a critical component for continuity of the workforce. In a medical environment, Sheridan, Proenca, White, and McGee (1993) studied the retention rate of new employees in six acute care hospitals. They found that the hospitals that had "integrative cultures," that is cultures in which work values were shared across hospital occupational groups, had approximately thirteen months higher retention rate than hospitals with "differentiated culture," that is different occupational groups did not share important values.

Swanson and Zuber (1996) found that firing practices were able to derail a change intervention. At the heart of the story is an outside organizational development consultant that attempted an "atheoretical" approach to helping a mail order company with a change initiative. The lesson learned by the consultant was that organizational culture was a strong force against change. Upper management had a habit of firing people who went out on a limb and rarely articulated why the firings occurred. The organizational culture came to value risk avoidance and

therefore resisted change. This resistance was so sturdy that it could not be budged by the promise of tremendous cost savings and a healthier environment. It is important for those seeking to intervene or change organizational culture to understand that punitive measures in a seemingly unconnected event can highly influence the choices organizational members make during the change process.

Training and communication. Training and communication are important strategies for change. For example, a qualitative study that analyzed staff perceptions of change in neonatal care procedures found that units that established change teams to help disseminate information and track implementation were more effective in adopting the new procedure than a unit that simply posted the guidelines (Wallin, Rudberg, & Gunningberg, 2005). The researchers found that issues in the organizational culture as well as environmental feedback helped to motivate change. This study helps to emphasize that simply posting guidelines may not be enough to inspire change. Another study found that middle managers in an organization undergoing major change perceived a lack of communication from executive leadership about organizational vision and the rationale for change (Valentino, 2004). The lack of communication made it difficult for middle managers to clarify organizational objectives with frontline staff. Clearly, how the change is communicated and supported within the organization is critical for success. In another study, communication technology was seen as pivotal for changing the role of schools principles, allowing for greater access to different knowledge networks and more direct communication with teachers to create a more collaborative environment (Haughey, 2006).

Communication and training fundamentally depend upon language skills. Hall (1973) considers the joint development of language and technology (in its broadest sense) responsible for our ability to store knowledge. Fiol (2002) views language as an important tool for change

agents because the process of individuals identifying with an organization is based on the meaning that people draw from the words an organization uses. Further, trust is important in the identification process, and defining what something is "not" is important for the de-identification necessary to implement deep change. Myerson and Scully (1995) believe that promoting change through informal interactions requires a change agent to be able to speak in multiple languages to multiple constituencies (e.g., talk accounting language to accountants and engineering language to engineers). Additionally, Schein (1999) suggested that a compelling positive vision, formal training, and informal learning groups are important for creating the psychological safety necessary for change.

Cultural content may be inferred through shared sayings, doings, and feelings of members (Sathe, 1985). These aspects are often found in training programs. Williams, Dobson, and Walters (1989) found that most organizations they studied used training as a mechanism for culture change. There were three major categories of training. First, practical skills training was valuable to employees coping with change. Second, training was used to encourage new attitudes and beliefs that were directly linked to job performance. Third, training programs role modeled the style and the values that the organization wanted to promote. For example, if an organization wants to encourage an open and participative environment, having an open question and answer session during management training sessions may help cascade the style down through the chain of command. Positive role models helps organizational members to see what a new behavior looks like (Schein, 1999) and these role models, perhaps similar to heroes in organizational culture theory (Deal & Kennedy, 2000a), are not limited to managers but can be regular employees.

The ability of an organization to encourage staff development may be more difficult in organizations that have many part-time employees or volunteers since the people are less available and possibly less motivated to engage in these activities (Courtenay, 1993). Web technology may help solve this problem. For example, training handouts and announcements are often posted on intranets (Gilbert, 1998), and, in some cases, actual computer-based training modules and live events can be mediated through intranets. The question that organizations need to explore is whether these electronically mediated methods are as effective as face-to-face contact for modeling new values and behavior, and whether posted training materials carry appropriate messages. Likely the effectiveness lies in delivery modes occurring in tandem and in the characteristics of employees, like level of self-directedness.

Symbols and stories. The power of symbols and stories to reinforce or change organizational culture is likely underestimated in daily organizational life. Because culture can be difficult to articulate, metaphors can be used as a linguistic devise to symbolize what is happening in an organization (Deal, 1986). Cameron and Quinn (1999) suggested that organizational culture is best illustrated through stories that reflect key values and behavioral principles. Telling incidents and events that reflect new values help a new culture permeate through the organization. Aaltio-Marjosola (1994) presented findings from a study she conducted that tracked organizational culture change at a telecommunications company. Despite being situated in an era of post-modernity where flexibility and multiple narratives are valued, Aaltio-Marjosola saw the organizational culture of the company change from an entrepreneurial grand narrative to a modernistic and rule-oriented grand narrative. Story telling helped to reinforce that the old culture was "bad" and that the new culture was "good." This change was accomplished rapidly because organizational members came to believe the new culture was better and more

legitimate than the prior culture. Storytelling appears to be an effective way to promote change although organizations can not completely control the meanings that members draw from them. A simple altercation between an employees and a supervisor can cause a labor strike if it holds meaning among members that leadership did not expect (Sentell, 1998).

How an organization responds to a critical event in company history may be an important clue as to what the organization considers important and how organizational culture has evolved (Sathe, 1985). For example, stories of heroism or acts of kindness are important for transmitting organizational values to firefighting personnel in firehouse culture (Coleman, 2004). Additionally, logos and other symbols are a potent form of communication and are simple ways to carry value messages (Drucker, 2003). Change can be symbolized through structural modifications, like new reward systems and work procedures (Goodstein & Burke, 1991).

One thing that is often found on intranets is organizational charts. These tools graphically symbolize the formal power and authority structures of an organization, which may help employees negotiate the environment. As the structure changes, the chart should be updated to reflect and reinforce the new structure. Not updating the information on the intranet potentially could cause confusion and suspicion of the new structure, leaving members wondering if it is going to change again soon. One thing that organizational charts cannot do, however, is outline the informal network of power in an organization. Additionally, the very icons people use to navigate intranets can be symbolic. Clicking on the graphic of a trophy that is connected to the employee-of-the-month page can reinforce the value placed on employees efforts.

Part Three: Knowledge and Knowledge Management

We are currently in an age in which the volume of knowledge is increasing exponentially, yet, conversely, knowledge is a scarce resource for surviving change and remaining successful in

a competitive business environment. The very process of planning for the future impacts the organization. Choo (1995) indicated that belief is a strong motivator to act. Organizational research suggests that unused knowledge and skill are competitive disadvantages and that shared understandings promote consistency (Denison, 1990). Intranets can be important tools for capturing knowledge and communicating goals, culture, and expectations that ultimately aid the survival of an organization in a complex and sometimes chaotic environment.

Knowledge

Knowledge is not just an important asset in the information age. It is also the very reason why we engage in research. Merriam & Simpson (2000) indicated there are four processes through which we access knowledge a) authoritative knowledge that stems from human beliefs, b) rational knowledge based on logic and thinking, c) empirical knowledge brought by one of five senses, and d) intuitive knowledge acquired through feelings. These processes have ramifications for how knowledge is managed in an organization. While organizations were at one time considered rational systems based wholly on logic, scholars have found that this belief does not adequately explain what happens in organizational decision-making and functioning (Morgan, 1997).

Rational knowledge is more or less able to be explicated, however, there are embedded levels of knowledge that may not be subjected to logical analysis. As discussed previously, organizational culture is theorized to contain tacit knowledge. Tacit knowledge also figures into KM theory, which will be discussed in the next section. Michel Polanyi holds a theoretical position linked to Gestalt Psychology that focused on tacit knowledge. His work informed KM years after his writings in the 1950s and 1960s. According to Polanyi (1966), we know more than we can say. He uses the example of facial recognition; humans can recognize faces without being

able to communicate exactly how using words. He related a study by Ericksen and Kuethe in 1958 (Polanyi, 1966) in which scientists administered a shock whenever a participant uttered an association with a shock word. The participant learned to avoid the triggers even though later he could not describe how he knew what to avoid.

Polanyi suggests that humans know tacit knowledge by the meaning or the semantic aspect, which, when combined with more elementary functional knowing, creates an understanding of the joint meaning. Functional knowing reflects that we are always attending *from* something *to* something, as a person would attend from each muscular contraction of the hand when using a key to the click that indicates the action and the knowledge a door is unlocked. If we try to isolate the parts for scrutiny, we destroy meaning. Destruction can either lead to deeper meaning upon reconstruction of the comprehensive relationship or may completely obscure the original meaning. This perspective helps illuminate how members may act according to tacit and taken-for-granted elements of organizational culture. Members may be able to recognize to what extent an event or situation matches organizational values without fully explicating the connection.

Knowledge Management

The field of management information systems has grown up around the need for information for prediction and control because information is fundamental to organizational decision-making. Diebold (1985) wrote about the future of information technology in which he predicted that the trend in decreased cost for personal computers would increase the number of computers available in offices. This change signaled a shift away from centralized data processing to more user-level processing. He predicted that, as the cost of desktop computing plummeted, there would be a move to greater customization of software applications for the end-

user. Customization, Diebold predicted, signaled a shift to a more people-centered approach to information technology, and is a precursor to knowledge management.

Knowledge, like culture, is difficult to define because the term represents something intangible, something embedded in daily human experiences and learning. Myers (1996) states that knowledge management is often equated with intellectual capital or organizational learning. Further, he believes that knowledge can only be managed to the extent that it has been captured in organizational process, systems, products, rules, and culture. In the present economy, knowledge is considered the primary competitive advantage (Choo, 1995). Intellectual capital in organizations is believed to make up the difference between liquidation value and stock market value; this gap represents the organizational knowledge and structures in an organization that allow it to produce value beyond physical assets (Stewart, 1997).

Knowledge management as a line of inquiry is focused on how knowledge is acquired, created, and distributed (Alvesson & Karreman, 2001; Lengnick-Hall & Lengnick-Hall, 2003) within organizations. Knowledge management literature breaks knowledge into three parts, data, information, and knowledge (Bhatt, 2001; Drucker, 1989). Data are the smallest pieces, which are essentially discrete units of information. Data are used to build information. Information becomes knowledge when a person makes meaning, or interprets the information toward some end. Drucker (1998) shows the interaction between the parts, "Information is data endowed with relevance and purpose. Converting data into information thus requires knowledge. And knowledge, by definition, is specialized" (p. 5) or context-specific.

The literature breaks knowledge into different domains. First, knowledge is separated into two levels, tacit and explicit knowledge (Bhatt, 2001). Tacit knowledge is difficult to uncover and is second nature to people. Explicit knowledge is more visible and often more

technical in nature. Choo (1995) broke knowledge into three domains that are situated within the

specific organization. The first is tacit knowledge that is rooted in action, intuition, and is very

hard to articulate. The second is rule based knowledge that includes knowledge of how to match

actions to situations to ensure consistent organizational responses for efficiency and control. The

third is background knowledge that is part of the organizational culture which is communicated

through oral and verbal texts. Choo believes commitment in an organization is built through

shared meaning and values. Thus, organizational culture is intertwined with knowledge creation

and management processes.

Harris (1998) believes that information is dynamic and evolutionary as value is added to

transform observations into wisdom. His model starts with data flowing from observation,

which, when analyzed for classifications, produces information. Explanation of information

indicates understanding, and the capability of prediction produce knowledge. When knowledge

is achieved, the next level, wisdom, is associated with the ability to proscribe or create general

laws. Each step in this process adds value to the information. An adaptation of the model is

reflected in Figure 3.

Observation → Data → Information → Knowledge → Wisdom

Figure 3. Harris' Value Added Flow

Harris (1998) also proposed a "Circle of Enlightenment." It reflects the accumulation of cycles

of learning processes from observation to wisdom. Each sector, starting with observation, gets

increasingly smaller around a circle. The implication is that many observations and data do not

make it all the way through to the level of wisdom. Also, the worth of knowledge is not static. It is dynamic depending on environmental conditions and the already extant knowledge-base. Data may reach a level of wisdom on one plain but may only be a data point on another plain. He sees the information age as the geometric expansion of enlightenment cycles in a decreasing time frame. What is considered knowledge and wisdom frequently changes because they are the result of the latest information. This perspective informs this study of the dynamic nature of knowledge creation and how value is built through transforming data. Information technology may capture different points in the process as organizations collect observations and attempt to understand, explain, and predict from the data to achieve higher forms of knowledge.

The competitive environment requires new ways of interacting with information to create knowledge. Wikstrom and Normann wrote,

> But the supply of knowledge itself is not the only important factor. At least as significant is the ability to absorb, apply and exploit knowledge in new production processes, products and services, new forms of organization and hitherto untried forms of co-operation with customers and suppliers. (1994, p. 2)

They further suggest that knowledge is accumulated in organizations through research efforts and through daily problem-solving, which may be creative in nature if existing corporate knowledge is recombined in a new way. Information systems can help with creating and preserving new knowledge for the improvement of the organization. For example, Alexander, Weiner, Shortell, Baker, and Becker (2006) found that clinical information systems were related to broader and deeper implementation of quality improvement efforts. The authors believe that the information systems can indirectly improve patient care by supporting cross-functional teams in the study of patient care. Additionally, Saleem, Jones, Van Tran, and Moses (2006) found that

functional knowledge (e.g. professional expertise) was more important than personality and communication skills for participants to engage effectively in teams to design healthcare information systems. Using available knowledge and expertise is critical to solving organizational problems.

Senge (1990) stated that organizations that collectively discover that no one has the answers are more liberated and open because answers are never final and can be continually improved upon. This places an emphasis on the process of problem solving rather than a singular product, and continues the view that knowledge and learning are dynamic and based in experiences and information acquisition. The dynamic nature has implications for organizational design and structures, including the chains of communication and command. It also views knowledge as evolving through interaction similar to the development of organizational culture.

Companies generally have a predominant outlook on knowledge that is part of the corporate culture (Wikstrom & Normann, 1994). An organization that is bottom-line driven, for example, may ignore information on safety problems in a product if it represents a tolerable financial risk. Elements of organizational culture affect how knowledge is managed and distributed within an organization. The communication and authority structure of an organization typically specify who has the right to make decisions about corporate process and functions. Knowledge and information are required to make decisions but knowledge, especially specific, local knowledge, can be costly to transfer. Organizations must decide whether to move knowledge to central leadership or move decision authority to local agents (Hayek, 1996). Communications technology can facilitate the transfer of knowledge or the assignment of decision rights. How this is accomplished depends on organizational assumptions and values.

Knowledge transfer is not always easy to accomplish. For example, Hume (1999) described how a mistake in interpreting the dosage of an experimental cancer drug that caused the death of a patient and the investigation of eighteen nurses who administrated the overdoses. The primary reason given for the mistake is that doctors prescribe a drug by course, which is the amount of drug taken over a period of time, whereas nurses and pharmacists tend to think the amount of daily dosage. Hospitals began changing practices to try to clear up ambiguity in medical orders. Additionally, one hospital attempted to create a less punitive environment so that nurses would be more likely to report errors and near errors in patient care without fear of punishment. Trust, here, is an important factor in knowledge sharing and improvement of systems. Ipe (2003) found that the level of trust employees have in the organization significantly impacts their willingness to share information. Trust is forged through daily work experiences and interactions. The implication is that organizational behavior can encourage or discourage trust needed for effective knowledge sharing.

Neuhauser, Bender, and Stromberg (2000) defined knowledge management as ". . . managing people's brain power and the company's collective memory" (p. 207). Corporate memory may also contain the past events and successes that frame organizational culture. Sackman (1991) posits organizational culture has content, and this content can be communicated and managed through knowledge management processes. Intranets have unprecedented capabilities for managing cultural content and organizational memory if they are widely used and accessible by organizational members. There is also considerable investment of time and resources to build an intranet that is sophisticated enough to meet knowledge management needs. Next, we will consider the nature and design of intranets.

Part Four: Intranets

There is very little research literature on organizational intranets. They are a relatively

new and are difficult to study because they are not accessible by the general public. Additionally,

intranets may be transparent and so may be overlooked as objects of study. Most of the writing

on intranets occurs in the knowledge management literature, since they are essentially

knowledge management systems, or stems from practice where there is often a technical focus

on how to build and maintain an intranet. The first section looks at literature stemming from

sources writing about socio-cultural or design issues of the Internet that can be related to

intranets. The second section covers intranet literature.

Related Internet Literature

The new age of information has brought distant communities closer. There are socio-

cultural ramifications when human interactions occur through technology. Turkle (1995) studied

sociological issues of the Internet and has found that notions of gender and identity are

questioned and explored on-line. Internet role-playing rooms and chat programs allow

participants to hide aspects of themselves, enhance other aspects, or pretend to be something

different altogether. People are able to represent themselves in ways that would be impossible in

the physical world, like swapping gender or altering age. Some use the Internet as a way to

extend their identity while others may see it only as play. For example, Turkle related how an

Internet community struggled with meaning when a virtual rape occurred. A male character took

over and violated a female character in a multi-user domain. Messages posted on virtual bulletin

boards about the incident ranged from defending the "rape" since it was not embodied but

merely fantasy to viewing the act as a crime against the mind because the character was an

extension of the real person. This example, although extreme, highlights how complex meaning

and the construction of identity can be in a virtual environment. Organizational roles, too, could be questioned or renegotiated in virtual space.

Negroponte (1995) believes the decentralized nature of the Internet is an asset because there are multiple pathways for messages to get from one place to another. The question perplexing some politicians is how to control and monitor the Internet when cyberspace has no space, and national law has no part of cyber law; if you do not like the laws in one country, set up your server in another. He predicts that the nation-states will disappear as we now know them because the present borders of land and sea are outdated and unable to be truly local or global. While transnational organizations clearly benefit from Internet communication paths, Negroponte also sees "global cottage industry" arising from small entrepreneurs utilizing the Web for commerce all over the world. The questioning of boundaries is a key concept for organizational study because cyberspace stretches and reshapes where organizational boundaries can exist for both the individual employee and the firm. Telecommuting as a method for participating in an organization's activities from a distance means that more work, socialization, and performance structures are mediated through inter/intranet technology. Here, intranets will be the portal through which an employee steps out of the Internet and steps into the corporation.

Authenticity and authority are important for people to have trust in information source. The Internet does not require such standards; in fact, postings can be relatively anonymous and difficult to evaluate. Dyson (1998) weighs in on the debate between anonymity and accountability, seeing the decentralized nature of the Web as undermining centralized authority. Because the Internet allows strangers to interact and stay strangers, knowing what is real and what is not can be difficult. She believes that "webs of trust" are more important on-line than in the physical community because there is less accountability.

Gassée and Rheingold (1990) suggested that tools allow humans to overcome the limits of nature, and, I would add, the limits of space and time. They write,

Symbol systems and thought have coevolved ever since humankind boosted its collective intelligence by creating and communicating more powerful mental representations. The convergence of mathematics and technology that made computers possible was the genesis of a new phase of intellectual coevolution. (p. 226).

Human-computer interface in this view is the cognitive locus that is driving the evolution of intelligence. Computers are powerful tools for building mental models, and thus provide a new platform for thinking, communicating, and collaborating. This prediction is optimistic and perhaps a little idealistic but it emphasizes that computers are changing the way that we conduct daily activities and processes, which subsequently impacts cultural norms and content. It also should impact how we manage and disseminate knowledge.

The Internet has opened up access to many diverse communities that represent different cultures and sub-cultures. Even when an international web site is written in English it is likely to reflect elements of the originating culture, like customs, sayings and symbols that carry meaning. Learning about other cultures through communications technology may both enrich knowledge generation and help an organization survive in the global economy, but the question of whether the Web creates a global hegemony toward a dominant culture remains unanswered. McChesney (2000) writes that Web visionaries

…told us how these new magical technologies would crush the existing monopolies over media, culture, and knowledge and open the way for more egalitarian and just social order. But the World Wide Web is qualitatively the most radical and sweeping of these

new communication technologies, and the claims about it top earlier technological vision

by a wide margin. (p. 5)

However, he considers the egalitarianism of the free market on the Internet a myth because

media giants are increasingly squeezing out smaller enterprises. Still the Internet is a

communications revolution that gives voice to many social and political organizations with

minimal start-up expense.

A sophisticated intranet may represent a virtual community, especially if elements of the

host organization are geographically distributed or collaboration is central to work functions. The

way that internet pages can reflect and also shape culture at a macro level can occur at the

intranet level. The main difference stems from the boundedness of intranets. Intranets are built

specifically for organizations as vehicles for collecting and disseminating information, but

information is of little use without a way to interpret it. The meaning system or organizational

culture that generates an intranet provides the lens through which interpretation of information

occurs.

Intranets

Early definitions of intranets included both the physical network structures that enabled

connection to corporate intranets as well as the entire software and information made available

through the network (Gilbert, 1998); however, more recent definitions assume the physical

infrastructure and, instead, focus on the applications and documents available through an

intranet. Although intranet documents are internal and sometimes highly sensitive or proprietary,

there is the potential for disgruntled employees to copy or print information from intranet

documents. For this reason, all information on intranets should be viewed as potentially public

information (Evans, 1996).

Community is developed through communication that can be facilitated by technology. Palloff and Pratt (1999) indicated that humans strive for community through interactions that shape communication technology and these interactions, in turn, are shaped by technology. Interaction is thought to play an important role in the evolution of systems (including information systems) as rules and resources of a structure are produced and reproduced through human actions (Poole & DeSanctis, 2004). This dynamic and developing nature of technology affects the shared meanings of a group. Email, for example, arose from the need to send messages quickly and efficiently. It has also become part of American culture both in the workplace and the home. The communication that occurs through the intranet would be shaped by the organizational culture but could influence the culture in return.

Design issues are important for efficient use of technology. Don Norman (1988) researched design and provides examples of poorly engineered products, including doors, which have caused user frustration because they do not provide visual cues as to how to use them. An important facet to note here is that physical and graphical *items* can communicate messages. This same phenomenon occurs with computers. How a person learns to use a tool can impact the quality of the work. Norman (1988) believes that rote learning can cause problems with computer use. He states, "People who have learned to use computers or cook by rote are probably not very good. Since they do not understand the reasons for their actions, they must find tasks arbitrary and strange" (1988, p. 68). While rote learning can be critical in an emergency situation because it allows people to act quickly and automatically, it can inhibit people from acting when they are presented with a change that requires the rote steps to be unlearned. The unlearning process may be painful if people did not understand why they followed specific steps and must relearn new and often more complicated steps or rules in

advanced computing. Clearly the level of basic computing knowledge required in American business has risen and the same higher-order knowledge needed in the information age is necessary for exploiting the power of inter/intranet technology.

The most common elements on intranets are information pages and applications that deal with three primary areas in organizations. These are (a) human resource services, (b) information services, and (c) production services (Evans, 1996). Human resource services include items like policies, procedures, forms, news bulletins, and access to vacation and retirement accounts. Information services include email, file transfer, and bulletin boards. Production services include items that relate directly to logistics and production, like assembly or workflow instructions, project management schedules, and shipping and billing information.

One of the pitfalls of intranet implementation is when designers believe that simply publishing facts will bring users to the intranet. However, good design transforms facts into information and information into communication by identifying users' needs and desires (Jackson, 2000). Systems that enable collaboration across departments promote horizontal relationships that are not necessarily defined by the formal reporting protocol, which is important for sharing information (Reddy & Reddy, 2001). On-line organizations have more wide-open information sharing than traditional organizations (Koehler, Dupper, Scaff, Reitberger, & Paxon, 1998) and so an intranet should help develop a more participatory and open communication network through which knowledge can be shared

There are different levels of intranet content management (Evans, 1996). Centralized management requires all information to go through an approval process before it is posted. Decentralized management allows users to post anything at anytime, which can be beneficial for knowledge sharing but opens up the potential for offensive content or chaotic structure. A mixed

approach combines elements of both ends of the spectrum. These management types may be determined by the organization's stance on information dissemination that comes from their views on knowledge or values.

Chapter Summary

This chapter reviewed concepts of organizational culture, organizational and individual change, knowledge management, and the nature and design of intranets. We know that organizational culture is born of shared experiences and common understandings that members learn through interactions and experience with an organization. New members are socialized into an organization either through conscious strategies (Schein, 1999) or through understanding built through successes and mistakes of actual experience (Bierema, 1994). Reflection is an important component for experiential learning, which has been connected to learning in organizations.

Although knowledge management and organizational learning have been used synonymously, I think it is important to recognize that KM tends to be associated with information technologies and thus highlights the role of technology in mediating and extended the ability of an organization to generate and disseminate knowledge. There are important connections between organizational culture and knowledge management theories that affect organizational performance and change. The first connection is that tacit assumptions in organizational culture affect how information is interpreted. The second connection is that knowledge management practices could potentially alter organizational culture by managing cultural content for the organization. These connections can lead to either positive or negative consequences, depending on the specifics of the situation.

Intranets can be used to manage the products of organizational learning through knowledge management processes, and they can also help support or change the organizational

culture. Change is unavoidable in today's organization. Change can occur through reflection

upon organizational identity and context, and it can also occur as a result of external forces and

changes in the environment. How organizations use intranets for cultural representation and

change becomes a critical question for the field of HROD.

CHAPTER 3

RESEARCH METHODS

The purpose of this study was to understand how organizational culture and change are embedded in an organization's intranet. The research questions informing this study were:

1. What is the organizational culture?

2. How does the intranet provide an opportunity for learning about the organizational culture?

3. How does the intranet promote organizational change?

4. How does organizational culture affect the development of intranet content?

Qualitative Research

To address the purpose of this study, I chose a qualitative research design because it leads to a rich and deep understanding of phenomena like organizational culture. Qualitative research attempts to understand the complex meaning-making of people as they interact in social settings and is most often informed epistemologically by Constructionism (Crotty, 1998). Constructionism assumes that the human world is fundamentally different from the physical world; however, humans bear the capacity to interpret and construct reality (Patton, 2002). Crotty (1998) further explains that Constructionism underpins the theoretical perspective of Interpretivism, which has roots with Max Weber and his concept of *Verstehen,* or understanding. Interpretation is fundamental for meaning-making and understanding. An underlying assumption in interpretive qualitative research is the concept that there are multiple realities dependent on

how individuals construct meaning (Merriam & Simpson, 2000) and research questions are focused on the nature or essence of the phenomena at hand (Merriam, 1998).

Crotty (2000) further divided Interpretivism into symbolic interactionism, hermeneutics, and phenomenology. This study is informed by hermeneutical inquiry, which Crotty described as focusing on language as central to humanity and culture. Texts, including the "reading" of non-written events and happenings, are a means of transmitting meaning, experience, beliefs, and values from one human or community to another. He also believes that it is possible for researchers to gain an explicit understanding of meanings and intentions that the authors or actors are unable to articulate. Crotty (2000) stated, "to understand a text bearing upon human affairs or culture that guides human lives, one needs to be able to move dialectically between part and whole in the mode of the hermeneutic circle" (p. 92). This is done through inquiry that attempts to understand the whole situation by comprehending the parts at the same time as understanding the parts by divining the whole.

Patton (2002) indicated hermeneutics locates the meaning of texts within specific communities and contexts, and background information about what the author intended to communicate is important for interpretation. Hermeneutics informed this study by helping me see how intranet documents must be situated in the larger cultural environment for understanding to be achieved. Additionally, the perspective found in hermeneutics suggested that a deep understanding of interview transcripts cannot occur with a single reading and the reading of subsequent transcripts may call the researcher to reanalyze or reinterpret events in the first examples (Thompson, 1997). This occurred during analysis of the data, which is discussed more fully later in this chapter, as I found that items mentioned in the early interviews rose in

importance when they were discussed in later interviews. This caused me to return to earlier transcripts for reanalysis.

A strength of qualitative research is that it allows researchers to ask questions that advance understanding of the complexities surrounding human experience. Shank stated "qualitative research deals with opening up areas where a departure from current preconceptions promises the potential for new insight and understanding" (2002, p. 183). Sutton (2000) agreed that the value of good qualitative research is in gaining new insights rather than testing insights. It increases the edge of our knowledge. Janesick (2000) used an analogy from dance to describe qualitative research where the research choreographer "captures the complexity of the dance/story by using rigorous and tested procedures and in fact refuses to be limited to one approach to choreography" (p. 349). Thus, qualitative design has a rich array of approaches that allow researchers to match design choices to the specific context to illuminate intricacies of social interaction and environments. This is particularly important for phenomenon like organizational culture, where social interactions over time build a complex environment that could only be understood through in depth investigation. Virtually no empirical research has been published on social issues related to intranets and so qualitative methods were crucial for this study so that it could advance the edge of what is known about organizational culture and technology.

<div align="center">Qualitative Case Study</div>

Merriam and Simpson (2000) discussed three main forms of qualitative tradition in adult and continuing education: ethnography, grounded theory, and case study. These approaches have the common research goal of understanding built inductively from the data. Qualitative methods are borrowed from the ethnographic tradition, which focuses on human culture and requires

lengthy fieldwork (Myers, 1999; Smith, 1998). Grounded theory provides powerful techniques for analyzing data, such as the constant comparative method, that can be applied to the other approaches. This study was a qualitative case study, which is an appropriate design when a phenomenon is not easily distinguished from the context (Yin, 2003) as with organizational intranets. Because case studies often result in case descriptions that are rich in contextual detail (Merriam, 1998), they are congruent with hermeneutic inquiry. Case study design allowed the flexibility for me to select methods appropriate to the situation. For example, the data I collected from observations allowed me to write a composite "walk through" of the organization to help set the context in which the research took place.

An important element to highlight about case study research is how it differs from business case studies. Business case studies are used in classes and in problem-solving activities to help participants situate learning in a real-life context. These cases can be based on fact or be totally fictional and often intentionally vague to allow greater speculation and discussion. Case study research is different because it employs rigorous methods that may include both qualitative and quantitative data gathering (Stake, 1995). The quantitative aspect could be as extensive as statistical analysis but also could be simple enumeration of data found at the research site. In this case the focus was on the corporate intranet as a cultural phenomenon and so relied primarily on qualitative data. Enumeration, however, was helpful for studying the types of messages that were communicated in the News Announcements section of the intranet as a support to the qualitative interview data.

A case is a bounded system (Merriam & Simpson, 2000) that could consist of a person, group, school, state, or any other one amongst other cases. Stake (2000) called a case a "functioning specific" that is organic and threaded with purpose. Patton (2002) observed that

each unit of analysis necessitates different types of data collection. Indeed, multiple forms of data collection are a strength of case study research that allows for better triangulation of findings (Gillham, 2000; Stake, 1995). While some scholars have raised concerns about case study research because of a perception of a lack of rigor (Bassey, 1999), case study research was an important design for illuminating phenomena in this study. Hartley (1994) stated that organizational case studies are important because "they can shed light on the fine-grain detail of social process in their context" (p. 208) and issues of rigor can be addressed by the researcher attending to potential weaknesses in the method. Employing techniques common to qualitative research were used to make this study more rigorous. Case study research design was appropriate for this study because it placed the intranet within a larger socio-cultural system. The detailed case description presented in the findings help to draw readers into the experience of the organization and may make the data potentially more useful to professionals and other researchers in HROD.

Case study can be quite complex, requiring a lengthy commitment of time and energy but it yields rich, new insight to human interaction and learning. Case studies deal with both emic (internal or participant-centered) and etic (external or researcher-centered) issues (Stake, 1995). Stake (1995) saw case studies as adaptable. Questions or design details can be added or changed while the researcher is in the field, which he terms "progressive focusing." For example, I altered the interview guide after the first two interviews to replace the word intranet with the word "IAN," which is the name of the intranet the organization I studied. I did this because I found it promoted greater clarity about what I was asking since few participants regularly used the term intranet. Additionally, as I developed themes from the data, I continued to ask the open-ended questions first per the guide so that I did not bias their initial answers but then added follow-up

questions. For example, as participants discussed the espoused values of the organization, I asked, "Do you believe the hospital lives up to the values?" This helped me to focus the study as the findings emerged. I also found evidence of subcultures at the organization, which could be construed to be embedded cases within the larger case. Patton (2002) stated qualitative case study research may consist of multilayered and nested case studies, which have implications for data analysis. In this case, I found that clinicians and technologists varied by the degree to which they were comfortable with technical communication. Although the evidence of subcultures did not generate smaller case studies within this study, it did help me understand group differences and similarities so that I could see what was common to the groups, such as the values discussed in the findings section.

Sample Selection

Although the unit of analysis is the individual case, qualitative case study research generally has at least two levels of sampling (Merriam, 1998). The first level is the case itself. Since a case is one among other cases (Stake, 1995) then there may be a set of cases from which to draw. One could draw a random sample from the set of cases or sample purposively. Because the phenomenon of interest was to understand how organizational culture and change are embedded into an intranet, a purposive sample of an exceptional case (Stake, 1995) was selected to yield rich insight about the connection between organizational culture and intranets. Intranets vary tremendously from organization to organization with regard to design, content, and use. Some intranets are barely more than a few group folders with documents that may not be regularly updated nor used daily by members. Other intranets integrate sophisticated communication tools that allow for greater interaction amongst colleagues. At the outset of this study, I developed selection criteria for an exceptional case, which I considered to be an

organization that has a sophisticated intranet considered to be strategic for fulfilling organizational mission.

Drawing from qualitative literature and organizational culture theory, I found the best way to make the case selection for my study was to establish criteria for candidate organizations that would siphon out non-exceptional cases. It is important to note here that organizations are not just for-profit ventures, but can also be non-profit, government, and academic institutions, so my case selection was not limited to business and industry. I started with a list of organizations that had been referred to me by information technology associates or had won intranet design awards. I began to research these organizations via the Web to learn more about them and I started to make contact with designated representatives of the various organizations. For example, one company required me to enter my research request by a web form that went to an intellectual property unit. Another company had names and telephone numbers for regional representatives on their website. As I started this process, a healthcare organization was referred to me by a colleague who knew that the intranet had "made a big difference" to the organization. I was given the name of the Chief Information Officer (CIO) at "Beacon Community Hospital," the pseudonym for the healthcare organization in the Southeast of the United States. As I met with the CIO to learn more about the organization's intranet and the hospital's background, I determined it to be an exceptional case and the best one of the group. Below are criteria that I used to make the case selection with specifics about the hospital:

1. The organization must have a well-established intranet, which means it must be in at least the third year from implementation. Intranets typically start with simple information sharing needs and then grow into daily business routines (Marcus &

Waters, 2002). Beacon's intranet was in its sixth year from implementation.

Development began in the year 2000.

2. The intranet should be viewed by the organization as strategically aligned with the

mission and important for organizational communication. The intranet at Beacon was

considered part of the "business fabric" for handling organizational communication at

Beacon. Additionally, the hospital had calculated costs savings for items like

education that were placed on the intranet. This was evidence of an intranet being

used to fulfill organizational mission.

3. Maintenance of the intranet should be either centralized or mixed management, which

means there is central approval for some -- as with mixed management -- or all -- as

with centralized management -- of the intranet content. Such intranets are more likely

to be reflective of the overall organizational context and culture. Decentralized

management can yield random and incoherent information resources (Evans, 1996),

and, therefore, would not be ideal for studying organizational culture for the purpose

of this study. Beacon's intranet was mixed-management, which means that some

information had to be approved by central body at the hospital whereas other items

could be posted at will by individuals or representatives of various functional

departments.

4. The organizational lifecycle should not be in early growth or decline stages (Schein,

1999) but rather should be an established environment in which the organizational

culture is fairly stable. This would be a better subject for study than an organization in

which the culture has not fully formed or is in a state of decline. There would be little

point to studying a dying organization for this project. Minimum time from inception

of the organization should be at least six years so that the culture has had a chance to develop. Beacon Community Hospital has been in existence for more than eight decades. It also is not in a state of decline, as evidenced by growth in services and new construction.

5. The organization must be willing to grant access to the homepage and other common intranet pages even if some areas that hold proprietary information are restricted. Beacon granted me access to all areas of the intranet as if I were a member of the Information Services Department, which is the department that handles all information technology concerns at Beacon. I was restricted from researching specific patient health information, which was not material to the focus of this study.

A second level of sampling in case study research involves selecting participants within the case. Organizations are comprised of people who experience organizational culture through daily activities and so interviews of employees were the primary source of data for this study. The first sampling requirement was that employees had to be in at least their third year of employment with the case organization so that they would have had time to be socialized into the culture. Handwerker (2001) recommended using a sampling plan that allows for the collection of emic data that reflects a diversity of perspectives inherent in cultural groups. Additionally, a sample of the participants should reflect the range and variation (Merriam, 1998) within the organization. This includes gender and racial variations when possible. Because organizations are made up of different roles and levels of authority, capturing a range of job types helped to diversify the sample as well. At Beacon, I found there were several key informants that were necessary to interview. Merriam and Simpson (2000) described key informants as people who have a large volume of knowledge about a topic, which in this case, were employees like the

technologist that programmed the intranet, the CIO that implemented the intranet, and two members of the Human Resource department. These participants had in-depth knowledge of the inner workings of the intranet at Beacon while other participants could be sampled from a larger pool.

As I proceeded with sampling participants for the study, I tried to find as much variation in gender, racial make-up, and role type as possible. Originally, I used Schein's (1996) perspective of three typical sub-cultures in organizations to help build a sampling plan for role types. These subcultures work together within an organization but represent distinct "tacit assumptions about how the world is and ought to be" (p. 11). Schein further indicated that a misalignment of the three sub-cultures may cause the failure of innovation and organizational learning. These subcultures are (a) the operative culture, which is the core internal culture that is based on operational successes; (b) the engineering culture that represents designers and technocrats that drive core technologies; and (c) the executive culture of management. Only the operative culture is truly internal and is charged with accomplishing production. The executive and the engineering cultures represent values of external communities of practitioners from which they derive values and codes of conduct. For example, technical engineers may derive values for information security from what is standard in the information technology field. This could create a tension in an organization if the security procedures restrict information sharing more narrowly than what is commonly done in daily practice outside of technology. The three sub-cultures resonated with my professional experience and were useful for developing a sampling strategy for the case organization.

I extended the engineering culture to the information technology specialists who built and maintained the intranet at Beacon. Additionally, after the first two interviews I learned that

another subculture was present at the hospital, which is the clinical group. These are typically nurses and therapists that are involved in direct patient care, unlike operative staff such as office employees. I did not sample any medical doctors because Beacon has a voluntary medical force, which means they are not members of the organization even if they perform services at the hospital.

Gathering together all of the specifications, I created a sampling plan (Table 1) based on Handwerker (2001). The plan is a matrix that accounted for variation of gender, sub-culture type, and racial membership in white versus non-white categories to help ensure that dominant perspectives were not the only ones in the study. There were equal portions of male and female participants. Racially two participants were black (a manager and a technologist) and the rest white. Of all the characteristics for which I sampled, racial variation was the most difficult to obtain. Since I had no control over the race and gender of key informants, I looked for variation in other participants. Also, I found that many of the operative staff that publish material to the intranet at Beacon are white women, typically secretaries. I was not able to find non-white operative or clinical employees willing to participate. Included in the sampling matrix are a total of 10 people who engaged in in-depth interviews, which followed an interview guide, and 2 people who participated in observational interviews, which were unstructured meetings in which I observed the employees work environment and I was able to ask questions about their use of the intranet.

I recruited study participants in two ways. First, I shared the sampling plan with the CIO and asked for his help in developing a pool of potential interviewees that I could contact for the study. The CIO was the person that authorized this research activity at Beacon and was held responsible by the organization for my access. We explicitly discussed the need for a range of

people in the study to generate the best data, including skeptics who might be critical of the

hospital. He gave me the names and contact information of potential participants, typically three

to four for each demographic grouping, and then I made contact directly so that he was unaware

Table 1

Sampling Matrix

Sampling Matrix	Operative		Clinical		Technical		Management	
	Non-White	White	Non-White	White	Non-White	White	Non-White	White
Women		3		1			1	1
Men				1	1	2		2
Total: 12	3		2		3		4	

of the person I selected unless participants shared this information themselves. In a few instances

some managers were aware of the interviews because they had to adjust work schedules to allow

employees to participate but the results of the interviews were never identified specifically with

these employees and pseudonyms were assigned to each participant. This method generated

approximately thirty potential participants, of which ten actually participated. The second way in

which participants were selected was by direct contact I made with two employees. One was a

clinician and the other a manager. These interviews provided a counter-balance to the pool that

the CIO provided since there was little possibility that they were coached before the interview.

As with the others, these participants were given pseudonyms.

Incentives

I did not offer any tangible incentives for participants in the study with the exception of sharing my results with the organization in an executive summary. This report will be provided when the study has been closed. Titles and pseudonyms will not be used in the report to reduce the chance of identification of the participants, who will only be identified by functional type. As an intangible benefit several participants commented at the end of the interview how much they enjoyed talking about their work at the hospital.

Data Collection

The three main sources of data in qualitative research are collected through interviews, observations, and documents (Merriam, 1998). Because culture is contained within people (Handwerker, 2001), the primary source of data for this study was collected from semi-structured interviews with people at different levels in the organization. Documents and observations were supplementary sources of data. Data were collected over five months. I visited the hospital one to three times per week during the study. I was provided with a cubicle in the Information Services department with a computer, printer, and network identification that allowed me direct access to the intranet.

Interviews

Qualitative interviews are excellent data sources for exploring different levels of meaning in organizations and tend to be readily accepted by participants (King, 1994). Charmaz (2000) considers interviews to be flexible and emergent form of data collection because they allow the interviewer to pursue new leads midstream. Interviews within case studies are differentiated from survey interviews because they are used to investigate the specific context of the organization rather than make comparisons of presupposed phenomena across organizations

(Hartley, 1994). Interviews can be structured, as with oral forms of written surveys, or more open-ended as with semi-structured and unstructured formats (Merriam, 1998). Semi-structured interviews allow for different sections to cover highly structured data collection, as with demographic questions, and less structured sections that cover lists of questions or issues to be explored during the interview (Merriam, 1998).

I used semi-structured interviews to help answer the research questions in this study, primarily open-ended questions that allowed participants to highlight their individual perspectives on the organizational culture and intranet. Follow up or interpretive questions (Merriam 1998) were asked to explore answer further or to check my comprehension of the answers.

Interview guides are important for laying out the major areas of research inquiry (Merton, Fiske, & Kendall, 1990) and they ensure that important issues are covered in each interview. The interview guide for this study (see Appendix A) was divided into sections that included general questions about the participants' work at Beacon and also questions that were designed to help answer the four research questions. The first two sections collected information that described the participants' gender, age, racial grouping, length of service, title, highest level of education, and role within the organization. The interviews were confidential and the participants were given pseudonyms to reduce the risk of identification.

The interview guide was further divided into sections denoted by the research question they addressed (e.g. RQ 1 through 4). Section RQ1 invited interviewees to comment on the general culture and values of the organization. Section RQ2 asked interviewees to identify how the intranet teaches about the culture at Beacon. Section RQ3 asked about what changes were occurring at the hospital and how the intranet was used to communicate these changes. Section

RQ4 focused on intranet content development, especially what information was valued or discouraged to be posted on the intranet by the organization.

The interviews lasted approximately one to two hours each. The interviews were audio-taped and transcribed for analysis. Approximately 400 pages of transcript were generated. Additionally, I took notes during the interviews so that I could ask follow-up questions. Each participant signed double copies of the informed consent form (Appendix B) required by the Institutional Review Board at the University of Georgia. I sent the interview guide and informed consent forms to potential participants by email ahead of time so that they could reflect on the questions and ask questions about the interview if they chose to do so.

Observation

Non-participant observation and document analysis are also important sources of data for case studies (Bassey, 2000; Stake, 1995). Observation helped me to understand the culture and the environment at the hospital. There are several ways in which I observed at the organization. First, I made observations of public areas of the hospital, corporate events, and work stations during interviews. Examples include an observation taken when I sat in the public lobby for thirty minutes in one instance or times I had lunch in the hospital's cafeteria. I captured what I saw and heard in field notes. I also attended a "Rules of Road" class with hospital employees. This class was required training for employees wishing to have access to the Internet through the hospital's network.

Second, I conducted observational interviews with two employees. These sessions lasted approximately two hours each. I observed their work in general and how they used the intranet. For example, one participant showed me how she uploads content to her departmental web page. Third, I observed the intranet by accessing when I was onsite at the hospital. Because I had

access to the intranet as if I were a member of the organization, I was able to spend a lot of time exploring the intranet and watching how things changed over the five months of the study. I made field notes about what I saw on the intranet. This put me in the role of participant observer, which Patton (2002) described as personally engaging in activities at the research site. For example, I watched a video that described benefits of employment at Beacon. This gave me a multi-media experience that I would not have had if I had relied solely on printed matter. I had my own intranet-based demographic record, which listed my title of student intern and my contact information as if I were a member of the organization. This record updated any time I took an online quiz, which gave me a direct experience of the inner workings of the intranet. When I first designed the study, I did not expect to have this level of access because businesses often do not allow it because there is risk to opening the network to non-members. The open access I was given at the hospital was unusual and beneficial for the study. I was able to print and preserve a number of intranet documents for document analysis, discussed in the next section.

Documents

Another source of data I collected was documents. Merriam (1998) suggested web pages can be considered documents and illustrations that can be downloaded to be artifacts. In this perspective, on-line data collection extends familiar research techniques and increases the data available, although version control, stability, and authenticity are limitations. The most important documents collected for this study were intranet web pages. I was able to access the web pages at the computer the hospital provided and print pages for analysis. For a period of six weeks I printed the homepage once a week to capture the news announcements. I also printed the homepage when links changed. Additionally, as employees discussed intranet documents in the

interviews, I later opened the pages if I had access to them and printed them if I wanted to do further analysis. Some departments allowed only access for employees in their department and so some pages were not accessible to me.

Additionally, I secured documents provided by the hospital such as a presentation slides that gave statistics about the intranet and a monthly publication that provided news and recognition of employees at Beacon. I collected the monthly publication for each month of the study. I also reviewed the hospital's public website and made notes of how it compared to the intranet. These document sources helped to provide background information but were considered secondary sources to the intranet pages.

Data Analysis

Qualitative studies typically collect high volumes of data so analysis is a challenge. Wolcott (2001) proposed a distinction between analysis and interpretation. He sees analysis as examination of data based on standard procedures whereas interpretation comes from sense-making through intuition, experience, emotion and other personal attributes of the researcher. Because researchers are inherently subjective, the way data are selected and organized influences the picture they draw within the study so being meticulous with procedures for data analysis is critical (LeCompte, 2000). Inductive analysis involves immersing oneself in the details of the data to find patterns, and themes and interrelationships, resulting in a creative synthesis (Patton, 2002). Inductive analysis places an emphasis on themes arising from the data.

Data for this study were collected from diverse sources, including interviews, observations, and documents. Various qualitative methodologists discuss how documents can be a rich source of data, however, few texts give clear procedures for handling documents. More often they described how documents can support interviews or observations, and also how they

can provide flawed data. Patton (2002) commented that qualitative data can be gleaned from quotes, observations, and excerpts of documents. He indicated special challenges in analyzing documents include access, understanding how and why the documents were created, their accuracy, linking them to other data sources, and deconstructing the texts. In this study, all sources of data were analyzed for content (Merriam, 1998).

Immediate data analysis helped to build insights about this case study. I stopped to analyze transcripts after every second interview and analyzed documents and observations as I collected them. This allowed me to start building themes and to ask better follow-up questions in subsequent interviews. I constantly compared the data (Merriam, 1998) for themes to build the findings inductively. Constant comparison is an iterative process that involves comparing incidents, coding, generating tentative categories and properties, and comparing incidents with each other and with the developing categories to further refine them until no new findings are illuminated (Merriam & Simpson, 2000). For example, my first two interviewees mentioned a counter on the homepage of Beacon's intranet. This counter tracks how many days have passed since the last accident or exposure at the hospital. I did not see this counter as highly important until it was mentioned by subsequent interviewees. I then went back to the first instances and revisited what was said. I realized later that the counter, which seemed to me as an outsider to be insignificant, was an important cultural symbol to the organizational members. Additionally, Gillham (2000) suggested looking for discrepant data to test evolving themes. I looked for ways in which the categories could be refined or disproved as they developed. I used constant comparison to analyze all the data sources.

Open Coding

After interviews are transcribed and documents collected, one of the first steps of

qualitative data analysis is coding. Coding fragments the data to create categories or instances

that have common properties or conceptual similarities (Coffey & Atkinson, 1996). Open coding

involves breaking down the data into discrete parts, examining them for differences and

similarities (Strauss & Corbin, 1990). This initial coding can be accomplished by marking

transcripts and documents with code words, colors and other markings to reduce the data but

coding can also "complicate" the data, which expands and reconceptualizes it (Coffey &

Atkinson, 1996). I used *line-by-line* analysis (Strauss & Corbin, 1990), which examines lines for

meaningful words and phrases during the initial coding stage. Ryan and Bernard (2000) suggest

looking for evidence of process, actions, assumptions, and consequences. The codes were

derived directly from the data in this study, termed *in vivo* (Coffey & Atkinson, 1996), or

descriptors of the images and meanings the data evoke (Charmaz, 2000). Charmaz (2000)

recommends using action codes (e.g. having, making, seeing) because they move researchers

from topics and uncover meaning constructed through action.

After the first two interviews were transcribed I coded the transcripts with initial ideas

about the data and then compared the interviews to each other. As an example, I found that both

participants talked about how to live the espoused or core values of the hospital such as honesty

and integrity. I used an initial code to capture this similarity, which I called "living the values."

Living the values to the participants meant matching daily actions to the espoused values. I found

instances in future interviews of how values were "lived" at the hospital, which helped to build

an early theme about what is important to the culture at Beacon. All transcripts were coded and

compared with the other transcripts as the study progressed. The transcripts were compared also

with coded documents and field notes. For example, I noted "no map" on the homepage print to indicate the lack of a site map that helps negotiate how an intranet is organized. I compared this instance against a theme about decentralization developing from the transcripts, which helped me understand how decentralization influenced intranet design.

Axial Coding

Initial coding is followed by axial coding (Strauss & Corbin, 1990) or selective coding in which frequently appearing initial codes are used to sort and synthesize the data by recurrent themes (Charmaz, 2000). In this step, categories emerge from the data that helped develop a deeper understanding of what was happening in the organization. Categories can have properties and dimensions that define membership. Strauss and Corbin (1990) described the relationship between these characteristics by stating, "properties are the general or specific characteristics or attributes of a category, dimensions represent the location of a property along a continuum or range" (p. 117).

Categorization for this study emerged as the data were analyzed. For example, the idea of "living the values" became part of the larger category "highly congruent with the values," which was a distinct cultural characteristic of the organization. I did not know during early analysis how important this characteristic would later become. As the category developed, I went back to earlier transcripts and documents to recode instances of living the values as "congruence." As the categories developed, I outlined instances under each category. This helped me to refine the category names and any properties underneath the categories. For example, a cultural characteristic was "people-centered." I found instances in the data that shared the properties "respecting people," "recognizing people," or "protecting people." As I found the similarities, I placed the instances together under the property names and then recoded the transcriptions to

reflect the categories and properties. This step was critical for uncovering relationships in the data and for writing up the findings.

Data Display

LeCompte (2000) stated that researchers must impose structure on the data to be able to analyze qualities that are often vague and hard to define. Interpretation requires reorganizing the data, often in a graphical or textual display that capture taken-for-granted cultural knowledge (Coffey & Atkinson, 1996). I used an outlining tool, as mentioned in the previous section, to aid analysis. I also developed a diagram to show how the findings interrelate, which is presented at the end of findings chapter. Additionally, I created a codebook (Strauss & Corbin, 1990) to stabilize the meanings of the codes.

Pilot Study

A very small pilot study was conducted in order to test the research approach and discover issues that may come up in the full project. The pilot study was designed as a comparative case study. I interviewed two people from two different organizations. I selected participants who were experts with technology and who held leadership positions in their organizations. They both had extensive experience with intranets in their respective environments, which were subsidiary units of higher education facilities.

I learned some important lessons from the pilot study. First, I found how difficult it was to compare technology and cultures across two different environments. The interviews yielded answers that were difficult to analyze because I asked questions about the participants' specific contexts and also about organizations in general. Second, upon the recommendation of a professor, I did a document analysis of intranet prints received from one of the organizations during the interview and compared my findings against prints from the organization's public

website. This yielded an interesting insight into how espoused values may differ from daily practice in organizational culture. The public website had a statement of values that encouraged risk-taking and creativity whereas the intranet was written with language that appeared designed to avoid risk and exercise bureaucratic control over the environment. Additionally, it was clear that a certain amount of local or contextual knowledge was needed to be able to understand how to navigate the intranet documents. For example, there were different performance review documents for faculty (who were not necessarily managers) and staff, which suggest that there are alternative performance criteria based on an academic culture rather than a more typical division between management and regular staff.

The pilot study influenced my choice to study a single organization in depth rather than attempt to study intranets across several organizations. The findings should be more focused and therefore more valuable to the field of HROD. Also, I realized the interview questions need to be connected directly to the context and should be refined to elicit forms of culture that are found in organizational culture literature, like stories and ceremonies. Lastly, I learned how important it is to stabilize document versions for analysis. Because intranets are regularly updated, I needed to capture or print pages as near to conducting interviews as possible so that I could ensure the documents are the same as those referred to in the interviews.

<div align="center">Study Validity and Reliability</div>

As with any study, the trustworthiness and accuracy of the research is of paramount importance. This section discusses tactics for establishing trustworthiness for a qualitative study.

Internal Validity

Internal validity addresses how congruent the data is with the reality of the organization when it is based on the researcher interpreting the participants' interpretations (Merriam &

Simpson, 2000). Merriam and Simpson (2000) recommend using different techniques to provide internal validity. These include triangulation, member checks, submersion in the research setting, and statements of researcher bias.

Although Bogdan and Biklen (2003) recommend not using the term triangulation because they claim the term has been used imprecisely, it is a useful illustration for understanding that multiple vantage points should lead to greater validity of results. They described it as locating a point from more than one bearing. This study collected data from multiple sources, including interviewees from different levels in the organization as well as observations and documents. Comparing the data from the different sources helps illuminate, confirm, or disconfirm the data (Patton, 2002). The amount of time spent at the organization and the richness of the data generated helped to triangulate findings. For example, I first discovered the people-centered characteristic of the hospital in the interviews. As I analyzed the hospital's monthly publication, I found that the people-centered characteristic was confirmed there also. This allowed me to be more confident in the finding.

Member checks are another important way to ensure validity (Merriam and Simpson, 2000). Patton (2002) also believes that asking participants to react to findings helps establish the perceived validity of the data analysis. I conducted member checks with six of the twelve participants. I emailed the categories and properties to at least one person from each of the functional groups and asked them to review them for accuracy, whether something could be stated differently, or if anything stood out as surprising. Of the four functional areas, the only group that did not respond was the clinical employees. When the first one did not respond, I sent the information to second one. After follow-up emails I realized I was not going to receive a response from this group. Comments from the four members that responded were generally brief

and all agreed with the findings. These included comments like "you hit the nail on the head" and "I didn't see anything controversial in your findings." One participant asked if "organic nature" meant changeable. Additionally, I sat with the CIO to review the findings in an extended member check session and he gave me more stories and instances that confirmed the findings. For example, he believed that the property "diversity of people sharing commons concerns" was particularly apt for the hospital, given the different professional groups and personalities at Beacon.

The last two ways to internally validate this study were part of the design. First, as previously mentioned, I collected data over five months. With the exception of one interview that was conducted off-site, the interviews and observations were done at the hospital, which helped to submerse me in the research setting. Second, I prepared a statement of researcher bias, which can be found at the end of this chapter under "Researcher Subjectivity and Assumptions." Given that a researcher is the principal instrument for data collection and analysis (Merriam, 1998), the statement helps to illuminate my role and interests in the study.

Reliability

Reliability refers to the extent to which research findings would be found again. Because human behavior is never static, Merriam and Simpson (2000) recommend recasting reliability as whether the results are consistent with the data collected in a qualitative study. They indicated that the methods used in internal validity help establish reliability as well as the use of an audit trail. An audit trail tracks how a researcher derives codes and categories, and captures thoughts about the data throughout the analysis process. Patton (2002) stated that an audit trail helps to verify the rigor of fieldwork, minimizing bias and maximizing accuracy. I kept a notebook that described the data collection process as it progressed and my thoughts about the analysis and

interpretation phases. The audit trail was embedded with the field notes because I found myself making decisions or asking questions of the data after I had written the notes. I highlighted the audit trail by marking a box around each entry to separate it from the regular field notes. The audit entries often occurred in the forms of questions I had of the data. An example of an audit entry occurred after I had reviewed several intranet pages. I wrote "Audit – decentralization seems to affect intranet development. There is a lack of organizing features despite the common look to Ian-pages." As the study developed I found evidence that confirmed this thought. Another example is "Audit – Orientations toward 'change' seem to be future and grassroots. Is grassroots connected to people-centrism?" This audit was not confirmed as the study proceeded because grassroots change seemed to be more in line with another cultural characteristic. These audit entries helped me track my thinking over the course of the study.

External Validity

External validity refers to the extent to which findings may be generalized to other settings (Merriam & Simpson, 2000). Qualitative case study findings cannot be considered statistically significant, however, they may lead to naturalistic generalizations (Stake, 1995) that may be helpful for practitioners and researchers to compare and contrast similarities and differences with other situations. Schofield (2000) warns that attempts to make qualitative findings more generalizable may shortchange the depth of understanding one can achieve at a specific site. An important aspect of reporting qualitative research is to provide "thick description" (Merriam & Simpson, 2000) to help readers understand the context of the research. Thick description is compatible with case study research because details of the context of the organization are integral to understanding the case. Also, these details allow readers to generalize to their own contexts by determining similarities and dissimilarities to their specific

environments. The findings section of this study provides the thick description that situates this study within the context.

Researcher Subjectivity and Assumptions

Because the researcher is the main instrument of data collection and analysis (Merriam, 1998), being aware of how my subjectivities influence the study is important. Qualitative research is an important tradition that provides rich detail of lesser-known phenomenon and is the style that I believed was most appropriate to accomplish the purpose of this study. Findings may provide direction for future research, including statistical studies, and influence practice and so need to be approached with care. As an English major in college, I am sensitive to rhetoric and to stories, which are often part of organizational culture and important for expressing ideals and values. I believe this sensitivity helped me to interpret findings but could also allow me to read too much into cultural elements.

Professionally, I have spent more than a decade working for different organizations, including corporate finance, manufacturing, and education. Each organization had its own unique expectations that varied dramatically from place to place. The context of each environment, which is what I now know as organizational culture, held differing assumptions about what is important. Comparing the different environments sparked my interest in organizational culture. One organization for which I worked emphasized principles of good stewardship, an important value for trust in financial services. Stewardship for this company went beyond accountability for handling funds and included commitment to the surrounding community. One memorable action the organization took in keeping with the ideal was to allow employees paid days to attend a local diversity conference that addressed urban problems. In working for other organizations, I found that the level of local commitment varied a great from environment to environment, and

good stewardship as defined in the first company was not necessarily a given value for others. Another company I worked with held a weekly ritual that marked high mutual fund sales. The managers brought in bagels from a local bakery every Friday morning. Employees would gather around the table and talk about the week. I recognized this as having greater meaning than just providing food for employees; it recognized success and growth in the company.

My background in training and information technology has provided an insider's perspective of how departments negotiate technology. I spent one year managing an intranet. During this year, I realized that I wanted to study intranets because of the social dynamics I observed in and around intranets. Publishing information, even on a private network, is not a simple task in a social system. I saw a lot of internal negotiation taking place to create intranet resources and information. For example, we had to find out if content, particularly policies, had been approved by authorizing officers before it could be placed on the intranet. This meant to me that intranet development is not just about the technique of uploading content. It is also about what is important and approved by the organization. I found there to be politics and power dynamics that influence what messages go out to the organization at large.

My professional experiences provide a richer understanding of the topic but also could have been a potential interpretive bias if I made unexamined assumptions about the meaning of the data. For example, I could have seen greater power dynamics behind intranet content development than the participants themselves. To reduce bias, it was important for me to be aware of how my past experiences influenced interpretation and to continually check that my interpretations were supported by the data. The audit trails were particularly important for helping me because I was able to make my thoughts explicit.

One important assumption I made in designing this study is that the case organization had a culture that can be embedded into the intranet. This assumes a reality to organizational culture that has not always been part of business thinking in the United States. I found that the term was readily accepted by participants in this study and they had no trouble elaborating on expectations or values inherent in organizational culture. Because intranets are tailored to the organization, I expected that cultural characteristics must be there in one form or another. What I did not know was the culture specific to Beacon or how it would be embedded in the intranet. This created a sense of curiosity that helped me engage in the research and was critical for discovery.

CHAPTER 4

FINDINGS

The purpose of this study was to understand how organizational culture and change are embedded in an organization's intranet. The research questions informing this study were:

1. What is the organizational culture?

2. How does the intranet provide an opportunity for learning about the organizational culture?

3. How does the intranet promote organizational change?

4. How does organizational culture affect the development of intranet content?

This chapter begins with a case description, which provides background detail about the organizational setting, the intranet, and a composite "walk through the hospital" that was based on my observations during data collection. Next, the chapter introduces the study participants, including ten interviewees and the two participants in the observational interviews. They are arranged by the order in which they were interviewed. The last section presents the research findings. Throughout this chapter, Beacon Community Hospital is referred to as "Beacon," "Beacon Community," "BCH," and "the hospital." The intranet is also referred to as "IAN."

Case Description

To fully describe the context in which the study took place, this section presents the case description, which includes the sections Case Background, The Intranet at Beacon Community Hospital, and A Walk Through The Hospital. The last section is based on a composite of

information and observations in field notes gathered during data collection and does not represent an actual single day.

Case Background

Beacon Community Hospital (BCH) is a general and acute care medical center located in the Southeast of the United States. It is one of two hospitals in a city of approximately 100,000 residents. It serves over seventeen counties in the region, with a combined population of close to 500,000. There are 315 beds in the facility and over 15,000 hospital admissions each year. BCH is a non-profit organization with several subsidiary corporations, including a Health Maintenance Organization (HMO) and a foundation. BCH maintains a closer relationship with the city than the other, private hospital because there is a higher degree of public oversight through a governing hospital authority. It is clear that there is competition between the two hospitals. BCH periodically advertises in the local newspaper, featuring an outstanding employee or service. The private hospital advertises on billboards around the city and in newspapers.

There are approximately 3000 people employed by BCH, including full-time, part-time, and relief people who are called in on an as needed basis. Although some non-essential departments close for holidays, the hospital is open 24 hours a day, 7 days a week, and 365 days a year. The Emergency Department and Labor and Delivery, for example, can be quite active when many other businesses in the city are closed for the day. Some employees work traditional eight hour shifts in the regular business week while others, particularly in the clinical areas, work twelve hour shifts three days per week. The hospital maintains a call list in case an area is short-handed or there is an emergency. Relief workers are called in to cover voids due to illness, vacation, or vacancy of a regular employee.

Beacon's "campus" is a collection of approximately ten buildings, most of which were built for the hospital and others were purchased from the surrounding neighborhood. One building that contains outpatient surgery is a converted mansion that was once a private home. The expansion of the hospital into the surrounding neighborhoods has caused strained relations in the community. For a time, some neighbors placed picket signs in the lawns protesting hospital plans to purchase additional private property for expansion. BCH is presently enjoying a period of success under the leadership of the present Chief Executive Officer (CEO) who Max credits with taking the hospital from an average reputation to an excellent reputation. Steve described how BCH was once known as the "high tech" hospital because of the sophisticated diagnostic equipment like Magnetic Resonance Imaging (MRI), and they put in guest relations program to become "high touch."

Although BCH has been known for sophisticated technology for disease diagnosis, it has lagged many for-profit businesses in adopting information technology for office work. Less than a decade ago the hospital had only about 30 personal computers and even fewer people who had access to the internet. It now supports over 2000 computers. A critical incident involving an IS employee who was convicted of trafficking illicit pornography through the hospitals network shaped the hospital's knowledge management policy. From that point to the present, employees cannot have access to the internet without demonstrating a business need. Once approved, they must attend a class that shows them, as Steve puts it, the "rules of the road" for internet travel. This class raises awareness of how pornographic internet sites can create a hostile work environment, bandwidth as a scarce and costly resource, and expectations that employees limit non-business related use of the internet to about ten percent non-business related use. Paul likens the ten percent rule to an office window that one should "…try to spend at least ninety percent of

your day looking *not* out the window." The spread of internet access at Beacon laid the foundation for the intranet, which is described in the next section.

The Intranet at BCH

The intranet at Beacon was instituted in 2000 and it is now in its sixth year of operation. It is supported by two full-time web engineers. The background programming of the intranet is *Cold Fusion*, a web programming language, and HTML. The pages are displayed through a web browser, typically Microsoft's *Internet Explorer*. Steve noted that the intranet started with some obvious business applications but branched into "less obvious" applications such as calendaring tools. According to Amy, the Human Resources Department lined up to be one of the first departments to help design the intranet. The intranet is now considered strategic for fulfilling the hospital's mission and administration has calculated a cost savings of more than a million dollars for just a few services that are now done solely through the intranet such as orders for intravenous bags and electronic educational quizzes.

After initial development the Chief Information Officer (CIO) grew tired of trying to distinguish between the words "intranet" and "internet" since they sound similar. He held a contest for naming the intranet. The winning entry was "Information as Needed" or "IAN" for short. In August 2005, IAN served up 1.9 million pages, which eclipses the approximately 200 thousand pages served in three months through the hospital's public website. The current version of IAN contains pages that are accessible to all members of the corporation and also areas that are limited to specific groups or role types. This includes special rights for departmental assignees, typically secretaries, to post information to departmental web pages.

The home page of the intranet is generally set as the default starting page for all web browsers at Beacon. From there, employees can sign onto a personalized form of the intranet by

clicking on a link titled "Your Intranet." Once signed on an employee is able to access information that pertains only to them and use an internal email system called "I-mail" that stands for "IAN-based e-mail." The hospital provided a redacted copy of the intranet homepage that appears in Appendix C. Identifying information has been smudged to protect the identity of the hospital and its employees. The layout shows various sections such as "News Announcements," "Cafeteria Menu," and "IANpages," which are pages that are controlled by individual departments and committees. The hyperlinks allow employees to navigate to secondary pages or portals that have additional links to additional pages and documents.

Because of the Health Information Portability and Privacy Act (HIPPA), patient information is tightly controlled by a separate clinician's intranet. Retrieval of patient health information (PHI) is on a need-to-know basis even with clinicians who have rights to access it. For example, Bill mentioned that it is not okay to look up information on a friend just because one can; there must be a specific work-related reason. IAN is the pathway through which the clinician's intranet and other pages, portals, and databases are accessed so it is both an entity of its own and an organizing strategy to tie together diverse systems. Given the nature of IAN, it is continually evolving and changing to meet business needs.

A Walk through BCH

The primary entrance to Beacon is on the North side of the campus with a four-lane road leading past it. This road winds through a combination of businesses, including many medical practices that are conveniently located near the hospital, and historic residences. As you drive in to the main entrance you may be held up several minutes by construction equipment that is moving slowly into place. The sounds of a jackhammer cutting through asphalt and the beeping of a truck backing up fill the air. People cross from parking lots to the main entrance in front of

you, including employees wearing their colorful scrubs and identification badges. You park in a multi-level, concrete garage after cruising several floors to find an open space. Many spaces on the lower floors are reserved for physicians and clergy. A covered golf cart driven by a volunteer makes rounds to pick up anyone who would like a ride to the hospital entrance where non-emergency patients are admitted to the hospital.

As you cross a covered bridge into the second floor of the South Tower, you see rows and rows of people waiting to be called by a patient representative. Some people are holding hands or placing arms around the shoulders of others. An elderly man leans on a cane and closes his eyes. As you walk through a hallway toward another tower you see several doors leading to hallways that are clearly marked "Restricted." Nurses walk past you and smile or say "Hi." A transport employee pushes a patient in a wheelchair with intravenous fluid bags attached to long metal poles.

Mirrors are installed at each hallway intersection to help prevent accidents as people and equipment navigate the corners. At the end of the hall is the door to a chapel with a sign that states ecumenical services are held once a week on Monday mornings. As you enter the North Tower you see a large American flag stretching down for several floors. At the front of the lobby is another entrance near Beacon's gift shop and vending area. A bulletin board shows a letter from a soldier serving in Iraq, expressing appreciation for support by hospital staff. A picture of a lighthouse with a beam emanating from its lantern is posted with the words "Information Is Care." Volunteers in pink uniforms sit at a large desk in front of an elevator bank. They direct visitors and hand out maps.

Several guests walk by with flowers and balloons that say "Congratulations! It's a girl!" as they discuss visiting the maternity ward. You take an elevator up to the third floor and find a

bank of windows on one side of the floor where you can see newly delivered babies swaddled in hospital blankets and hats knitted by volunteers. You run into a new father who is stepping out for food and he hands you a faux million dollar bill with religious literature printed around the edge. You sit for a moment in waiting area that has magazines placed strategically by the seats. The atmosphere is noisy. There are people talking and laughing, a worker going by with a mop and squeaky bucket, and the clang of metal as a transporter sets the brake on a gurney. A doctor in a white lab coat with a stethoscope around her neck consults with the patient lying on a gurney.

An employee stops his work to help you find your way through winding corridors to the emergency room where there are pockets of people. Some are slumped over, sleeping, while others are watching television. A woman with a clipboard gathers information from guests. A woman rushes in with a baby in her arms, calling to a nurse nearby that the baby is having trouble breathing. The nurse gathers up the child and disappears into the restricted emergency treatment area. You hear an ambulance siren wail up to the back of the emergency department. Some patients are conducted to a clinic across another street that borders the main campus where less severe emergency cases are handled. An officer in a yellow raincoat stops traffic to let pedestrians pass safely across.

Lunch time approaches. You head back to the South Tower where the cafeteria located in the basement. The entrance to the cafeteria has an easel decorated with pictures of employees participating in last year's talent show. There are also information tables where you can make contributions to hurricane relief and other charities. As you make your food selections, you notice that there are two prices posted for each item. Employees pay a lower price for food than visitors. As you sit down you notice a few visitors eating quietly and pockets of employees

wearing similar uniforms with identification badges. The chatter sounds predominantly upbeat as you catch snippets of how their days are going or plans for the weekend. Some employees choose to enjoy mild weather in the attached courtyard that has garden seats and shade trees. Once you are done eating, you take the elevator back up to the first floor where patients are still waiting to be registered. A security officer opens the door to a car that just pulled up to the building. He looks up, nods his head courteously, and wishes you a good day as you walk out.

Study Participants

The primary sources of interview data were ten in-depth interviews, which are listed by the order in which the interviews were conducted. I made independent contact with two of the ten in-depth interviews and the remaining eight were drawn from a pool of participants supplied by the hospital. Additionally, two interview-observations were done. These differ from general observation because I was able to interact with the participants for a period of about two hours each. I was able to ask unstructured questions about their use of the intranet and experiences at the hospital during the observation time. Verbatim comments were recorded in the field notes. All study participants are listed in alphabetical order by pseudonym in Table 2, which summarizes key characteristics such as age range, years of service at Beacon, gender, race, highest level of education, and job categories. They are arranged in alphabetical order to aid the reader in referring to participants during the findings section. Highest level of education was not available on Jan and John. The next section describes the interview and interview-observation participants.

Description of Participants

First Interview: Steve

The first interviewee for this study was Steve who is the Chief Information Officer (CIO) at Beacon Community Hospital. He was also the person who authorized the on-site research, arranged for my access to the intranet, and facilitated contact with potential interviewees. Steve is a white male older than fifty years. He spent the first seven years of his career at BCH as the Director of Radiology and then transitioned to the CIO position, which he has held for ten years. In describing the change he said,

> A lot of radiology over the years became project management and computerization. The CT scanners and MRI and that sort of thing. So it was almost a natural kind of move for me. And I'd had some success with big projects and so it helped me to get that job. And I'm not a technical person per se and so what I do is mainly project management…

Steve added that it was "kind of cool" to change careers but stay at the same institution. He was the primary force behind the development of the intranet, and he presently oversees the computer operations for the entire hospital campus. This includes supervision of the web engineers that program IAN. He earned a Master of Education degree and his total years at BCH number 17.

Second Interview: Bill

Bill is a white male between 35 and 49 years of age. He is a critical care registered nurse (RN) who takes care of patients in the neurological unit. The types of patients who come to him are typically stroke victims or who were involved in accidents that led to head trauma. Because of the nature of the work, Bill feels "isolated" from other areas of the hospital. Access to critical care is restricted as opposed to more public sections of BCH. He typically works twelve-hour

Table 2

Participant Characteristics

Name	Age	Years BCH	Gender	Race	Education	Job Category
Amy	35-49	14	Female	White	High School	Operative: Human Resources
Betty	35-49	5	Female	White	Masters	Clinical: Occupation Therapy
Bill	35-49	15	Male	White	Associates	Clinical: Nurse
Courtney	35-49	3	Female	White	Masters	Management: Volunteer Services
James	35-49	2.5	Male	Black	Associates	Technical: Network Support
Jan	35-49	13	Female	White	*NA	Operative: Clerical Security Services
John	35-49	8	Male	White	*NA	Technical: Network Engineering
Max	50+	7	Male	White	Bachelors	Management: Human Resources
Paul	21-34	7	Male	White	Bachelors	Technical: Network Engineering
Priscilla	50+	8	Female	White	Bachelors	Operative: Clerical Biomedical Services
Star	35-49	5	Female	Black	1 Yr. College	Management: Environment Services
Steve	50+	17	Male	White	Masters	Management: Information Services

Note: *NA means "not available"

shifts three days per week, which he feels helps him to "unplug" from the stress of the job. To

explain his role at the hospital, he stated,

> I take care of people that can't take care of themselves. They're delivered by another
>
> nurse in the emergency room [ER], usually, or the O.R. [operating room]…ER usually
>
> stabilizes them and then we take care of them from there on out. Once they get stable to
>
> the point to where they either need the O.R. or the I.C.U. [intensive care unit]
>
> immediately is just determined in the ER and then they're sent to us… I would coordinate
>
> between specialties meaning Intensivists or the Cardiologist or the Surgeon and that kind
>
> of stuff. And the neurologist. Making sure everybody's getting not…only to the patient
>
> but to the families of the patient, so that everybody knows what's going on, and
>
> everybody's on the same page in the care of that particular person.

Bill has been with BCH for 15 years and his highest level of education is an Associates

degree and nursing licensure. He uses the intranet to complete his annual safety requirements and

to access nursing standards of care and policies.

Third Interview: Paul

Paul is a white male between the ages of 21 and 34. He is one of two web engineers that

write the software programming for the intranet. He was the primary architect when the intranet

was first proposed and developed. Paul works in a small building that is across the street from

the main campus and so has limited contact with the public. Much of his work is communicated

through email and the intranet. His duties include handling modifications to the intranet, which

he described as:

> Usually if it's a fairly minor change, somebody will just call and say, "You know, we'd
>
> rather have the date on the left side rather than the right side," or something like that. But

if "by a change" you would mean writing an entire new program, that usually comes through a manager and requires my boss' input and approval.

Paul's highest level of education is a Bachelor's degree and he has been employed by the hospital for seven years. He uses IAN primarily to look up contact information.

Fourth Interview: Star

Star is a black female between the ages of 35 and 49. She is the Operations Manager of Environmental Services. This department is responsible for assuring cleanliness of hospital rooms, elevators, restrooms, some of the laboratories, and other common areas. She oversees 109 employees over three shifts, with eight supervisors reporting to her. While most of her work is on first shift, Star periodically holds departmental meetings on second and third shift as well as occasional "spot checks." She described these surprise visits:

I'm looking for the consistency as far as our carts being in order. Making sure we have a person in the designated areas, especially the emergency room, labor and delivery. Those areas are critical that we have people in there, you know, at all times. I'm making sure that there's no wandering on [the part of] individuals, [who] just doesn't know what they're suppose to be doing. And just doing spot checks to see if the supervisors are up on the floors.

Star completed one year of college and she has been with Beacon for five years. She uses the intranet primarily to keep track of employee demographics, leave forms, and for managing performance evaluations. Occasionally employees in her department whose job duties typically do not put them in contact with a computer will come to her to "…get on to the IAN system, see where [job] openings are here in hospital." Employees using a supervisor's computer to search for open positions is accepted and even encouraged by Star.

Fifth Interview: Max

As the Vice President of Human Resources, Max was the highest ranking participant in this study. He is a white male older than fifty years. Max is a member of the executive administration for Beacon Community Hospital with four directors that work under his authority. These directors manage the departments of Education, Employee Health, Guest Services, and Human Resource Management (HR). The HR area includes employee benefits and compensation. Max listed the scope of human resource functions that he oversees:

Education includes staff development which is our group that works mainly with the clinical education, [we] have also the community health education and leadership development portion of our education department. Then in, within the employee health, more or less working with safety and health department…we manage workers comp[ensation], employee injuries, medical treatment…and post employment physicals and annual health assessments.

Max came to Beacon from the food processing industry and has been in his position for seven years. His highest level of education is a Bachelor's degree. Given Max's position of authority in Human Resources, he is able to access all employee records and the most sensitive information through the intranet. This helps him track education accrual and research the demographics of the workforce at Beacon.

Sixth Interview: Courtney

The interview with Courtney was the second participant with whom I made independent contact for this study. She is a white female between the ages of 35 and 49 who manages Volunteer Services at Beacon Community. This department is responsible for the coordinating people from the community who offer their time and service to the hospital. Courtney works

mainly with high school and college students who volunteer. Aside from the altruistic motive, in many cases volunteering is good for the volunteers' resume or to help them enter clinical schools. Tasks assigned to volunteers including document filing, escorting people through the hospital, and running errands. Her work also involves adult volunteers. She described reasons to volunteer:

> We have a lot of retirees or people who just want to give back. I guess that's the most common thing that comes across my desk. With community folks that I'm placing is that they're new to the area or they've lived here awhile. Two people recently have delivered babies here and had a great experience, so they want to come and volunteer. I mean young women who are working and juggling families. I thought that was pretty neat.

Courtney holds a Master's degree and she has been with the hospital for three years. Two features of the intranet she uses regularly are the education requirements and the directory search to "…find out how to get in touch with people if somebody's not in the phone book or if I'm not sure what their title is I can pull them up," and she can also "get a name with a face" through the photodirectory, which is the hospital's listing of personnel with attached photographs.

Seventh Interview: Priscilla

Priscilla is a white female older than fifty years. She is the Department Secretary for Biomedical Engineering. This department is responsible for maintaining life-sustaining equipment such as respirators and dialysis machines. Although she holds the title of Secretary, she feels that her duties are far less clerical and more managerial since she is scheduling work orders and directing employees. She has been negotiating with her immediate supervisor to be reclassified to a title that reflects her actual duties but has had little success. Priscilla oversees the work of nine technicians. She detailed the role she plays in the department:

Well, when there is a problem with a piece of equipment they call down and talk to me

about it. I dispatch a service technician to take care of the problem. A lot of hospitals

don't have in-house biomedical technicians. We do. It's a very good thing. When you're

on a heart-lung machine you like knowing that there's somebody there to take care of you

in an instant.

Priscilla earned a Bachelor's of Science degree and has been employed by the hospital for

eight years. She uses the intranet to check work schedules, apply for paid time off (PTO), check

news articles and the classified advertisements in hopes of finding items at discount prices, and,

most recently, linking to her retirement account through a benefits portal.

Eighth Interview: James

James is black male between the ages of 35 and 49. He is a Network Engineer who

provides technical support for the hospital's approximately 2000 personal computers. Although

he has space in the Information Services Department, his duties require him to go on location to

employee workstations at any one of the buildings on the hospital campus. He typically stays in

contact with the department and with people he is helping with a cellular phone. James' work

assignments come from the intranet-based call log and the types of problems he troubleshoots

"could be from a computer crashing to a mouse or keyboard not working. It just varies." He

described how he goes through the process of troubleshooting:

Basically start simple. It could be a loose connection. Don't necessarily every time you

go to a problem thinking that it's going to be something major. Nine times out of ten it's

not; it's minor. Unless the symptoms are cause for it, saying it something to be major like

a computer not coming on at all and everything's plugged up and there's power and that's

a problem [sic]. But if the, you know, the mouse not working could be simple as you

know they pulled it too hard and they pulled it out of the back of the computer, but then I

got to go and look. So that's what I do.

Of all the interview participants, James has the youngest tenure at Beacon. He has been

with the hospital for two and a half years. He came to Beacon with an Associates degree and

experience in the United States Navy. He primarily uses the intranet to retrieve his work

assignments, complete his education requirements, and check the lunch menu.

Ninth Interview: Amy

Amy is white female between the ages of 35 and 49 who is a member of the Human

Resources Department who has worked her way up over many years at Beacon. She recently

took over some duties after an Assistant Director of Human Resources left. She coordinates all of

the information systems and record keeping for the department. Amy would be considered a

"bridge person" or someone who translates user needs and technical specifications back and

forth amongst different groups of people. She discussed her job:

> I actually manage all of the data with regard to employment, employees, with the payroll
>
> systems, our information as far as the regulatory requirements, making sure that we have
>
> competency documentation, and I manage the keeping of those records in addition to
>
> finding solutions for department directors and our administration on having all of the HR
>
> information readily available to them as they need it. I just kind of keep a hub on the
>
> system, actually what our processes, and the information, in addition to maintaining and
>
> administrating the AS400, intranet, and a few of the other free standing systems that we
>
> have in regard to human resource information.

Amy has been employed at the hospital for 17 years and her highest level of education is

a high school diploma. She is a "super user" of the intranet, that is, she has regular access as an

employee but also higher level access for managing programs on the intranet as part of her job responsibilities. This means she sees a lot more sensitive information than the average employee and she influences how applications are connected on the intranet. She also participated in the early phases of intranet development.

Tenth Interview: Betty

Betty is a white female between the ages of 35 and 49. She is an Occupational Therapist in the Rehabilitation unit, generally known by the shortened term "Rehab." This unit is known for having a sense of humor and for celebrating holidays. For example, they often dress up in Halloween costumes each year. Betty works primarily with pediatric patients that are scheduled for a set number of therapeutic sessions over several weeks. She also fills in at the hospital in acute adult care (e.g. stroke victims) on weekends. With acute care she described her work with patients as

> working on their activities of daily living, of dressing themselves and brushing their teeth, and brushing their hair, and range of motion. So we're not as critical as nursing or somebody like that might be. We might be called in on the second or third day of their stay here.

Betty holds a Master's degree and has been with Beacon for five years. She described her primary use of the intranet as checking email, looking up the lunch menu, and using the clinician's intranet to retrieve patient information like neurological test results.

First Observational Interview: Jan

Jan is white female between the ages of 35 and 49. She is a Department Secretary in Security Services. This department oversees the guards that help maintain order on all three work shifts. They also coordinate parking and transportation on the hospital grounds. I sat with Jan for

about two hours while she showed me how she uses the intranet, including the tools for posting information. Since she is a designated "poster" at Beacon, which means she is authorized to upload material to the intranet, she is able to create and alter departmental content and send out news announcements.

Her office is in the basement of the hospital and is physically isolated from the public areas. This area has a control room with dispatching equipment and monitors that display video feed from security cameras. Generally, people do not enter the area unless they are lost or have a specific reason to do so. Her perspective on the intranet is it "…has made all of our lives easier with all you are able to see online." Jan has worked for the hospital for thirteen years and her highest level of education was not collected during the observation.

Second Observational Interview: John

John is white male between the ages of 35 and 49. He is a Senior Network Engineer in Information Services whose responsibilities include making sure that the network servers, wiring, and software function properly. He often interfaces with outside vendors to test new software on Beacon's networks. Testing is a critical phase prior to implementation because new software can cause the network to crash if there is a conflict with the operating system. The effect of a network crash could place patients in jeopardy if clinicians can not access patient information or run networked. John brought me on a tour of the server room and allowed me to observe him at his cubicle for part of an afternoon.

When I met with him, he was in the process of testing new biometric network access instruments and software. He was wearing an identification badge that automatically signed him onto the network whenever he stepped close to a test computer. He explained that this made access to the system much easier and was safer because it logged the person off when they left

the physical surroundings of the computer. Physicians and nurses would be able to retrieve patient information quickly but it reduced the chance that others could access confidential information if they forgot to log-off the system. Part of his work at Beacon is meeting the demands for new applications and network capabilities. This is a challenge given that clinicians can resist technical advancements. He described the change the biometric system might have:

> If this [biometric system] is bought into, it would be a pretty big change but it is for their [physicians] benefit. They want it to be as easy and seamless as possible. If you could walk up and talk to the computer like *Star Trek*, then they would.

John has been employed at Beacon for eight years and his highest level of education was not collected during the observation.

Findings

The findings for the study are summarized in Table 3 and presented by sections ordered by the research questions they answer. These sections are: a) The Culture of Beacon Community Hospital, b) Providing Opportunities for Learning about the Organizational Culture, c) Promoting Change through the Intranet, and d) How Beacon's Culture Affects Intranet Content Development.

The Culture of Beacon Community Hospital

Five primary cultural characteristics were found at BCH. The culture of the hospital is a) People-centered, including the three properties of Respecting People, Recognizing People, and Protecting People, b) Highly Congruent with Values, c) Strategically Decentralized, d) Data Driven, and e) Organic in Nature, which includes the properties Diversity of People Sharing Common Concerns and Interplay with Formal Structures. The next sections contain descriptions of the cultural characteristics of Beacon Community Hospital.

People-centered

A defining characteristic of Beacon is that it is People-centered, which includes the properties Respecting People, Recognizing People, and Protecting People. People-centrism is an approach to the ethical treatment of people with whom employees come in contact and it includes the belief that the impact on people should be an integral part of the decision-making process. Although treatment of people is central to the culture, it does not mean that people are free to do anything they wish at BCH. There are definite rules of interaction that are outlined in the following properties.

Respecting people. The first property of the category People-centered is Respecting People, which is an approach that guides how members of the organization are to treat people. At first blush, it sounds like a customer service orientation but it goes much further than simply respecting the patients. Respect for all people is so important that it is included in the new employee orientation, according to Star. She described the depth of this approach, "The customer is everyone you come in contact with, even your coworkers, and you treat everyone with respect." Steve supports this perspective in that he believes respect involves how every person is treated. He detailed the expectations for treatment of people as, "How I deal with patients, how I deal with physicians, how I deal with fellow workers. It's not meant to be just patient-centric but just people-centric."

Priscilla had a family member hospitalized at BCH in the recent past. Although she has seen the hospital from the inside as a long-term employee, she was able to gain additional perspective as a family member of a patient. She said of the treatment when her mother had a stroke, "It's just amazing how even the housekeepers keep an eye out for what goes on in the

Table 3

Overview of Findings

1. What is the Culture?

      People-centered
            Respecting people
            Recognizing people
            Protecting people

      Highly Congruent with Values

      Strategically Decentralized

      Data-Driven

      Organic in Nature
            Diversity of people sharing common concerns
            Interplay with formal structures

2. How does the intranet provide an opportunity for learning about the organizational culture?

      Experiencing the Wider Organization

      Recognizing and Rewarding Performance

      Reinforcing Organizational Expectations

      Modeling Corporate Communication Style

3. How does the intranet promote organizational change?

      Serving as the Primary Source for Communicating Change

      Fostering Participation in Change

      Altering Cultural Beliefs

4. How does the organizational culture affect the development of intranet content?

      Strategic Decentralization is Mirrored in the Intranet Design

      Internalized Norms and Values Shape Intranet Information

Drive for Data Leads to Virtual HR

People-centrism Creates a Personable Intranet

rooms, if the patient needs somebody to come in right now….We are a caring group and we care about one another." Care and compassion for people is a form of respect at BCH. Bill believes that compassion is the most important thing in his work. He said, "If you can't be compassionate about the person that's laying there hurting then I don't think you can take care of them very well."

Max stated that BCH has the "most amazing culture I've ever worked in" with a distinctive feeling when one walks through the halls. He believes the feeling an organization projects can be perceived immediately. He commented there is much he can tell about an organization by the atmosphere. For example,

I can feel the tension when I walk in somewhere. I can tell by the way the employees react to me, the way they react to each other, the way they work, their body, their nonverbal language. I can tell you right away whether it's a bad place or not.

To Max, Beacon has a feeling of quality and caring projected by the employees because of how well employees are treated. He stated, "The culture is: we put the employees first. And we understand that if you take care of your employees they will take care of the patients." Steve, too, believes that how employees are treated is connected to how well service is delivered to patients.

Employees are reminded to be respectful of others even if they are treated poorly by customers. Star described how the hospital handles a hostile situation. Many employees in Environmental Services are black and occasionally racial issues will crop up when a housekeeper cleans a patient's room. Star counsels employees not to assume that it is always a racial issue

since patients can be confused or families may be going through a stressful moment and lash out at anyone entering the room. In helping employees learn how to respond to a hostile situation, she tells employees to "…think it through first. Because, could all this be a lot more things than just what people think, 'Oh, they just don't like me because of my skin color.' It could very well be just the medicine." Patient representatives are called in to investigate the problem and, if it is a racial issue, there is a note placed on a bulletin board that the room has "special needs." Supervisors also will adjust the work schedules to shield employees from hostility.

Respect is manifested in the openness hospital administration shows toward feedback from employees. Courtney believes that the hospital culture is "healthy and progressive" with an openness that is summed up as "If you have something to say you can be heard here." James believes people at the hospital "value your ideas or patient comments." The administration, both at the executive and department levels, shows they value ideas by responding to feedback. James discussed how feedback is handled in his department:

> The issues that we have or our concerns that are in this department is listened to and most of the time it's taken care of or someone at least discusses it. It might not be feasible at that particular time, but just discussing it and saying "Okay…this is why we can or this is why we cannot do it." It's not just a blanket, "No we can't do that."

Another example of this openness is the Administrative Personnel Exchange (APE) sessions in which twelve employees are selected at random each month to meet with the Chief Executive Officer and the Vice President for Human Resources. There APE sessions start in the same way each time with an outline of the rules. Max stated,

> The rules of that meeting are "if you don't say it, I can't hear it; I don't read minds." That's what the CEO says. The other rule is that you're here to represent yourself. If the

employees in your department have asked you to bring something to the meeting of question, please do, but you're not obligated to do it. But we do ask you to take it back to that employee that asked you.

Respecting people maintains good people relations at Beacon and it includes a sense of openness and responsiveness to feedback that let's organizational members know that their ideas and service to the hospital are valued. When problems occur, administration seems to handle the situation as respectfully as possible.

Recognizing people. The second property of People-centered category is Recognizing People. Recognition of people is an important facet of the culture at Beacon. It encompasses the belief that the hospital should call attention to the contributions people make to the hospital and to the local communities. Recognition can be in the form of a simple announcement or it can be integral to a comprehensive reward system.

One important way in which the hospital announces contributions is through a monthly publication. This publication contains articles about what events are happening in the local community, awards that have been presented to employees, promotions, and a special "Heroes" section that lists "Random Acts of Caring" found in the hospital community. For example, the October 2005 report contains sixteen positive comments from patients and visitors and six kudos from co-workers directed toward fellow employees and departments. One family expressed "appreciation for your gentle and concerned care. You are a lovely, professional group of people, and we thank you for making a difficult time as pleasant as possible." Employees of all type are recognized as heroes. For example, an employee wrote about a housekeeper, "He doesn't simply deliver and pick up our linen carts; he makes certain we are ahead of the game, checks in periodically, and leaves us extra supplies when it makes sense to do so." To emphasize the

recognition of employees, the names of the heroes are printed in red, which makes them standout from the black text.

There are other vehicles for recognizing employees. Steve notes a portion of the monthly Department Head meeting is devoted to recognizing and rewarding employee performance. The recognition often comes with gifts or an award. Gifts of appreciation are also given to all employees at a hospital-wide picnic. Bill said, "Sometimes they'll have a band, and you'll have hot dogs and hamburgers, and you get gifts from the hospital as employee incentives. Like backpacks or flashlights or pocket knives." Paul stated of the picnics, "I think it's a way of administration being able to say to the employees 'Hey, you've done a great job over the past year.'" Various honors are given out at corporate events. For example, extraordinary performance is recognized through awards like "Boss of the Year" or "Employee of the Year."

Recognizing people also allows for limited expression of personal skills and talents. This recognizes more of the whole person outside of discrete job tasks. An example is the yearly talent show that allows employees to showcase their personal talents. There are singing, lip-synching, and other musical acts that are part of the annual "Winter Blues" show which coincides with the holiday party at Christmas-time. The cafeteria is closed to the general public and employees enjoy an array of buffet food. There seems to be a cultural ceremony at Beacon that is integrated into the festivities in the form of a skit as well as in other occasions throughout the year. The skit, which is coordinated chiefly by employees from the Rehabilitation Department, lampoons administrators. Employees dress up as the key members of administration, like the Vice President of Human Resources, the Chief Operating Officer and the Chief Executive Officer. They hold up pictures of the administrators on a stick so that the crowd can tell who is being represented.

Max, as a Vice President, has been lampooned before in the yearly skit. The year he was hired the skit included a sign labeling an actor as the "New Guy." Another year the skit planners had more knowledge of his mannerism to include in the lampooning. He shared this story:

And then one year one of the employees in the department [that] does a skit, watched me like you wouldn't believe, and I didn't know she was doing it. But she dressed like me, and, at one time, I had my hair real slicked back, you know. I'm very outgoing and I'm always shaking hands with people. And they were doing the skit and I don't remember the whole thing, but she had me down like a "T." The way I walk up to people, the way I hug somebody or the way I shake their hand. It was like the whole skit was making fun of me. But it was funny and I enjoyed it. They knew I could take it so it was not a big deal. That's just what they do and administration looks forward to see how creative they're going to be about us.

Courtney believes the purpose of the lampooning is to "close that gap" between administrators and staff, which is an effort starting with the administrators are the first to promote. She stated, "I think it's only because they are accessible and visible that you would even want to dress up like them or act like them." That visibility helps to build the culture because it gives staff a common point of reference.

Betty is a member of the department that lampoons administration. She described the intent behind the skit is "…to try to incorporate everything that has happened in the past year into something funny that everybody can laugh at that is not offensive." This year they used show themes that tied in major events. For example, they used the theme song to the medical examiner show *Quincy*. Where the beginning of each show had interns fainting as a sheet covering a cadaver is removed, the skit had employees fainting upon seeing a new medical

computer system unveiled. The skit is supposed to be funny but the true intent is to build community and draw people closer. Betty stated, "We always try to poke fun at each department that we can just because that's a fun way of letting people know that we do know what they are up to, we do know what they have been through." This type of recognition is integral to the culture and represents a sense of humor that eases the seriousness of hospital life.

Beacon is concerned with building its reputation and standing in the local community and the hospital recognizes employees that participate in events that encourage positive public relations. Priscilla believes "the hospital values its good name, its community reputation. We sponsor a lot of activities, fund raising activities, charitable support activities in the community." Employees participate in a wide variety of activities that are related to their profession but not necessarily part of their official job responsibilities. For example, Betty stated,

> There's a lot of community events that we are sponsors for…if there's a race or something we'll [employees in the Rehabilitation Department] go out for Rehab and we'll check everybody out, make them do stretches before they do the run so our name is kind of out there. But I never feel like our name is out there without us doing something behind it.

Participation allows for greater expression and recognition of personal interests. In all cases recognizing people for their contributions is a way of encouraging continued employee contributions and actions that are valued by the hospital. These contributions maintain the reputation of the hospital and they also appear to increase the personal commitment employees feel toward Beacon.

Protecting people. The third property of the category is Protecting People. Protection is an important feature of an environment in which people are faced daily with matters of life and

death. As Courtney put it, "what most people do here is very stressful." Patients and employees alike are vulnerable to harm. The harm can come from physical sources, like needle-sticks with hepatitis contaminated blood. Emotional harm is also a real concern, which can lead to professional burn-out. For example, Steve described the toll of clinicians on call:

> Calls are a horrible burden. And the older one gets, the worse it is. As you get older, you know, you want to start slowing down a few things and whatever and you don't have the same energy level really. And if you're on call and you get called in five times a night in a particular night and then know that you still have a schedule of patients that you need to operate on the next day and you're coming in tired. I mean, it's a big burden.

Part of Steve's responsibilities is to innovate ways to use technology to help manage and improve the burden of healthcare. Beacon looks for other ways to provide resources to protect people from emotional strain. For example, Betty described classes employees are offered in palliative care, which is a "…new thing that we're getting into as far as helping….It's more pain management and helping people get through that with dignity, which helps staff care for the terminally ill." Courtney, too, sees educational resources as a way to deal with burnout. She believes the message this sends to employees is "if it [job] takes something out of you we [the hospital] want to help."

The protection of people as a value is seen in actions employees take to reduce potential harm to themselves and to others. For example, James, whose work is not with direct patient care but involves fixing computers on location at work stations throughout the campus, makes certain to wash his hands consistently after using another employee's keyboard. He noted that there are hand sanitizing stations located all over. The spread of "super bugs," or antibiotic resistance

bacteria, is a major concern for medical environments and simply touching an object can be damaging to people.

Because the number of people that Beacon serves is smaller than a large metropolitan hospital, they may be more apt to see patients as friends, family, and neighbors. This suggests a deeper personal connection with customers than in many businesses. Paul calls this "small town goodness" and states "if you don't know the patient you're…with, then somebody probably within fifty yards of you knows that patient." Paul, though part of the technical group that is isolated from the main campus, has worked with clinical people professionally and also has been a patient of the hospital. He believes the nurses have an approach that is endemic to the profession, like "the protestant work ethic. You have to do a good job because that's what you do. You can't be malevolent towards the patients." Protection of people is seen as natural to the job. Similarly, Bill sees his role as protecting the interests of critically ill patient. He stated, "I would consider myself a patient advocate. Speaking for the person that can't speak for themselves in that situation." This sense of protectiveness and advocacy drives Bill to coordinate communication with the family and the physicians to make sure everyone has the information they need. Courtney, too, believes communication is better at Beacon than many hospitals. She shared that she had a relative who required emergency attention. She found that she had been given much more information about the procedure for a diagnostics scan than a friend who was involved with a similar medical emergency at another metropolitan hospital.

Protecting people factors into how employee relations occur at the hospital. Employees like Bill and Betty prefer to deal with problems face-to-face rather than referring to a supervisor. Steve, too, mentioned that policy and practice encourage handling problems at the lowest level possible. Paul believes problems are handled "fairly and honestly" and "mess-ups" are usually

regarded as learning experiences. Star described how her department provides counseling letters to encourage employees to correct behavior before putting the problems on record with human resources, a procedure "…we [the department] felt it would be helpful instead of just going straight into disciplinary action." This protects employees from more serious consequences while still letting them know that change is needed. Max believes it is "very difficult to lose a job here [Beacon]." When there is a problem that results in employment termination, the CEO is made aware of the specifics and this level of involvement is somewhat unusual given the amount of employees at Beacon. Terminations are reviewed at several levels. Max noted at his level "if it doesn't smell right, I stop it already." This action protects individual people and the hospital.

Patients and employees alike can be vulnerable in a medical environment. There is tremendous stress in dealing with life and death issues. People are protected through hospital policies and practices that advocate for the vulnerable and try to shield people from harm.

Highly Congruent with Values

Beacon's culture is highly congruent with values espoused by the hospital. Congruency is the articulation and integration of the values throughout the organization. Max stated the culture at Beacon is strongly "focused on its [espoused] values," which are printed on the back of all the identification badges and are posted throughout the hospital. They are a) Excellence, b) Honesty & Integrity, c) Continuous Improvement, d) Efficiency & Effectiveness, and e) Teamwork. So critical are the values to the organization that applicants for employment at Beacon are required to sign that they will abide by the values if hired. Upon hire, Max noted that new employees are required to go through customer service training to understand the application of the values.

Steve, who participated in the "discernment process" to establish the core values, recalled there was an "interdisciplinary collection" of fifty people that worked for a day to define the

values and mission of the hospital. This means the values were not simply chosen by management but were established through a more participatory process. He also believes these values are not vastly different from those posted on the websites of other hospitals but the difference at Beacon is in how people "live" the values. He stated,

> Like any organization, you'll have some people that live these [values] absolutely. You've got others that live them most of the time. You've got some that do part of the time and others that say "well it's on my badge." That's just the human condition. But these are ones that we had developed over the years. They're embedded with our mission statement and things of that nature and these are spelled out as to what those mean, what does teamwork mean, what do honesty and integrity mean. And for those that have really taken those to heart it makes all the difference.

What causes the culture at the hospital to be highly congruent with the values are the day-to-day decisions and actions that put the values into practice. This calls for employees to match actions to the values. Courtney remembered being given a booklet on the values when she first applied, which was a "pretty big indication of what the expectations…would be." In describing what living the values means, she reflected, "I guess what it takes to live the values is to make up your mind what you're going to do that day, no matter what." An example of living the values, is an unwritten rule that, according to Max, specifies that if an employee sees trash on the ground, s/he should pick it up and throw it out since everyone must "pitch in" as a team. Star, whose main job is ensuring cleanliness of the hospital, believes that the rule reflects the value of teamwork. She stated, "This facility would not be as clean if everybody didn't pitch in…there's a piece of paper here, there's something here that's spilled, if everybody doesn't pitch in to make

sure it get [sic] done." The values are so integrated at all levels that Max stated an employee should expect to be challenged by their peers if they do not live up to the values.

Employees are measured in a section of their performance evaluations by how well they lived the values and exceptional actions are nominated for values awards. Each year nominations are solicited for employees who exemplify an exceptional commitment to one of the five values. A committee reviews nominations and does some investigation to make sure the claims are true before selections are made. Paul won the continuous improvement award, which surprised many people since he is a non-clinical, computer person. He stated,

> the primary source of my award came from working with pharmacy and our special care nursery to generate a tool that allowed them to communicate IV [intravenous] orders more efficiently. So obviously I had my foot in the clinical door for six months to a year. Whereas, for the year prior to that we had been doing on-line performance appraisals for H.R. with no real mention. So it's driven by the clinical, I think, in large part and goes back to patient care.

Award winners are announced at the annual holiday party. Their families are invited to attend the presentation of the award and each winner is given a special pin to place on the identification badge. Max described how important the awards are to employees, "We bring their families in and you see their family's boo-hooing on the stage. It's that big." The award process is another example of how integrated the core values are from prior to hire all the way through to performance expectations at all levels at Beacon Community. For organizational members, high congruency is about putting the values into practice each day.

Strategically Decentralized

The third finding about the culture is that Beacon is Strategically Decentralized. Although there is a hierarchy and chain of command at the hospital, the structure allows a high degree of latitude for departments and directors to solve problems and set policies for their areas. Only problems that cannot be solved at a lower level are referred to upper management. This means that executive administration handles a set of central or universal concerns and what is not centralized defaults to departments and directors to handle.

Universal concerns are issues that affect the whole hospital. For example legal and financial issues are important to executive administration. These are issues that cut across all areas and need direct oversight because they are critical to the hospital's survival. According to Max, executive administration has had little turnover and there is good consistency amongst the administrators about what is important. When Star was first hired at the hospital, she was surprised to find the consistency. She stated, "I found out when I got here is that the upper management, meaning the VPs [vice presidents], they all were on the same level…Everybody just was on sequence." Because executive administrators are consistent with organizational strategy areas are aligned under the same general expectations and values.

The hospital's values are broadly considered universal concerns; however, decentralization comes into play as divisions are allowed autonomy to interpret the values for their areas. Jan said, "The values are there but each area has a different interpretation of how you're going to meet them." This includes coming up with measures that are meaningful to a particular work group. For example, one quality measure in the IS department is the abandonment rate of phone calls to the operator. This measure is important to the overall quality at the hospital but is a meaningful measure only for this area.

Max calls Beacon "decentralized" because many functions, like education, are not under central control. He stated, "We have some departments that have their own educators. Our staff development, their role is to…mainly work with nursing….If we had centralized education we'd have 25 people in that department." Instead, there is an education committee that shares information across divisional lines. Amy described her role as decentralized. She stated,

> our systems analysts reside in IS [Information Services], but then you have a few outliers like I am almost in that role but with an HR [human resources] focus. I think that we just are kind of left to do however we think to do, which would be a lot easier sometimes if it was a centralized thing.

John also believes that the message to employees is "we hire you to make decisions" and so employees are granted a high degree of freedom when it is not a universal concern. Occasionally he has work assigned to him by someone who is not his direct report but there is no "animosity" from his supervisor about it. Courtney called the freedom she experiences at Beacon "liberating" compared to previous work conditions in which she felt micromanaged.

Although decentralization provides greater autonomy, it can also increase confusion or disparity amongst work groups. Amy described complaints the HR occasionally received because attendance policies vary from department to department. For example, one department may issue a tardy warning if an employee arrives less than fifteen minutes prior to the start of a clinical shift whereas others may not give warnings until after the actual start time of the shift. Although staff know who is in their immediate chain of command, it is less clear across divisional lines. For example, Priscilla mentioned that she does not always know who to contact outside of her own area.

Strategic decentralization is characteristic of the structure of the hospital. Universal concerns are handled by executive administration and broad expectations and values are aligned throughout divisions whereas local and non-central issues are handled with high autonomy at lower levels.

Data Driven

The fourth finding about the culture is that the hospital is Data Driven. This means BCH places a high value on data for making decisions and determining quality. Data is also important for determining facts that have life and death consequences. For example, Bill believes in compassion for but also a "suspicion" of patients since they may not know or may not share that they have a serious illness. Skepticism is necessary "to make sure you're watching yourself. Make sure you're not putting yourself in danger. And, in turn, your own family." This suspicion of data is similar to Steve's perspective of seeing physicians as scientists. He stated, "…they're trained to be skeptical of data. That's part of their training. And so they sample. They compare. They benchmark." Valuing data but also being skeptical of data pushes the hospital into a cycle of constant data gathering and analysis.

The hospital gathers data both formally, in the terms of surveys that are quantitatively analyzed, and informally through suggestions boxes and monthly sessions in which employees are selected at random to meet with the president of the hospital. During one of the monthly sessions employees from the food services unit said they did not like the way their work shifts were being arranged yet the management in that area said that most employees were in favor of the current work shifts, especially the senior employees. Max conducted a survey of the department and found that 90% of the employees wanted new work hours. He said, "That's totally opposite. The senior employees wanted to change the schedule. So we changed the

schedule as of October 1. Because we are listening to what our employees tell us." Max's story shows that the administration did not make the decision based the perception of the managers in that area. Instead, they took the time to gather multiple perspectives of those affected by the decision.

The constant need for data, however, can be a weakness. For example, Priscilla relates the story of a three-week study of office trash the hospital commissioned to decide whether to institute a recycling program. The solid waste department of the local county measured how much paper was being generated from the administrative offices. She questioned, "What's the mystery about the money savings of having free pickup by the county for tons of paperwork that we don't have to pay to haul?" She felt this event was out of character for the hospital given they try to be good citizens in the community and this ought to include caring for the environment.

An underlying assumption of valuing data is that whatever is measured can be improved. Steve believes that "…something being measured automatically almost improves your performance on whatever it is. If people know you're looking, something will almost automatically improve as a result." Data collection spurs competition as employees benchmark performance against other employees or departments at Beacon. James said this is because "…everybody wants their department to be the best." As a corporation, Beacon benchmarks its performance against other hospitals in an independent, state-wide survey.

The drive for data is characteristic of Beacon, as evidenced by the numerous performance measures and data gathering activities. The hospital uses data for making decisions and for continuous improvement.

Organic in Nature

The organic nature at Beacon Community is what people bring to the hospital community. This includes their backgrounds, experiences, personalities, choices, and actions. It can be a great source of creativity as people generate new solutions to problems but also a source of divisiveness if beliefs, values, and habits clash with others. Certainly the organic nature is unpredictable and can add chaos into the organizational system. Organic in nature contains the properties, Diversity of People Sharing Common Concerns and Interplay with Formal Structures, which are detailed in the next sections.

Diversity of people sharing common concerns. The diversity of people at Beacon is best reflected in the metaphors that are used to describe the hospital. Paul uses the metaphor of religion to reflect both diversity and common ground. He stated, "We're a very diverse group. We have Presbyterians, Methodists, Lutherans. We're all mingling together. Even a few Catholics." Steve used the metaphor of a city to describe the hospital, "If you think of a large city, you've got your slums, you've got your downtown high rises, you've got your suburbs, you know, and you've got all different kinds of people in all those different areas and politically it takes a while to learn how all that works, both formally and informally." Amy shared, "we seem to be very diverse as far as we have many different races, economic backgrounds that reside here. To me, most of my dealings come on an administrative side for the piece that I do…you see a diversity and what values are on those levels as far as work ethic." Conflict can arise if people stray off the common ground and part of that common ground is, according to Max, not embarrassing to the hospital.

Accepting the inherent diversity of people at Beacon is considered part of the culture as long as the hospital's reputation and quality of patient care are maintained. Max elaborated,

If we have a very diverse organization, and I don't know how it is in the academic world,

but I know how it is in manufacturing. People that have alternative lifestyles are kind of

shunned. We have leaders here that have alternative lifestyles and that's okay. That's

fine. You're a good leader, you take care of the patients. We don't care what you do away

from the house. But you can't bring embarrassment to the hospital.

The diversity of people at the hospital is a concern for management because it is difficult to

predict and control yet it is endemic to the organization.

Interplay with formal structures. A second property of the organic nature at Beacon is the

Interplay with Formal Structures. This interplay is a vital part of the culture although it would

not appear on an organizational chart. For example, there is a strong rumor mill at the hospital.

Bill likens Beacon to the soap opera *General Hospital* with people spreading stories about the

personal lives of fellow employees. This type of knowledge networking may spur policy changes

to control official and protect corporate communication. Additionally, there are employees that

hold power that is disproportionate to their formal position of authority. Steve states, "So there

aren't any written rules, obviously, on any of that but there are official power sources and there

are unofficial power sources and it just takes time to learn how to maneuver all that." So getting

things done at the hospital is not merely following formal procedure; it is about understanding

the interaction between the formal and the informal.

The interplay can be beneficial to the hospital and, further, a source of pride. For

example, the hospital has a formal policy that allows employees to donate paid time off (PTO) to

other employees who have run out of time and are facing a health crisis. Priscilla considers this

an act of caring about one another. Although it is beneficial to people and integral to the culture,

managers are careful not to promote it because they don't want to be seen as "coercing" their

employees. The decision to host a PTO drive must be sparked by a regular staff member and motivation to donate must be an individual decision rather than a corporate expectation.

The interplay with formal structures is a dynamic stemming from people choosing when and how to act within corporate policy and hierarchy. The decision could be choosing not to act or to critique a mandate that conflicts with another goal or value as Priscilla did with story of the recycling study. For another example, one participant has learned not to question administrators once they have adopted a specific course of action even if he knows it will not work as intended. Ultimately, interplay with formal structures is how the business of the hospital is carried out each day.

Section Summary

This section presented evidence of five facets of the culture at Beacon Community Hospital. These were a) people-centered, including the three properties of respecting people, recognizing people, and protecting people, b) highly congruent with values, c) strategically decentralized, d) data driven, and e) organic in nature with the properties diversity of people sharing common concerns and interplay with formal structures. Although listed as discrete characteristics, I found that they interact and interlock to create a larger cultural whole. In some cases they provide mutual support. For example, the drive for data benefits the people-centrism of the hospital when surveys are used to improve working conditions. In other cases, there may be tension when, for example, executive administration adopts a universal approach that conflicts with the organic nature of the hospital. Interaction amongst the cultural characteristics shows the depth and complexity of organizational culture.

Providing Opportunities for Learning about the Culture

This section presents findings for the second research question. Evidence showed the intranet provides an opportunity for learning about the organizational culture in four ways, which are categorized as Experiencing the Wider Organization, Rewarding and Recognizing Performance, Reinforcing Organizational Expectations, and Modeling Corporate Communication Style.

Experiencing the Wider Organization

The first way in which intranet provides an opportunity for learning about the organizational culture is by members Experiencing the Wider Organization. According to Max, "Culture is all about being in the middle of how employees interact, the experience of it." The intranet is a vehicle for providing this cultural experience. It is accessible on all shifts and from all locations connected to the network. Steve noted that Beacon employees that work in a first care facility in another county are able to access more information and services through the intranet that previously they would have had to drive to the main campus to receive.

Given the decentralized structure of the hospital and the varying work shifts, it is understandable that several interviewees mentioned feeling secluded from the mainstream of hospital activity. Specifically, James, Bill, and Courtney all said they felt isolated from other employees or departments. Bill, for example, described the isolation due to working in a restricted area. He stated, "So nobody really comes back there save the people that you work with and the critically ill people….You don't really get a lot of milling about with the other parts of the organization." Some employees, like Paul, are isolated by physical distance from the larger and busier buildings and by the nature of computer or office work. The intranet offers access to more parts of the organization than these participants customarily have.

IAN provides a communal knowledge resource that teaches employees what is important to the hospital community. The information provided through the intranet can be consumed in the instant but also used to build an understanding of the culture by setting precedence. While there are many new postings each day, organizational members see repeated themes over time. One feature of the intranet often mentioned by participants to set precedence is the News Announcements section, which appears at the top middle of Appendix C. News announcements are alerts published to the intranet by fellow staff and administrators. When employees see and experience similar themes occurring over time, they construct a larger understanding of the organization. For example, Courtney stated, "Several times a week I'll read something of interest on IAN. Either something I can go to or blood drives. You can kind of tell what's important. There's that sense of community and family."

Table 4 represents an analysis of the types of news announcements that were posted on the intranet over a six week period. The content of the announcements were analyzed and categorized by common themes. The second most frequently occurring theme was communication related to charitable events, comprising 16.9% of the total. This percentage is almost double the amount for administrative issues (e.g. benefits enrollment, procedural changes). This data supports Courtney's perspective of the emphasis organizational members place on community events important to the hospital. Betty determines what charitable events to be involved with by reading who is sponsoring the event. News announcements are stamped with the name of the author so sponsorship is easy to determine. She said "…because my time is pretty precious where am I going to divide that time up?….And so by looking at IAN it helps me figure out what's important to the people who are here." A greater personal connection to the sponsor of the announcement increases the importance of a particular event.

Table 4

Type and Frequency of News Announcements Oct – Nov 2005

Type	Frequency	Percent of Total
Awards, Recognition, Thanks	40	19.9%
Charitable events	34	16.9 %
Health Awareness and Services	30	14.9%
Education and Class Scheduling	25	12.4%
Administrative Issues	17	8.5%
Change Projects	14	7.0%
Computer Tips	13	6.5%
Meeting and Department Schedules	12	6.0%
Personnel Changes	7	3.5%
Information Update Notifications	6	2.9%
Other	3	1.5%
Total	201	100%

The news announcements are also a place for employees to share celebrations and losses. Steve commented that it is typical to see notes that encourage community members to celebrate milestones like birthdays and retirements. These types of announcements are often accompanied by graphics and digital pictures of the employee celebrating the milestone. The intranet is also used to encourage support for employees when there is a death. Priscilla stated, "When people

die often they'll put on IAN an announcement that somebody's father died and embrace this employee during this time of grief." She believes this is evidence of a community that cares about people.

The intranet helps employees verify the status of organizational members and to negotiate hierarchy. A large directory, for example, confirms the various privileges extended to doctors and is used to determine whether they have the right to admit patients to Beacon. Courtney has found being able to look up titles on the photodirectory to be helpful for determining a person's level of authority if she does not know them personally. This helps her determine if a person contacting her for volunteers is able to authorize the request. Paul, too, uses the photodirectory to determine the relative political clout of anyone calling him on the phone. This directory is also linked to the classified advertisements where employees sell personal items or announce personal events.

Although the classified advertisements are not truly business related, they can help build community since they allow members to learn a limited amount of personal detail about others at the hospital. This can spark social interaction and develop trust that ties the community together. For example, Betty sings in a chorale and she has posted classified advertisements announcing the concerts. This allows her to meet new people and build a strong bond with the community. She commented, "I've actually made friends with people [at BCH] that I never would have seen face-to-face before." Several participants believe that there is an inherent accountability for personal items sold on the classifieds because they are all part of the same community and there is an expectation of trust. Amy stated IAN "…just gives you kind of a leg up on answering a classified ad in the newspaper where you just have a phone number you are calling and don't know. I think this puts a face with the ad." Star agreed that there is a higher expectation of trust

for organizational members. If she did not tell the truth about an item she was selling, she would expect it to damage her professional reputation.

The intranet is a space for community building and social interaction that draws employees closer to one another. They have greater access to the wider organization because they are not bound by time or location, and the information that they find on the intranet builds their understanding of the organization through precedence and experience.

Recognizing and Rewarding Performance

The second way in which the intranet provides an opportunity for learning about the organizational culture is Recognizing and Rewarding Performance. Performance is what an employee has done or accomplished. Recognizing people is a part of people-centrism at Beacon that highlights the contributions that people have made to the hospital and the local community. There are several ways that employees are recognized and rewarded for performance through the intranet. These include awards, merit increases, and written expressions of gratitude published on IAN.

One IANpage linked from the intranet home page is published by the Reward and Recognition Team. This team is composed of employees from a variety of departments and they help promote events for organizational members. For example, they organize the Winter Blues talent show to "showcase" employee talents. A flyer for the talent show distributed on IAN stated the purpose of the talent show is to provide "an opportunity to build relationships and support amongst our co-workers." The Reward and Recognition IANpage is embedded with pictures from the last talent show and Rehabilitation skit. Recall that this skit is part of a cultural ceremony that closes the gap between administration and regular staff. Amy feels that the

Reward and Recognition feature shows "they [administration] appreciate employees who care about making [the hospital] look good" and it is a form of good public relations.

News announcements, too, are instrumental in recognizing and rewarding employees. Recognition, awards, and expressions of thanks comprise 19.9% of the news announcements, according to the data in Table 4. This is the largest single grouping of items posted to the announcements. Steve commented that when an employee makes a suggestion that is implemented, the leadership at Beacon makes certain to post who suggested the item as a way to recognize the individual and to encourage future suggestions. He felt, "It tells people then that 'if I make a suggestion it can actually lead to an action so suggest away.'" Numerous announcements recognizing volunteers were posted to IAN in the aftermath of Hurricane Katrina, which devastated many areas in the gulf coast region of the United States. One announcement written by an executive administrator showed a picture of a nurse who volunteered to staff a relief shelter in Mississippi. It noted, "We are very proud of you…and all of our wonderful folks who have been able to respond and help our neighbors." Executive administration also distributed an official proclamation that extended appreciation to employees for participating in various Hurricane Katrina charitable activities.

The core values are important to the culture at Beacon and employees are recognized for exemplifying these values through a yearly awards ceremony. Betty commented that IAN is used to encourage employees to submit nominations for the value awards, which reward employees who have shown exceptional commitment to one of the five espoused values. The process is made easy through the intranet and she can "nominate people for the different awards right online." Once the winners are selected, their names are published on IAN with a note of congratulations.

Another way in which employees are recognized and rewarded through IAN is the electronic performance evaluation, which measures performance of job skills and how well employees lived out the core values at Beacon. While job skills will vary by position, the values are integrated into all reviews at Beacon. Steve stated,

> Every employee is evaluated twenty-five percent of their evaluation every year is based on these values. So the very form we have on IAN, where we do the merit evaluations, the first section on everybody's is their performance relative to the values of the organization.

One participant shared a copy of his performance review. An example of evaluative criteria under the core value of honesty and integrity is the employee "demonstrates fairness by providing customer service openly and honestly in a non-judgmental manner, as observed by supervisor and customer feedback." The performance evaluation is based on a numerical system with 200 possible points. Each item on the evaluation can receive zero, two, or four points. Two means they have met expectations. Zero and four reflect below average and above performance respectively.

Above and below average ratings require the supervisor doing the evaluation to justify the rating with written comments. James indicated he appreciates the electronic process because it is easy to use and allows him to make comments. The measures themselves convey what performance is important to the hospital. James stated, "If I got a low score on something, it's telling me I'm not doing what's expected in that particular field. So my scores on my review will reflect what I need to be doing or what I'm not doing." Star mentioned that she has seen employees strategize how to increase their numerical scores so that they qualify for a larger salary increase. Once the performance evaluation is completed and digitally signed by the

employee, the results are transmitted to HR. Employees then receive immediate feedback on what Amy called "a pay for performance type increase." In the past, it would take up to two weeks to receive information on merit increase when it the evaluation process was paper-based.

The intranet's ability to facilitate recognition and rewards for performance teaches employees what behaviors are valued at Beacon. Valued performance is highlighted in news announcements in which contributions people make are published to the hospital community and through on-line performance evaluations that are directly connected to compensation.

Reinforcing Organizational Expectations

The third way in which the intranet provides an opportunity for learning about the organizational culture is by Reinforcing Organizational Expectations. The intranet at Beacon reinforces organizational expectations by continually highlighting what is important to the hospital. Reinforcement occurs by ingraining procedures through educational features and ensuring responsiveness by prompting employee action.

The intranet can reinforce expectations by prompting action. For example, each quarter when an employee signs onto "Your Intranet," which is a version of the intranet customized specifically to them, they are required to double-check their contact information and parking registration. The system requires employees to click a button that either submits changes or confirms there are no changes before they can proceed any further into the intranet. This required action shows the hospital values current and valid information from employees. From an employee's perspective, updating information can be considered a distraction from more important job concerns. Betty shared her perspective on the system prompts:

> It made me make sure that they had all my pertinent information and there were a couple of things that had changed. Like my husband's job had changed; I had never thought

about telling anybody that it changed….Those [information needs] don't affect my giving

care to patients on a day to day basis…[and] are so low on my priority list about what I

need to get done everyday that I need IAN to help me remember to do that.

Another form of reinforcement comes from highlighting safety at the hospital. On the

home page (see Appendix C) there is a double-counter at the top middle of the page titled

["OSHA"]. It counts the number of days since the last injury or serious exposure to illness. The

counter updates every time the home page is opened or refreshed. This one feature of IAN was

mentioned consistently across the participants and it has become a cultural symbol for the

organization. The prominence of the display makes it highly visible. James stated, "This little

OSHA stat[istic] is right there for everybody to see. If you've been exposed then those stats are

publicized." Through its visibility, the symbol is able to reinforce organizational expectations by

evoking a response from employees. That response can be excitement and pride if the counter

stays high for days. Betty stated, "It's really great like when it gets up to twelve days we are like,

'Woo-hoo.' I think the highest I have ever seen it is seventeen days without an injury and it's

like, 'Yeah!'"

When the counter drops to zero there is a sense of shock that employees experience, even

though they are not directly involved with the incident. Courtney mentioned that one time she

had a computer technician work on her computer when the counter dropped to zero. The

technician noted there had been an exposure, which she thought was a virus on her computer at

first before she realized he was referring to the counter. This struck her as interesting because she

watches the counter, too. Even though employees are not told who was hurt, Priscilla finds

herself responding emotionally when one of the counters drops because of an incident. She said,

"I feel badly about that. Somebody had a problem, had a blood exposure. I think safety is

something that should concern us all. I think it's critically important to us as a culture, as a

family." The OSHA counter can also help recall rote learning of organizational expectations.

For example, Bill fired off a set of questions he asks himself when he sees the counter fall to

zero. He listed, "Are we're paying attention? Are we watching our Ps and Qs? Are we capping

our needles? Are we watching our people?" A very small piece of data, a number in the case of

the counter, can stir reaction and action when there is a larger system of cultural meaning

attached to it.

Another way that expectations are reinforced is through the education requirements and

information changes that need to be learned through the intranet IAN. Bill stated, "I think [IAN]

just reinforces what's expected of you by keeping you current. If there are new things or new

policies, they'll put up alerts." Staying current is a challenge given how much medical

information is available to the healthcare field. Education is required for hospital accreditation as

well as for safety and therefore it is an organizational expectation. One way that these

expectations are fulfilled is through on-line quizzes. The intranet-based quizzes reinforce

important concepts such as recognizing signs that indicate radioactive or poisonous substances.

Employees receive immediate feedback on their answers since quizzes are scored by the

system as soon as the employee submits it. A page opens that displays visual quiz results. It

shows a green checkmark when an employee selected the right answer or a red "X" for an

incorrect answer and an arrow indicating what the answer should have been. Bill mentioned that

employees are expected to keep taking a quiz until they pass it, although not in one sitting. An

advantage the intranet-based quiz has over paper is that employees can return to the quiz

whenever they have a free moment.

The quizzes are based on standards of care and values that form organizational expectations. Because of this, Amy believes that there is a reinforcing logic to the policies that under gird educational content. Referring to HIPAA quizzes, she stated,

I have found that a lot of the regulations that we have would come down to an almost value…when it comes to HIPAA you would think 'Well, I shouldn't tell just anyone about information of a person coming across here.' A lot of things are just logic.

In many cases, regulations and standards can be traced back to critical incidents at Beacon or other hospitals. Because so much harm can happen to people, Beacon continually highlights safety concepts through intranet quizzes and alerts in an effort to make them second-nature.

When employees receive a passing score on a given quiz, their personnel record is updated with the hours credited to the quiz. The record keeps a running total of the amount of education hours a particular employee has accomplished throughout the year. This automatic tracking of education helps employees and their managers ensure that learning objectives are achieved and it reinforces education as a routine rather than once-a-year activity. Courtney had recently done her annual requirements on IAN. She said, "It told me exactly what I had left to do and what I had achieved, that's on a real individual basis as far as what is expected." The individualized nature of the intranet-based personnel record allows employees to be certain what requirements they must meet.

Many departments also have required reading that is downloaded through the intranet. Star noted that her area posts meeting minutes to make sure that all employees on all shifts receive the same information and it is an expectation that employees not present at department meetings will read them on IAN. To receive credit for required readings, employees must digitally sign a statement that they have read and understood the information in the readings,

which places accountability for the readings on the employee. Digital signatures, then, are another reinforcement mechanism that highlight when certain information must be learned and understood by organizational members.

Employees learn about Beacon's culture as the intranet reinforces organizational expectations. Reinforcement occurs when they see changes to a cultural symbol like the OSHA counters or through system prompts and educational requirements. The power of the intranet to reinforce organizational expectations comes from employees continually returning to and interacting with the intranet to meet requirements.

Modeling Corporate Communication Style

The fourth way in which the intranet provides an opportunity for learning about the organizational culture is by Modeling Corporate Communication Style. This means that communication posted through IAN exemplifies acceptable forms and formats of communication within the corporation, including delineating urgent and important information. Modeling uses design features to show how corporate communication is to be accomplished and this helps employees learn about the organizational culture by example.

One way in which IAN models corporate communication style is by the volume of information available to employees. Max said that IAN shows employees "we believe in open communications." Openness of communication is characteristic of how the hospital communicates with staff and the intranet models this concept. Betty believes that IAN generally reflects this openness and a free exchange of information. She stated, "We all have the opportunity to put information out there and we all have opportunity to gain information from it." Steve indicated openness is also shown by the fact every organizational member is granted access to the intranet as a "corporate right" no matter what position they hold or whether they

have regular access to computers. According to Amy, the widespread access to IAN tells employees "…we're not trying to hide or keep anything from you." Also, there appears to be an underlying assumption about information posted to IAN that is interpreted as "an open door to ask about it." Anything placed on the intranet is fair game for questions from employees.

Although communication at Beacon is generally open it is not totally transparent. Several participants noted that patient health information is not available on IAN because it is highly protected by HIPAA regulations and therefore should not be freely available. Amy noted that any information that administration does not want to be questioned about will not be put on the intranet. Courtney suggested that financial performance, which is very important to executive administration, is not generally communicated through IAN. Additionally, employees read meaning into information that is removed from the intranet. For example, Priscilla shared that salary ranges for open positions were once included on IAN but later taken off. The official explanation she received was that administration wants people to apply for the job and not for the salary. She wondered if this action was meant to reduce the high number of transfers at BCH. She stated, "I think it says that you're supposed to be satisfied where you are" and stay "in your place" at the hospital. She also felt it demonstrated the hospital is not interested in career advancement.

The placement of intranet features models corporate communication style by graphically showing what is most important to the hospital. Items positioned toward the top of the homepage are more visible because users do not need to scroll downward to see them. This is prime location for content. An earlier version of the intranet placed classified advertisements closer to the top of the homepage. IS decided to move the classifieds to the lower, right hand corner after a new tool was introduced. Paul shared the story:

We moved tools of corporate function and importance into a more prominent position. We received flak from several people, received flak from the rumor mill….People would say, you know, "Since you did that, I've heard five or ten people say, 'Oh man, I have to scroll to see the classifieds, and if I want see them all, I have to click more classifieds.'" But once we explained that it was replaced with…a tool of corporate importance, everybody said, "Yeah, yeah, I know. You were right." So it's one of recognizing the true value of what we're doing.

The "true value" of IAN is to provide organizational members with tools and information needed for their jobs more efficiently and with greater quality.

Other graphical elements are incorporated into IAN to call attention to urgent or important items, including upcoming deadlines. For example, the intranet displays a list of performance reviews that are coming due for managers starting at 90 days out from the due date. As the deadline approaches, the font will change to bolded black text and then bolded red text when the review is imminently due. The progression of textual cues makes it easy to see urgent deadlines and is effective enough that Steve, during the interview for this study, stopped part way through a sentence when he noticed that a performance review under one of his supervisors was just completed and expressed relief that it was done on time.

Graphical elements are also used on IAN to call attention to corporate events and needs. Bill stated, "They'll do different fonts or something like that. Something to draw your attention to it….If there's an employee picnic coming up, they'll put a little picnic blanket with food on top of it beside it." A news announcement asking for all borrowed wheelchairs to be returned to the Transportation department incorporated clipart showing string of wheelchairs at the top of

the communication. These elements incorporate the visual sense to underscore the text of the message and aid recall.

The design and content of IAN models corporate communication style by placing emphasis on what is important to Beacon. Generally this style is open and informative with a few exceptions. Members draw an understanding of the organization both by what is represented on IAN and also what is not there. Graphical elements and placement of information are visual cues that support the conveyance of information to members.

Section Summary

The intranet is widely accessible by organizational members and it provides a common point of reference despite different work schedules and physical locations. The findings showed that intranet facilitates learning about the organizational culture by providing an opportunity for Experiencing the Wider Organization, Reinforcing Organizational Expectations, Rewarding and Recognizing Performance, and Modeling Corporate Communication Style. A common thread that crosses these categories is that learning occurs by continual interaction employees have with the intranet. Members return to the intranet frequently to learn about hospital events, changes, and to meet requirements. The continual interaction allows members to both learn a given piece of information but also build a broader framework of cultural understanding as they see cultural themes repeatedly, which provides a sense or feeling of the culture. Learning occurs through use of the intranet.

Promoting Organizational Change through the Intranet

The third research question addresses how the intranet promotes organizational change. As a preface to the findings, there were three types of change evident in the data that help place

the concept of change within the hospital context. These are a.) Future-oriented Change, b.) Unexpected Change, and c.) Grassroots Change.

Future-oriented change is change that is initiated by management to develop and improve the hospital. This type of change reflects strategy and planning, especially toward growth of hospital services or to create more efficient and pleasant operations. An example of future-oriented change is a renovation of the Emergency Department to handle an increasing trend in demand for services and to provide state-of-the-art facilities. The expected outcome of the renovation is deemed to have greater worth than the short term hassle and expense of the project. Unexpected change stems from events that were not predicted. An example of unexpected change is financial crisis that followed a reduction in insurance reimbursements and a major building project the previous year. Some hospital services were terminated with ensuing employee layoffs. Grassroots change bubbles up from within the ranks of organizational members rather than administration and it appears to be consistent with the latitude provided by decentralization.

An example of grassroots movement occurred during the financial crisis. Priscilla describes how some employees tried to save colleagues from layoff by offering to reduce their own compensation. If enough employees were willing to give up ten percent of salary they felt they could both meet the need for cost reduction and still save jobs. The movement was stopped by administration with a response Priscilla felt expressed "they had already made up their minds about what they were going to do and weren't open to other alternatives." The grassroots reaction to the layoffs reflects a potential interaction amongst the three types of change that hints at the complexity of organizational change as initiatives are met with acceptance, resistance, and alternative ideas.

Three categories of findings were derived from the data. The intranet promotes change at Beacon by a) Serving as the Primary Source for Communicating Change, b) Fostering Participation in Change, and c) Altering Cultural Beliefs. These findings are detailed in following sections.

Serving as the Primary Source for Communicating Change

The first way in which IAN promotes change at Beacon is by Serving as the Primary Source for Communicating Change. As mentioned previously, a pivotal time of unexpected change occurred when Beacon went through a fiscal "belt tightening" in which people were laid off to reduce costs. The leadership turned to the intranet to communicate how the crisis was being handled. According to Paul, the intranet transformed into the hospital's primary source for communication like a town crier. He stated, "IAN became the legal organ, as it were, of this information because not everybody has e-mail. And so it has definitely become a 'hear ye, hear ye' stump for official news." The intranet allowed every employee access to the same information about the reductions. The effect was to draw the community together and disband rumors that were circulating around the hospital.

An important ability of the intranet is to debunk speculation and to ensure that change has the best chance of success by providing official communication. We know that the rumor mill is quite prevalent at Beacon, which means that employees informally spread information that may or may not be true. Although none of the study participants ever saw information on IAN that specifically stated it was addressing the rumor mill, there is an expectation that IAN is the source of validity for the organization. For example, Betty stated,

> They don't come out and say, "We heard that this rumor is going around and this is the
> truth." I've never seen a news thing specific to any particular rumor that we've heard

going around. If I do hear a rumor, I want to get to the truth I know where to go to look

for it…

James indicated that the author stamping feature on the intranet "validates" information because

organizational members know who authorized the communication and to whom they should

address questions. This is a feature that the rumor mill cannot offer and its presence on the

intranet increases trust in change communication.

Since the time of financial crisis, the intranet serves to provide information about

different types of change, particularly changes to policy and special projects, which are generally

future oriented change. Both Steve and Bill noted that IAN is used to alert members of policy

changes. These policy changes are now only communicated electronically whereas they were

once distributed only by hardcopy. The news announcements feature of IAN and the intranet-

based email are the primary ways in which changes are communicated. Table 4 shows that seven

percent of announcements analyzed were specifically about the progress of change projects.

Announcement posted to the intranet discuss, for example, interruptions in water or electrical

supply during construction. These are critical resources for the hospital and the intranet is used to

keep the organization informed as interruptions occur.

One IANpage is wholly dedicated to the present construction of the new emergency

department. This page shares the status of the project as phases are completed and even shows

pictures of the construction taken over time so that members can see the metamorphosis. The

construction project is a future-oriented change that is a major undertaking. It requires

demolition of old structures and the integration of new structures into existing buildings. One

problem for the hospital community is the routing of patients and guests throughout the hospital

so maps that depict routing patterns through the hospital are posted to the intranet.

Communication about change is critical for helping members understand why change is needed and for setting expectations about the change. Star mentioned that the phases of one change project were actually presented to her department through IAN. She stated, "We actually had a presentation that was done through the system....This helped our staff to understand what was happening and why it was happening, not that they're just doing something, but they could understand why, the outcome of it." Helping employees understand the change process and setting expectations for future completion eases the concerns they have over change. When the phases occur as they were planned it builds confidence in the change process and this confidence can be conveyed to customers. Betty felt "it's neat because it's [the construction project] progressing the way they said it would….it just helps us know for our patients to say, you know, that this is only going to go on for a little bit longer."

Even if an employee is not directly involved with a particular change, Amy believes that the hospital wants everyone to be "a little aware" of new initiatives. Steve noted that the amount of information employees in a given department receive depends upon the leadership style of the manager. The intranet equalizes this factor since it is now the primary source for communicating change. As the primary source, IAN conveys a consistent message that sets change expectations for organizational members and helps ease transition by sharing the same knowledge with all employees.

Fostering Participation in Change

The second way in which change is promoted through IAN is by Fostering Participation in Change. Communicating change, as in the first category, is only part of the equation for change to occur. As people learn about change they react to it and choose what to do with the information. Courtney suggested the hospital's strategy for dealing with market competition and

change is to plan rather than react. She stated, "You don't react to it. You're…planning. We're going to do this [new initiative]…to make sure that we maintain our level of excellence." Amy, too, believes the hospital is "…not waiting to react, they're trying to be proactive" and this requires organizational members to be involved at all levels.

Paul was one of the early ones to see the intranet's potential for fostering participation in times of change. Although he was not a member of the construction committee when they were working on a previous project several years ago, he took it upon himself to take pictures of the project and post them on the intranet because "…there were a lot of us who couldn't see it because of where we were or we didn't really know what was going on. So being able to tell people about it seemed like a service we should be providing." This type of action was started a grassroots level, which had not been done prior to the development of the intranet. It eventually became a routine feature of the IAN.

Star mentioned IAN allows her to visualize the future outcome of changes when artist renditions or descriptions are posted to IAN. She uses this information and matches it with knowledge of her employees to help her plan. She noted that some employees in her area are resistant to change or have physical limitation and she might make adjustments to her department's work schedule based what she perceives are needs to smooth the transition. Star described these adjustments:

> we know that there's going to be big changes, we're going to need someone who is flexible….It gives us a chance to look at our schedules and say "Hey, this person may not be the best person for fit over here, because I don't think she's able or will be capable of doing the moving around all day long because she may be an elderly person"….we may have to do some changes.

Betty, too, described using the intranet to help her schedule around changes. She said IAN "lets you figure out how you are going to handle that [change] with your patients....so you can plan ahead and be ready for it instead of 'Oh my gosh, the water's not working!'" Alterations might include rescheduling appointments to make sure that patient needs are met.

Another example occurred when many employee parking spaces were eliminated at the outset of the current construction project. The hospital opened a parking lot about a half mile down the road from the main campus, which required employees to walk further or to catch a shuttle. The hospital used the intranet to call for volunteers and to put an incentive system in place for those willing to use the further lot. Each week employees choosing to park in the new lot were entered into a drawing for gift certificates and winners were announced on IAN.

Organizational members may choose to use change information to access other knowledge networks to help with a change initiative. An example of this occurred when Max was reviewing a document posted to the intranet. This document described a committee's work to prepare Beacon for becoming a "Magnet" hospital, which is essentially a status in the medical field as an employer of choice. Max is not a member of this committee but he recognized that the status could affect the hospitals' compensation structure and decided to network with his counterparts at other hospitals in the state. He stated,

> So I said, "Hmm, they're doing this, they're talking to other people. So let me go to the
> HR departments to find out what's happening" so I click off this [page], go on e-mail and
> e-mail my counterparts, said "Who has clinical ladders [career steps]?" and I got
> [answers].

Max is using the information he gleaned from other hospitals to create teams from Beacon to visit those hospitals that have Magnet status.

The examples in this section show that the intranet fosters participation in change when employees see information communicated about change and decide how to react to it. An essential element is the ability to engage in future planning, which means taking general change information and applying it to specific situations to smooth transition. Employees, as in Max's case, may seek additional information from outside knowledge networks. This brings to bear a wider network of people participating in change while it is in progress rather than simply reacting to change after the fact.

Altering Cultural Beliefs

The third way in which the intranet promotes organizational change is by Altering Cultural Beliefs. The evidence indicated that there is a culture change underway at Beacon that has coincided with the development of the intranet. According to Steve, the culture at Beacon has not been "technically savvy," particularly amongst clinicians who have been focused on paper records as the reality by which decisions are made. The reliance on paper and face-to-face communication is still heavy but this is changing in a grassroots fashion.

At the heart of the culture change are beliefs about how to locate, communicate, and improve the hospital's perception of reality. The value placed on technology to manage the hospital's perception of reality appears to vary by functional groups, particularly technical and non-technical employees. Clinical and operative interviewees placed a greater emphasis on paper and personal, two-way communication. Priscilla, for example, expressed discomfort with web forms that that do not allow for personal contact and do not show to whom the information goes. She called this "Going to that big server in the sky." Technical employees, like Paul and James, were very comfortable with communicating through the technology.

Employees interviewed in IS value information technology to support hospital operations and decision-making. James, for example, enjoys using the IS department's intranet-based troubleshooting program named "WebMagic." Calls are entered into the system by helpdesk personnel and then assigned to specific technicians by the technicians themselves or other employees in the department. James looks at the trouble tickets to strategize how to order responding to the calls. He described his strategy, "I try to get the calls based on number one, urgency and, number two, location. I can't get one call from the sixth floor [of the main building] and another call that's down the street." Paul prefers to receive work requests by email because "a lot of times a phone conversation can evolve into a thirty minute monologue about somebody's day or something. Whereas, you know, an e-mail is usually a specific request, and I can take care of it." Technology allows for more efficient and targeted communication.

Amy suggested that the disparity in valuing technology also stems from generational gaps. According to Steve, younger doctors and nurses are more likely to be comfortable with technology than older ones. He estimated the average age of nurses is around forty years old and so many clinicians did not grow up with computers. Bill, a nurse, sees himself caught in the middle of a technical divide. He expressed comfort with technology but recognized that newer nurses are more at ease with computers. Many people in the hospital, particularly the clinical group, have valued information in paper format, including policy manuals and patient data. Information transferred on paper can increase mistakes when patient data is transposed to other paper records or if it is lost.

Paper has been the format by which patient health records and medical orders have been kept. For example, Bill explained that "reams and reams" of paper follow a critical care patient and he is hoping that "everything will be put on IAN" in the near future. One item that has been

placed on IAN is an artifact of the paper culture. Both Star and Max described the "blue slip,"

which is a personnel action form that changes an employee's status or pay at the hospital. It is

called a blue slip simply because it was once printed on blue paper and this term was retained to

maintain the same understanding of the form's purpose within the culture. Some items like the

blue slip are retained while other items change frequently. Paul discussed that the dynamic

nature of the intranet means that information can be old within even a few seconds, requiring

frequent refreshing of the web browser. Indeed Steve, Max, and Amy believe that IAN is now

the "location of truth" for the hospital. Truth, here, is the reality by which decision are made. As

reality changes so does the information on IAN. This constant refreshing of truth requires

employees to be continually checking the intranet for new information.

There is a growing technical competence at Beacon that coincided with the development

of the intranet. Several participants commented that the Classifieds, which have little corporate

function other than helping people sell personal items, are a big draw for staff to use the intranet.

Amy commented that as people learn to use the classifieds, they become more comfortable with

using other features of IAN. The draw to the intranet supplies the impetus for grassroots change.

The skills "translate." Paul noted there is a perception shared by some directors that clinical and

janitorial employees are not able to use the intranet for lack of access. His department ran log-in

statistics and found that greater than 90% of employees use the intranet. This disconfirmation of

the perception shows how widely embraced the intranet is at Beacon. New employees, too, are

oriented to the intranet in a thirty minute class at the outset of employment. To them, the intranet

is presented as part of the cultural fabric at Beacon as if it has always been there.

Some departments at Beacon began recognizing that technical competence on IAN is

beneficial for new clinical information systems that will be implemented in the future. The Labor

and Delivery Department, for example, started giving out prizes for employees using the intranet. The culture change at Beacon involves the move to embracing technology in a profession that has not been technology oriented. Steve commented that medicine is a field of fragmented specialties; a hand doctor generally knows little about heart surgery. Technology may bring a more holistic approach to medicine, and this requires a culture change. Betty described the culture change at Beacon:

> I have seen a huge change in the culture. I've seen more computers at each of the
> stations, more people using the computers, more nurses using the computers and less
> reliance on the chart and on people telling me things. Like you don't call up Radiology
> and spend their time by them looking up the records, you can just look it up yourself.

Here, there is a growing independence for clinicians to get necessary information to more quickly help patients. This lets staff move from spending their time finding information to applying it.

Steve believes that the culture change underway is critical for the future of medical practice as they move toward evidence based medicine. Evidence based medicine requires clinicians to keep abreast of new studies and procedures that change over time. He used this example, "How many times have eggs caused cholesterol/don't cause it/cause it/don't cause it. Leads to heart disease/don't lead to heart disease. What does the evidence really show?" The best practices that doctors learned in medical school may not be valid years down the road as the field learns more about various diseases. The volume of new medical information is simply not possible to digest by any one person because of biological limits so technology becomes a partner in the care of patients.

At Beacon, there is a growing technical competence and acceptance of technology that was accelerated by the development of IAN and the subsequent embracing of the technology by organizational members. The widespread use of the intranet is creating cultural change that alters fundamental beliefs about the organization. Hospital staff now turn to the intranet as the reality by which they make decisions and to move the hospital toward evidence based medicine.

Section Summary

This section described three types of change that were evident at Beacon Community Hospital. The evidence showed that IAN promotes change by a) Serving as the Primary Source for Communicating Change, b) Fostering Participation in Change, and c) Altering Cultural Beliefs. Continual change appears to motivate members to access the intranet to find out about what changes are taking place at Beacon and to see if they need to make adjustments to their work environments. The intranet, too, has become a source of cultural change as members accept and embrace technology as the reality against which decisions are made.

How Beacon's Culture Affects Intranet Content Development

This section presents findings to the fourth research question. There are four major categories derived from the data that show how the organizational culture at Beacon affects intranet content development. These are a) Strategic Decentralization is Mirrored in the Intranet Design, b) Internalized Norms and Values Shape Intranet Information, c) Drive for Data Leads to Virtual HR, and d) People-centrism Creates a Personable Intranet.

Strategic Decentralization is Mirrored in the Intranet Design

The first category is Strategic Decentralization is Mirrored in the Intranet Design. Recall that strategic decentralization is a combination of universal issues handled by executive administration that are centralized and decentralized functions at the lower organizational levels

of operation, giving individual employees latitude to make decisions and interpret work roles against organizational expectations. This characteristic of Beacon has had an impact on the design of the intranet.

In reviewing the organization of Beacon's intranet, what is not there is telling. The organic side of the organization, for example, comes through the charitable announcements as an interplay with formal structures but concerns or criticisms of the hospital that might be brought up in hallway conversations do not appear to be integrated into the intranet. Additionally, IAN reflects a lack of centralized planning. Certainly some applications, like the online performance review, were centrally planned by administration but the overall layout of the intranet does not follow a predetermined plan. For example, there is no link to a site map as there is on the hospital's internet site. A site map shows users how pages are categorized, like an outline of themes. There is nothing to indicate how all the pages are connected, no page that explains the intranet or its purpose, no organizational chart to show the hierarchy at Beacon, and no welcome message or historical background of the hospital from administration.

According to Betty, a welcome message from the President or any other page from executive administration would feel too official and would not truly represent what the intranet means to Beacon. She stated, "It might make people stand off a little bit I feel, plus that belongs on a page for people that don't know us as a hospital like on the [public internet] page." The departmental pages, too, do not emphasize people in management but rather show all employees as a team. The departmental pages have a section titled "Meet the Team" that lists the staff in alphabetical order rather than by seniority or position in departmental structure. This lack of emphasis on management Betty believes "…shows that hierarchy isn't that important to us."

Generally people know who the department heads are and official titles, if needed, can be found on the employee directory and so are not important to highlight.

There is very little evidence of executive administration on the intranet outside of the authorizing officers on the policy and procedures manuals. These manuals are regulations that apply to specific areas or universal concerns important to the hospital at large and must be approved by administration. Another area of universal concern is evidenced when there is an employee death. Because of the need for sensitivity toward family members and close friends of the deceased, only one person is allowed to post death notices on the intranet. This person is the Employee Relations Coordinator housed in Human Resources. He is the only one authorized to make the announcements after the hospital has received permission to post the information. The purpose of this policy is to ensure that protocol is followed and to streamline what is said about the death.

The lack of traditional organizing features suggests planning for the intranet was non-linear. Rather, features were added in an ad hoc fashion and the use of the intranet grew from what Steve terms a "grassroots movement." There were no directives from administration regarding required use of the intranet. For example, the on-line performance review was one of the first administrative applications but its use was not required. Directors, who have high autonomy, could continue using paper-based reviews if they wished. The popularity of the intranet grew as employees learned the utility of IAN. Paul expressed how this movement occurred by saying "once the clinical staff got to IAN and once they tasted that sweet elixir, they just couldn't put the bottle down." He also noted that providing organizational members knowledge of the capabilities of technology was like "you turn the light on in the room and then

they see that it's really a toy store and they move on from there." Amy described how the grassroots movement occurred:

> Well, let's get their buy-in by giving them something that's very usable. Because you didn't even have it from department director level so let's give them some information that they've been asking for is, which is why we started out with appraisals and things like that so that they could say "Okay, yeah, I can see how I can use this tool. Now could I have this?" So it's kind of like you bait them to buy into the intranet versus building the intranet and letting them go in. It was almost baiting to get them there.

New applications and tools were added over time as requests came in from staff at Beacon because they were able to embrace the utility of the intranet.

The present design of IAN continues to reflect decentralization. For example, content posted to departmental pages does not have to go through a central review board for approval. Designated personnel are granted rights to publish to the intranet whatever they choose. Outside of classified advertisements, which are personal, no participant in this study had ever heard of a time when anyone was asked to remove or change content because it was unsuitable. Instead, there is the belief that departments should be able to post whatever is important to them. Departments are provided with publishing templates to build IANpages but they are free to create the content. Steve stated,

> Every department has a tool set they can use, and it's an easy to use tool set; it doesn't require a programmer where they can create their own presence, if you will, and show what they want to show about their function. And some of them are quite elaborate. Other ones are more simplistic. It doesn't matter. It gives them the opportunity to express

whatever they want to do for their own staff as well as to the rest of the organization who cares to go there.

This level of freedom is characteristic of strategic decentralization.

Decentralization is also conveyed in the organization of IANpages. Links to these pages are shown on the right hand column on Appendix C. Nothing distinguishes the pages outside of the titles. Some of these pages are departments, like Central Sterile Reprocessing, while others are project pages such as East Tower Expansion or committees like Reward and Recognition. Some pages that could be easily grouped into themed portals, like education, are not. Education is an example of a decentralized function mentioned previously and educational activities are spread throughout many of the IANpages. HR, too, would be a logical choice for a portal but benefits comes under the heading of an IANpage and job postings falls under the heading of "Other" on the left side of the home page.

The lack of central organization on the intranet makes IAN, in a sense, a victim of its own success. There are limits to the growth of the intranet without losing information in chaos. Betty stated, "I would be afraid if there was anything more on there [IAN] that it would get lost 'cause there's a heck of a lot of information on there." Some participants expect that future design of the intranet will require greater centralization. For example, Amy sated "I think that we [will] begin to work toward getting us centralized as logic starts providing from a user side of things: 'Why can't I just go to this one place and have the information?'" Given the volume of information on IAN, what started as decentralized design may slowly move to centralized design.

The growth of the intranet began as a grassroots movement as staff at Beacon began to appreciate the utility of IAN. This has created an intranet design that mirrors strategic

decentralization in which universal issues are handled by a central authority and other functions are given great latitude to post as they choose. As future development of the intranet occurs there may be a move toward greater centralization so that information retrieval is easy and efficient.

Internalized Norms and Values Shape Intranet Information

The second category is that Internalized Norms and Values Shape Intranet Information. We know from the previous finding that there is wide latitude allowed for posting information to the intranet, however, there are expectations that organizational members will not post anything that would be unsuitable for the hospital community. Paul noted that the intranet is "corporate property" and so accountability for material is necessary. Outside of the classifieds, though, there are no written procedures for what is considered acceptable. Instead, organizational members use cultural clues to determine acceptability. This means that internalized norms and values guide their decisions.

As a way to handle the organic nature of the hospital and to promote the teamwork value, members determine whether the information would offend a majority of people at Beacon. Highly personal information, like church activities or membership in non-professional associations, is unacceptable material because it could cause conflict within the community and damage the team orientation. According to James, this value reduces "conflict with the diversity [of people at Beacon]. That cuts it down. I guess there's a tool that is used to cut down on [conflict]." Paul said of people at the hospital "we're not supposed to endorse any religion, race, sex, creed, or anything like that." Anything that reflects favoritism to a particular demographic of people would be discouraged by the culture.

Although many charitable causes are officially supported by hospital administration and published to IAN, Betty said there is a limit to what she would personally post. She feels items

on the intranet show a "slant toward what's important to [the hospital] and what's politically correct." For example, she supports a charitable event that raises money for AIDS (acquired immune deficiency) research. The event features men in drag costume and she wondered if it might offend some colleagues. This would cause her to hesitate before publishing it to the hospital community even it would be acceptable in her personal community. This is evidence that organizational members are aware of the difference between personal and corporate values, and this awareness guides the content. In Betty's example, she recognized that she too is protected from offensive content on the intranet. She stated, "I would never expect to see something about the Klu Klux Klan on there either. That would personally offend me and so I don't think I would see that up there."

As content is developed for the intranet, members must decide if information is suitable to be posted to the intranet. This is what Steve calls "inbounds" or "out of bounds" decisions, which can be a tacit "feeling" or articulated by citing precedence. Steve supplied an example of a feeling when he noted that advertising how much paid time off a department donated to a fellow employee would not feel appropriate. He stated, "That would seem out of bounds, I think, bad taste kind of thing." Despite the fact that the hospital community is proud of PTO donations it would not be okay to flaunt a successful campaign in this instance.

Several participants noted that precedence helps to determine if information is inbounds for Beacon staff. If an item has been announced on IAN with no condemnation, then they believe it is okay to post a similar theme. At times there are items they are unsure about and they may seek input from colleagues before posting. One norm at play is to have material critiqued by colleagues before making it available to the rest of the hospital community. Star, for example, reviews postings from her department to catch any grammatical errors that might embarrass the

employee and, by extension, her department. Betty, too, noted she would not post anything without checking to make sure adequately represents her department's perspective rather than her personal opinion. Critique both reflects teamwork and the desire for excellence.

Another norm that all participants mentioned is the prohibition against solicitation, which emphasizes the value of honesty and integrity. Solicitation is when a person or outside organization tries to promote for-profit activities or opinions through the hospital's private network. The hospital is frequently contacted to promote services such as fitness centers or banking but this is considered by the hospital to be inappropriate solicitation for profit. Employees who post classified advertisements are cautioned against solicitation. Amy stated, "We want to make sure that we do the tasks that we have at hand…and the want ads, you know, that's just a service for employees so we want it to be specifically employees that are using it." Allowing for-profit advertising through the corporate network would take advantage of the honesty and integrity members expect of IAN. Betty, for example, feels the community at Beacon is very trusting and it would not be appropriate to abuse that trust through solicitation.

When an employee breaks the solicitation rule, other employee may report them and, if the web engineers agree with the report, the posting is removed from the intranet. This is an example of the peer feedback (challenging) mentioned previously by Max that helps make the values highly congruent at Beacon. Paul shared this story,

> Somebody's brother or brother-in-law was a breeder and, you know, they submitted three
> or four separate classifieds for horses for sale because they were moving. Their brother
> was a breeder who was moving. So, but they didn't mention that in the classified. They
> just said "Moving sale"…it looked legit[imate]. Smelled legit. I approved it…..Then we
> got an e-mail or something saying "They're moving all right, but it's because they're

buying a bigger farm and they're trying to sell these horses."

Paul's story illustrates another aspect to this category. To determine if content is appropriate for the intranet, he uses a "two second rule," which is the amount of time it takes him to make a "gut call" about a posting. This shows how internalized and embedded values and norms are that shape intranet content.

Honesty and integrity also helped to shape an employee satisfaction survey that was conducted through IAN. As the tool was developed, the question of anonymity of the instrument arose since it is technically possible to trace back to each person that filled out the survey. Paul noted the Vice President in charge of quality emphasized that Beacon's administration must maintain anonymity. Paul stated, "He emphasized to the directors and managers that we will keep it anonymous, because if we don't then we have lost our honesty and integrity and we will never get it back." Steve, too, believes that the survey was "…a complete test for honesty, that we do this survey and we'd better make certain administratively that, under no circumstances, does this come back at a person. And that's absolutely the way it played." Priscilla is an example of an employee that did not trust the guarantee of anonymity at the time and so did not participate but she did note that she felt like administration seemed "to take those answers seriously." Steve believes that the high number of employees who did participate in the survey supports trust in the honesty and integrity of the system.

Internalized norms and values shape intranet content by helping members determine whether information is appropriate to the hospital audience. In some cases, the internalized norms and values can be articulated as policy or based on precedence. In other cases there is a sense or feeling that determines the suitability of information prior to publication.

Drive for Data Leads to Virtual HR

The third category is the Drive for Data Leads to Virtual HR. One of Beacon's cultural

characteristics is that it is data driven, which means the culture places a high value on data for

making decisions but there is also skepticism of data. Beacon's constant collection and analysis

of data has developed the intranet into a virtual HR system. Virtual HR, here, is a complex

system of applications that allows data to be aggregated to groups of employees as well as

customized to the individuals. Many HR functions that were once accomplished face-to-face or

by routing paper forms are now being handled solely through IAN. This makes the intranet a

powerful force at Beacon because so many critical functions now flow through it.

Virtual HR at Beacon capitalizes on the features of internet technology in an effort to

move to a mostly paperless environment. Payroll, for example, is a primary function of HR. It is

a difficult task to ensure that correct compensation each pay period is given to the thousands of

employees at Beacon. Payroll is run off an AS400 mainframe, which is an older system that

requires special programmers to maintain the data and produce reports. Although the mainframe

is still in place, Beacon is making many HR functions intranet-based because of the flexibility of

web technology. Demographic records in IAN are especially important for compensation.

Average employees have the ability to make certain changes to their records such as their

address or contact information, which gets keyed into the mainframe system by HR. Changes

like promotions that bring pay increases are added to the mainframe, which updates IAN. Amy

described the process:

> Everything that I change in the AS400 as far pay rate or if…you promote into a different
>
> job title or you change departments, that actually writes over to IAN to update your

demographic record so that we have the AS400 and IAN matching. It's not usually in real

time because we write over each evening at midnight from the AS400 to IAN.

The ability of IAN to capture essential data from the mainframe allows the correct display of

essential HR data as the systems synchronize. The intranet, then, incorporates many other data

sources and applications to accomplish tasks that could never be conducted through the

mainframe.

The intranet expands Beacon's ability to administer HR tasks virtually. For example,

requisitions for jobs are now done only through IAN. The hiring manager sends the request to fill

a position to an authorizing director who approves it with a digital signature. This request is

forwarded electronically to each stop in the approval chain. Once it reaches HR, the position

announcement can be posted to both the internet and the intranet to start the candidate search.

Internal candidates may apply for transfer to an open position through the intranet. At the time of

this study, Beacon was preparing for an intranet-based application system for external

candidates.

According to Amy, the electronic applications would allow HR agents to filter out

applications that did not meet essential job requirements. She stated,

They can screen and say "Okay, give me everyone that has five years of experience or

more or has a certain certification" so that out of fifty applications they maybe can pull

ten that they actually can go through.

This process would save time finding the best applicants and allow employment specialists to do

a "deeper analysis" of the top candidates. Job seekers would receive more immediate feedback

since the system can send out electronic notifications of the application status. Paul noted that

this change will make computer skills an "unwritten prerequisite" for applicants. Internally, he

estimated that there are three to four transfer requests that are processed through the IAN each day.

Through its authenticating features, the intranet determines an employee's access to various personnel files. For example, all employees have access to their past and present electronic performance reviews and managers have access to their own records as well those of the employees they supervise. Employees have a confidential password with which to sign onto "Your intranet," which opens up the records that employee has been granted permission to see. These records keep track of any quizzes, required reading, or other requirements accomplished throughout the year. Employees also have access to their past performance evaluations. The intranet-based system allows more people to provide input into the performance review process. Betty, for example, is able to submit her comments about the performance of a peer through IAN. James, too, said that managers are able to maintain a database of positive comments about an employee sent by email. These comments can then be inserted into the performance review to enhance the meaningfulness of the review.

What employees do not see are the background databases that provide information to their records. These databases allow administration to generate reports that aggregate information across the whole workforce. For example, Max noted that he can pull a report for all his employees that shows those certified for Cardio-pulmonary Resuscitation (CPR). This information is important for accreditation or for knowing who to contact if the life saving procedure is needed. As new features are added to IAN, the more data is available to the individual and for aggregate reports.

Intranet-based HR allows data to be analyzed. Steve calls this "data mining." He said the purpose of data mining is "…by analyzing the data, you get information about the information."

Employee satisfaction surveys, for example, used to be done by an external consultant who used a hardcopy form with about 350 employees participating. The hospital then would not receive an analysis of the data for several months. He described the first time they delivered an employee satisfaction survey through the intranet:

> we had all the questions we wanted to use and it took us about a half hour to construct the tool on IAN. We published to everybody that this would be done anonymously. There would be absolutely no…retaliation for anything that you put and we were very strong about that, and we had 300 people take the survey in the first four hours....Not only did the tool get constructed in a short period of time, put out there, and had marvelous response in a short period of time but then it became "What do we want to know from this data?" Well it was all recorded in the Oracle database and so it's like "Okay, well then let's figure out how we want to slice and dice it, whatever."

"Slicing and dicing" the data is data mining. IAN, as a Virtual HR system, allows the hospital to gather and analyze data to aid the decision-making process.

The drive for data for decision-making is a characteristic of Beacon and this drive has developed the intranet into a Virtual HR system. This system integrates diverse applications and databases into a whole system that has almost unlimited ability to expand. The hospital is continuing to develop HR tools to increase the capacity of the intranet. The ability of the intranet to both customize data to individual employees and to aggregate groups of employees by specific data fields is what makes the Virtual HR system valuable to Beacon.

People-centrism Creates Personable Intranet

The fourth finding is People-centrism Creates Personable Intranet. Although the name of the intranet is "Information as Needed," the intranet at Beacon is more than just discrete

information. The content and design tap into cultural meaning, particularly the peopled-centered characteristic of Beacon. The people-centered characteristic of the organizational culture has created a personable intranet, which appeals to the value members place on people. This is manifested through various tools and devices that create a human touch to IAN.

IAN conveys human touch by what Betty considers the overarching purpose of IAN, which is a "friendly thing" that is made "by us for us." Steve, too, believes that IAN contains democratic elements. For example, he thinks the ability to post, alter, and expire a classified advertisement "empowers" people because they have far more control over it than they would if they had bought space in a regular newspaper. Steve noted that IAN puts "complex, powerful tools in an easy form," which allows far greater technical capabilities for organizational members than they previously imagined.

One way in which the intranet is personable is through literary devices that personify technology. The personification comes across as the likes, dislikes, or habits that the technology has. For example, a computer tip that was published on the intranet noted that "IAN likes to see date in the dd-mon-yyyy [date month year] format." Another tip pertaining to stored passwords in *Internet Explorer* (IE), stated, "To break IE's bad habits, follow these steps."   According to Jan, the way tips are written reflect the sense of humor that is characteristic of the hospital. Another instance of a literary device is found on an IANpage that lists what technical training classes are available to Beacon employees. The introduction of the webpage is formatted like a poem, written below as it was displayed:

> You've heard the rumors about Microsoft Office.
> …more powerful
> …more features
> …plays well with others
> …just generally smells better…

Why not make a date in the CLC [computer learning center] for a class and discover why Microsoft Office is the overwhelming favorite software suite of the working world?

Recall that there is a strong rumor mill at Beacon. The poem appears to invoke the way that organizational members communicate and provides positive personal characteristics of the technology.

Graphical devices are also used to appeal to the organizational members. Employees who signed on to the intranet on Halloween day were greeted with a graphic of a large, hairy tarantula crawling across the homepage with a sign stating "Happy Halloween" in a specialty script. The graphic faded after a few seconds and did not reappear unless users closed and reopened their intranet connection. Another instance occurred as Christmas approached. A graphic was placed at the header of the homepage. It displayed three snowmen decorated with hats, mittens, and faces of coal. Standing against a night sky, the snowmen had strings of colored lights woven around their feet and snowflakes of varying sizes slowly fell in the background. This graphic did not disappear like the spider did but remained on the homepage for several weeks throughout the holiday season.

A personable intranet does not necessarily equate technology to people but it may soften the rigidity of technical applications to create wider audience appeal. Personification is subtle but definitely present in IAN's content. Betty compared the "stiff persona" that the hospital shows on its internet site to the lighter internal atmosphere that shapes the intranet. A major difference is the allowance of humor and fun that is reflected in graphical touches. She stated "It lets you know there's that quirkiness, that sense of fun that we all have. And the IS people have to get it out of their system some how." Amy believes that a personable intranet is important for IAN to be "accepted" by the hospital community. She stated,

if you just open it up and you didn't see those little things back there it just looks like a very information-only feel to it, which is something which is essential to all of us to do our jobs and to be informed employees, but yet you have that little touch behind it to make it feel like it has some personality, it feels like IAN has a personality.

The personal appeal of the intranet is a concern for future technical development. Star suggested the hospital should improve IAN by surveying employees for feedback to make sure their needs continue to be met. Priscilla, too, believes that it is important to have personal contact with IAN designers in Information Services. She is uncomfortable with sending suggestions through a comment feature on IAN's homepage because, "IS is sort of this big anonymous group. You don't know who handles IAN." Personal contact and communication is important to the culture at Beacon.

Another area of concern is the development of a clinical information system. Bill expressed concern that too much technology could affect patient care if clinicians are relying on technology. In his line of work he has to be able to see very slight changes in a patient's condition. He tried to put what he looks for into words:

I don't know how you can describe that. The color of somebody's skin. You can't pick that up on a monitor. But if they're a little paler than they were before, you might be seeing something that's happening before the monitor does.

With the new on-line application system mentioned in the previous section, there is a concern at Beacon about keeping the human touch while integrating technology. Amy stated,

We're struggling right now in Human Resources how we're going to keep that personal touch if we go to online applications because now we go through a stage where the people come in and see receptionists, you know, a human being there.

This struggle will likely continue to affect intranet development at Beacon.

The people-centered characteristic of Beacon's culture creates a personable intranet by using graphic and literary devices that make the intranet feel more human, as if IAN has a personality. The personal touch valued by organizational members will likely continue to affect technical development as the hospital plans and implements new systems and upgrades to the intranet.

Section Summary

This section presented the findings for the fourth research question. The evidence showed that organizational culture at Beacon affects intranet content development in four ways. These were a) Strategic Decentralization is Mirrored in the Intranet Design, b) Internalized Norms and Values Shape Intranet Information, c) Drive for Data Leads to Virtual HR, and d) People-centrism Creates Personable Intranet. These findings showed that the culture tailored the intranet to fit organizational needs such as the need for data or a personal touch. Additionally, the structure at Beacon as well as norms and values shape the intranet. The intranet also helps implement continual change by providing information and resources needed to effect change.

Chapter Summary

This chapter presented the findings to the four research questions that guided the study. One theme that cuts across all the findings is the importance of organizational members interacting with the technology. Embedding of organizational culture and change would not occur so effectively if members did not use the intranet. At Beacon, a vast majority of employees use IAN regularly. Additionally, continual change instigates interaction. If there were no changes to the organization or to the intranet, there would be little reason for members to return daily to the intranet for new information. A static intranet would be more like an electronic version of an

employee handbook used simply for reference rather than a communication medium at the intersection of building, maintaining, and changing organizational culture at Beacon. The growth of the intranet was mostly through grassroots movement as members increasingly used the intranet and requested additional features to be added to it. Now, IAN is a large communication medium that reaches across space and time to connect organizational members separated by different shifts or different locations.

The data presented in this chapter suggest that there is an interrelationship amongst the findings. Interrelationship reflects a dynamic and constantly changing process of development and meaning-making at Beacon. This discovery has guided the development of a model for the process of embedding culture and change, shown in Figure 4. There are three constructs in the process, which are a.) culture, b.) intranet, and c.) change. The model shows how the constructs influence the process.

The first construct at the top of Figure 4 is Culture. The findings showed how organizational culture shapes the intranet design and content. For example, we know that people-centrism is valued at Beacon and this characteristic contours IAN to have a friendly, personable feel that appeals to organizational members. The second construct is the intranet, which conveys and renews the culture at Beacon because organizational members are re-learning what is important to the hospital through the technology. Renewal occurs as organizational members see new ways in which the values are applied such as charitable events that are advertised through the intranet. This sets precedence and builds the pattern of organizational culture for members. The intranet also helps implement continual change by providing information and resources needed to effect change.
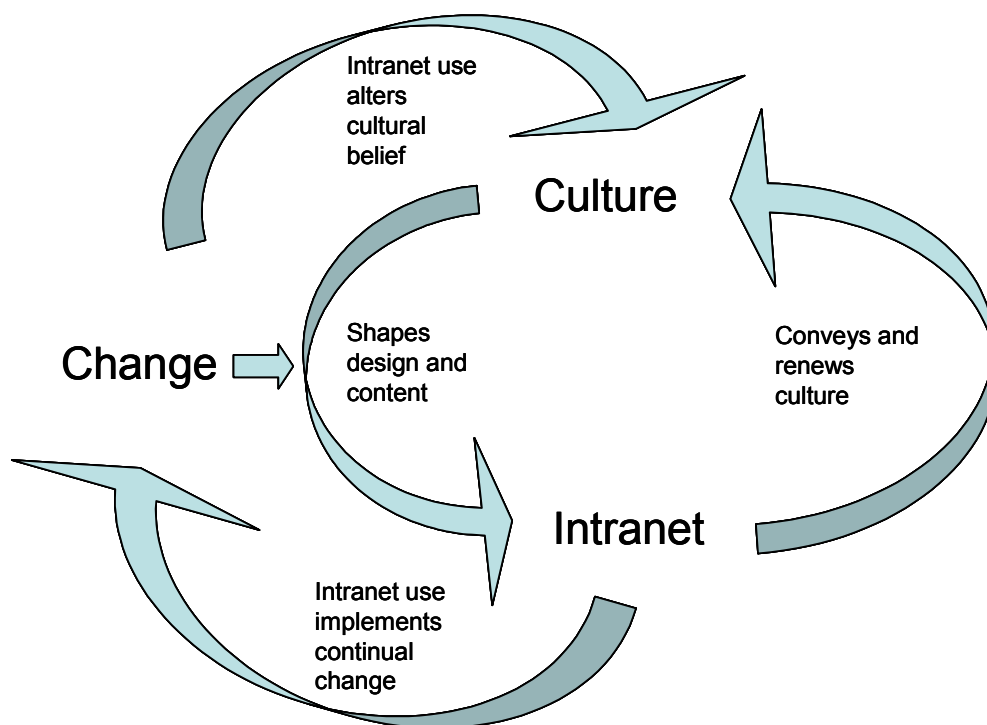
Figure 4. Process of Embedding Culture and Change

The third construct in Figure 4 is Change. Change is continual at Beacon and the intranet

has become the primary source through which change is communicated in the hospital

community. The need for change shapes the content of IAN, especially the news announcements

and several web pages devoted to change projects. Access to change content allows

organizational members to use the information to guide daily decisions and to participate in the

change process. The use of the intranet is also creating organizational culture change. As

members see the utility of intranet technology it increases the value they place on it to solve

organizational problems and fulfill the hospital's mission.

The interrelationship of findings presented in the model shows the influence of the

different constructs within the process. It reflects a dynamic relationship in which a change in

any one area can influence the other areas. For example, if there was a radical cultural change such as a move to less open information sharing, this could alter the content and design of the intranet, which, in turn, could affect how the intranet helps implement change. The findings presented in this chapter and the model developed from the findings lead to four conclusions that are discussed in Chapter Five.

CHAPTER 5

CONCLUSIONS, DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study was to understand how organizational culture and change are embedded in an organization's intranet. The research questions informing this study were:

1. What is the organizational culture?

2. How does the intranet provide an opportunity for learning about the organizational culture?

3. How does the intranet promote organizational change?

4. How does organizational culture affect the development of intranet content?

This qualitative case study investigated the intranet at Beacon Community Hospital (BCH), which is named "Information as Needed" or "IAN" for short. BCH is located in the southeast of the United States and was selected for this study because it had an extraordinary example of a well-established, strategic intranet considered by the hospital to be instrumental for fulfilling organizational mission. The intranet was instituted in 2000 and was in its sixth year of operation when the study commenced.

Sampling for this study was purposeful to achieve range and variation across different organizational role types and demographics. The pool of participants included key personnel involved with the development of IAN and typical users of the system that spanned clinical, management, operational, and technical areas. A total of twelve Beacon employees participated in the study. Ten engaged in in-depth semi-structured interviews and two engaged in unstructured observational interviews in which I observed the work environment and their use of the intranet. I contacted two interviewees directly and the other participants were drawn from a

larger pool of potential interviewees provided by the hospital. Research findings were drawn from data collected and analyzed from interview transcripts, observations, documents, and field notes.

The purpose of this chapter is to discuss three research conclusions, implications for practice, and recommendations for future research. The chapter is arranged into three sections. These are a) Conclusions and Discussion, b) Implications for Practice, and c) Recommendations for Future Research.

Conclusions and Discussion

This section presents the conclusions and discussion for this case study. Three primary conclusions were derived from analysis of the findings. First, Cultural Knowledge is Conveyed and Renewed through the Intranet. Second, Network Readiness and Continual Change Influence the Embedding Process. Third, A Culturally Relevant Intranet Enables Virtual HR. These conclusions are discussed in the following sections.

Cultural Knowledge is Conveyed and Renewed through the Intranet

The first conclusion of this study is that Cultural Knowledge is Conveyed and Renewed through the Intranet. Culture is conveyed to organizational members as they read intranet messages and learn about what is important to the hospital. Renewal occurs as members see precedence and new patterns of culture over time, which builds a larger understanding of the hospital's culture. Aspects of corporate culture may be renewed and potentially improved if a new way to apply a given value is advertised on the intranet. This happens almost daily at Beacon as different charitable events are announced on IAN. Charitable work is valued at the hospital and so announcing new ways to engage in charity work would renew this value.

Given the widespread use of the intranet at Beacon, the intranet plays an important role for conveying and renewing organizational culture. There are multiple subcultures that need to be integrated at Beacon, which is consistent with studies that suggest that hospital culture can be a pluralistic grouping of professions (Bate, 2000; Brooks & Brown, 2002; Sheridan, Proenca, White, & McGee, (1993). Previous studies have also found that pluralism can translate into a breach between management and clinicians that creates "tribalism" or extreme protection of professional turf (Bate, 2000; Brooks & Brown, 2002). Tribalism can hinder collaboration and create a hostile relationship amongst different groups.

Although subcultures exist at Beacon and several study participants mentioned feeling "isolated" from the rest of the hospital, there is a strong emphasis on collaboration and teamwork at Beacon that seems to avoid more extreme problems identified in other studies. Different groups at Beacon do have points of divergence, though, as exemplified in the technical employees' preference for communication through technology versus clinical employees who were more comfortable with face to face communication. The difference at Beacon, however, is that the subcultures appear to have consensus about the overarching values of the organization and they are allowed to interpret the values according to what best fits their given areas. These values are integrated into the intranet through news announcements and the IANpages.

Early organizational culture theories indicated that shared values and beliefs amongst members are central to culture (Beyer & Trice, 1987; Deal & Kennedy, 2000a; Denison, 1990; Kotter & Heskett, 1992; Schein, 1997, 1999). The values at Beacon are reinforced daily. They are printed on the back of the identification badges and posted throughout the hospital. Simply articulating the values is not enough for the hospital, though. To be effective, the values must be internalized and lived.

The term "integrative culture" as suggested by Sheridan, Proenca, White, and McGee (1993) seems applicable to Beacon. They studied five different hospitals and found that the hospitals that had integrated and shared values across professional groups also had the best staff retention rates. Integrative culture does not assume one consistent culture across all professional groups or subcultures. Rather, it reconciles the differences inherent in diverse professional groups through shared values. Scholars have suggested that organizational culture has to be felt and experienced to be understood (Deal, 1986). Integration of cultural characteristics seems to combine at Beacon in such a way as to create this feeling, which is supported by comments made by Max and Courtney. Courtney, for example, called Beacon's culture "healthy." This one term does not apply to any single cultural characteristic that was found in the data but may be the combination of all of them in one term that conveys the feeling of the environment as the cultural characteristics combine and interact. This feeling is evident to members through the intranet, which helps to convey and renew the culture.

Organizational culture is conveyed through the intranet in both tacit and explicit ways consistent with knowledge management theory (Bhatt, 2001, Choo 1995). An example of explicit culture conveyed through the intranet is the proclamation that Beacon's executive administration distributed on IAN to recognize hospital employees for their outstanding charitable efforts in the aftermath of Hurricane Katrina. The proclamation articulated how much these efforts were valued by the administration.

There are also small ways in which the culture is conveyed at Beacon, including an artifact left over from when Beacon was a more paper-laden environment. The intranet has an electronic form called a "blue slip," which Star and Max discussed. It is a personnel action form that literally was once printed on a blue sheet of paper. The electronic version of this form

retained the title even though there is no color associated with it now. Although it would have been easy to rename the form on the intranet link, keeping the artifact term provides continuity of cultural understanding about the form.

 Tacit knowledge is more difficult to determine. An example of tacit cultural knowledge conveyed through IAN is connected to the OSHA counter that appears on the home page (see Appendix C). This is an example of a recognizable cultural symbol that every participant in the study mentioned and it is a feature to which they attach significant meaning surrounding hospital safety. Symbols are a potent form of communication and are simple ways to carry value messages (Drucker, 2003). Changes to the symbol can have a dramatic affect on employees. For example, Betty expressed excitement when the hospital goes many days without a reportable accident or exposure; it is a source of pride. Priscilla said she feels bad if she sees that there has been an injury because it means someone in the hospital community was harmed. Their reactions seem to be what Polanyi (1966) considers embodied knowing. When Bill sees the number drop, he calls upon ingrained procedures such as making sure needles are capped. Nonaka (1998) suggests tacit knowledge, insight, intuition, and ideals can be embodied into technologies through the use of images and symbols, which is consistent with the OSHA counter since it taps into organizational cultural values.

The intranet also models corporate communication style. For example, the intranet conveys an orientation toward "openness" about information at Beacon. This openness, according to Amy, leads to an open door policy that allows employees to ask about information that appears on the intranet. Additionally, graphics convey important cultural needs such as deadlines for upcoming performance reviews. As a review date approaches, the due date becomes increasingly prominent through bolding of the font and then it eventually changes to red

to convey a sense of urgency to the supervisor. Max noted that using the intranet in this manner has actually changed expectations for timely reviews. Executives no longer accept late reviews as routine because they can be done so much more easily through the intranet. The hospital has gone from only fifty percent of reviews being done on time to approximately ninety-nine percent on time.

Changing expectations because of the intranet is an example of the dynamic connection between the intranet and the culture, and shows how culture can be renewed. The dynamic connection leads to renewal of the culture as organizational members learn and alter behavior. Learning occurs, for example, when the intranet reinforces organizational expectations and rewards valued performance. Organizational members learn and relearn what is important to the culture through daily interactions with the intranet. For example, education is an expectation at Beacon and the intranet reinforces this expectation. Darrah (1995) found that training is not just about technical content but also about cultural expectations. There is a cultural expectation for BCH employees to keep their skills and knowledge current because it affects accreditation and patient care. Intranet-based quizzes allow employees to fulfill their annual continuing education requirements at a time and place convenient to them. They are able to stop a quiz at any point and return to it later if they choose. Education is no longer a once a year activity but integrated into daily life, which places a renewed and changing emphasis on the importance of education.

The effectiveness of cultural renewal is through interaction members have with intranet content, which would include cultural content (Sackman, 1991). As employees read about what is happening or about new policies and procedures, they are developing greater understanding of the organization. They are also seeing new applications of the values. For example, if an employee is recognized through the intranet for living a particular value, other organizational

members learn about the specifics and this adds to the overall understanding of cultural expectations. Messages sent through IAN set precedence and expectations for future actions. This confirms Alvi and Tiwana's (2003) perspective that knowledge has socio-cultural dimensions since knowledge managed through the intranet creates expectations for socially acceptable actions or behavior.

Despite Max's claim that IAN is just information, there is clearly community building that occurs through the intranet as employees learn about what is important at Beacon. The news announcements are particularly important for this. As Courtney described, she learned from the news announcements that the hospital values people and the health of employees. Knowing what is important provides common ground needed in a community. Common ground is also predicated on the trustworthiness of material community members post to the intranet. For example, Star believes that there is a greater expectation of trust in the classified advertisements on the intranet than there would be in a newspaper. There is a higher level of accountability for hospital community members than in the local population.

Part of learning the culture at BCH, according to Steve, is to learn how things work together, including formal and informal sources of power. Although the presence of executive administration is lacking on the intranet, the few times they may perpetuate the existing power structure and emphasize what are universal or centralized concerns versus the areas in which employees have latitude. For example, the employee relations coordinator is the only person authorized to post death notices. The official proclamation of thanks for hurricane relief emphasizes the authority of administration to recognize and reward valued performance.

Informal networks and unofficial sources of power are less likely to be found through the intranet despite their importance to organizational culture. Deal and Kennedy 2000a and Bierema

(1994) indicated that cultural networks informally maintain corporate culture. Although it is easy to overlook rumors as being non-business communication, Davenport and Prusack (2000) believe that corporate gossip is actually a form of knowledge transfer through which a network updates members about internal processes. There is a strong rumor mill at Beacon, one that Bill likened to the soap opera *General Hospital*, which is connected to the organic nature of the hospital and most likely would not appear on the intranet.

Little is said about the organic side of organizations in traditional organizational culture theories yet it affects how information is spread. Informal knowledge networks seem to help police unacceptable behavior. For example, Bill noted that rumors might be about "narcotics stealing," which is a critical concern that affects the safety of patients and employees. This could be evidence of an informal reinforcement that this behavior is unacceptable and shocking at Beacon. Informal networks appear to be important knowledge sources. For example, Cross and Sproull (2004) found that 85% of people they interviewed in a consulting firm mentioned people as critical information sources rather than computer repositories. The information relationships were enhanced by personal associations and connections, like shared hobbies or educational backgrounds. Additionally, knowledge seekers were less likely to receive help from an expert or trust the information from an expert if there was not already an extant personal connection.

Of all the cultural characteristics at Beacon, the part that is least represented on the intranet is the organic nature of the organization. Content generally runs along the lines of common ground or official communication rather than reflecting the diversity of hospital employees mentioned by participants. Diversity can be conveyed through the intranet when people advertise charitable events or personal items for sale as long as there is no offense to the wider community. It is unlikely that criticisms of the hospital would be posted to the intranet but

would likely remain in the informal communication channels. This leaves the intranet to convey messages that are suitable to the hospital community.

Organizational members make meaning even from content that is left *out* of the intranet. For example, Priscilla inferred a negative message with the removal of salary information on job postings. She felt that this showed the hospital is not interested in career advancement for regular employees. The learning that is reflected here is what Priscilla felt was a lack of administration's concern about career advancement for employees. This shows that employees can interpret motivation into what is included in the intranet and what is not. Learning can then be reaffirmed if members find additional evidence that fits the cultural pattern they have developed. This exemplifies how employees continually strive to understand cultural messages to make sense of their environment.

Organizational culture is conveyed through intranet. It can also be renewed and altered over time as members interact through the technology. Because intranet content changes frequently, organizational members can learn new applications of the cultural expectations through asynchronous interaction with other community members. This means that there is an experiential component to the intranet that helps to renew the culture experience that Deal (1986) suggested is important for learning and understanding culture. Renewal, then, is about members learning and relearning cultural messages through interaction with the intranet. This helps to explain some of the mystery behind organization culture, particularly how it can change in almost imperceptible ways over time and also contain enduring qualities that survive. However, components of the culture such as existing power structures can be reinforced through the intranet and organic components can be filtered out of the intranet.

Network Readiness and Continual Change Influence the Embedding Process

The second conclusion of this study is that network readiness and continual change influence the embedding process. The embedding model presented in Chapter Four shows the dynamics of how organizational culture shapes intranet content and how use of the intranet conveys and renews, as discussed in the prior conclusion. There are two organizational conditions derived from the findings that affect this embedding process, which are discussed in the next sections.

Network Readiness

Network readiness is an organizational condition that influences the embedding process. It is the degree to which the cultural and environmental conditions allow the organization to embrace and improve upon the communication abilities of network technology such as the intranet. As the embedding model shows, the organizational culture both shapes the intranet and is shaped in return by the intranet, similar to Palloff and Pratt's (1999) view of communication technology. In the prior conclusion, we discussed how culture can be renewed through the intranet. Renewal could not occur in this manner if organizational members do not interact with IAN. The findings of this study suggest this is empowered by what I am terming "network readiness." There is something in the culture at Beacon that allowed the development of the intranet to take off in what Steve called a grassroots movement. Although the intranet started as a vision of the Chief Information Officer and was built by the Information Services Department there was no early directive to force employees to use the intranet. Even the performance reviews that were deployed on the intranet early in development were not required to be utilized. Instead regular organizational members, what Amy called "bottom-up users," began to embrace IAN on their own.

The grassroots movement cannot be explained simply by the level of technical competence of regular staff since there is a wide range of technical skill at Beacon. In fact, both Bill and Amy noted that they see a generational gap surrounding technical skill in which older clinicians are more likely to resist new technology. Although there may have been individual instances of the disconfirming data that Schein's (1995, 1997) change model indicated is necessary for people to realize a need to change, this study did not reveal disconfirmation of data leading to the widespread growth and acceptance of IAN. One explanation is that the culture at Beacon already had some level of psychological safety, which Schein believes is crucial and necessary for change. A better explanation seems to be that the culture was ready to be networked through the technology.

Network readiness at Beacon appears to stem from cultural and structural factors that allowed organizational members to see the potential of the intranet for their professional arenas. An important factor in network readiness is strategic decentralization since employees have a high level of freedom in their work when they are not dealing with a universal issue. The perspective that the intranet encourages egalitarianism (McChesney, 2000) may be applicable to what happened with IAN. The high degree of congruence of values, what empowers an "integrative culture" to be more collaborative (Sheridan, Proenca, White, & McGee, 1993), may also be a factor in the grassroots movement. Organizational members were already used to a degree of latitude and collaboration so the extension of this to the intranet was not a big leap for the hospital. To use Paul's metaphor, the culture at Beacon was akin to children discovering that they were in a toy store. The light had to be turned on for employees. The light here is knowledge of what technology is able to do for Beacon and with this knowledge they started asking for more applications. This means that there was a cultural readiness for employees to

embrace the technology as a child would embrace a toy. The intranet provided both personal and

professional draws to the intranet. Paul and Steve noted that the classified advertisements, which

are not business related, were one of the important early applications that sparked Beacon

employees to use the intranet. The skills people learned from using the classifieds for personal

reasons translated into understanding how to use the intranet for professional tasks.

Although there is definitely a chain of command and hierarchy at Beacon, the culture

may value the more direct communication provided by IAN because it ensures that all employees

have access to the same information. Haughy (2006) found something similar when she studied

the changing roles of public school principals due to communication technology. Principals

started to engage in more direct communication with more knowledge networks (teachers and

external resources). Schein (1997) noted that flatter organizational structures with better direct

communication tend to be associated with information technology. This is consistent with

Koehler, Dupper, Scaff, Reitberger, & Paxon's (1998) suggestion that on-line organizations have

more wide-open information sharing than traditional. As Betty commented, she is able to pull up

results of tests without having to ask someone else in another department, which is easier and

may lead to a sense of empowerment. Direct communication will likely become more prevalent

as time passes and the intranet continues to develop, unless there is a shift in corporate culture or

policy. The culture at Beacon had a preexisting level of network readiness that allowed

employees to embrace and expand upon the intranet, which, according to Lewis (1990), would

predispose the organization to utilizing the intranet as a strategic information resource.

Continual Change

A second organizational condition that influences the embedding process is continual

change. The embedding model shows that the intranet helps to implement organizational change.

The intranet is the primary source for communicating small and large scale corporate change initiatives. There are several types of change that occur at Beacon, including future-oriented change, which is way for the organization to improve the capacity and quality of medical services, and unexpected change such as financial distress that caused layoffs several years prior. Competition with other local and regional hospitals also is a factor since clients are able to choose healthcare providers. The administration at Beacon seems to be highly aware that they must continue to change and improve to thrive. This is what Courtney called "forward-thinking." Additionally staying abreast of current practices and healthcare knowledge for quality service and for accreditation is a driving force behind efforts to build a stronger technology base at Beacon.

As Steve noted, the future of quality healthcare is to practice evidence based medicine, which he described as using the most current research and not just practices that were learned by rote in medical school. Because humans have biological limits to memory, the only way to keep up with the vast amount of medical knowledge is by using information technology. Since the practice of medicine is constantly changing, there is a need to use the intranet as a portal to disseminate new medical knowledge. Aveline (2005) described evidence-based practice as using the best current evidence in the care of each patient, although he admitted that it can be difficult to assess what evidence is best amongst competing research claims. It's interesting to note that the "Information is Care" statement is posted throughout Beacon. This seems to match up the people-centrism cultural characteristic with the value of data since it promotes the implementation of a future clinical information system. This system will help hospital employees try to manage the volume of information on patients and on the latest research and it also means continual change and adjustment to medical practice at the hospital. The organizational system,

then, has to deal with continual change, which is another draw to the intranet. If IAN's content was static and never provided new information about changes, there would be little reason for Beacon employees to access it regularly. This organizational condition necessarily influences the embedding process since it helps motivate the use of the intranet.

Cultural change is also part of the continual change at Beacon. As the embedding model illustrates, use of the intranet is actually creating cultural change at Beacon by altering cultural beliefs. The primary belief being altered is the location of truth at Beacon, or the reality by which decisions are made. IAN is becoming the source of truth for the hospital, both in terms of change initiatives and also in terms of professional standards of practice. As Amy noted, the human resources department uses the information in the technology as the present reality versus other sources of information. As the intranet is expected to contain valid forms of truth, the use of the intranet is reaffirmed. This is what Schein (1997) calls a shared assumption about the nature of reality. According to Betty, IAN contains only "valid" information. There is an expectation that no rumors or unofficial information would appear on the intranet. However, the intranet can be used to debunk extant rumors circulating through the hospital and provide an official source of communication.

An example of this occurred during the unexpected financial crisis in which the intranet became the stumping post around which the community gathered to receive information about the drastic changes occurring at the hospital. This created a "cease and desist" order to the rumor mill, as Paul put it. As Valentino's 2004 study showed, communication is essential during times of change, particularly information about organizational vision and objectives. The lack of communication can cause low morale and problems with implementation of change. IAN has become that primary source through which change is communicated and it fosters participation

in change. Employees like Star and Betty actually alter work schedules to accommodate change initiatives. This creates a more supportive and fluid environment surrounding change, unlike the "ceremonial dramas" that occurred in a study by Brooks and Brown (2002). In the study, hospital staff refused to alter set routines like mopping certain hallways during predictable times of high client traffic. This type of resistance makes change far more difficult to accomplish.

The ability of Beacon to use the intranet to implement continual change seems to reflect Sentell's (1998) belief that organizations must become change-capable to survive, that is they must become adept at handling continual change. This is characteristic of the knowledge and service economy. Indeed, Courtney noted that the leadership at Beacon is aware they cannot rest on former accomplishments such as a one-time Hospital of the Year award that Beacon won several years prior to this study. To maintain viability and market-presence, the hospital must continually change. Given the diversity inherent in the organic nature of Beacon, resistance to change or criticisms of change likely would not be placed on the intranet by staff since there is a high value placed on teamwork and collaboration that shapes intranet content. This could impact change because concerns about the change might remain in the informal networks and so could be more difficult to address by change agents.

Data, valued at Beacon for making decisions, is an important component of successful change. For example, a study conducted by Alexander, Weiner, Shortell, Baker, and Becker (2006) found that hospitals with better information systems to support quality initiatives had greater staff participation in the initiatives, which was seen as better overall result when there is a higher degree of collaboration. Because there is continual change at Beacon, employees have a reason to access IAN regularly for information. Access may be to read the news, check the classifieds or cafeteria, or to take educational quizzes. This continual returning and subsequent

interaction with the intranet content is what powers the embedding process. If the data contained in the intranet were static, there would be little reason to return daily to the intranet.

Network readiness and continual change at BCH influence the embedding process, which can be viewed as organization learning. Learning is integral to hospital operations, particularly for clinical staff. Watkins and Marsick (1999) believe that a culture must support continuous learning, which is the case at Beacon, and an organization learns when new learning is "crystallized" in organizational structures. The embedding process shows a dynamic relationship that helps to embed learning into the intranet. Continuous learning is a part of the healthcare environment at Beacon, whether through educational quizzes available on IAN, the announcements of health fairs and information events, or through the learning that occurs as members access the intranet to find out what is happening in community. Rowden (2001) suggested learning organizations are a response to the need for continual change and this appears to be the case at Beacon. Change is a factor in the life at Beacon because of the nature of medical practice and the constant pressures of growth, competition, and external relationships. The viability of the hospital hinges upon its ability to remain safe for patients and accredited for financial solvency, which means it must be ready to exploit technologies like the intranet to handle continual change and the high need for information.

A Culturally Relevant Intranet Enables Virtual HR

The third and final conclusion of this study is that a culturally relevant intranet enables "Virtual HR." The intranet at Beacon is continually changing as new content and applications are added over time and this content is shaped by the culture as the embedding model illustrates. I observed the intranet change over the five months that I accessed IAN. Links were shifted, new pages were added, and news announcements and classified advertisements appeared daily. As

part of the previous conclusion,,continual change draws organizational members to the intranet. It also shows how the intranet is constantly adapting and evolving to meet organizational needs. A culturally relevant intranet is one that is able to keep apace of changes in the organizational environment and to continually reinforce what is important to the organizational culture.

IAN exemplifies the potential future of Virtual HR, which is also known as web-based HR. An early view of Virtual HR is found in the work of Jones who described Virtual HR as "the use of computer systems, interactive electronic media, and telecommunication networks to carry out the functions of the human resources department." (1998, p. 4). He believes the benefit of using technology, particularly intranets, in this manner is to reduce paperwork and streamline workflow, reduce redundant HR tasks, empower employees to use self-service benefits systems, inform employees about HR compliance issues and corporate events, and ensure informed decisions are made. Jones' view is management oriented with a view of HR as a function or department within the host organization. He indicated Virtual HR encourages a flexible model of human resource management, though, and the role of human resource management will be more in line with strategic advisory responsibilities rather than a task-oriented, reactive capacity.

A culturally relevant intranet goes beyond managing human resources in the traditional sense because it becomes increasingly central to interactions among members of the wider community and thus further embeds culture. This can be a way to develop and improve the organization through the technology, and potentially tap into tacit knowledge and expertise. Davenport and Prusack (2000) suggested that tacit knowledge can be embedded in products and services when people use their expertise to design them. This can be extended to authors and web programmers of IAN who initially designed the intranet and then altered it over time to

respond to needs of the culture at Beacon. Although designers may not have realized they were producing a cultural product, IAN clearly is deeply tied to and shaped by the culture.

Specific aspects of the culture at Beacon have a high degree of influence over the design and content of the intranet, which is the basis for cultural relevance. Strategic decentralization, for example, is reflected in the design of IAN since there is no central organizing map to IAN and departments are free to "express" themselves as they choose without going through a centralized approval process for authorizing content. This was consistent with the notion of high autonomy for directors and their departments to handle issues in their areas, outside of the universal concerns that are handled by executive administration.

The level of freedom that areas have over the content means that the content is relevant and readily applicable to that area. Departments are able to generate training and development educational resources using intranet tools without having to go through a central forum or post information that they deem important to share. The ability to incorporate graphics, colors, audio, and video makes on-line training and development more effective and appealing than simple text-based material. It also makes it more accessible to employees that work non-traditional hours so that HRD is more accessible in an organization that is open all hours of the day.

Although there is a lot of latitude over content posting, it is also understood that Beacon's core values should guide content, particularly in the areas of Teamwork and Honesty and Integrity. An example of this occurred with the anonymity guaranteed employees who filled out an IAN-based employee satisfaction survey. Executive administration and Information Services personnel were aware that if they did not live up to the anonymity guarantee, they would have lost their honesty and integrity with Beacon employees. This kind of damage would be difficult to fix and so should be avoided. This suggests that there is a negotiation of trust between

employees and managers is important when implementing an organizational development tool through the intranet. The need for trust and accountability through Web technology was predicted by Dyson (1998). That trust seems also to be necessary in peer to peer interactions. Peer challenges to the classifieds that break the "no solicitation" norm may be an example of delegated control predicted by Schied, Carter, Preston, and Howell (1997) in participatory environments. Dissimilar to this perspective, however, is that these challenges do not appear to be encouraged by Beacon management but reflect the influence of the wider corporate culture over intranet content. This suggests that the monitoring of behavior and the maintenance of cultural values necessary for cultural relevance, often considered part of management's and an HR department's responsibilities, can be dispersed into the organization and handled virtually. This raises the question of potential abuse of the intranet should it be used to influence employees in unethical ways.

What makes the development of Virtual HR at Beacon different from Jones' (1998) perspective of virtual human resource management is that IAN is not simply part of the HR department or just a function at Beacon. It has much wider application than simply dealing with management and HR's concerns with compliance. Instead it is more in line with Seely Brown's (1998) perspective that the future value of technology is "to get out of the way" or become invisible. His belief that technology makes "mass customization" possible is shown to be the case in Beacon's intranet since it can be customized to specific users and the various levels of access are relatively seamless. This could help to move the development of human resources to new level if there was greater participation in learning activities on-line.

The high value that Beacon places on data has shaped the culturally relevant intranet into a Virtual HR system in which data can both be customized to individuals, what Walker (2001)

calls a "personalized portal," and aggregated to various groups. The flexibility inherent in this ability can improve the administration and development of human resources. As Steve commented, intranet data can be mined to create new information and knowledge, which is necessary to solve organizational problems and to improve the organization. Data on critical HR issues such educational attainment can be more easily tracked at the individual and corporate levels. For example, when Beacon employees sign onto "Your Intranet" with a personal authorization code, quizzes on which they achieve a passing score are credited to their demographics file. This helps employees track their own progress and may create greater self-direction for development since they have a level of control over the training process.

The aggregate feature of the intranet allows supervisors to track how many people in his or her department have successfully completed continuing education requirements by looking at a version of the intranet customized to roles that have development responsibilities for a group of employees. This helps the supervisor follow-up with those who have not met necessary requirements. As demographic records are updated, executive administration and members of the HR department are able to capture information about the total workforce at Beacon, which gives them a high level view of HR concerns as well as aids accreditation. Cohen (2001) noted that this is a particular strength of corporate intranets, which engender greater workforce analysis and rapid response to changing business needs. Additionally, he suggested that web-based HR may help with retention if employees have control over career development, training, and benefits through the intranet. The drawback, however, is that information could be used in unpredictable or harmful ways. For example, punitive measures could be taken against an area that was routinely late with meeting requirements, crossing ethical boundaries if there are factors in the environment that prohibit timely response that are not under that area's control. Data mining for

organizational development at Beacon is growing with the capabilities of the intranet to connect diverse databases. This makes the intranet culturally relevant and also raises new problems that the hospital may have not had to address before.

Another way in which the intranet is relevant to Beacon's culture is by the overall personable feel of the intranet, which seems to create the human connection needed for Virtual HR. The people-centric characteristic allows for "little touches" that create a "human face" to the technology. Special graphics are used to celebrate holidays, for example. Additionally, personification of the technology, including the personification of IAN, appeals to Beacon employees. Amy felt this was needed for the intranet to be "accepted." The way in which IAN is viewed as having a "personality" is similar to a study conducted by Sproull, Subramini, Kiesler, Walker, and Waters (1996). Researchers found that a human-like interface caused users to respond differently than with simple text displays. Participants in the study were generally more alert and more likely to present themselves positively to the computer such as showing a socially desirable trait of helpfulness than they were to a face-less interface.

The human connection provided by IAN creates additional cultural relevance and acceptance for Beacon Employees, which would have been difficult if not impossible to achieve in earlier forms of information technology. Web technology allows the intranet to move away from a colder, structured feeling of older information technology systems, like the AS400 mainframe Amy mentioned. The mainframe can only be utilized through programming language not known to most Beacon employees. Web-technology, instead, allows a greater degree of access and control by the hospital community. Graphics and other media are incorporated in the intranet and accessible to all members at Beacon as a "corporate right." This allows Virtual HR

to engage in more forms of communication with a wider audience rather than limited by space and time as traditional HR has been.

Swanson and Holton (2001) indicated that the mode in which HRD operates in the future will be determined by how it strategizes the use of technology and satisfies the "high touch" need for human connection inherent in HRD. A primary challenge is not to lose HRD's "sensitivity" to clients and the ability to connect people in meaningful ways. This could easily be done if Virtual HR does not maintain cultural relevance. Gibbons (2001) suggested that employees should be viewed as discretionary investors of human capital. This potentially places employees more at the heart of HR than in previous iterations of human resource management.

IAN enables a system-wide approach to HR because it provides information and access to HR information by all members of the hospital community. It also is an important feature for generating new knowledge about HR issues. Dietch (2001) believes that web-based HR can be important for knowledge generation. She used the example of a retirement calculator that allows employees to change variables to see how they affect savings toward retirement. The employee creates new knowledge about his or her circumstances by interacting with the tool. These are examples of how Virtual HR is different from text-based personnel handbooks or HR generalists being the primary source of benefits knowledge. Employees at Beacon have access to various tools that places greater empowerment in their hands for dealing with HR concerns and generating benefits knowledge specific to their situations. While this relieves the HR department from some work, it is still an HR issue that is occurring in the organization but in a more distributed way as a shared task. This could potentially increase the value of HR for organizations as HR becomes less task-oriented and more integrated with daily work. HR may

become a corporately shared responsibility and the role of the HR professional would be as a strategic business partner (Dietch, 2001).

Gibbons (2001) stated that learning organizations require continual supplies of new information. Learning, of course, is necessary for an organization's survival and ability to adapt. IAN supplies new information to employees, particularly through news announcements and articles. It can also help members participate in changes initiatives as Max did. He found a document related to career steps and this prompted him to ask questions of his counterparts in other hospitals. It is instructive to note here that Beacon's intranet is not fully utilized for generating work-in-progress knowledge such as cross-functional teams that can be enabled by chat rooms. In fact, Steve noted that the Information Services Department had tried to institute a chat room but the feature did not become popular and so was removed. I suspect this is because there is a high degree of filtering of content by the culture before information is published to the web. For example, Star reviews content for grammatical errors that might cause her area embarrassment and Betty would clear content with her department before posting to ensure it represents the department's view. Although Beacon does not appear to be ready for this type of feature, it does suggest that HRD could be furthered on intranets by connecting employees to experts through real-time applications. This could allow people to learn on-line and solve organizational problems through the technology.

The cultural expectation for honesty and integrity and for valid content could actually hinder the off-the-cuff knowledge generation since it could represent significant risk to employees if something is written that does not fit the culture. Priscilla described this kind of risk when she explained why she did not fill out the intranet-based employee survey. She felt there was too great a chance that her comments could be traced back to her. This aspect of Virtual HR,

one that could lead to greater innovation and knowledge generation through the intranet, seems undeveloped at Beacon at the time of this study. This also brings up the issue of the balance between monitoring communication, as administration at Beacon is ethically and legally obligated to do to prevent a hostile work environment, and allowing unfettered creative thinking such as the "creative chaos" discussed by Davenport and Prusack (2000). The free exercise of communication could potentially allow more of the organic side to appear on the intranet at Beacon. The next version of IAN may indeed include, as Amy suggested, greater centralization of functions so that members can find needed information. This could potentially impact the future cultural relevance of the intranet and the continued development of Virtual HR at Beacon.

IAN as a Virtual HR system helps provide a composite picture of the organization that aids organizational development and improvement. HRD can be accomplished on-line for individuals and for groups. Data points that were once discrete in a traditional IT system are more like pixels that, when arranged together, provide insight into various facets of organizational life. All the bits together create a more three-dimensional view of the organization than older mainframe systems have been able to achieve. It also extends the scope of HROD activities throughout the organization. The results of this study emphasize the importance of the intranet to remain relevant to the general culture of an organization rather than merely representing management since this affects how employees use the intranet to accomplish interaction and the generation of new knowledge.

Section Summary

Three primary conclusions were derived from analysis of the findings and discussed in this section. First, Cultural Knowledge is Conveyed and Renewed through the Intranet. Second, Network Readiness and Continual Change Influence the Embedding Process. Third, A Culturally

Relevant Intranet Enables Virtual HR. These conclusions show the confluence of knowledge

managed through intranet technology, human resource development activity, and organizational

culture and change theory that are creating something very new in modern organizations. This

chapter concludes with implications for practice and recommendations for future research

discussed in the next sections.

<p style="text-align:center">Implications for Practice</p>

This study informs several areas of practice in organizations, including areas such as

human resource development, organizational development, information technology services, and

administration. Implications for practice are discussed in relation to organizations in general

since organizational development and change efforts, including technology implementation,

often span several functional areas.

The first implication of this study is that organizations should analyze the design and

content of their corporate intranet for cultural themes and messages. We learned from this study

that the hospital's culture influenced the development of the content so that the intranet was

culturally relevant for solving organizational needs. The administrative leadership at Beacon was

highly aware that they needed to live up to their espoused values such as honesty and integrity

even with the development an intranet-based survey. They realized that it would be difficult to

regain trust from organizational members if they broke the guarantee of anonymity. Developing

an awareness of how corporate values influence communication helps ensure that messages are

effective for the environment.

Despite the technical base of the intranet, a surprising finding from this study was the

degree of personality and human touch that could be generated through technology. This was

important at Beacon for employees to accept and use the intranet, which spurred daily interaction

that reinforces what is important at the hospital. Employees in other organizations may not use

an intranet as much if it is less personable or contains negative messages. Additionally, other

cultural characteristics may be conveyed through the technology. For example, another

organization's intranet may reinforce values that emphasize competition or sales volume. In

Beacon's case, reinforcement occurs as organizational members continually make meaning of

the content by what was there and also what was *not* there. As members see the content change,

they build cultural patterns and learn through precedence what is okay to communicate to fellow

employees. Organizational members may read messages into what is not available on the

intranet, especially anything that has been removed that was once there. The removal of salary

information for transfer positions at Beacon was interpreted as the hospital not caring about the

employees' career development. This suggests that there is the potential of the intranet to hurt

employee relations or lower employee morale. Organizations should check to see how members

perceive intranet content to ensure that it reflects what was intended. This allows content

developers to revise or clarify information posted to the intranet.

A second recommendation is for organizations to consider how the benefits of intranet

technology can help advance organizational mission. As a knowledge management system,

Beacon's intranet incorporates many different media forms that help convey critical information.

A benefits video on the intranet, for example, is considered more "digestible," or readily

understood, than black and white legal text. The hospital uses graphics, fonts, and coloring as a

strategy for highlighting urgent information. An example is the performance review deadlines.

As the deadline approaches the due date is bolded and then turned to red to indicate urgency.

Using technology this way has increased the number of on-time reviews. The hospital considers

this an important feedback mechanism that lets employees know they are valued and helps maintain quality work at the hospital.

Another benefit of intranet technology is the ability to handle redundant tasks and connect diverse information technology systems. Beacon is using this flexibility to develop Virtual HR. Virtual HR has implications for HROD since it frees professionals from cumbersome tasks and allows them to engage more fully in analytical or strategic work. The on-line job applications connect prospective employees with the HR department so that they can receive email updates about the status of their application. HR is able to sort applicants by credentials so that they quickly establish the top candidates and analyze thoroughly analyze them and then forward the applications more quickly to hiring managers. Organizations could use this strategy to facilitate and improve selection process. It also would help firms that have a geographically disbursed workforce. Additionally, this can help improve communication and feedback for employees taking career development steps.

The features of the intranet that have developed Virtual HR at Beacon allow employees to decide when and where they will engage in educational activities. This puts more power in the hands of intranet users to accomplish training and development, and could promote a shared commitment toward improvement efforts. It also allows the growth of "self-service" options, like direct connection to retirement accounts and calculators. Organizations can reduce redundancy and increase customized knowledge for employees that affect their career and retirement planning. Given that individuals are taking more control over their career development (Hall, 2002), intranets can help employees develop their careers within the organization. The intranet at Beacon was used as repository for committee work to establish career steps for clinical professionals. Employees who were not on the committee could read about progress being made

and, in Max's case, pose questions to other knowledge networks. The accessibility of information can help employees plan their careers and anticipate what may happen in the organization's future.

To use the intranet to the best advantage for Virtual HR, organizations should determine the ability of members to access the technology. In Beacon's case, the hospital had a high penetration rate. Employees from all areas were utilizing the intranet even for non-office employees with limited access to computers. Having computers available or creating an open atmosphere for allowing access would allow greater intranet utilization in other environments. Beacon's case showed that technical skills employees learned by using the classified advertisements seemed to translate to other business purposes. This suggests there is value to having applications meaningful to employees even if they are not strictly business related.

A third implication for organizations is to consider how their knowledge management policies may help or hinder the generation of new knowledge. New knowledge is necessary for innovation and the development of expertise and is a fundamental concern for HROD. In Beacon's case, a critical incident with the trafficking of illegal pornography instigated a policy for restricting access to the Internet. Employees that demonstrate a business need can receive Internet rights but they are trained on appropriate use and are subject to filtering software that denies access to many websites. The intranet has been used to create portals to approved medical sites that employees without Internet access can open. Blocking software keeps them from straying to other sites. This policy may help to reduce a hostile environment but can also hinder employees from finding needed information. Additionally, the expectation of valid information on the intranet leads employees to use norms and values to filter content. Information gleaned from informal knowledge networks generally would not appear on the intranet at Beacon. This

means that not all knowledge that members need to negotiate their work environment is available on the intranet. One Beacon employee reviews her department postings for grammar errors to reduce the chance of embarrassment. This approach could keep organizational members from using the intranet to generate new knowledge since they might not want to advance ideas that seem half-baked or inappropriate.

The fourth and final implication is that organizations can use intranets to integrate diverse professional groups and reconnect fragmented corporations. Beacon's example showed a pluralism of professions that could be culturally integration through shared beliefs and values that were conveyed and renewed through the intranet. This could be done without forcing groups to be copies of each but rather interconnected. Diverse professional groups may be inherent in healthcare and possibly in other industries such as large manufacturing operations where product development is vastly different from assembly. Diverse groups could also arise in transnational organizations that have offices spread across the globe. A critical factor for integration is organizational members frequently accessing the intranet. This was shown to be necessary for members to learn about the culture at Beacon. An intranet that is only a mouthpiece for management may not be conducive for high levels of interaction amongst members that is necessary for experiencing culture. As employees interact and communicate throughout an organization they build cultural understanding and shared experiences. Cultural learning could be further supported by real-time interaction because this would allow for more immediate co-production of knowledge that could aid cultural renewal and change.

Recommendations for Future Research

The results of this study suggest have filled some of the gap of what we know about organizational culture and intranets. There are a number of recommendations for new research projects that could further fill the gap. These are listed below.

1. This study investigated one organization and so we do not know to what extent the findings are unique to Beacon. A replication study either in another hospital for comparison within the medical field or another industry would yield more information about how intranets can convey and change organizational culture or how the intranets vary in different contexts.

2. A follow-up study with Beacon could be instructive for showing further intranet development or how the culture has changed over time due to the intranet. This study was conducted over a period of five months. In this time the intranet changed as items were added or removed. The intranet could be substantially changed in a few years and could be studied again. Additionally, further research that specifically focuses on the progress of Virtual HR at Beacon would illuminate the evolution of a new way of handling HR concerns.

3. As noted in the previous recommendation, Virtual HR at Beacon is a budding concept and should be explored in other arenas. This study looked at one organization. Surveying organizations in different industries for Virtual HR practices, like education, on-line job applications, and project team work to name a few, would be help us understand the scope of Virtual HR in organizations.

4. This study showed that the intranet can help facilitate learning about the organizational culture but it was not able to study interaction patterns that were synchronous. A research

design that studies synchronous communication or investigates both the perspectives of both sender and receive of communiqués would further our understanding about the mechanisms behind learning through an intranet. This could be extended to studying interaction patterns and community building through web technology for informal associations and Internet communities.

5. This study revealed how a simple organizational symbol can have cultural significance and tap into organizational knowledge. We have a very limited understanding of how this is done. To extend this research, a study focused on organizational symbols embedded in technology could illuminate how symbols evoke tacit knowledge can help or hinder cultural renewal and organizational change initiatives.

6. A general recommendation for future studies is for researchers to recognize the difficulty and complexity of studying deeply embedded cultural knowledge. Although interviews for this study followed an interview guide, many follow-up questions were necessary to reach taken for granted cultural assumptions or critical incidents that exemplified cultural expectations. This is important particularly for organizations like Beacon that value a positive image and may not initially volunteer negative information. For example, Star hinted there were racial tensions at the hospital. This required follow-up to ensure my interpretation of her hints was correct and to learn that the tension was between employees and patients rather than between employees and administration. Additionally, I used questions such as "How do you know that?" to try to probe tacit understandings. This study was conducted over five months and shows how uncovering organizational culture takes time and commitment on the part of the researcher.

Concluding Thoughts

This study helped to close a gap in knowledge about intranets, which are new subjects of study that have grown up during the global shift to a knowledge economy. As Sentell (1998) advances, we are on the cusp of a new paradigm that is affecting work and learning in the modern era. The process of embedding organizational culture and change into the intranet at Beacon shows that the very role of HRD is being redefined. This new role places HRD as shared responsibility of organizational members rather than merely the function of a human resources department. The strategic partnering of technology and HRD can be valuable for organizational effectiveness and survival but there is potential for misuse of intranet capabilities if organizations cross ethical boundaries. Intranets can provide space for cultural negotiation and knowledge generation. As Web technology becomes central to organizational operations, it creates an important site for future research and improvement efforts in Human Resource and Organizational Development.

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APPENDIX A: Interview Guide

Participant Information

Pseudonym:_____

Title:_____

How Long at this title:_____

Circle main grouping: Operative   Management   Technical

Age range: 20-34   35-49   50+   Ed._____

Gender: Male   Female   Diversity: W   NW

General:
   1. Tell me about your work here.
   2. How do you use ian?

RQ1:
   1. How would you characterize the culture of the hospital?
   2. What does your organization value?
   3. What would a new person need to know to be successful here?
   4. What are some of the unwritten rules?

RQ2:
   1. How does ian tell you about the culture here?
   2. In what ways does ian teach what is expected of you?
   3. How does ian show you what is valued here?
   4. What parts of the culture are not on the intranet?
                    Follow-up: Symbols/stories/ceremonies
                                        What does that mean to you?
RQ3:
   1. Tell me about any major changes in the organization.
   2. How is ian used to communicate these changes?
   3. How will the organization be different after these changes?
   4. What other changes are communicated through ian?

RQ4:
   1. What is the process for updating information on ian?
   2. What does the organization believe is important to post on ian?
   3. What does the organization discourage from being posted on ian?
   4. How will your organization improve ian?

Final
   1. Is there anything else you would like to mention?

APPENDIX B: Informed Consent Form

I, _____, agree to participate in a research study titled "How Organizational Culture and Change are Embedded into an Organizational Intranet" conducted by **Elisabeth Bennett** from the **Department of Adult Education** at the **University of Georgia (706.542.2214)** under the direction of Bradley C. Courtenay, Professor in the Adult Education at the University of Georgia (706.542.2214). I understand that my participation is voluntary. I can stop taking part without giving any reason, and without penalty. I can ask to have all of the information about me returned to me, removed from the research records, or destroyed prior the end of the research project.

The reason for this study is to explore how organizational culture and change are embedded into intranet technology.

Interviews will be audio-taped. The researcher may keep the tapes, transcriptions, and documents indefinitely. If I volunteer to take part in this study, I will be asked to do the following:

1.) Answer confidential questions about my role at _____ in a one to two hour interview.
2.) During the interview, provide information about the organizational culture, change, and the intranet.
3.) Within the guidelines of my human resources policies, provide documents or examples that help demonstrate the organizational culture.
4.) By consenting to this interview, I agree to do the following:
   a) Give the interviewer a guided tour of my organization's intranet
   b) Allow the researcher to observe my work in the organization (approximately 2 to 4 hours)
   c) Be available for follow-up questions by phone or e-mail. Please note that Internet communications are insecure and there is a limit to the confidentiality that can be guaranteed due to the technology itself. However, once the researcher receives my responses, she will file the information under a pseudonym to ensure confidentiality. Any emails pertaining to this study sent by me will not be forwarded or copied to anyone in my organization.

Tapes of the interview will be kept indefinitely. No unusual physical, emotional, or legal risks are expected from my participation in this study, and good faith attempts will be made on the part of the researcher to disguise non-critical identifying information. My name and the organization's name will be given pseudonyms for publication and descriptions will be written to avoid identification. No individual identifying information will be released back to my organization. I will not receive any incentive or payment for participating in the study. However, I will have the benefit of talking about my experiences within my organization and helping research an important communication tool.

Any individually identifying information that is obtained in connection with this study and that can be identified with me will remain confidential and will be disclosed only with my permission or as required by law. The investigator will answer any further questions about the research now or during the course of the project (**706.542.2214**).

I understand that I am agreeing by my signature on this form to take part in this study and I understand that I will received a signed copy of this consent form for my records. I understand that the information, documents, and results of this study may be published in research documents, articles and/or a dissertation.

 Elisabeth Bennett_____   _____   _____
Name of Researcher   Signature   Date
Telephone: **706.542.2214 (UGA)** and **770.725.0566 (home)**
Email: **BennettE@uga.edu**

_____   _____   _____
Name of Participant   Signature   Date

Thank you for your participation!

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX C: Intranet Home Page Sample

File   Edit   View   Favorites   Tools   Help

home | forms/docs | news | calendar | your intranet | iMail | webMagic | logout | A A A

Welcome to the _____ Intranet

Welcome, Super Test

iMail
Messages: 0
Unread: 0

Menu
Baked Ham
Rotisseree Chicken
Catfish w/Hushpuppies
Stuffed pepper creole
Creole Fish w/Rice
German Pot Roast of Beef w/Gravy
more..

Links
Weather Forecast
Reward and Recognition Nomination

Clinical
Abbreviations Lists
clinician's intranet
EWS Esig Users
Formulary
Hospitalist Schedule
Pre-printed Orders
Medex
micromedex
Telemetry Log

Information
hipaa central
Environmental Svcs
parking policy
phone numbers
bellsouth phone book
Code Manual
Personal Preparedness Video
Workers' Comp Phys. Panel

Departments
clc classes & tips
Engineering Work Order
materials services

Other

OSHA Stats

0 0 8	0 0 7
Days Since Last Injury (8)	Days Since Last Exposure (7)

Click here for more info.

News

Six Months of Change!
Scroll down the East Tower Expansion page and see a half year's change in scener

PINKIE Award Ceremony
The 1st ever "PINKY" award was presented to the staff on the Cardiovascular Step

Preceptor Training Class!
The "first 90 days" in the life of a new employee is the most critical time for

Show your appreciation with a GIFT CERTIFICATE!
Has a coworker, friend, or family member done something really nice for you

MARCH OF DIMES NOTECARDS!!
Corporate Communications will be hosting a March of Dimes note card sale! These

DO YOU WANT TO BE IN A MOVIE?? Then, join _____ for the 2006 March of Dimes WalkAmerica!!
Please plan on joining the _____ team and walking for babies at the...

Introduction to Yoga
Intro to Yoga In this beginner's class, you will be introduced to 12 basic yoga

Back Care Yoga
Back Care Yoga _____ physical therapists and our yoga teachers have designed a

Yoga for Serenity
Yoga for Serenity   Our outcomes research shows significant reductions

Events 03 April 2006
08:00 Hold (NEO) in MSB Lecture Hall
08:00 New Employee in MSB B
09:00 Health Educ in Education Conference
10:30 educ av in MSB A
11:30 G.I.F.T. Committee in PDR 1
12:00 Leadership Reading in PDR 3
12:00 VIA/Guest Services in MSB A
14:00 New Vision in PDR 3
14:00 PRE-REGISTRATION TEAM in MSB D
15:00 educ av in MSB A
17:00 Meeting in PDR 3
18:30 Diabetes Support in MSB A
18:30 Special Delivery in MSB C
* - Times may not be accurate.

ianPages
Birthing Center
_____ Campus Maps
_____ Grief Resources
_____ Nurse Safety Supplies
Ambulance Service
_____ Classic Golf
Tournament
Benefits
CIS GUIDE
Central Sterile Reprocessing
ChargeMaster Information
Clinical Laboratory
Contract Nurses
East Tower Expansion
Employee Health Center
Family Care Unit
G.I.F.T Employee Program
GUGY
H.I.M. Transcription
HIS Analysts and Technical Staff
Health Education
Health Information Management
INFECTION CONTROL
IT Projects Update
IanPages Tips & Tricks

Local intranet

File   Edit   View   Favorites   Tools   Help

Other

kiosk
change ian's font size & width
dept closings
job postings
leadership screensaver
medicare bulletins
calculators

Sites

.org
.com
more...

Ian Favorites

Search

⊙ micromedex   ⦿ phone

[   ]

⊙ forms/docs   ⊙ doctors

[search]

Yoga for Serenity   Our outcomes research shows significant
reductions

Gentle Yoga
Gentle Yoga Reduce fatigue Reduce stress and anxiety Gain
more flexib

Pre-Natal Yoga
Pre-Natal Yoga Instructor: _____, RYT Increase overall
comfort durin

Mind Body Institute - Relay for Life
Click here to view the flyer Enter for your chance to win a FREE
6 WEEK YOGA

EMPLOYEE EXERCISE CLASS
Class starts Tuesday April 4 at 4:30pm! When: Tuesdays and
Thursda

Acting manager - Biomedical Services
_____ has been appointed Acting Manager of
Biomedical Services. P

New IAN Page: StatUs Report Archives!
Did you miss picking up your StatUs Report last month? Now you
can always find t

Bake Sale for Leukemia/Lymphoma Society
Bake Sale   WHEN: Th

more...

Daily Dose

Repeat That... The F4 key in Word is known as the Repeat key.
It can be a real time saver. If you press a Word command, cursor
key, or character, and then press the F4 key, your command, or
whatever you typed, will be repeated.

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IanPages Tips & Tricks
Leadership Development
_____Cancer Support
Magnet
Master Person Index (MPI)
Medical Library
Mind Body Institute
Nutrition Services
OPSC Education
PACU - POSS - PAT
Patient Education
Guest Services
Physician Services
Radiology Diagnostics
Rehab Services - Inpatient Team
Relief and Float Nurses
Reward & Recognition
S.T.A.R.S. + JCAHO
Security & Parking
Social Work Services
Special Events
Staff Development
StatUs Report Archives
Sunrise Education
The Pink Posy
Volunteer Services
more...

Classifieds

Appropriate Use Policy
Fold-up Ab Lounge
Intro to HealthCare Book for sale
Wanted: White/Ivory Double Bed Headboard &
Frame
Wanted: Used Ink Jet and Printer Cartridges
Beautiful Diamond Ring
1991 Procraft Fish / Ski Boat
Watercraft Trailer - FOR SALE
New Toys for Sale !!!
      more classifieds...
      Post a classified

home | forms/docs | news | calendar | your intranet | iMail | webMagic | logout | A A A

Local intranet