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Complex Systems Leadership in Ideal Organizations: A Mixed Model Study of Perceived Essential Components

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Complex Systems Leadership in Ideal Organizations: A Mixed Model Study of Perceived Essential Components

by

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Dedication

This work is dedicated to all people committed to leadership who make a difference by challenging assumptions and unconditionally sharing in the process of making sense of and participating in co-creating the ever-evolving complex world.

In particular this work is dedicated to the memory of

Oscar G. Mink and Russell L. Ackoff.

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Complex Systems Leadership in Ideal Organizations: A Mixed Model Study of Perceived Essential Components

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This mixed model approach research explored what are the perceived essential components of an ideal organization. The data were collected from 150 leadership development seminars from 2000 to 2006 hosted by a Fortune 500 company with participants from over 239 organizations producing 5396 responses. The qualitative primary data were unitized and statistically analyzed and synthesized to reveal significant categories and their relationships. The statistically significant categories represent the essential components of an ideal organization. The original qualitative responses manifesting the significant categories are presented in alignment with the emerging complex systems leadership perspective.

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Chapter 1: Introduction to the Study

News and print media; The Associated Press, Newsweek, Time, The Wall Street Journal, and CNN blare daily with the latest news about the automobile industry crisis, problems in the nation's financial institutions, and now, the oil disaster in the Gulf. The general public is accustomed to barrage by the media who report the problems and seek answers to the questions; Whom is to blame? Which major corporation is responsible? Who is leading the corporation? What is the leader going to do about the problem? How could these mistakes happen? While the media portray 'blamestorming' and point fingers to one person or organization to be fully responsible for the crises, they neglect to acknowledge shared responsibility to solve global problems. The media continue to ask if there is a leadership crisis today and to call for renewed attention to "leadership" and "responsibility." They portray a leadership crisis as not having a leader or a leader not having a vision. The media, and as a result, the general public have a traditional perspective of leadership.

The traditional perspective of leadership in organizations is often focused on only a few essential elements—leader, follower, and situation (Hughes, Ginnett, & Curphy, 2006), organized in a top-down silo structure. Likewise, traditional leadership definitions have focused on characteristics and behaviors as defined by formal and informal positions with titles (Daniel Katz & Kahn, 1978) representing power structures of influence on many others to pursue some stated vision or goal (Rost, 1991). Recently there has been an emphasis on leadership as a process (Bratton, Grint, & Nelson, 2005), yet the descriptions immediately revert to a leader's role as influencer of others often referred to as followers (Northhouse, 2004). From this view, leadership implies leaders and in some cases the two words are used synonymously.

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Today's issues require not only the wisdom of one, but also the inclusiveness of the diverse wisdom of the whole. The diverse wisdom of the whole is a product of interactions. Today is a time for a form of leadership that fosters and reveals the invisible interactions between all. This is the day of awareness of the complex interactions we participate in creating every day. It is time to actively participate in creative design and renewal of the ideal systems we desire to thrive.

The emerging complex systems perspective of leadership considers the leader as one of many essential components, parts, or elements interacting in a complex adaptive system[1] (Goldstein, Hazy, Lichtenstein, & Rykert, 2008; Griffin & Stacey, 2005; Lichtenstein, et al., 2006; Marion, Arena, Ulh-Bien, & Riffle, 2007; Marion & Uhl-Bien, 2001; Obolensky, 2008; Quade & Holladay, 2010; Schneider & Somers, 2006; Uhl-Bien, Marion, & McKelvey, 2007). Complex adaptive systems consist of interacting diverse agents (people in the organizational leadership context) whose interactions are rich and nonlinear influencing each other and the environment leading to unpredictable outcomes (Cilliers, 1998). A system is defined as two or more interdependent essential components, parts, or elements making up a unified whole greater than the sum of its parts. In addition, "a system is an entity that maintains its existence and functions as a whole through the interactions of its parts" (O'Connor & McDermott, 1997, p. 3). Each whole is also essentially interrelated to other whole systems. The interrelatedness of the parts and the wholes is as essential as the parts and the wholes. "The essential properties of a system taken as a whole derive from interactions of its parts, not their actions taken separately" (Ackoff, 1999, p. 16).

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[1] The systems literature interchanges the words component, element, and part.

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Leaders are people who are essential components of an organization who have specific roles to serve the purpose of the whole organization to which they belong and enact—design. The role or function of the essential components in the system is defined as such to serve the greater purpose of the whole (P. Senge, Scharmer, Jaworski, & Flowers, 2004). It is a "surrendering into commitment…operating from ones deepest purpose, in concert with a larger whole" (P. Senge, et al., 2004, p. 103).

Complex systems leadership is not about elite genetically gifted individual leaders leading a flock of followers (Stogdill, 1948, 1974). Peter Senge wrote:

> Because of our obsessions with how leaders behave and with the interactions of leaders and followers, we forget that in its essence, leadership is about learning how to shape the future. Leadership exists when people are no longer victims of circumstances but participate in creating new circumstances….Leadership is about creating a domain in which human beings continually deepen their understanding of reality and become more capable of participating in the unfolding of the world. Ultimately, leadership is about creating new realities. (Jaworski, 1996, p. 3)

In complex systems leadership, we are leading together through rich diverse nonlinear interactions with other essential components while being led by the system we enact. We are parts of the system making up the system and in part we are the system. We influence each other and the system therefore we lead. The system leads us by guiding us when we pay attention to the emergent properties evolving through the rich diverse nonlinear interactions of the essential interdependent components (people, tools, processes, and environment). We lead the system by interacting producing the emergent properties guiding us. It is a reciprocal relationship. It is a reciprocal leadership.

Complex systems leadership develops expertise of bringing things together, making purposeful connections, and creating meaningful interactions. Through practice, the tacit knowledge will be developed to know with whom, what, where, when, and how often to interact in order to produce the greatest shared ideal desirable results in varying situations, context, environments, and cultures. Results are the product or the outcomes of interactions (Rovin, 2007). "Leadership is the emergent [behavior] of the whole system" (Battram, 1998, p. 126).

Leadership is enacting environments fostering the development of people to do the best they can to produce quality products and services resulting in shared ideal outcomes. What would such an environment look like? This research investigated what may be possible in the creation of ideal organizations employees contribute to and co-lead. This study obtained knowledge about perceptions of an ideal organization from the responses from 150 monthly leadership seminars from the years 2000 to 2006. The perceptions are of interest because of their relationship to creating an ideal organization aligned with modern sciences understanding of complex adaptive systems.

The results of this study are not meant to be best practices to be blindly imposed out of context. These are options to be considered. It is the expertise of practitioners within their unique particular context to decide through exploration, implementation, continuous reflection, and assimilation which options are best under which context, during which situations, during what times, and with which particular people.

CONTEXT OF THE STUDY

In today's complex rapidly changing global environment learning is essential in organizations (P. M. Senge, 1994). Leadership seminars, development programs, training, and workshops provide learning opportunities to develop talent, to build competencies, to

keep employees engaged and updated on latest advancements, to bring people together aligning and developing culture, and to promote value in the organization's human capital. While leadership training is commonly promoted during strong economic times, it is vital in times of crisis (Mattioli, 2009; Rothwell & Kazanas, 2004). Fostering learning in organizations during crisis develops the talent and skills needed to pull through the crisis. Nurturing organizational learning also benefits the company by strengthening the human capital that will support the future of the organization as the crisis dissolves. Leadership development of only individuals is no longer sufficient (Velsor & McCauley, 2003). Velsor and McCauley offer a leadership development framework suggesting:

> Individuals and groups need to carry out the leadership tasks together in a way that integrates differing perspectives and recognizes areas of interdependence and shared work. They need more than well-developed individuals. They need well-developed connections between individuals and deeper and more meaningful relationships around shared work…within communities and across the boundaries between groups and collectives…integrating the learnings into a unified sense of purpose and direction, new systems, and coherent shifts in culture. (Velsor & McCauley, 2003, p. 21)

For the last 15 years for two days each month, a leadership seminar with systems perspectives currently entitled InThinking Together: From InSight into Action was facilitated. "InThinking is a concept that explores the dynamics that exist with intentional interdependent thinking" (Bellows, 2010, p. 3). Each seminar is 9 hours split between two 4.5 hour consecutive days. The seminar is hosted by a Fortune 500 Company and is open to employees of the organization and the public. Diverse participants from over 240 organizations have attended over 570 seminars. One aim of the seminar is to explore new

approaches to working together, learning together, and thinking together. During each seminar an exercise called the BluePen exercise was presented and aggregate data were collected and filed. The BluePen exercise asked participants to imagine walking into two large private organizations with complete access. What would the physical characteristics be? What would the characteristics of the people be?

> At the completion of the seminar the participants should have the ability to better identify, characterize, and interpret the vision of seamless organizations, wherein working together follows from the ability to better learn together and think together. The objective of the workshop is to explore the potential of "InThinking" organizations and to reveal the resource management and resource leadership patterns of such environments. (p. 2)

STATEMENT OF THE PROBLEM

Often organizations place emphasis on isolated parts, such as "the leader," and neglect the whole. In this context the organization is not seen as a "whole" reinforcing a traditional perspective related to leaders, leadership, and organizations (Marion & Uhl-Bien, 2001). It is neglect to emphasize only a few elements of leadership or certain aspects of an organization. Additionally scientific journals written by scientists for scientists provide guides for shifts from a traditional to emerging complexity perspective never reach the practitioner audience working within organizations.

PURPOSE OF THE STUDY

The purpose of this study was to gain insights from a large raw data set to contribute original theory to the field of leadership. The aim of this study is to explore what are the perceived essential components of an ideal organization, which may be enacted through complex systems leadership. The aim and the research questions were

designed based on the definition of a system being two or more essential components interacting to make up a whole (Ackoff, 1999). A mixed model research approach was used to analyze and synthesize the raw data collected from 150 leadership seminars from 2000 to 2006. The qualitative data were unitized. Quantitative methods were used to categorize, analyze, and synthesize the unitized qualitative data to show statistical significance in order to define the perceived essential components.

HYPOTHESES AND QUESTIONS TO BE ANSWERED

Hypotheses

H1: The BluePen Company and the RedPen Company demonstrate significantly different emergent categories.

H2: The subsets People and Physical of the BluePen Company and the RedPen Company demonstrate significantly different emergent categories.

Table 1: Tentative Hypotheses from Dr. Bellows presentation (Bellows)

RedPen Company Physical Characteristics	BluePen Company Physical Characteristics
chaotic, disorganized, dirty, dark, no windows, clutter everywhere, policies on everything	neat, clean, organized, control charts in use, open environment, R&D department developing red pens, windows, signs of collaboration, etc
RedPen Company People Characteristics	BluePen Company People Characteristics
fearful, anxious, heads down, prone to spread rumors, disengaged, use blue pens	having fun, enthusiastic, friendly, inventive, involved, engaged, curious, energetic, thoughtful, use blue pens

The categories shown to be significant after statistical analysis make up the perceived essential components of the BluePen Company and the RedPen Company.

Research Questions

This study addressed the following four research questions:

1. What are the perceived essential components of a BluePen Company?

2. What are the perceived essential components of a RedPen Company?

3. What are the perceived essential components of the physical environment of the companies?

4. What are the perceived essential components of the people in the companies?

IMPORTANCE OF THE STUDY

This study is important because it furthers the understanding of organizational leadership induced from a large raw data set. The data were collected from a diverse population of attendees to 150 InThinking Together leadership seminars during seven years. This study also contributes by using innovative methodologies to harness qualitative data with quantitative methods.

OPERATIONAL DEFINITIONS OF TERMS

BluePen Company—only make blue pens and is the only company who makes blue pens. The caps of the blue pens are easy to separate; they are "snap fit" and can be produced quickly and easily.

RedPen Company—only make red pens and is the only company who makes red pens. The caps require a hammer to put on and pliers to remove.

An ideal system or organization (BluePen Company) is one where the intended and unintended outcomes achieved are desirable to both the organization itself and the greater system of which it is a contributing part.

Leadership is enacting ideal organizations.

ASSUMPTIONS AND LIMITATIONS OF THE STUDY

The researcher assumes participants in the BluePen exercise responded honestly. Another assumption is the data were collected consistently. A limitation of the study is the seminar provider set the content and questions asked of the participants. Another limitation is the data were collected from a variety of participants from a variety of organizations rather than from one particular organization. Another limitation is the study is post hoc and not an experiment.

POSITIONALITY

The researcher claims a bias towards open-ended data collection with a mixed model approach harnessing quantitative methods for objective analysis mixed with quantitative and qualitative results. The mixed model allows for rich data collection base on participant perceptions while offering partial objective quantitative analysis. By taking a descriptive exploratory approach the researcher aims for a commitment to the data and the results aligned with what the data presented rather than what the researcher imposed on the data.

ORGANIZATION OF THE REST OF THE STUDY

Four additional chapters will follow. Chapter two provides a review of the literature informing the study highlighting the framework of complex adaptive systems and its foundations as well as systems and complex systems approaches to leadership. Chapter three provides the methodology for the study. Chapter four will present the findings from the data and analysis of the data. Chapter five will include the summary, implications, recommendations for future research, and the conclusion.

Chapter 2: Review of the Literature

INTRODUCTION AND ORGANIZATION STRUCTURE OF THE CHAPTER

This chapter will first provide an overview of systems and complex adaptive systems perspective themes. A historical look at the key contributors to systems thinking and complex adaptive systems will be provided. These two sections will lay the foundation behind the complex systems approaches to leadership. Next a historical timeline of systems and complex systems approaches to leadership will be presented. Lastly a detailed description of the key contributions to systems and complex systems approaches to leadership will be offered.

Systems and Complex Adaptive Systems Perspective Themes

Systems Interacting Wholes

The word system originated from the Ancient Greek sústēma meaning organized whole. One way a system is defined is as "a set of elements connected together which form a whole, thus showing properties which are properties of the whole, rather than properties of its component parts" (Checkland, 1981, p. 3). Systems thinking takes into account the interactions of the parts making up the whole. One way to look at an organization is as a social systems (Ackoff, 1999). In social systems "both the parts and the whole are purposeful" (Ackoff, 1999, p. 27).

Purposeful

Humans design purposeful interacting and adapting systems. This is called teleonomy (Checkland, 1981).

Purpose and principles cannot be devised by leaders and imposed on a community as a condition of participation. They must be evoked from the minds and hearts of

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members of the community. They are not frozen mandates to be obeyed under penalty of banishment from the community. (Hock, 1999, p. 8)

Ackoff & Gharajedaghi (1996) stated: "Purpose is a matter of choice" and elaborated: "Social-systemic systems display choice, their parts do as well, and they are part of larger systems that also display choice and contain other systems that do so as well" (Ackoff & Gharajedaghi, 1996, p. 22).

Nested Systems ~ Hierarchy

Being part of a larger system is how systems thinking defines hierarchy. Systems are nested within systems. They are subsystems within larger systems. Hierarchies are not clearly defined, have cross-communication between them, and are transformable (Cilliers, 2001).

Openness

Social systems are open meaning their boundaries are permeable and interact with the environment. This relationship between the unclear boundaries in systems is referred to as interconnectedness and interdependence. Boundaries in systems are where systems connect with other systems (Cilliers, 2001). "That a system is open means, not simply that it engages in interchanges with the environment, but that this interchange is an essential factor underlying the system's viability" (Buckley, 1968; Scott, 1981, p. 102).

Environment

"For any given system, the environment is the set of all objects a change in whose attributes affect the system and also those objects whose attributes are changed by the behavior of the system" (Hall & Fagen, 1956; Scott, 1981, p. 164). People, systems, and organizations are integral with the environment, it is not an external relationship (Delgado-Di´az, 2002). From a view from space, it is obvious everything is in relation

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and everything is the environment. The environment is not something outside of an organization. "Rather than talking about adapting to an external environment, it may be more correct to argue that organizing consists of adapting to an enacted environment, and environment which is constructed by the actions of interdependent human actors" (Weick, 1969, p. 27).

> The phrase 'enacted environment' preserves the crucial distinctions…the most important being that the human creates the environment to which the system then adapts. The human actor does not react to an environment, [the human actor] enacts it. It is this enacted environment, and nothing else, that is worked upon by the process of organizing. (Weick, 1969, p. 64)

The environments are enacted through rich diverse non-linear interactions.

Non-Linearity ~ Emergent Properties

The traditional perspective relies on linearity for prediction because of a desire for predictability, control, and the simple ability to add up the parts; 1+1=2. "Roughly, linearity means that we can get a value for the whole by adding up the values of its parts" (Holland, 1995, p. 15). The emerging perspective recognizes non-linearity allowing for something else besides the sum of the parts. It takes into account the product of the interactions of the parts; 1+1 can be greater than 2 because it includes the individual variables, the interaction, and the product of the interaction. Non-linearity "entails the product of two distinct variables instead of their sum" (Holland, 1995, p. 16). Included in complex nonlinear relationships are influences of time, history, culture, context, agents' adaptability, diversity among agents, co-evolution, and the influential feedback development from the product of the interactions. The product of non-linear interactions

is referred to as an emergent property. The rich diverse non-linear interactions can lead to emergent properties that are products of the interactions through self-organization.

Self-organization

Complex systems experience self-organization.

Dissipative self-organization involves a system's experience of highly turbulent conditions, a breaking of its existing equilibrium and integrity, an experimenting period and a movement to a new configuration. The new integrity includes different relationships among system parts, new patterns for information and resource processing, and greater connectedness to other systems in its environment. The dissipative structure is more viable…it can better accommodate variety, it is more resilient amidst turbulence and…it reinstates a 'tidiness' that had been lost through smaller adaptations that took place in the face of changing conditions. (Smith, 1990)

On the edge of chaos are bifurcation points often leading a system into a higher state; this state being the state of self-organization (Morgan, 1998).

Patterns

During self-organization patterns will emerge revealing order out of chaos. When a system is experiencing highly turbulent conditions and far from equilibrium, the system can be said to be experiencing chaotic conditions. Chaos is a state of randomness sensitive to initial conditions and increases in complexity and unpredictability over time (Ford, 1989; Goldenfield & Kadanoff, 1999). Small changes can have large effects.

Up to this point systems and complex adaptive systems perspective themes have been elaborated. The next section will explore historical influences in systems and

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complex adaptive systems. Finally systems and complex systems leadership perspectives will be discussed.

SYSTEMS AND COMPLEX ADAPTIVE SYSTEMS HISTORICAL INFLUENCES

For centuries "systems" have been a topic for discussion and contemplation. Aristotle (384 – 322 B.C.) offered in his Metaphysics the influential concept of the whole is greater than the sum of its parts (1045a10). Plato, Descartes, and Leibnitz also contributed so "at the end of the eighteenth century, the philosophical notion of system was firmly established as a constructed set of practices and methods usable to study the real world" (Francois, 1999, p. 204). The following 20th century core concepts built on one another to contribute to the emerging complex systems leadership perspectives.

Cybernetics

Norbert Wiener developed the theory of cybernetics (Wiener, 1948). Cybernetics also has Greek origins and means steersmen. Cybernetics was put together by a cross-disciplinary team discussing feed-back loops, learning and adaptation with the environment, gestalt and universal patterns of organization, and later self-organization (Wiener, 1961). "The social system is an organization like the individual; that is bound together by a system of communication; and that it has a dynamics, in which circular processes of a feed back nature play an important part" (Wiener, 1948, p. 33). Social systems are goal seeking dynamic systems that learn with experience have non-linear circular feed back loops of information, communication and energy with the environment over time, and self-correct to adapt and self-organize.

Organized Complexity

Warren Weaver suggested the future of science will be to work with problems of organized complexity "which involve dealing simultaneously with a sizable number of

factors which are interrelated into an organic whole" (Weaver, 1948, p. 539). A relevant example he provided was to "explain the behavior pattern of an organized group of persons" (p. 539). Weaver also suggested the contributions of science in understanding these problems of organized complexity will require cross-disciplinary teams and powerful computers.

General Systems Theory

Ludwig von Bertalanffy created a scientific logical general systems theory by looking for essential themes within disciplines where systems are studied (Bertalanffy, 1950). "General systems theory is...a model of certain general aspects of reality. But it is also a way of seeing things which were previously overlooked or bypassed, and in this sense is a methodological maxim" (Bertalanffy, 1972, p. 424). General systems theory attempted to unify science by defining common principles used among disciplines such as physics, biology, chemistry, psychology, and sociology (Bertalanffy, 1950). Systems are complex interacting elements making up a whole. The elements are interdependent and changes in the elements affect the whole. "You cannot sum up the behaviour of the whole from the isolated parts, and you have to take into account the relations between the various subordinated systems and the systems which are super-ordinated to them in order to understand the behaviour of the parts" (Bertalanffy, 1950, p. 148). There is a constant exchange of energy with the environment in open systems. Hierarchy means systems exist within systems. There is competition between the elements making up a whole for resources. Open systems can appear as a steady state by maintaining a continuous pattern of change and flow of materials. Different initial conditions may create similar systems. "Events are determined by the dynamic interactions of parts" (Bertalanffy, 1950, p. 158). Systems have a purpose described in three ways: 1. The elements in a system are

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arranged based on a purpose, 2. The behavior of the elements is based on a final state, or 3. The structure of the elements produces certain results. Feedback exists and is a way for a system to regulate itself. "Systems may spontaneously develop towards greater heterogeneity and complexity" (Bertalanffy, 1950, p. 162). Finally this precedential article offered: "in modern science, dynamic interaction appears to be the central problem in all fields of reality" (Bertalanffy, 1950, p. 165).

Complex Adaptive Systems

John Holland contributed today's emerging complexity perspective known as complex adaptive systems (CAS) (Holland, 1992).

Complex adaptive systems are quite different than most systems that have been studied scientifically. They exhibit coherence under change, via conditional action and anticipation, and they do so without central direction. At the same time, it would appear that CAS have lever points, wherein small amounts of input produce large, directed change. (Holland, 1995, pp. 38-39)

Paul Cilliers (1998) summarized the essence of Complex Adaptive Systems: Complex systems consist of interacting diverse agents. The agents' interactions are rich and nonlinear influencing each other and the environment leading to unpredictable outcomes. The nonlinearity can result in small changes leading to large effects and large changes leading to small effects. The interactions produce positive and negative feedback loops influencing the unpredictable outcomes. Complex systems require a constant flow of energy to maintain because they operate under conditions far from equilibrium. Complex systems have a history, evolve through time, and "their past is co-responsible for present behavior" (p. 5). In addition each agent is ignorant of the behavior of the system as a whole.

SYSTEMS AND COMPLEX SYSTEMS LEADERSHIP HISTORICAL INFLUENCES

Figure 1 below presents a historical timeline of systems and complex systems approaches to leadership. The timeline shows the origins of systems perspectives of leadership beginning in 1966. It isn't until the 21st century that scholars and practitioners make greater contributions to the understanding of the systems and complex systems leadership perspectives.

Figure 1: Historical timeline of systems and complex systems approaches to leadership
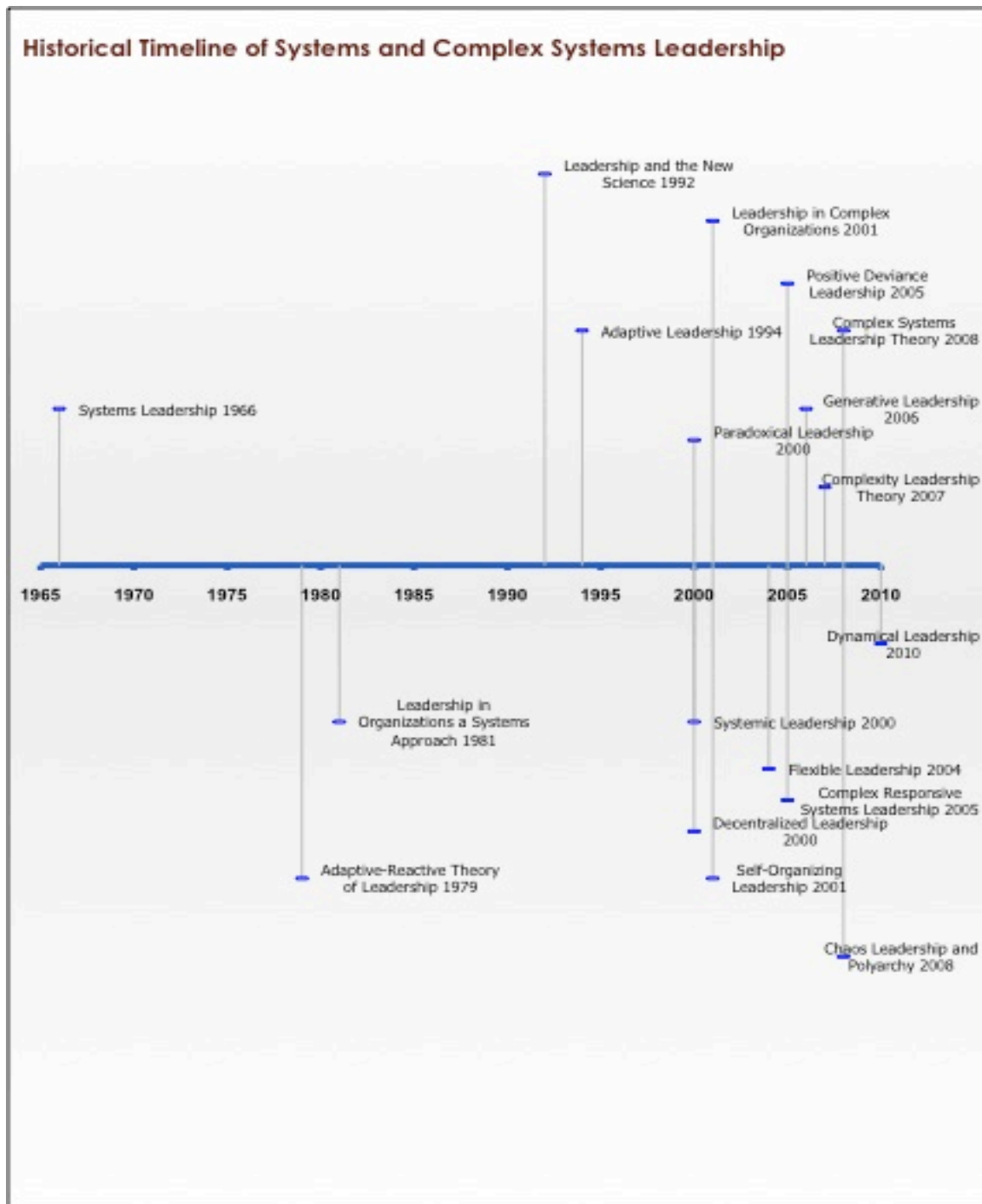
SYSTEMS APPROACHES TO LEADERSHIP

Systems Leadership

Katz and Kahn (1966) first offered a systems approach to leadership. Their systems approach emphasizes a model with inputs, throughputs, and outputs, boundaries, environmental influence, and feedback loops. The Adaptive-Reactive Theory of Leadership supported this view providing research evidence of the importance of the environment as an essential influential variable in leadership (Osborn & Hunt, 1975).

Leadership in Organizations a Systems Approach

The United States Military Academy created a Model of Organizational Leadership influenced by the Katz and Kahn systems approach to leadership (Prince, 1981). The model described individual, group, and organizational systems and subsystems. The model referred to leader as the focal point or throughput in the system.

A model which represents organizational leadership must show the organization as a total system, composed of subsystems vital to the survival of the total organization. At the same time it must present the organizational leader not only as another vital subsystem of the total organization but also as the focal point (the pilot) of the system, capable of "influencing human behavior so as to accomplish the goals prescribed." Further, the model must represent the complexity of relationships between subsystems and the total system. (Prince, 1981, pp. 2-4)

COMPLEX SYSTEMS APPROACHES TO LEADERSHIP

"A complex systems perspective introduces a new leadership 'logic' to leadership theory and research by understanding leadership in terms of an emergent event rather than a person" (Lichtenstein, et al., 2006, p. 3). The following section will discuss the current thinking on leadership from this perspective.

Leadership and the New Science

Leadership in the New Science is the first model based on a complex systems view. The model suggests choosing the behavior patterns desired and the values and agreements supporting those behaviors, to be reflective and learn, to develop an evolving clear organizational identity, purpose, and direction, and to foster inclusive participation in meaningful contribution (Wheatley, 1992).

Adaptive Leadership

Adaptive Leadership offers guidance on what to do during situations when there are no existing procedures or policies in place for guidance. Heifetz (1994) suggests leaders and followers need to distinguish between technical and adaptive situations. Technical situations are those where knowledge, procedures, and policies exist providing guidance on what to do and who should do it. "For many problems…no adequate response has yet been developed" (p. 72). Heifetz suggests this is a time for adaptive work. During adaptive situations both leaders and followers need to learn in order to provide meaningful solutions. Adaptive work requires leaders (authority) to engage the followers (stakeholders) seeking shared solutions rather than to provide authoritative directives. Adaptive work also requires followers not to always require leaders to have the answers. Both leaders and followers must work together during adaptive situations to provide meaningful solutions to new challenges. Heifetz recommends three steps to take during adaptive situations (pp. 99-100):

1. Identify the adaptive challenge, the gap between aspirations and reality, and focus attention in the specific issues created by the gap.
2. Regulate the level of distress caused by confronting the issues by pacing the rate of challenge and giving structure to the process. This may require

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leadership to improvise as actions generate information about the capacity of people to engage the issues and learn.

3. Devise a strategy shifting responsibility from the problem to the primary stakeholders. This may require and lead to changing people's expectations of authority and basis of trust.

What are the key issues that may change people's values, attitudes, and habits of behavior? These are the issues requiring attention and adaptive work. During adaptive work, both leaders and followers also need to work together to alleviate the increased stress occurring during learning through adaptive work. "When stress is severe, we seem especially willing to grant extraordinary power and give away our freedom" (Heifetz, 1994, p. 65). Leaders need to provide enough structure to guide the process without directing solutions to the issues. Followers need to trust in this process and not demand answers from leaders during stress filled adaptive situations.

Adaptive work requires leadership to shift from providing authoritative directives to engaging the people to identify the adaptive challenge, to managing the levels of distress, to focusing attention on the issues, and to protecting the voices of leadership without authority. "Creativity and courage can sometimes transform adaptive challenges into technical problems by expanding people's technical capabilities" (p. 88). Through adaptive work, a collaborative learning process, leaders and followers can gain the necessary knowledge to create procedures and policies for situations that were once unclear.

Paradoxical Leadership

Paradoxical leadership is a way of leading the wholeness of an organization and cultivating connections in the system toward greater creative adaptability (Lewin &

Regine, 2000, p. 271). There is attentiveness to the organization as a whole, including the parts, the relationships of the parts, and the products of those relationships or the emergent properties of the interactions. Paradoxical leadership nurtures the tension between paradoxes such as control and letting go, being rigid and being flexible, and individuals and teams. Nurturing these creative tensions supports fostering and seeking for novel organic emergent possibilities and solutions.

Decentralized Leadership

Decentralized leadership has in common with the modern complexity influenced models leadership exists everywhere (Resnick, 2000; Semler, 1989).

Systemic Leadership

Systemic leadership offered suggestions on how to use complexity science to improve leadership in student affairs and higher education (Allen & Cherrey, 2000). The book Systemic Leadership: Enriching the Meaning of Our Work was co-authored by Cynthia Cherrey, the current president of the International Leadership Association, the primary organization for scholars and practitioners in the field of leadership.

Leadership in Complex Organizations

The award winning paper entitled Leadership in Complex Organizations offered "complex leadership should be viewed as creating conditions that enable the interactions through which the behaviors and direction of organizational systems emerge" (Marion & Uhl-Bien, 2001, p. 406). Complexity leadership also suggests a focus on fostering and creating interactions among individuals, within groups of individuals, among groups making up systems, and among systems.

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Self-Organizing Leadership

Self-organizing leadership focuses on creativity and patterns in organization while dancing with operational and strategic leadership processes (Knowles, 2001).

Flexible Leadership

Flexible Leadership states embracing systems thinking is one of five outlined core competencies for effective leadership (Yukl & Lepsinger, 2004).

Complex problems have multiple causes….actions have multiple outcomes…changes have delayed effects…changes in one part can effect other parts of the system…small changes can lead to larger desirable or undesirable changes…different parts of the organization are interrelated…consider consequences of our actions both intended and unintended. (p. 231)

Complex Responsive Systems Leadership

Complex Responsive Systems Leadership views organizations "as patterns of interaction between people that are iterated as the present" (Griffin & Stacey, 2005, p. 4).

Positive Deviance Leadership

Positive Deviance Leadership involves finding, supporting, and nurturing the individuals and groups "who are already doing things in radically better ways" (Pascale & Sternin, 2005, p. 1). There are six suggested steps to support positive deviance leadership. 1. Make the group the guru who leads the way by modeling its positive deviant successes. 2. Reframe a problem with facts through the lens of people who are coping exceptionally or thriving. 3. Make it safe to learn by supporting positive deviance as desirable for the positive deviants and all others. 4. Be concrete, specific, and compelling when discussing a problem and avoid being abstract. 5. Find and leverage social proof by surfacing existing positive deviant success in the community. 6. Avoid

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resistance and use of authority by "introducing already existing ideas into the mainstream" (p. 8) led by the positive deviants who are members of that community.

Complexity Leadership Theory

Complexity leadership theory contributed by denoting three kinds of leadership existing in organizations working together with different purposes (Uhl-Bien, et al., 2007). Administrative Leadership is "leadership grounded in traditional, bureaucratic notions of hierarchy, alignment and control" (p. 299). Administrative leadership in complex systems supports creativity, learning, and adaptability in organizations. Enabling Leadership "structures and enables conditions such that CAS are able to optimally address creative problem solving, adaptability, and learning" (p. 299). Enabling leadership also manages the dynamic between administrative and adaptive leadership. Finally Adaptive Leadership is "a generative dynamic that underlies emergent change activities" (p. 299).

Chaos Leadership and Polyarchy

The article Chaos Leadership and Polyarchy (Obolensky, 2008) defines polyarchy as "…leadership done by the many….a dynamic rather than a desirable attribute or role only for the few" (p. 2). "Dynamic changing teams operate, using self-organising methods within common unifying strategy, technology and people systems" (p. 4). The article highlights the importance of having dynamic dialogue, listening, asking questions, having transparent information, having fluid and flexible cross-disciplinary self-organising self-managed teams, holding conflicting points of view, and leaders and followers both leading and following. "Paradoxical as it may seem, the role for leadership nowadays is to enable followers to take the lead, and for leaders to learn how to follow" (p. 11).

Complex Systems Leadership Theory

James Hazy also offers three distinctions in Complex Systems Leadership Theory. Generative Leadership generates new possibilities, change, alternatives, innovation novelty, variations, championing diversity as the environment changes (Surie & Hazy, 2006). Convergent Leadership keeps people aligned to move everyone towards an attractor or goal, structure, a strategy, vision, combined norm, or culture (J. Hazy, 2008). Unifying Leadership tries to understand how these new potential adaptations and emerging changes can be integrated into the dynamical system and hold an identity together for that collective (J. K. Hazy, Lichtenstein, & Rykert, 2008).

Dynamical Leadership

Dynamical Leadership (Quade & Holladay, 2010) offers a leadership landscape with three zones (1) Organized Zone. (2) Self-Organized zone. (3) Random zone. "In the Organization Zone, dynamical leaders pay attention to the tension between stability and disruption, seeing it as an indicator of a shifting pattern (p. 63). "In the Self-Organized Zone, dynamical leaders see relationships between human interactions, decisions, and emerging and shifting patterns….they take advantage of them to build their organizations' success" (p. 49). "The Random Zone is one of constant surprise, with unpredictable activity that seems highly unstable" (p. 51). Dynamical Leadership in the Random Zone encourages exploration. Dynamical Leadership is about "understanding how to see and influence patterns of behavior, interaction and performance" (p. 6).

In this chapter systems and complex systems perspective themes were presented. The historical foundations in systems and complex adaptive systems were also presented. Lastly, the historical foundations in systems and complex systems leadership were discussed.

Complexity Leadership Theory, Complex Systems Leadership Theory, and Dynamical Leadership each suggest three types of leadership in organizations. The context determines when each type of leadership is needed. Complex systems perspectives of leadership are inclusive. They do not deny the traditional leadership models. They attempt to contribute based on new understandings in modern sciences. The focus is on leadership enacting environments fostering and creating the complex interactions within an organization. This research contributes by providing evidence aligned with the emerging complex systems leadership perspective. The next chapter will explore the chosen research methods for this study aligned with a complex systems framework.

Chapter 3: Methodology

The purpose of this study was to gain insights from a large raw data set to further the understanding in the field of organizational leadership. The aim of this study was to explore what are the perceived essential components of an ideal organization, which may be enacted through complex systems leadership. The aim and the research questions were designed based on the definition of a system being two or more essential components interacting to make up a whole (Ackoff, 1999). A mixed model research approach was used to organize the raw data collected from 150 leadership seminars from 2000 to 2006. The qualitative data were unitized. Quantitative methods were used to analyze and synthesize categories and show statistical significance in order to define the perceived essential components.

This chapter will explain the guiding perspectives used to design and conduct this study and analyze and synthesize the data. The theoretical framework of the research will be discussed. A mixed model approach will be outlined including qualitative and quantitative approaches. The details of the research design and data collection will be explained. The instrumentation will be described. The tentative hypotheses and research questions will be presented. Finally the data analysis and synthesis will be discussed.

THEORETICAL FRAMEWORK OF THE RESEARCH—A COMPLEXITY WORLDVIEW

A complex systems approach assumes uncertain outcomes with multiple influences through rich and diverse nonlinear interactions leading to emergent understanding through self-organization. According to Cilliers (1998) complex systems consist of interacting diverse agents. The agents' interactions are rich and nonlinear influencing each other and the environment leading to unpredictable outcomes. The nonlinearity can result in small changes leading to large effects and large changes leading

to small effects. The interactions produce positive and negative feedback loops influencing the unpredictable outcomes. Complex systems require a constant flow of energy to maintain because they operate under conditions far from equilibrium. Complex systems have a history, evolve through time, and "their past is co-responsible for present behavior" (p. 5). In addition each agent is ignorant of the behavior of the system as a whole.

The complex systems perspective views a world as social and interactive. The perceptions of reality are multiple and emerge through the rich nonlinear interactions. The agents including the researchers within the complex system come to know through interactions influencing what they know.

Ontology

Ontology looks at what is reality. The complexity perspective offers multiple perceptions of reality. Each participant in leadership systems has his or her own reality or perspective influenced by and influencing his or her interactions, experiences, and observations. In addition there is a group, team, and organization reality or perception. The group, team, and organizational reality also emerge through the nonlinear interactions. Each agent brings to the table a unique reality as a unique interpretive lens. Lastly there is a reality of its own present before the group and individuals entered the picture. Complexity would look for the emergent themes and perhaps call this close to reality. Emanuel Kant proposed reality is what is; plus our experiences and our observations of what is (Salmon, et al., 1992). This leaves room for an authentic or objective reality plus a constructed reality.

Paradigms

Complexity emerges from several paradigms—postpositivist/critical realism and interpretive/constructivists paradigms with regards to reality. The critical realism perspective says "reality does exist but that it can be known only imperfectly because of…human limitations" (Mertens, 1998, p. 9). The interpretive/constructivists ontology claims "reality is socially constructed. Therefore, multiple mental constructions can be apprehended, some of which may be in conflict with each other, and perceptions of reality may change throughout the process of the study" (Mertens, 1998, p. 11). Another perspective looking at meaning as being socially constructed is symbolic interactionism.

Symbolic interactionism's three basic assumptions (Blumer, 1969, p. 2; Crotty, 1998, p. 72) also make sense through the lens of complexity:

'the human beings act toward things on the basis of the meanings that these things have for them';

'that the meaning of such things is derived from, and arises out of, social interaction that one has with one's fellows';

'that these meanings are handled in, and modified through, an interpretive process used by the person in dealing with the things he encounters'.

Causality

Complexity's focus on nonlinear interactions leading to uncertain outcomes clearly states actual cause and effect relationships are impossible to see in complex systems. Hume's problem of causality "is that we seem unable to identify the connection between cause and effect, or to find the secret power by which the cause brings about the effect" (Salmon, et al., 1992, p. 35). The perspective of not being able to see a direct cause and effect relationship is in line with the interpritivism paradigm. "Interpretivism

rests on the emphatic denial that we can understand cultural phenomena in causal terms" (Crotty, 1998, p. 69; Silverman, 1990, p. 126).

Epistemology

What do the interactive knowers know? With complexity each interactive knower influences each other and together they bring a history and create a history. Complexity is also aligned with the postmodern tenant of a variety of written and spoken communication exist simultaneously with different interpretations in different contexts (Cilliers, 1998). What is known is the product of all the interactions leading to the present unfolding moment. These interactions include those occurring before an organizations existence aiding in current understanding. This perspective is in line with the social constructionism paradigm offering people are born into a cultural lens and add to the lens (Crotty, 1998). In addition the interpretive/constructivist epistemology states: "the inquirer and the inquired-into are interlocked in an interactive process; each influences the other" (Mertens, 1998, p. 13).

In addition to interactive experience values, beliefs, frames of reference, emotions, biases and underlying assumptions are also included in a complex systems approach to leadership way of knowing. These can be better understood through self-reflection, shared-reflection, and sensitivity to real-time reflective actions.

MIXED MODEL APPROACH

Complexity's multiple perceptions of realty suggest the use of a mixed model research approach based on the particular research. "The methodological implication of having multiple realities is that the research questions cannot be definitively established before the study begins; rather, they will evolve and change as the study progresses" (Mertens, 1998, p. 14). In addition symbolic interactionism suggests to make meaning

through the lens of the research sample (Crotty, 1998). Mixed models, both quantitative and qualitative, were used in order to provide contextually pragmatic measurable outcomes capable of influencing desirable actions. "…Researchers should attempt to understand the 'complex world of lived experience from the point of view of those who live it'" (Mertens, 1998, p. 11; Schwandt, 1994, p. 118).

Professor at the Complexity Management Center in the Business School at the University of Hertfordshire, UK, Ralph Stacey, (1995), suggests:

> Research will have to focus on the meanings of the irregular patterns of behavior observed and on reasoning about the kind of system those patterns are being generated by…. general theoretical models are abandoned as far as possible in the attempt to identify meaning in the new experience.
>
> The method is one of gathering data from free-floating discussions and informal interpretations….researchers need to look for what is odd, contradictory, and paradoxical in what people say….to be primarily concerned…with the metaphors and the images people use….to focus on explanation…on hypotheses about whole systems, their dynamics, the conditions under which they will display different kinds of dynamic, and the relationship between the dynamic and innovative success. (p. 493)

"One important way to strengthen a study design is through triangulation, or the combination of methodologies in the study of the same phenomena or programs" (Patton, 1990, p. 187). The mixed model design Type IV was used. This model is defined as an exploratory investigation producing qualitative data to be quantitized and statistical analyzed (Tashakkori & Teddlie, 1998). "At the most basic level, the purpose of this strategy is to use quantitative data and results to assist the interpretation of qualitative findings" (Creswell, 2003, p. 215).

It is recommended mixed model studies "have both qualitative and quantitative research questions (or hypotheses) included in the studies to narrow and focus the research question" (Creswell, 2003, p. 114). Research questions addressed during the first and last phase of the study. During the second or quantitative phase of the study hypotheses were introduced and tested.

When determining which method to use, Lincoln and Guba (1985), suggest to:

Bear in mind and address…from the earliest stages of conception and planning on: specifying a focus…; determining the degree of fit between the focus as stated and inquiry paradigms that can be brought to bear on it; determining the fit between the selected inquiry paradigm and the substantive theory that will be employed; determining where and from whom data will be collected; determining the nature and scope of successive project phases…; determining instrumentation; determining data analysis procedures; planning logistics; and planning for trustworthiness. (p. 248)

Qualitative Approach

Qualitative research methods are appropriate when words are needed to describe themes and patterns. "When little is known about a topic, qualitative research usually should be initially favored" (Patten, 2002, p. 21). With little research literature or no theory it is difficult to form structured questionnaires. In this case a qualitative researcher could start with broad questions and refine them during the course of the interviews as various themes and issues start to emerge. Based on the qualitative results theories might be developed and hypotheses could be deduced and subsequently tested by quantitative research (Patten, 2002).

Qualitative research should also be used to explore "closed or secretive" cultures. Time committed to interviews and observations can break "through the barriers" normally keeping researchers out of such cultures.

Qualitative research methods are used to present patterns described with words. Qualitative researchers will use an inductive approach beginning by collecting data to plan other research activities often avoiding the influence of previous research. Qualitative researchers use unstructured interviews or direct and unstructured observations for measuring tools producing rich descriptive words. Qualitative researchers use small samples with subjective questionnaires taking time and a large research budget. Qualitative researchers may spend much time interacting with subjects interviewing and observing over a long period of time. Qualitative researchers may adjust the research instrument based on early responses. Qualitative research responses are direct cites quoted from individuals' responses. The data are presented in narrative form rather than numerical representation. The data are analyzed looking for emergent themes and patterns. Qualitative research conclusions are usually limited "to individuals who were directly studied" (Patten, 2002, p. 19).

Quantitative Approach

When numerical data is necessary it is appropriate to use quantitative research methods. "When potential subjects are not available for extensive interactions, the quantitative approach should be considered" (Patten, 2002, p. 21). Numerical data from structured surveys can be collected without the need for extensive interactions with subjects. Quantitative research is also appropriate when time and funds are limited. Numerical data collection and analysis is quick and requires few resources. Quantitative research is also appropriate when the audience requires hard numbers.

Quantitative research methods are used to present numerical data through statistical analysis. Quantitative researchers will often use a deductive approach where hypothesis are developed from a thorough review of relevant literature on the research topic. Quantitative researchers use measuring tools to reduce data to numbers quickly. The data is gathered from structured questionnaires or objective formatted interviews. Quantitative researchers use large samples with objective instruments taking little time and little budget resources. Quantitative researchers spend little time directly interacting with the subjects. Quantitative researchers rarely adjust the research instrument questions once the research has begun. Quantitative research responses are summarized with statistics and are usually not focused on individual subjects. "Quantitative researchers tend to generalize results to one or more populations" (Patten, 2002, p. 19).

Through the lens of complex systems, which focuses on nonlinear interactions leading to uncertain emergent understanding, this research paradigm is influenced primarily by interpretivism, constructivism/social constructionism, and symbolic interactionism. All of these paradigms accept an ontological perspective of having multiple realities. The epistemology accepts what is known is influenced by the knower's interactions. The research used a mixed model approach in order to better represent the multiple realities and perceptions presented as a product of nonlinear interactions. Details of how the quantitative and qualitative approaches were used will be described later in this chapter.

DATA COLLECTION AND OTHER PROCEDURES

Primary data were collected during leadership seminars from 2000 to 2006. These seminars were held at a major corporation site. Participants in the seminars came from 239 organizations representing non-for-profit, government, education, health-care,

private industry, retired individuals and other large and small institutions both national and international. Data consisting of two major sets of information collected during these leadership seminars were provided to this researcher for subsequent coding and analysis. The researcher visited the site to obtain the data. The first was an excel spreadsheet with demographic data. The second were 150 transparencies with the aggregate responses (see the Instrumentation section below for details). The researcher along with the seminar developer organized the transparencies by the date noted on the bottom of each transparency. The transparencies were then photocopied. The researcher used the photocopied version of the transparency to input the data into SPSS statistical software to prepare the qualitative data to be quantitatively analyzed and synthesized.

INSTRUMENTATION

Each transparency contained hand written aggregate responses collected from February 2000 to December 2006 during the corporate leadership seminars. Participants were provided with a template (see Table 1). The instrument is sectioned off by BluePen Company and RedPen Company on one dimension and Physical and People on another. After being told a trigger statement (see operational definitions for the BluePen Company and the RedPen Company in Chapter 1), participants were asked to fill out the template. A transparency of the template was then filled with the aggregate answers provided by the participants. The aggregate data were collected starting at one end of the seminar room and ending with the last participant in the room when the template was full or when there was group consensus there were no additional data.

Hypotheses

H1: The BluePen Company and the RedPen Company demonstrate significantly different emergent categories.

H2: The subsets People or Physical of the BluePen Company and the RedPen Company demonstrate significantly different emergent categories.

Table 1: Tentative Hypotheses from Dr. Bellows presentation (Bellows)

RedPen Company Physical Characteristics	BluePen Company Physical Characteristics
chaotic, disorganized, dirty, dark, no windows, clutter everywhere, policies on everything	neat, clean, organized, control charts in use, open environment, R&D department developing red pens, windows, signs of collaboration, etc
RedPen Company People Characteristics	BluePen Company People Characteristics
fearful, anxious, heads down, prone to spread rumors, disengaged, use blue pens	having fun, enthusiastic, friendly, inventive, involved, engaged, curious, energetic, thoughtful, use blue pens

The categories shown to be significant after statistical analysis make up the perceived essential components of the BluePen Company and the RedPen Company.

Research Questions

This study addressed the following four research questions.

1. What are the perceived essential components of a BluePen Company?

2. What are the perceived essential components of a RedPen Company?

3. What are the perceived essential components of the physical environment of the companies?

4. What are the perceived essential components of the people in the companies?

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RESEARCH DESIGN AND POPULATION

Descriptive statistics were used for this study. "Descriptive statistics consist of organizing and summarizing the information collected" (Sullivan III, 2007, p. 4). The population for this study is the 150 leadership seminar responses. Because the study is using the entire population and not a sample, inferential statistics were not used. This avoided sampling error problems because no inferences were made about the population from a sample.

This is an observational study. Observational studies seek "to learn the characteristics of a population [and] to determine whether there is an association between two or more variables" (Sullivan III, 2007, p. 15). The composition of this study is 150 aggregate seminar responses. The unit of analysis in this study is each individual aggregate seminar response. The responses from the seminars are qualitative data collected for seven years.

DATA ANALYSIS AND SYNTHESIS

The qualitative data were unitized after being entered into the computer. A program was used to create categorical variables representing the unique words manifested in the responses. The program generated columns with headers representing the manifest categorical variables. The program then placed a 1 or 0 under the column with each manifest variable when it was present in the row of each response. The program also placed a 0 where the manifest variable did not exist in the responses. Then the variables were sorted alphabetically and latent meaning variables were created (Berg, 2004). Latent meaning variables were created when aggregating manifest variables had similar meaning such as open and openness (see Appendix A). SPSS statistical software was used for this function. Additional columns with headings were created with latent meaning variables. An example is manifest variables open and openness were aggregated

to create the latent meaning variable lat_open. Latent meaning variable already have the 1 and 0 representing the presence of the manifest variables in the responses. The study defined categorical variables to describe characteristics of the individuals within the population. The categorical variables in this study are nominal. A nominal variable is a categorical variable that "describes the attribute of an individual" (Sullivan III, 2007, p. 13). The nominal variables are dichotomous variables. Dichotomous variables only have two values in this case 1 and 0 (Gravetter & Wallnau, 2000).

Chi-Square Test for Independence

Chi square test for independence was used to test significance to define the significant categorical variables; i.e., whether there is a significantly different proportion of occurrence between the BluePen Company and the RedPen Company. "Chi square is a simple non-parametric test of significance, suitable for nominal data where observations can be classified into discrete categories and treated as frequencies" (Burns, 2000, p. 212). "A significant finding indicates the variables probably do not exhibit the quality of independence, that they tend to be systematically related, and the relationship transcends pure chance or sampling error" (Best & Kahn, 1998, p. 416). Relationships between the categorical variables and the BluePen Company and the RedPen Company were tested. In addition relationships between the categorical variables and the subsets of the BluePen Company and the RedPen Company of physical and people were tested. A significance of .01 or lower was used as significant cut-off. Cramer's V of .1 or higher was used to show the strength of the relationships. Percentages by Columns was chosen to determine whether the categorical variable was primarily characteristic of the BluePen Company or the RedPen Company. In addition Percentages by Columns was chosen to determine whether the categorical variable was primarily a distinction of the physical or people

subsets of the BluePen Company or the RedPen Company. Both the manifest and latent meaning categorical variables were tested.

Principal Components Analysis

Principal components analysis was used to reveal statistically significant relationships between significant categorical variables. "Principle components analysis can be useful in selecting a subset of variables to represent the total set of variables" (Dunteman, 1989, p. 50). Components with eigenvalues greater than or equal to 1.0 were retained (Chan, 2004). This reduced the data to reveal significant components. The components represented latent variables. An example is if from the chi-square test for independence the manifest categorical variables Round and Table were both found significant and the principal components analysis showed a significant relationship between these two variables a component would be created representing the new latent variable Round Table. The principal components analysis was the final quantitative phase of the mixed model study.

The relationships shown to be statistically significant during the chi-square test for independence and the principal components analysis make up the perceived essential components. The manifest variables and the latent meaning variables were analyzed. Finally if a manifest variable existed within a latent meaning variable it was removed from the data set to create an aggregate data set of significant manifest and significant latent meaning variables. An example of this is if there were a manifest variable named Open and a latent meaning variable lat_open including the manifest variables open and openness, the new aggregate data set would only have the latent meaning variable lat_open. This reduced redundancy in the data. The purpose for doing an analysis of the

manifest categorical variables was to produce the first objective statistically significant categorical variables.

In summary, the following 5 steps were taken to statistically analyze and synthesize the qualitative data:

1. Identified manifest variables

2. Unitized the qualitative data

3. Identified latent meaning variables

4. Employed chi-square test for independence to determine which variables were significantly different between the BluePen Company and the RedPen Company and the subsets of Physical and People

5. Applied principal components analysis to further reduce the categories identified in Step 4

Qualitative Narrative

The final phase of the Type IV mixed model study was to present the qualitative data. As stated above the relationships shown to be statistically significant during the chi-square test for independence and the principal components analysis make up the perceived essential components. These perceived essential components were grouped in the BluePen Company and the RedPen Company and their subsets of physical and people. The original qualitative responses associated with the perceived essential components were then presented in narrative aligned with the emerging complex systems leadership perspective.

This chapter explained the guiding perspectives used to design and conduct this study and analyze and synthesize the data. The theoretical framework of the research was discussed. The Type IV mixed model approach was explained. The data collection and

procedures were presented. The tentative hypotheses and research questions were presented. The details of the research design and population followed. Finally how the data will be analyzed and presented was discussed. Chapter four will present the results of the data analysis. Chapter five will include the summary of the findings in chapter four in relation to the emerging complex systems leadership perspective, recommendations for future research, and the conclusion.

Chapter 4: Presentation and Analysis of the Data

Relational pattern recognition is an important step in research and complexity science. Finding the significant distinctive characteristics within patterns is also an important part of the process. This is where mathematics contributes to the process. Mathematics and statistical methods can clarify the distinctions within patterns in data. Statistical methods are useful to reduce the data to those relationships that are distinct. It is these distinct relationships that will be the answer to the research question what are the perceived essential components of an ideal organization? The term perceived is used to highlight the participants' responses are based on their perceptions. Statistical methods and mathematical functions were used to manifest the perceived distinct essential components. The statistical results were then based on the participants perceptions unaltered by the researcher's perceptions.

IDENTIFY AND UNITIZE MANIFEST VARIABLES

Microsoft Excel was first used to determine and produce 3,286 unique manifest variables from the 5396 responses. The qualitative data were then unitized associating a 1 where the manifest variable existed in the response and a 0 where the manifest variable did not exist in the response.

IDENTIFY LATENT MEANING VARIABLES

There were 750 latent meaning variables created by combining variables with similar meanings (see Appendix B). When combining variables "Lat_" was used followed by the name of a manifest variable within the combination. The combination of variables should be consistent across researchers. The choice of name may differ depending on the specific researcher's frame of reference and purpose. To make the

research more objective, one could use the first or last variable to name the latent meaning variable.

PREPARE THE DATA FOR BLUEPEN AND REDPEN ANALYSIS

After the manifest and latent meaning variables were created, the researcher aggregated the data. BluePen/RedPen was used first as Break Variables, followed by Total Workshops. Then all of the manifest and latent meaning variables were added as Aggregate Variables. The Sum function was chosen. The researcher created a new data set with the aggregate variables and sorted the file before aggregating. The variables were aggregated to analyze the data in relation to the 300 cases rather than in relation to the 5396 responses. There were 2679 responses in 150 BluePen Company cases. There were 2717 responses in 150 RedPen Company cases.

The data were then prepared for chi-square cross-tabulation analysis. If the variable was mentioned once, it was sufficient for the intended data analysis. The researcher converted the manifest aggregate sums to if >1, then put 1. The data were exported SPSS file to Excel to quickly perform the conversion task by using the find and replace function. There was 1008 value 2, 182 value 3, 46 value 4, 17 value 5, 11 value 6, 2 value 7, and 2 value 8 converted to value 1. The researcher checked for values up to 20.

The latent meaning aggregate sums were also converted to if >1, then put 1. There was 820 value 2, 131 value 3, 28 value 4, 6 value 5, 1 value 6, and 1 value 7 converted to value 1. Values up to 20 were verified. RedPen Company significant manifest and latent meaning combined variables were converted to 1 for 190 value 2, 30 value 3, 13 value 4, 2 value 5, 7 value 6, 0 value 7, and 1 value 8.

Both the manifest and latent meaning aggregate data sets were then imported back into SPSS. Non-parametric statistics were used to analyze the dichotomous variables.

Cross-Tabulation Chi-Square test for independence data was performed. A significance of .01 or lower was used as significant cut-off. Cramer's V of .1 or higher was used to show the strength of the relationship between the variables and the membership in the BluePen Company and the RedPen Company. Percentages by Columns were chosen to determine whether the variable was primarily a distinction of the BluePen Company or the RedPen Company.

The data were reduced from 3286 manifest variables and 745 latent meaning combined variables to 154 (73 BluePen and 81 RedPen) manifest variables and 118 (57 BluePen and 61 RedPen) latent meaning combined variables.

CHI-SQUARE RESULTS

Manifest BluePen Chi-Square Results

Table 2: Manifest BluePen Chi-Square, Cramer's V, and Percentage Summary Sorted by Cramer's V descending, Physical descending, and Chi-Square ascending.

Key	Variable	Chi-Square	Cramer's V	Blue Pen	Red Pen
1	Open	0.000	0.535	55.3%	6.0%
2	Clean	0.000	0.467	47.3%	6.0%
3	Organized	0.000	0.381	40.7%	8.0%
4	Well	0.000	0.379	36.0%	5.3%
5	Good	0.000	0.290	36.0%	11.3%
6	Orderly	0.000	0.256	14.0%	0.7%
7	Neat	0.000	0.229	14.7%	2.0%
8	Creative	0.000	0.225	11.3%	0.7%
9	Efficient	0.000	0.221	9.3%	0.0%
10	Sharing	0.000	0.216	17.3%	4.0%
11	Modern	0.000	0.204	8.0%	0.0%
12	Shared	0.001	0.199	9.3%	0.7%
13	Positive	0.001	0.199	9.3%	0.7%
14	Environment	0.001	0.198	28.7%	12.7%
15	Together	0.001	0.197	18.0%	5.3%

16	New	0.001	0.194	16.7%	4.7%
17	Pictures	0.001	0.190	8.7%	0.7%
18	Enthusiastic	0.001	0.190	8.7%	0.7%
19	Helpful	0.001	0.190	8.7%	0.7%
20	Happy	0.001	0.188	19.3%	6.7%
21	Friendly	0.001	0.188	12.7%	2.7%
22	Comfortable	0.001	0.186	6.7%	0.0%
23	Team	0.002	0.181	28.0%	13.3%
24	Sense	0.002	0.181	13.3%	3.3%
25	Engaged	0.002	0.180	8.0%	0.7%
26	Free	0.002	0.178	9.3%	1.3%
27	Common	0.002	0.178	9.3%	1.3%
28	Flow	0.002	0.177	17.3%	6.0%
29	Round	0.002	0.176	6.0%	0.0%
30	Motivated	0.000	0.172	12.7%	3.3%
31	Pride	0.003	0.172	12.7%	3.3%
32	Tables	0.003	0.170	7.3%	0.7%
33	Teams	0.004	0.168	16.7%	6.0%
34	Lit	0.004	0.168	10.0%	2.0%
35	Better	0.005	0.163	12.0%	3.3%
36	Space	0.005	0.160	18.0%	7.3%
37	ideas	0.006	0.160	16.0%	6.0%
38	Can	0.005	0.160	10.7%	2.7%
39	Fun	0.006	0.160	6.7%	0.7%
40	Fewer	0.006	0.160	6.7%	0.7%
41	Stations	0.006	0.158	8.0%	1.3%
42	Layout	0.007	0.157	12.7%	4.0%
43	Company	0.007	0.156	16.7%	6.7%
44	Family	0.007	0.155	4.7%	0.0%
45	Confident	0.007	0.155	4.7%	0.0%
46	Energetic	0.007	0.155	4.7%	0.0%
47	Everyone	0.009	0.151	10.0%	2.7%
48	Profit	0.010	0.149	6.0%	0.7%
49	Having	0.010	0.149	6.0%	0.7%
50	Plan	0.010	0.149	6.0%	0.7%
51	Community	0.010	0.149	6.0%	0.7%
52	Flexible	0.010	0.149	6.0%	0.7%
53	Coffee	0.010	0.149	6.0%	0.7%
54	Integrated	0.010	0.149	6.0%	0.7%
55	Talking	0.011	0.147	12.0%	4.0%

56	Design	0.011	0.147	7.3%	1.3%
57	Easy	0.011	0.147	7.3%	1.3%
58	Take	0.011	0.147	7.3%	1.3%
59	Planning	0.013	0.143	4.0%	0.0%
60	Newer	0.013	0.143	4.0%	0.0%
61	Smooth	0.013	0.143	4.0%	0.0%
62	Proud	0.013	0.143	4.0%	0.0%
63	Multi	0.013	0.143	4.0%	0.0%
64	Excited	0.013	0.143	4.0%	0.0%
65	More	0.014	0.142	34.0%	21.3%
66	Information	0.017	0.138	13.3%	5.3%
67	Knowledge	0.017	0.138	8.0%	2.0%
68	Willing	0.017	0.138	8.0%	2.0%
69	Tidy	0.018	0.137	5.3%	0.7%
70	Another	0.018	0.137	5.3%	0.7%
71	Discussion	0.018	0.137	5.3%	0.7%
72	Involved	0.018	0.137	5.3%	0.7%
73	Nice	0.018	0.136	6.7%	1.3%

Manifest RedPen Chi-Square Results

Table 3: Manifest RedPen Chi-Square, Cramer's V, and Percentage Summary Sorted by
Cramer's V descending, Physical descending, and Chi-Square ascending.

Key	Variable	Chi-Square	Cramer's V	Blue Pen	Red Pen
1	Don't	0.000	0.314	2.0%	22.7%
2	Old	0.000	0.295	0.0%	16.0%
3	Unorganized	0.000	0.295	0.0%	16.0%
4	Poor	0.000	0.288	0.0%	15.3%
5	Not	0.000	0.284	27.3%	55.3%
6	Closed	0.000	0.282	1.3%	18.0%
7	Disorganized	0.000	0.281	0.0%	14.7%
8	Red	0.000	0.259	2.0%	17.3%
9	Separate	0.000	0.253	0.0%	12.0%
10	Individual	0.000	0.245	3.3%	18.7%
11	Dirty	0.000	0.245	0.0%	11.3%
12	Morale	0.000	0.237	2.0%	15.3%
13	Bad	0.000	0.237	0.0%	10.7%

14	Isolated	0.000	0.233	0.7%	12.0%
15	Only	0.000	0.230	1.3%	13.3%
16	Messy	0.000	0.230	1.3%	13.3%
17	Unhappy	0.000	0.229	0.0%	10.0%
18	Relaxed	0.000	0.229	3.3%	6.0%
19	Slogans	0.000	0.221	2.0%	14.0%
20	Pliers	0.000	0.221	0.0%	9.3%
21	Separated	0.000	0.221	0.0%	9.3%
22	Rules	0.000	0.214	1.3%	12.0%
23	Dark	0.000	0.213	0.0%	8.7%
24	Locked	0.000	0.213	0.0%	8.7%
25	Low	0.000	0.207	7.3%	22.0%
26	Outdated	0.001	0.195	0.0%	7.3%
27	Segregated	0.001	0.195	0.0%	7.3%
28	Defensive	0.001	0.190	0.7%	8.7%
29	Pens	0.001	0.189	5.3%	17.3%
30	Doors	0.001	0.188	6.7%	19.3%
31	Month	0.001	0.186	0.0%	6.7%
32	Hammers	0.001	0.186	0.0%	6.7%
33	Little	0.002	0.181	3.3%	13.3%
34	Cubicles	0.002	0.177	7.3%	19.3%
35	Broken	0.002	0.176	0.0%	6.0%
36	Competitive	0.002	0.176	0.0%	6.0%
37	Poorly	0.002	0.176	0.0%	6.0%
38	Job	0.003	0.174	9.3%	22.0%
39	No	0.003	0.173	40.7%	58.0%
40	Mentality	0.003	0.170	0.7%	7.3%
41	CYA	0.003	0.170	0.7%	7.3%
42	Stressed	0.003	0.170	0.7%	7.3%
43	Through	0.004	0.166	0.0%	5.3%
44	Silos	0.004	0.166	0.0%	5.3%
45	Reactive	0.004	0.166	0.0%	5.3%
46	Over	0.006	0.159	2.0%	9.3%
47	Cluttered	0.006	0.158	1.3%	8.0%
48	Ways	0.007	0.155	0.0%	4.7%
49	Untidy	0.007	0.155	0.0%	4.7%
50	Frustrated	0.007	0.155	0.0%	4.7%
51	Code	0.007	0.155	0.0%	4.7%
52	Suspicious	0.007	0.155	0.0%	4.7%
53	Down	0.010	0.149	0.7%	6.0%

54	Enough	0.010	0.149	0.7%	6.0%
55	Clutter	0.010	0.149	0.7%	6.0%
56	Cubes	0.010	0.149	0.7%	6.0%
57	Blame	0.010	0.148	2.0%	8.7%
58	Performance	0.011	0.147	1.3%	7.3%
59	Employee	0.011	0.147	1.3%	7.3%
60	Waiting	0.013	0.143	0.0%	4.0%
61	Fear	0.013	0.143	0.0%	4.0%
62	Cost	0.013	0.143	0.0%	4.0%
63	Bosses	0.013	0.143	0.0%	4.0%
64	Away	0.013	0.143	0.0%	4.0%
65	Alone	0.013	0.143	0.0%	4.0%
66	Crisis	0.013	0.143	0.0%	4.0%
67	Negative	0.013	0.143	0.0%	4.0%
68	Sloppy	0.013	0.143	0.0%	4.0%
69	Independent	0.013	0.143	0.0%	4.0%
70	Tags	0.013	0.143	0.0%	4.0%
71	Standing	0.013	0.143	0.0%	4.0%
72	Unsafe	0.013	0.143	0.0%	4.0%
73	Caps	0.015	0.140	2.7%	9.3%
74	Own	0.015	0.140	2.7%	9.3%
75	Behavior	0.018	0.137	0.7%	5.3%
76	Individuals	0.018	0.137	0.7%	5.3%
77	Status	0.018	0.137	0.7%	5.3%
78	Back	0.018	0.137	0.7%	5.3%
79	Need	0.018	0.136	1.3%	6.7%
80	Absenteeism	0.018	0.136	1.3%	6.7%
81	Clock	0.018	0.136	1.3%	6.7%

Latent Meaning BluePen Chi-Square Results

Table 4: Latent Meaning BluePen Chi-Square, Cramer's V, and Percentage Summary
Sorted by Cramer's V descending, Physical descending, and Chi-Square
ascending.

Key	Variable	Chi-Square	Cramer's V	Blue Pen	Red Pen
1	Lat_open	0.000	0.540	58.0%	7.3%
2	Lat_clean	0.000	0.492	51.3%	6.7%

3	Lat_well	0.000	0.379	36.0%	5.3%
4	Lat_organized	0.000	0.341	48.7%	16.7%
5	Lat_good	0.000	0.287	36.7%	12.0%
6	Lat_share	0.000	0.278	28.7%	7.3%
7	Lat_team	0.000	0.272	44.7%	19.3%
8	Lat_neat	0.000	0.261	16.0%	1.3%
9	Lat_flexible	0.000	0.248	13.3%	7.0%
10	Lat_relax	0.000	0.233	12.0%	0.7%
11	Lat_friendship	0.000	0.229	16.0%	2.7%
12	Lat_help	0.000	0.229	14.7%	2.0%
13	Lat_new	0.000	0.228	20.7%	5.3%
14	Lat_happy	0.000	0.215	22.7%	7.3%
15	Lat_plan	0.000	0.214	12.0%	1.3%
16	Lat_flow	0.000	0.211	21.3%	6.7%
17	Lat_efficient	0.000	0.208	10.0%	0.7%
18	Lat_together	0.000	0.205	18.7%	5.3%
19	Lat_discuss	0.000	0.205	12.7%	2.0%
20	Lat_enthusiastic	0.000	0.205	12.7%	2.0%
21	Lat_pride	0.000	0.202	17.3%	4.7%
22	Lat_modern	0.001	0.190	8.7%	0.7%
23	Lat_free	0.001	0.187	11.3%	2.0%
24	Lat_take	0.001	0.186	16.0%	4.7%
25	Lat_space	0.001	0.184	33.3%	17.3%
26	Lat_creative	0.001	0.183	14.7%	4.0%
27	Lat_involved	0.002	0.180	8.0%	0.7%
28	Lat_photos	0.002	0.178	15.3%	4.7%
29	Lat_willing	0.002	0.178	10.7%	2.0%
30	Lat_engaged	0.002	0.178	9.3%	1.3%
31	Lat_excited	0.002	0.176	6.0%	0.0%
32	Lat_order	0.003	0.173	16.0%	5.3%
33	Lat_table	0.003	0.170	7.3%	0.7%
34	Lat_tidy	0.003	0.170	7.3%	0.7%
35	Lat_easy	0.004	0.168	10.0%	2.0%
36	Lat_improve	0.004	0.166	13.3%	4.0%
37	Lat_enjoy	0.004	0.166	5.3%	0.0%
38	Lat_layout	0.005	0.160	14.0%	4.7%
39	Lat_profit	0.006	0.160	6.7%	0.7%
40	Lat_community	0.006	0.160	6.7%	0.7%
41	Lat_purpose	0.006	0.160	6.7%	0.7%
42	Lat_visual	0.006	0.160	6.7%	0.7%

43	Lat_ideas	0.007	0.157	18.7%	8.0%
44	Lat_best	0.007	0.157	12.7%	4.0%
45	Lat_family	0.007	0.155	4.7%	0.0%
46	Lat_mutiple	0.007	0.155	4.7%	0.0%
47	Lat_smooth	0.007	0.155	4.7%	0.0%
48	Lat_interact	0.009	0.151	15.3%	6.0%
49	Lat_talk	0.009	0.151	15.3%	6.0%
50	Lat_design	0.009	0.151	10.0%	2.7%
51	Lat_collaborating	0.009	0.151	10.0%	2.7%
52	Lat_company	0.013	0.144	16.7%	7.3%
53	Lat_target	0.013	0.143	4.0%	0.0%
54	Lat_knowledge	0.017	0.138	20.7%	10.7%
55	Lat_ability	0.018	0.137	5.3%	0.7%
56	Lat_encourage	0.018	0.137	5.3%	0.7%
57	Lat_nice	0.018	0.136	6.7%	1.3%

Latent Meaning RedPen Chi-Square Results

Table 5: Latent Meaning RedPen Chi-Square, Cramer's V, and Percentage Summary Sorted by Cramer's V descending, Physical descending, and Chi-Square ascending.

Key	Variable	Chi-Square	Cramer's V	Blue Pen	Red Pen
1	Lat_disunorganized	0.000	0.442	0.0%	32.7%
2	Lat_separated	0.000	0.333	2.7%	26.0%
3	Lat_poor	0.000	0.327	0.0%	19.3%
4	Lat_old	0.000	0.315	1.3%	21.4%
5	Lat_doesn_t	0.000	0.301	3.3%	24.0%
6	Lat_closed	0.000	0.282	1.3%	18.0%
7	Lat_individual	0.000	0.271	5.3%	24.7%
8	Lat_isolated	0.000	0.270	0.7%	15.3%
9	Lat_slogans	0.000	0.245	2.0%	16.0%
10	Lat_lack	0.000	0.241	4.7%	20.7%
11	Lat_messy	0.000	0.230	1.3%	13.3%
12	Lat_rules	0.000	0.230	1.3%	13.3%
13	Lat_clutter	0.000	0.229	2.0%	14.7%
14	Lat_compete	0.000	0.216	0.7%	10.7%
15	Lat_defensive	0.000	0.216	0.7%	10.7%

16	Lat_unhappy	0.000	0.216	0.7%	10.7%
17	Lat_low	0.000	0.215	7.3%	22.7%
18	Lat_blame	0.000	0.213	2.0%	13.3%
19	Lat_lock	0.000	0.208	0.7%	10.0%
20	Lat_outdated	0.000	0.204	0.0%	8.0%
21	Lat_silos	0.000	0.204	0.0%	8.0%
22	Lat_month	0.000	0.204	0.0%	8.0%
23	Lat_cubicle	0.000	0.203	11.3%	27.3%
24	Lat_frustrated	0.001	0.195	0.0%	7.3%
25	Lat_hammer	0.001	0.195	0.0%	7.3%
26	Lat_park	0.001	0.193	6.0%	18.7%
27	Lat_absenteeism	0.001	0.187	1.3%	10.0%
28	Lat_broken	0.001	0.186	0.0%	6.7%
29	Lat_independent	0.001	0.186	0.0%	6.7%
30	Lat_mental	0.002	0.180	0.7%	8.0%
31	Lat_react	0.002	0.176	0.0%	6.0%
32	Lat_suspicion	0.002	0.176	0.0%	6.0%
33	Lat_stress	0.003	0.170	2.7%	11.3%
34	Lat_fear	0.003	0.170	0.7%	7.3%
35	Lat_door	0.003	0.169	10.7%	23.3%
36	Lat_complain	0.004	0.166	0.0%	5.3%
37	Lat_rushed	0.004	0.166	0.0%	5.3%
38	Lat_pens	0.005	0.164	10.0%	22.0%
39	Lat_executives	0.006	0.159	2.0%	9.3%
40	Lat_segregated	0.006	0.158	1.3%	8.0%
41	Lat_hierarchy	0.007	0.157	4.0%	12.7%
42	Lat_cover	0.007	0.155	0.0%	4.7%
43	Lat_cost	0.007	0.155	0.0%	4.7%
44	Lat_crisis	0.007	0.155	0.0%	4.7%
45	Lat_fix	0.007	0.155	0.0%	4.7%
46	Lat_tagged	0.007	0.155	0.0%	4.7%
47	Lat_wait	0.007	0.155	0.0%	4.7%
48	Lat_behavior	0.010	0.149	0.7%	6.0%
49	Lat_fire	0.011	0.147	1.3%	7.3%
50	Lat_badge	0.013	0.143	0.0%	4.0%
51	Lat_compliant	0.013	0.143	0.0%	4.0%
52	Lat_excess	0.013	0.143	0.0%	4.0%
53	Lat_requirement	0.013	0.143	0.0%	4.0%
54	Lat_write	0.013	0.143	0.0%	4.0%
55	Lat_doers	0.014	0.142	6.0%	14.7%

56	Lat_you	0.014	0.142	4.7%	12.7%
57	Lat_boss	0.015	0.140	2.7%	9.3%
58	Lat_departmental	0.016	0.139	18.7%	30.7%
59	Lat_lot	0.017	0.138	30.7%	44.0%
60	Lat_clock	0.017	0.138	4.0%	11.3%
61	Lat_quiet	0.018	0.136	1.3%	6.7%

COMBINE SIGNIFICANT MANIFEST AND LATENT MEANING VARIABLES

Next the significant manifest and latent meaning variables were combined to prevent redundancy and reduce the data further. Where there existed a manifest variable also existing in a latent meaning variable the manifest variable was dropped. For example the significant BluePen Company manifest variable Open was dropped because it also existed in the significant BluePen Company latent meaning variable Lat_open. This reduced the BluePen Company variables from 130 to 78 (21 manifest and 57 latent meaning). This reduced the RedPen Company variables from 142 to 93 (32 manifest and 61 latent meaning).

PREPARE THE DATA FOR PHYSICAL AND PEOPLE ANALYSIS

An aggregate sum data set was then created with the combined significant manifest and latent meaning variables with the variable physical/people and total workshops as the Break Variables. The purpose of this was to see if there were any variables that were distinctly related to either the physical or the people variable.

The data were saved in Excel format in order to convert the sums into 1's and 0's. There was 452 value 2, 94 value 3, 31 value 4, 5 value 5, 3 value 6, and 1 value 7 converted to 1. Values up to 20 were reviewed. There were 50 variables distinctly associated with the physical category. There were 50 variables distinctly associated with the people category.

Latent Meaning and Manifest Physical Chi-Square Results

Table 6: Physical Chi-Square, Cramer's V, and Percentage Summary Sorted by Cramer's V descending, Physical descending, and Chi-Square ascending.

Key	Variable	Chi-Square	Cramer's V	Physical	People
1	Lat_clean	0.000	0.604	54.7%	0.7%
2	Lat_space	0.000	0.472	40.7%	2.0%
3	Lat_open	0.000	0.442	55.3%	13.3%
4	Lat_cubicle	0.000	0.405	32.7%	2.0%
5	Lat_disunorganized	0.000	0.358	31.3%	4.0%
6	Lat_door	0.000	0.339	28.0%	3.3%
7	Lat_well	0.000	0.338	36.0%	8.0%
8	Lat_organized	0.000	0.337	47.3%	16.0%
9	Lat_layout	0.000	0.314	18.0%	0.0%
10	Lat_slogans	0.000	0.314	18.0%	0.0%
11	Lat_flow	0.000	0.301	24.0%	3.3%
12	Lat_park	0.000	0.301	21.3%	2.0%
13	Lat_separated	0.000	0.295	24.7%	4.0%
14	Lat_order	0.000	0.289	18.7%	1.3%
15	Lat_messy	0.000	0.281	14.7%	0.0%
16	Lat_neat	0.000	0.270	15.3%	70.0%
17	Lat_clutter	0.000	0.270	15.3%	0.7%
18	Environment	0.000	0.257	30.7%	10.0%
19	Dirty	0.000	0.245	11.3%	0.0%
20	Lit	0.000	0.245	11.3%	0.0%
21	Lat_lock	0.000	0.237	10.7%	0.0%
22	Lat_departmental	0.000	0.232	32.0%	12.7%
23	Lat_old	0.000	0.231	18.7%	4.0%
24	Lat_executives	0.000	0.229	10.0%	0.0%
25	Lat_modern	0.000	0.221	9.3%	0.0%
26	No	0.000	0.220	64.0%	42.0%
27	Lat_lot	0.000	0.216	46.0%	25.3%
28	Dark	0.000	0.213	8.7%	0.0%
29	Lat_oudate	0.000	0.204	8.0%	0.0%
30	Lat_tidy	0.000	0.204	8.0%	0.0%
31	Lat_visual	0.001	0.195	7.3%	0.0%
32	Lat_closed	0.001	0.186	16.0%	4.7%
33	Stations	0.002	0.180	8.0%	0.7%

34	Coffee	0.002	0.176	6.0%	0.0%
35	Round	0.002	0.176	6.0%	0.0%
36	Lat_table	0.003	0.170	7.3%	0.7%
37	Lat_good	0.004	0.165	30.7%	16.7%
38	Lat_hammer	0.006	0.160	6.7%	0.7%
39	Lat_efficient	0.006	0.159	9.3%	2.0%
40	Untidy	0.007	0.155	4.7%	0.0%
41	Lat_rules	0.008	0.153	11.3%	3.3%
42	Comfortable	0.010	0.149	6.0%	0.7%
43	Lat_broken	0.010	0.149	6.0%	0.7%
44	Caps	0.010	0.148	8.7%	2.0%
45	Red	0.011	0.147	14.0%	5.3%
46	Away	0.013	0.143	4.0%	0.0%
47	Unsafe	0.013	0.143	4.0%	0.0%
48	Lat_excess	0.013	0.143	4.0%	0.0%
49	Lat_target	0.013	0.143	4.0%	0.0%
50	Pliers	0.017	0.138	8.0%	2.0%

Latent Meaning and Manifest People Chi-Square Results

Table 7: People Chi-Square, Cramer's V, and Percentage Summary Sorted by Cramer's V descending, Physical descending, and Chi-Square ascending.

Key	Variable	Chi-Square	Cramer's V	Physical	People
1	Lat_knowledge	0.000	0.378	0.7%	26.7%
2	Lat_happy	0.000	0.345	2.7%	27.3%
3	Lat_take	0.000	0.333	0.0%	20.0%
4	Lat_talk	0.000	0.327	0.0%	19.3%
5	Job	0.000	0.307	3.3%	24.7%
6	Morale	0.000	0.302	0.0%	16.7%
7	Motivated	0.000	0.288	0.0%	15.3%
8	Lat_blame	0.000	0.288	0.0%	15.3%
9	Lat_ideas	0.000	0.280	2.7%	20.7%
10	Lat_doesn_t	0.000	0.269	4.7%	23.3%
11	Lat_doers	0.000	0.266	2.7%	19.3%
12	Lat_willing	0.000	0.253	0.0%	12.0%
13	Lat_help	0.000	0.246	1.3%	14.7%
14	Lat_compete	0.000	0.245	0.0%	11.3%

15	Lat_stress	0.000	0.241	0.7%	12.7%
16	Lat_pride	0.000	0.230	3.3%	17.3%
17	Lat_enthusiastic	0.000	0.222	1.3%	12.7%
18	Lat_defensive	0.000	0.216	0.7%	10.7%
19	Lat_absenteeism	0.000	0.208	0.7%	10.0%
20	Lat_engaged	0.000	0.208	0.7%	10.0%
21	Lat_low	0.000	0.207	7.3%	22.0%
22	Lat_friendship	0.000	0.206	3.3%	15.3%
23	Own	0.001	0.197	1.3%	10.7%
24	Fun	0.001	0.195	0.0%	7.3%
25	Lat_fear	0.001	0.195	0.0%	7.3%
26	Lat_frustrated	0.001	0.195	0.0%	7.3%
27	Lat_you	0.001	0.190	3.3%	14.0%
28	Lat_unhappy	0.001	0.187	1.3%	10.0%
29	Having	0.001	0.186	0.0%	6.7%
30	Lat_improve	0.002	0.181	3.3%	13.3%
31	Lat_excited	0.002	0.176	0.0%	6.0%
32	Lat_suspicion	0.002	0.176	0.0%	6.0%
33	Lat_creative	0.002	0.175	4.0%	14.0%
34	Lat_interact	0.003	0.173	5.3%	16.0%
35	Through	0.004	0.166	0.0%	5.3%
36	Lat_enjoy	0.004	0.166	0.0%	5.3%
37	Lat_share	0.005	0.161	12.7%	25.3%
38	Lat_boss	0.006	0.159	2.0%	9.3%
39	Lat_team	0.006	0.157	24.7%	39.3%
40	Confident	0.007	0.155	0.0%	4.7%
41	Energetic	0.007	0.155	0.0%	4.7%
42	Lat_wait	0.007	0.155	0.0%	4.7%
43	Lat_behavior	0.010	0.149	0.7%	6.0%
44	Lat_involved	0.011	0.147	1.3%	7.3%
45	Lat_mental	0.011	0.147	1.3%	7.3%
46	Alone	0.013	0.143	0.0%	4.0%
47	Standing	0.013	0.143	0.0%	4.0%
48	CYA	0.018	0.136	1.3%	6.7%
49	Lat_quiet	0.018	0.136	1.3%	6.7%
50	Lat_together	0.019	0.135	7.3%	16.0%

PRINCIPAL COMPONENTS ANALYSIS

Principal components analysis was applied to distinguish relationships between significant variables. The data were reduced to reveal the final significant components of the ideal organizations. The principal components analysis was the final quantitative phase of the mixed model study.

BluePen Company Principal Components Analysis Results

The BluePen Company combined manifest and latent meaning variables were reduced from 78 to 51. There were 20 latent variables unique to the people category. There were 14 latent variables uniquely describing the physical category. There were 17 latent variables not distinct to either the people or physical category and were labeled BluePen Company General.

RedPen Company Principal Components Analysis Results

The RedPen Company combined manifest and latent meaning variables were reduced from 93 to 56 latent variables. There were 19 latent variables unique to the people category. There were 20 latent meaning variables uniquely describing the physical category. There were 17 not distinct to either the people or physical category and were labeled RedPen Company General.

Figure 2 below represents a map of the sorted significant variables of the two companies.

Figure 2: Ideal Organization Map
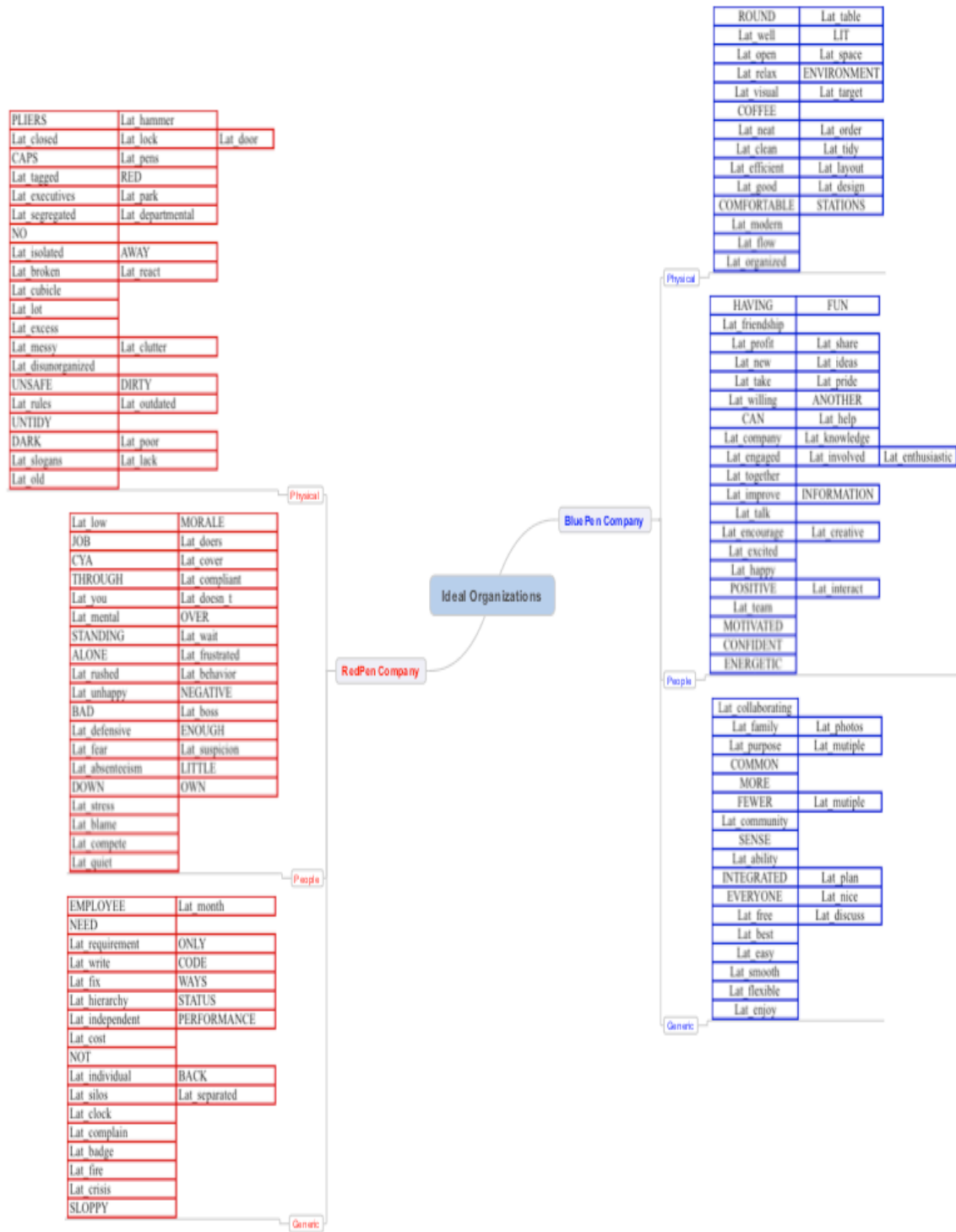
QUALITATIVE OUTPUT

The following sections are the BluePen Company followed by the RedPen Company qualitative results. The results are a summary of the product of the findings (Berg, 2004). The results are organized based on the leadership seminar exercise. The seminar participants responded to the question what would you see in the people and the physical environments of the BluePen Company and the RedPen Company. The results are organized to describe the people what, the people characteristics, and the behavior of the people. The next section are the physical results organized in physical what, the physical characteristics, and the physical layout of the company.

Following the qualitative results section are the qualitative findings representing the transcribed responses. The qualitative findings also include generic descriptive sections with essential variables that provided an overview of each company of both the people and the physical categories.

The following table reveals the list of essential variables that will be described in detail in the next section. The variables combined based on the principal components analysis have a tilde (~) between them indicating the relationship. The variables with an asterisk (*) are the general variables neither distinct to the people nor the physical categories yet still significant. The order of the variables within each section are based on a flow of narrative from the qualitative findings.

Table 8: RedPen Company and BluePen Company Essential Components Qualitative Sort

RedPen Company People What	BluePen Company People What
Bad ~ Boss	Teams

Job ~ Doers *Employee ~ Month *Written ~ Dress Code *Hierarchy ~ Status *Need *Badge	
RedPen Company **People Characteristics**	**BluePen Company** **People Characteristics**
Low ~ Morale Defensive ~ Enough Alone ~ Frustrated Rushed ~ Behavior Unhappy ~ Negative Fear ~ Suspicion Stress Compliant Quiet Down ~ Own *Fixed ~ Ways *Sloppy *Cost	Happy Motivated Friendly Engaged ~ Involved ~ Enthusiastic Excited Confident Energetic *Multi ~ Fewer *Everyone ~ Nice *Enjoy *Smooth *Flexible *Easy *Ability

	*Family
RedPen Company **People Behavior**	**BluePen Company** **People Behavior**
Absenteeism ~ Little	*Big Picture
Through	*Purpose
Standing ~ Waiting	*Common
Blame	*Integrated ~ Plan
Mental ~ Over	Having ~ Fun
CYA ~ Cover	Taking ~ Pride
Compete	Knowledge ~ Company
*Individual ~ Back	Sharing ~ Profits
*Separated ~ Silos	Information ~ Improvement
*Independent ~ Performance	New ~ Ideas
*Clock	Encourage ~ Creativity
*Complain	Positive ~ Interaction
*Fire	Together
*Crisis	Talking
*Requirements ~ Only	Another ~ Willing
	Can ~ Help
	*Collaborating
	*Free ~ Discussion
	*Community

RedPen Company Generic Descriptive	BluePen Company Generic Descriptive
*Not	*More *Sense *Better
RedPen Company **Physical What**	**BluePen Company** **Physical What**
Closed ~ Locked ~ Doors Pliers ~ Hammers Caps ~ Pens Red ~ Tagged Executive ~ Parking Cubicles *Independent ~ Performance Outdated ~ Rules Slogans ~ Lack *Requirements ~ Only *Fixed ~ Ways *Written ~ Dress Code *Employee ~ Month *Hierarchy ~ Status *Cost	Relaxed ~ Environment Well ~ Lit Open ~ Space Visual ~ Targets Coffee Round ~ Tables Comfortable ~ Stations Modern *Everyone ~ Nice

*Clock *Complain *Badge *Crisis *Fire	
RedPen Company Physical Characteristics	BluePen Company Physical Characteristics
Old Reactive ~ Broken Messy ~ Clutter Disorganized Untidy Unsafe ~ Dirty Poor ~ Dark *Need *Sloppy	Neat ~ Orderly Clean ~ Tidy Organized *Smooth
RedPen Company Physical Layout	BluePen Company Physical Layout
Departmental ~ Segregated Isolated ~ Away *Individual ~ Back *Separated ~ Silos	Good ~ Design Efficient ~ Layout Flow *Easy

	*Flexible
	*Free ~ Discussion
	*Collaborating
	*Community
	*Common
	*Family ~ Pictures
	*Integrated ~ Plan
	*Purpose
	*Multi ~ Fewer
RedPen Company Physical Generic Descriptive	BluePen Company Physical Generic Descriptive
Lots	*Better
Excess	*More
No	*Sense
You ~ Don't	*Ability
*Not	

BluePen Company People Qualitative Results

BluePen Company People

The BluePen Company people significant distinction is they are teams. The teams are cross-functional with customers and suppliers. They are self-directed and multi-disciplined. There is a team paycheck—shared appropriately.

BluePen Company People Characteristics

The BluePen Company people significant distinctive characteristics are they are happy, motivated, friendly, engaged, involved, enthusiastic, and excited. They are confident and energetic. They are multi-skilled and multi-disciplined and there are fewer people. Everyone is part of the success. They enjoy their work. Everyone is nice. The people are flexible and adaptive. They are easy going, calm, and smooth. They have the ability to do lots of different tasks. There is a family atmosphere.

BluePen Company People Behavior

The BluePen Company people significant distinctive behaviors are they are focused and driven by the big picture, common purpose and goals, and an integrated plan supporting the company's vision and they know how they are connected to it. People are having fun. They take pride in what they do. They share knowledge and the company's goals. They are knowledgeable about other departments and their customers. They share—profits, challenges, work, ideas for improvement, responsibility, success, vision, passions, and credit. There is a flow of information and suggestions for continuous improvement. They are thinking of new ideas. They encourage creativity. They are positive and there is rich interaction among people, functions, groups—they are interdependent. Everyone works together. They have picnics and luncheons together. There is a lot of talking and asking questions. They are supportive of and trust one another. They are willing to help out, listen, communicate with one another and they embrace other cultures. They have a can do attitude. Asking for help is a sign of strength. They are helpful and cooperative with everyone in the organization. There is cross-departmental collaboration. BluePen Company people foster active and free discussion. There is a sense of community.

BluePen Company Physical Qualitative Results

BluePen Company Physical

The BluePen Company physical significant distinctions are it is a relaxed environment, it is well maintained, well designed, and well lit. There is open space, open offices, and open atmosphere. There is public and private space and the space is based on functionality. There are visual targets and visual connectedness displays. Data are collected and used by everyone. There is nice furniture for everyone. There are comfortable and ergonomic workstations for individuals and for working in teams. There are large and small round tables. There is modern and new equipment and machinery. There is a large coffee bar and coffee is complimentary. There are nice looking grounds and facilities.

BluePen Company Physical Characteristics

The BluePen Company physical significant distinctive characteristics are it is neat and orderly. It is clean and tidy. It is organized. There is a smooth running assembly line, smooth flowing product, and smoothly functioning equipment.

BluePen Company Physical Layout

The BluePen Company physical significant distinctive layout is based on good design. There are healthy-good conditions, a good location, and good layout for flow, access, and communication. It is also well designed for customers and staff. There are also good quality control testing procedures. The layout is efficient and communication is facilitated by the office layout. The layout is functional, practical, and cellular with different processes side by side. The layout promotes more interaction. The layout is flexibly structured in labs for experimentation and play. There is a flow of process, production, and operation. There is easy access and it is easy to find things. The facility is

flexible-mobile and adaptive. The layout is free flowing and things are arranged in such a way to facilitate discussion and communication. There are collaborative work areas and systems. There are community areas. There are common offices, common workspace, common meeting areas, and common parking. There are team, family and happy personal pictures on desks. It is a warm and personalized workspace. There are co-located integrated teamwork areas, integrated processes, an integrated product development plan, and integrated-matrixed departments. There is visual information about plans and achievements of the company and future plans are mapped out. There is multi-purpose space and equipment. There are fewer offices and fewer clocks.

RedPen Company People Qualitative Results

RedPen Company People

The RedPen Company people significant distinctions are bad boss and job doers. They do the minimum it takes to get the job done. Each person is concerned with just doing his or her job. There are low scoring employee satisfaction surveys. There are employee of the month pictures on the wall. There is a written dress code. There is hierarchy with status indicators. People need an office to reflect their position. Bosses always feel the need to look over people's shoulders. They are identified by their employee badge.

RedPen Company People Characteristics

The RedPen Company people significant distinctive characteristics are they have low morale, low pride, low motivation, low esteem, low personal value, and low energy. They are defensive. Everybody knows when the job done is good enough. There are too many chiefs and not enough Indians. There is not enough time. The people are working alone and frustrated. There is a rushed behavior—rushing to meet some dictated deadline,

and rushing manufacturing. The RedPen Company people are numb, guarded, and play it safe. The people are unhappy and negative. The people are working in fear and suspicion. There is a fear or hesitation with new ideas. There is high stress. People are compliant but not committed. Everyone is quiet during meetings. The people are quiet 9 to 5ers. The people have their heads down. Everyone is at his or her own assigned workstations. Managers are in their own building. Everyone does their own job and is responsible for their own growth and celebrate their "own" individual success. The people are set in their ways they have fixed ways. The people have a "if it works don't fix it" mentality. They have a sloppy appearance. They are cost focused and strive to achieve department goals at the cost of others.

RedPen Company People Behavior

The RedPen Company people significant distinctive behaviors are there is high absenteeism with little work being done, little interaction, little trust, people work in their own little world, and there is little conversation. They are just going through the motions. They are standing and waiting—waiting for the bell to ring, and waiting for direction and instructions. The people are blaming each other. There is an "ain't my problem" mentality. They are bickering over everything. There is over hiring and bosses always feel the need to look over people's shoulders. There is a cover your ass (CYA) mentality. The people are competing internally and between departments. The people work as isolated individuals backstabbing and not talking back and forth. Each person is working on separate tasks with separate agendas. The people work in silos. There is independent performance—people work independently and they seek independent recognition. Performance is based on quotas. The RedPen Company people are clock punchers who are watching the clock just pushing through to get home. The people complain. There is

fire-fighting putting out fires. They are always in crisis. They only do what they are required to do.

RedPen Company Physical Qualitative Results

RedPen Company Physical

The RedPen Company physical significant distinctions are there are closed locked doors. There are pliers and hammers everywhere—on everyone's desk. There are pens and caps everywhere. There are separate pen and cap production line and assembly rooms. There are broken caps. Pens and caps are forced together without quality control. There is customer support primarily dealing with complaints because the caps do not fit the pens. There are lots of unsold red pens. The RedPen Company use BluePen Company blue pens (because they work). There is red ink all over the place. There are red tags and broken equipment. There is executive parking, executives' entrance, isolated executives located far away, executive restrooms, and a separate executive cafeteria. There are personalized parking spaces and preferred parking. There is mahogany row vs. cramped cubicles. The cubicles are isolated and closed. There is no visual contact between staff (closed doors, high walls), offices and cubicles—"my space." There are independent performance metrics charts—segregated by executives and non-executives, departments and individuals. There are outdated rules posted on the wall. There is outdated equipment, offices for staff, tools, and bulletin boards. There are slogans and banners with a lack substance. There is lack of quality control, lack of training, lack of information available, lack of cause and correction action process, lack of overall metrics, and lack of flow. There are more safety requirements. There are department only lounges. The desks are fixed and there are narrow passageways. There is a written dress code. There is employee of the month parking and plaques. There is hierarchical furniture,

space with physical separation, and symbols of status. There are cost charts and cube-by-cube goals—per worker cost saving posted on the wall. There are lots of clocks, a punch clock, a work bell—whistle. Desks are overflowed with complaints from customers and there is a large complaint department. There are different badges for different levels. There are a fault tree diagrams in the conference rooms—signs of crisis. The fire door is open.

RedPen Company Physical Characteristics

The RedPen Company physical significant distinctive characteristics are there is old equipment, old furniture, an old product, an old facility, old tools, and old specifications. There is broken equipment, broken, reactive organized—things are broken. The environment is cluttered and messy—there is clutter on the desks, cluttered work areas, cluttered notice boards—notices out of date. The space was described as having a disorganized factory layout, unorganized buildings, disorganized equipment, and disorganized process flow. The place is untidy. There are unsafe work conditions— slippery floors. The facility is dirty—dirty shop, carpets, walls, equipment, and machines. There is poor lighting—the environment is gloomy and dark. There is peeling signage— in need of repair. The facilities and machines need repair. The place is sloppy.

RedPen Company Physical Layout

The RedPen Company physical significant distinctive layout is departmental and segregated, isolated and away—support staff is away from and segregated from the rest of the floor—isolated. Upper level management is located physically far away as well as executives. Things are put away and hidden. There are individual work areas, individual cubicles, and individual offices with high walls that cut back communication. Departments are separated silos.

BluePen Company Qualitative Response Findings

The following phrases are the qualitative responses of the significant variables. First, the BluePen Company essential components qualitative responses are presented. Secondly, the RedPen Company essential components qualitative responses are provided. The companies' qualitative response findings are present in the same order as the results in the previous section. The findings are organized to describe people what, the people characteristics, the behavior of the people, followed by the generic descriptive variables. The next section are the physical findings organized in physical what, the physical characteristics, the physical layout of the company, followed by the generic descriptive variables. Duplicate responses were deleted to avoid redundancy. Variation was kept to provide the perceptions of the participant responses. A large quantity in responses is due to variation in descriptions of the significant variables. The significant variables were renamed during this phase based on the revealed meaning of the qualitative data. The label lat_ was removed from the variable names during the renaming.

BluePen Company People Qualitative Findings

BluePen Company People

Teams

Promotes team work, better sense of team work, self-directed work teams, a focused team, team-oriented people, multi-discipline teams, teamwork is evident - macro/micro, diverse teams, team oriented, team working together to solve problems, teaming and laughing - having fun, willing to help out another team, teams looking at pieces - knowing how they interact, team assessment - no individual performance assessments, group of supportive folks - team - management (intermingling), team players, team oriented, team work (across departments), willing to stay after work to get

the results for the team, people from different functional areas work in teams, working in effective teams, having a company celebration with employees, customers, suppliers, family members, work together as a team, teams making decisions that are best for overall business, people in teams engaged in learning new things, team ware, more of a focus on utilizing team members - using everyone's strength, team paycheck - divided up appropriately, cross-functional teams with customers and suppliers, teams and groups, team and enterprise reporting system, teams are performing real cause and corrective action and attention to detail, team spirit, work together, team motivation, teamwork - discovering "problems" - not just masking them.

BluePen Company People Characteristics

Happy

Happy workers, cheery atmosphere.

Motivated

Highly motivated people, self-motivated.

Friendly

Friendly

Engaged ~ Involved ~ Enthusiastic

Engaged design - production workers all together, enthused and engaged about contributing ideas, engaged in performing their jobs, people are inspired and engaged in their work, talk to each other, people in teams engaged in learning new things, engaged with other departments - looking at end - system success, engaged and involved.

Worker-involved quality groups, interested and dedicated and involved in their jobs, a lot of communication and discussion about product, the customer...involvement of

all, workers on the floor involved in problem solving, good communication and involved with customer, enthusiasm to be involved.

Enthusiastic workers, loud enthusiastic, enthusiastic people will walk around and consult each other - interested in other's projects/supportive, enthusiastic and proactive, enthused and engaged about contributing ideas, work with enthusiasm.

Excited

Excited about the product and the company, tangible level of excitement, high level of energy, fast pace, excited about their jobs.

Confident

People are confident and secure.

Energetic

People are energetic.

*Multi ~ Fewer

Multi-skilled, multi-discipline teams, fewer people - they are multi-disciplined, multi-skilled and interchangeable, people doing multiple jobs.

Fewer people, fewer people taking lots of sales calls, fewer people - they are multi-disciplined, fewer clocks, even paced advancement of programs - fewer surprises along the way.

*Everyone ~ Nice

Everyone seemed willing to do what it took to be successful (as a company), everyone works together, an understanding that everyone is part of success, open communication among everyone, everyone is wearing jeans and t-shirts, everyone feels like they are important, good compensation policies for everyone, everyone understands

how they fit into the organization, helpful and cooperative with everyone in the organization.

All had clean nice uniforms, nice, nice job.

*Enjoy

Enjoy their work, enjoying their jobs, enjoying their success, enjoyed being at work, enjoying themselves, people enjoy their work - feel fulfilled.

*Smooth

Smooth coordination of assembly, smooth and calm.

*Flexible

40 hour weeks - flexible, flex hours, flexibility, people are more flexible - used more flexibly, flex time - empty chairs, more flexible, will flex and flow with uncertainty and change, flexible and adaptive, flexible, flexible schedule,

*Easy

People appear to be easy-going, not easy to distinguish top - middle - bottom, at ease, easy access to training/resources.

*Ability

Capable, job structure by capability, ability to do lots of different tasks.

*Family

Family atmosphere, pictures of friends/families/lovers.

BluePen Company People Behavior

*Big Picture

Big picture conversations, big picture discussions, desire to want to know the big picture, more knowledgeable about "big picture", big picture people.

*Purpose

Purposeful expressions on the faces, sense of common purpose and goal, people with a purpose, positive sense of purpose, purposeful, driven by shared vision/passion and purposefulness, purposeful and focused.

*Common

Common goals, sense of common purpose and goal, one common objective, common-like/similar dress.

*Integrated ~ Plan

Support the company vision plan (which is visible to the work force - and WE know how we're connected to it), long term plans, forward planning, planning, ready and eager to plan and put into workable actions, planning going on.

Having ~ Fun

People are having fun and they are smiling.

Taking ~ Pride

Take pride in what they do, people willing to take the time to explain their processes, everyone seemed willing to do what it took to be successful (as a company), willing to take responsibility, fewer people taking lots of sales calls, taking leadership, can take constructive criticism, take initiative, risk takers - risk is shared, take each other seriously, take pride in their productivity, managers - two times a year take a spin in manufacturing plant, willingness to do whatever it takes to get the job done, proud of their product, proud of their company.

Knowledge ~ Company

Know their processes well, know their goals, good chemistry between the departments - will know other people's business, share knowledge, knowledgeable about

other departments, know who their customer is, group knowledge, a knowledge orientation, striving for knowledge, know and share company goal, teams looking at pieces - knowing how they interact, sharing knowledge is more powerful, support the company vision plan (which is visible to the work force - and WE know how we're connected to it), everybody contributes (ideas and knowledge), authority comes from knowledge, final regulations fully known by all people, quite ready to admit what they don't know, people know what they're doing and how it impacts others, knowing the constraints and boundaries, desire to want to know the big picture, books - quest for knowledge, people who know how they contribute and how fit in, more knowledgeable about "big picture", know what they are making, know the next person's procedure.

In control of their company, act like owners of the company, company picnic, everyone seemed willing to do what it took to be successful (as a company), proud of their company and what they're doing, excited about the product and the company, know and share company goal, support the company vision plan (which is visible to the work force - and WE know how we're connected to it), understand and work within the company vision, posted company issues - things not hidden, company support, concern for the company's reputation, small company.

Sharing ~ Profits

People share knowledge, sharing knowledge is more powerful, there's a sense of shared value, people sharing information, shared vision and view ideas as an opportunity, know and share company goal, people willing to share mistakes - lessons learning, sharing of ideas, job sharing, risk takers - risk is shared, sharing challenges, sharing of bonuses, sharing issues, equally shared work, shared ideas for improvement, responsibility/success/failures are shared, driven by shared vision/passion and

75

purposefulness, lots of compliments being shared, sharing credit, interactions and sharing between teams, and equal profit sharing.

Information ~ Improvement

People open and sharing of information, sharing of information, share information, people constantly asking others how to improve - soliciting information, more information flowing between levels of the hierarchy, eagerly seek opportunities to exchange information.

Constant improvement, not afraid to offer suggestions for improvement, want to improve their product, continually improving, look for process improvement, continuous process and design improvement, improved moral, always trying to improve, people seeking improvement ideas from others, people constantly asking others how to improve - soliciting information, related people in improvement activity, focus on product and process improvement, people empowered to improve their product, working together to create improved products, looking for areas to improve.

New ~ Ideas

Thinking of new products and new markets, people in teams engaged in learning new things, always have ideas and people are rewarded for ideas, and are encouraged to come up with new ideas, shared vision view ideas as an opportunity, open to new ideas, ideas and concepts, people seeking improvement ideas from others, everybody contributes (ideas and knowledge), willing to share ideas, enthused and engaged about contributing ideas.

Encourage ~ Creativity

Employees are encouraged to come up with new ideas, encouragement is evident, change encouraged.

Creative dissent is encouraged, creative thinking, free thinking, working together to create improved products.

Positive ~ Interaction

Positive environment and culture, positive attitudes, positive thinking, conversation is positive, positive sense of purpose, positive interactions.

A lot of interaction, free interaction, people interacting, teams looking at pieces - knowing how they interact, interaction - as needed, good inter-departmental cooperation, interactive, people lightening to each other inter-organization education, positive interactions, casual interactions between all levels of employees, people wandering around and interacting with each other, interaction between functions, lots of interaction between people and the other groups, interacting together, more interactions and sharing between teams, inter-dependent, interaction among different labor classifications.

Together

Get together for picnics, "working together," engaged design - production workers all together, mechanics working together, team working together to solve problems, working together, everyone works together, go out to lunch together, togetherness, working together, interacting together, sense of vision - building one pen with a sense of how everything fits together, working together to create improved products, coordinated efforts, luncheon things together.

Talking

Employees talking to each other about work, talkative, see managers on floor talking to workers, talk of profit sharing, hear people talking about problems daily, lot of talking and asking questions of each other, talk about future problems, people talking about their customer, talk about the good things, open unbiased talk, work talk, talk of

new ideas, groups of people talking, people talking face to face, talking about data, different functional groups talking, talking about customer needs.

Another ~ Willing

Constructive interdependence among one another, supportive of one another, willing to help out another team, seem somewhat pleasant and friendly with one another, trust one another.

Willing to direct you to the right person if he doesn't know the answer, everyone seemed willing to do what it took to be successful (as a company), willingness to listen, willing to embrace other cultures, willing to stay after work to get the results for the team, willing to admit short comings, people willing to disagree, willingness to communicate.

Can ~ Help

Can do attitude, how can we be more innovative, more relaxed - can wear shorts, people can be more focused, more contributions - "how can I help", people feel like they can ask questions, can put themselves in their customers shoes and understand their needs, we can do this (not "you can do this").

Asking for help is sign of strength, people looking for help and finding it, helpful and cooperative with everyone in the organization.

*Collaborating

Collaborate, collaboration, collaborative, more collaboration across group lines, having a company celebration with employees, customers, suppliers, family members, having fun collaborating on projects, meetings with lots of collaboration, cross-department collaboration.

*Free ~ Discussion

Free thinking, free interaction, green time given freely, free to choose how their time is organized, creative and free thinking, freedom, exchange ideas freely, free to use your own ideas, free discussion of employees with senior management.

A lot of discussion, small group discussions, big picture discussions, discussions, discussions, have a discussion board, people wanting to discuss ideas, heated/passionate discussions about stuff, more open to discussions, discussing problems, free discussion of employees with senior management, collective discussions on problems, lots of active discussing.

*Community

Community, sense of community, more of a community.

BluePen Company People Generic Descriptive

*More

More relaxed environment, departments are more decentralized, more satisfaction in workplace, more efficient with customers and with each other, more vocal - in general, much more familiar of the roles of others in the organization, much more movement, more informal gatherings - work related and non (less formal), more creative, more aware of time management, more relaxed atmosphere, more people working overtime, how can we be more innovative, sharing knowledge is more powerful, more non-management participation in meetings, come up with more innovative solutions, more relaxed, less chiefs - more Indians, sharing knowledge is more powerful, more individuality being shown - how they think and dress, more tolerance, people are more flexible - used more flexibly, more emphasize on theories (which are frequently revisited), more relaxed - can wear shorts, people can be more focused, more emphasis on process improvement, more

contributions - "how can I help," more open communication, more welcome, more approachable, more collaboration across group lines, more understanding of what/why of job, more open to discussions, more information flowing between levels of the hierarchy, more committed/accountable, more level flat organization, tend to be more busy, more satisfied with their jobs, more engaged, more cooperation, more of a focus on utilizing team members - using everyone's strength, more transplants, more diverse, more flat structure, more interactions and sharing between teams, more listening going on, more secure and confident, more knowledgeable about "big picture", more motivated, more of a community, more of a family atmosphere, make more money, more motivated, more relaxed, more passionate about their work.

*Sense

Better sense of team work, a sense of energy, sense of shared value, sense of ownership, sense of calmness, sense of community, sense of common purpose and goal, sense of contribution, sense of excitement - something good is happening, sense of humor, positive sense of purpose, sense of passion, sense of ownership, sense of purpose, a sense of job satisfaction, sense of vision - building one pen with a sense of how everything fits together, sense of equal importance.

*Better

Pay better, better sense of team work, people earn better wages, better teamwork, a better work - home balance, better engineers, teams making decisions that are best for overall business, better communications, communicating with each other - making the product better, better marketing people, better trained, better listening skills.

BluePen Company Physical Qualitative Findings

BluePen Company Physical

Relaxed ~ Environment

Relaxed environment - decor, relaxed atmosphere, with lounge chairs and places to relax, relaxation area.

Organized work environment, better environment, open environment, good working environment, good clean, well lit environment, good environment, creative environment - colorful, stimulating environment, professional environment, a collaborative environment, noisy environment (due to exchange of information), naturalized environment - outside views and natural light, open-door environment, less walls - open environment, uncluttered environment, pleasant environment - gardens/green, open physical environment with team areas, large manufacturing environment - no walls between areas, bright/airy environment, comfortable environment, temperature controlled shop environment, well kept environment, neat and orderly environment, open environment – flexible.

Well ~ Lit

Newer well-kept machines, equipment is well maintained, well laid out work area, well organized, clean and well-kept equipment, well-kept, well maintained, stock room - well organized, well landscaped, well lit environment, well equipped PC lab, structured process that flows real well, well-designed for customers and staff, well thought out, well thought lay out, process flow well laid out, tools well organized, well-maintained facilities, well invested, physically well planned, well-oiled machine, very well documented procedures and directions, well laid out work flow - complement each other, well organized - things that make sense, very well kept building, well lit all day long,

useful website - well laid out, outside is well maintained and pleasant, well appointed furnishings - all over, well - defined quality engineering department, engineering is brightly lit with windows.

Open ~ Space

Open assembly area-open floor (not compartmentalized), open environment, feels open - windows, open office area, coffee/lunch room open to everyone, open atmosphere, open door policy, circular and open, open doors/no doors, open cubicles, open space and management access, open work areas - no tall walls - separation, more open work areas, open spaces, open offices, open work spaces, open work areas, open sharing of resources - community property, managerial offices are open and amongst the whole staff, open areas that encourage conversation, wide open, open space, open door policy, openness - no cube walls where people can interact, large open workspaces, open plant, open canteen, open plant offices, open plan, less walls - open environment, open plan offices, open spaces for dialogue, open/shared forums for discussion, open areas - parties, open spaces - bright welcoming, bathrooms are clean and open and work, open spaces in shop, open communication, open physical environment with team areas, open plan - lack of barriers, very open, open layout - pen and cap people in the same space, open bags, open free-flowing info, inviting, open plan, open communication between departments, open office space, open and spacious arrangement of work areas, openness towards seating arrangements, open layout, open spaces where staff employees can meet and share ideas, open environment – flexible.

Neat modular space, open space and management access, visibility of others work spaces, work space looks about the same - president's office - workers, multi-purpose space, spacious, common spaces, interactive spaces, small amount of floor space per

person (less wasted space), shared spaces, no VIP parking spaces, private space, public and private space, office space based on functionality, more meeting rooms/gathering spaces, space is allocated for people to meet informally, open spaces for dialogue, open spaces - bright welcoming, non-numbered parking spaces, social space in a common area, space sharing, good utilization of space/resources, spaces for sitting together, open layout - pen and cap people in the same space, warm and personalized work space - plants personal photos, sense of equitable space for all, open spaces where staff employees can meet and share ideas.

Visual ~ Targets

Visual measures showing how targets flow to the bigger picture, visual aids, visual tracking method "status," visual signs of shared data, visually appealing work areas, visual definition of the process flow, visual - connectedness displays.

Targets and tolerances, targeted control charts, manual on processes on how to hit target, visual measures showing how targets flow to the bigger picture, drawings use target designs, target set to minimize loss.

Coffee

Larger coffee bar area, coffee/lunch room open to everyone, real coffee, coffee and donuts, amenities - refrigerator, coffee pot, deluxe coffee and tea dispensers - flavored teas, shared facilities (tea/coffee areas), free coffee, coffee stations/snack stands – plentiful.

Round ~ Tables

Large round tables, conference tables, small tables, round tables, round conference tables, meeting areas with round tables, round meeting tables, ping-pong table, conference rooms - speaker phones - round tables/modular.

Comfortable ~ Stations

Comfortable - ergonomic work stations, happy desks - comfortable chairs, attractive and comfortable, very comfortable area, comfortable, overall feel is simple and comfortable, comfortable environment, comfortable work environment.

Individual work stations, work stations for working in teams, ergonomically-correct desk stations, comfortable - ergonomic work stations, fewer work stations for individuals, no separation of work stations, neat stations, work stations for different departments flow, unconventional - play stations in canteen/free food, work areas vs. work stations, coffee stations/snack stands – plentiful.

Modern

Modern factory equipment, modern, modern and new equipment, modernized equipment, modern/upgraded equipment, modern facility, modern machinery.

*Everyone ~ Nice

Coffee/lunch room open to everyone, advertizing of the team's successes (everyone on the team), nice furniture for everyone, data collected used by everyone, one restaurant for everyone to use, everyone has their name on their place.

Nice looking grounds/assets, nice facilities, nice furniture for everyone, nice atmosphere, looks nice, nice happy smell of plastic, very nice lawn and landscaping, nice.

BluePen Company Physical Characteristics

Neat ~ Orderly

Neat, work areas- neat and clean, clean/neat facility, neat outside, everything's neat, neat and orderly stock, neat and orderly areas, neat modular space, drawings all neatly filed, neat stations, neat and well lit, physical layout neater, neat machine layout, neat and orderly environment.

Orderly production flow, things look orderly, efficient and orderly, neat and orderly stock, neat and orderly areas, everything's in order, shop flow - logical process order, orderly desks, order, clean and orderly, a sense of physical order, clear order, clean/orderly areas, orderly flow, laid out orderly, neat and orderly environment, orderly work flow, clean and orderly area.

Clean ~ Tidy

Offices are tidy, clean and tidy machinery, clean and tidy, tidiness and cleanliness, general tidiness and efficiency, clean and tidy equipment, tidiness building and equipment, tidy offices, tidiness of area.

Clean, clean and well-kept equipment, clean shop and organized, clean production facilities, work areas- neat and clean, well developed spaces for employees - cafeterias, rest/break areas, clean/neat facility, toolings are very clean, clean and tidy machinery, clean and regimented, cleanliness, clean area, clean show room and repair bays, clean break areas, working level of cleanliness, clean and good layout for flow, clean environment, clean bathrooms, clean efficient, clean environment, clean working conditions, clean and well lit, clean products/hardware, production floor clean with production blue prints and cards on each lot, clean parts assembled by hand, clean and controlled, clean floors, new clean machinery.

Organized

Organized work environment, well organized, organized, organized, stock room - clean shop and organized, everything's organized, organized for safety, totally organized, organized shop layout, logically organized, materials organized as they will be used, tools well organized, uniform areas - organized, organized for function (job), structured - organized, parts organized systematically manufacturing, organized - everything has its

place, disarrayed organization - but organized, organized layout for workflow, organized to have the right amount of inventory and tools, organized, streamlined organization, process flow - more organized, visible organization, tool organization, not organized in a hierarchical way, performances for whole organization highlighted in a common area, well organized - things that make sense, sales, marketing, R&D, design, and manufacturing are co-located, R&D organization to develop product and process, everything's organized, organized environment, organized for productivity.

*Smooth

Smooth running assembly line, smooth flowing product, smooth connecting assembly line, maintenance schedule - smoothly functioning equipment, smooth/curving lines.

BluePen Company Physical Layout

Good ~ Design

Good equipment, good maintenance, good first time quality, equipment in good condition, good working environment, good inspection processes, good environment, good facilities for the workers, healthy-good condition-machinery, good location/property, good use of computerized bar-coding-to ease/maximizing flow, good inventory, good ergonomics in the work area, good lighting system, all tools in good shape and condition, good, good maintenance - all equipment is running, good design on blue pen, all areas and offices are well maintained with good lighting, generally good working conditions, clean and good layout for flow, good feng-shui, good housekeeping, good quality furnishings and office equipment, good tools, good visibility - suppliers/customer, good quality and design, good controls - processes, good quality control testing procedures, good atmosphere, good notice boards, complex and more

advances - in a good way, good energy, good utilization of space/resources, good signage, doors are open - good access, measureable (good parts), good cafeteria, good tools and jigs, good parts production capability, good design, good communication.

Office design encourages communication, good design on blue pen, integrated design and build teams, well-designed for customers and staff, designed for people, good quality and design, design office near project office, drawings use target designs, good design.

Efficient ~ Layout

Efficient and orderly, efficient assembly line, efficient set up, clean efficient, layout is efficient, general tidiness and efficiency, efficient assembly line, efficient equipment.

Communication is facilitated by office layout, functional and practical layout, cellular layout - different processes side by side, organized shop layout, logical layout for the process flow, some apparent flow in the layout geared toward the relationships in the business, layout promotes more interaction, more variation in layouts, physical layout neater, organized layout for workflow, neat machine layout, layout is efficient, layouts are in-line with the process, layout is better, open layout - pen and cap people in the same space, physical layout does not reveal hierarchy, variation in layout from room to room, flexibly structured in layout labs for experimentation and play, fluid layout, open layout.

Flow

Orderly production flow, easy to recognize flow/fit/function of facility/parts/tools, smooth flowing product, good use of computerized bar-coding-to ease/maximizing flow, fluid assembly and manufacturing, flow, structured process that flows real well, logical layout for the process flow, shop flow - logical process order, posted overall material

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flow, some apparent flow in the layout geared toward the relationships in the business, clean and good layout for flow, flows logically, work stations for different departments flow, operation flow, can see the process flow, free flowing, flow conveniences, manufacturing flow, product flow part is unencumbered, visual measures showing how targets flow to the bigger picture, orderly flow, process flow - more organized, open free-flowing info, well laid out work flow - complement each other, process board - shows flow of the process, visual definition of the process flow, flow - type production, clear flow of product.

*Easy

Easy to recognize flow/fit/function of facility/parts/tools, good use of computerized bar-coding-to ease/maximizing flow, easy to use, easy access between management and workers, helpful signs for easily finding things, easy on the eyes, easy access parking, easy to find SoP's, easier to find way around - signs/maps, easy to see handoffs, easy access to info.

*Flexible

Flexible facility-mobile and adaptive, flex-time, flexibility, adaptability/flexible, flexibly structured in layout labs for experimentation and play, open environment – flexible.

*Free ~ Discussion

Department free, free soda, free food in cafeteria, free-form, lots of free circulation areas, free flowing, unconventional - play stations in canteen/free food, open free-flowing info, free restaurant, free coffee.

Things were arranged in such a way to facilitate discussion/communication, areas for discussions, monotone discussions, open/shared forums for discussion, discussion areas.

*Collaborating

Work areas where groups can collaborate, a collaborative environment, collaborative systems, and collaborative work areas.

*Community

Open sharing of resources - community property, info posted in the community area, communal areas, community involvement, signs of community/group events posted, community areas, community notice boards, and community - no restrictions.

*Common

Common offices, posted company objectives in common areas, common spaces, common work areas, common areas, common levels of furnishings, common areas - meeting areas - not so compartmentalized, social space in a common area, performances for whole organization highlighted in a common area, lots of common meeting areas, common parking.

*Family ~ Pictures

Pictures of family on desk, lots of family pictures around, pictures of family and friends.

Happy photo's - smiling, personal photo's, furnishings - phones, desks, employees have personal items - photos, personal effect - photos, posting of the big picture, group pictures, pictures, pictures of whole vehicle/payload, very open environment - pictures of the product - pictures of the product, group pictures, colorful - lots of pictures/graphs, pictures of teams/people, pictures of family on desk, visual measures showing how

targets flow to the bigger picture, lots of family pictures around, warm and personalized work space - plants personal photos, pictures on wall - team awards, team pictures, pictures of family and friends, pictures of families, pictures of teams, artwork - pictures (vs. productivity posters), group pictures.

*Integrated ~ Plan

Integrated manufacturing site, integrated design and build teams, integrated, integrated network, co-located integrated team work areas, integrated product development plan, integrated production line - cellular manufacturing, integrated process, integrated/matrixed departments.

Visible information about plans and achievements of the company, future plans mapped out, open plan, preparation - planning, open plan offices, planning for activities, integrated product development plan, physically well planned, open plan - lack of barriers, open office plan, floor plan not as confined, plans for results on the wall plus achievements, advanced planning, open floor plan.

*Purpose

Multi-purpose space, multi-purpose equipment.

*Multi ~ Fewer

Multi-purpose space, multi-purpose equipment.

Fewer offices, fewer large areas, fewer work stations for individuals, fewer management offices, fewer clocks.

BluePen Company Physical Generic Descriptive

*Better

Better environment, better equipment, better quality, better Quality Assurance, better Quality Control, product groups being moved around to better serve the customer, layout is better, better working conditions (A/C in shop), better maintained equipment.

*More

More modular - sense more communication, more machinery, more development labs, more personable office area, more open work areas, more sparse - not just filled up with lots of stuff, more relaxed environment - decor, layout promotes more interaction, more attractive, more + values, more open spaces, more system-level, more variation in layouts, more open work places, more training, more personal effects - indications of afterhours hobbies, more organized, information more accessible, more meeting rooms/gathering spaces, more meeting rooms, more open work spaces, more personal, more visible signs of people's interests, more cozy - less rigid, process flow - more organized, more lean, more meeting rooms and lounges, complex and more advances - in a good way, more group activities.

*Sense

More modular - sense more communication, sense of hobbies - bicycles, a sense of physical order, sense of openness, sense of closeness, well organized - things that make sense, sense of equitable space for all.

*Ability

Outlined process capabilities, people able to communicate, ability to draw inferences about what the employees are thinking is important, an ability to readily recognize work-in-progress, good parts production capability.

RedPen Company Qualitative Response Findings

RedPen Company People Qualitative Findings

RedPen Company People

Bad ~ Boss

Bad management, bad team players, bad experience with pens leaking, bad attitude, rigid thinking - good/bad, bad mouthing boss's decisions, no avenue/mechanism in place to collect bad/good situations - bad morale results, bad attitude, bad supervision, bad mouth other organizations.

Job ~ Doers

Just a job, do minimum it takes to get the job done, focused on "just doing your job", very poor job rotation, workers just doing their job ("not my job"), over-the-wall behaviors ("your job, not "), not focused on their job, concerned ONLY with doing their job correctly, specific job titles and name tags, only focused on their job, not-my-job attitude, very narrow specific - job descriptions, worker bees - doing their job, their job is the job (means to an end), sleeping on the job, job restriction, single - skill - single - job, only know their task/specific job, there for a job and paycheck, specific job duties, that's not my job, not in my job description.

A lot of things done by rules, people doing "their part", doing things how they were taught, little work being done - going through the motions, concerned ONLY with doing their job correctly, people not knowing what other divisions are doing, what are they doing?, controlees - doing what they're told, ("the way we've always done it"), worker bees - doing their job, work is done in serial fashion, the way we've always done it, lot of doers - no thinkers, when the boss is in the room he/she is doing the talking, high percentage of people's time spent doing rather than thinking.

*Employee ~ Month

No employee feedback/communication to each other, low score on employee satisfaction survey, picture of "employee-of-the-month" on the wall, people identified by their function - by their employee badge.

None of the "white collar" fellas have been in the production area in months, picture of "employee-of-the-month" on the wall, lots of flavors-of-the-month.

*Written ~ Dress Code

Writing with blue pens, written or unwritten dress code, people writing supplements for AFE (authority for expenditure), big procedures writing department.

Rigorous dress code, written or unwritten dress code, focus on dress code - especially many hours - reactive mode, corporate dress code - white shirts, dress code - very rigid.

*Hierarchy ~ Status

There is a hierarchy, hierarchy consciousness, hierarchies are obvious in meetings, hierarchical organization - rank is important, hierarchy, hierarchies, organizational hierarchy/stratified, observable hierarchy, clear hierarchical structure, hierarchical organization - can only talk to your direct counter-parts, very hierarchical.

Workers maintaining the status quo to get through the week, status indicators.

*Need

If it works then you don't need the extras, people need an office to reflect their position, bosses always feel the need to look over people's shoulders.

*Badge

Color-coded badges, red/blue badges, people identified by their function - by their employee badge.

RedPen Company People Characteristics

Low ~ Morale

Pride in product is low, low motivation, keeping a low profile, low score on employee satisfaction survey, low pride in their product, low activity, low esteem, low personal value, low energy, heads hung low, low energy.

Low morale and motivation, morale issues, no avenue/mechanism in place to collect bad/good situations - bad morale results, poor morale, no smiles.

Defensive ~ Enough

Defensive, defensive behavior, covering their tail - playing defense.

2-line thinkers-close enough, too many chiefs, not enough Indians, everybody knows when it's good enough, not enough time, good enough.

Alone ~ Frustrated

Staring at their computer working alone on their project, work alone, people alone in their cubicles looking frustrated, sitting alone.

Frustrated workers, high level of frustration.

Rushed ~ Behavior

Rushing to meet some dictated deadline, rushing manufacturing, rushing around/working hard, behavior is rushed or hushed.

Common behaviors, aggressive behavior caused by clashes between "drivers and passive" employees, defensive behavior, guarded behavior, behavior is rushed or hushed, divisive behavior, deferential behavior, numb and safe behaviors, lemming behavior - everybody in line - do your thing, forced and learned behavior, negative behavior.

Unhappy ~ Negative

Unhappy environment, people looked bored and unhappy, unhappy employees, content, unhappy, unhappy workers, unhappiness.

Negative reward system, negative communication, negative attitudes, negative behavior.

Fear ~ Suspicion

Working in fear (theory x), fearful, fear or hesitation with new ideas, suspicious and fearful, atmosphere of fear, fear and intimidation.

Stress

Stress, people stressed out, stressed and suspicious and uncertain about the future, stressed out, people under pressure and stress, stressed workers, high stress, look stressed.

Compliant

Compliance mentality, compliant but not committed, malicious compliance.

Quiet

Quiet, very quiet atmosphere, quiet and reserved, bored - boring - quiet, people sitting quietly at their desks, everyone is quiet during a meeting, quiet 9 to 5ers.

Down ~ Own

Down trodden, same people - same tests - same problems - heads down, down cast eyes, indifferent and beaten down, philosophy of top down communication, top down management, everybody at their own work station with their head down.

Everyone at their own assigned work stations, celebrate their "own" success individual awards, do not use their own product, they do their own routine activities, individuals responsible for own personal growth, own a subsidiary of pliers company, don't use their own pens, people work in a vacuum/their own little world, doing their

"own" job, the managers are in their own building, work on a task or problem on your own, each worker working on their own productivity goal.

*Fixed ~ Ways

If it works-don't fix it, management fixed on "cost reduction", functional in fixed ways, don't fix it unless it's broken.

Unwilling to challenge current ways, have department ways, set in their ways, functional in fixed ways, tolerant/accepting of the ways things are - passively so.

*Sloppy

Sloppy appearance of employees, sloppy workmanship, unfocussed and sloppy.

*Cost

Schedule and cost driven, striving to achieve department goals at the cost of others, management fixed on "cost reduction."

RedPen Company People Behavior

Absenteeism ~ Little

High absenteeism, absent sick, late for work, tardy, absenteeism is high, late for meetings - always in a hurry, absentee owners.

Little/no communications, little work being done - going through the motions, little constructive challenge, do as little as possible to get by, very little direct communications, little interaction, little trust, little eye contact upon meeting Jim in the hallway, little evidence of managers, unmotivated and little signs of teamwork, people work in a vacuum/their own little world, people are dressed alike with little variation, little conversation.

Through

Just going through the motions, workers maintaining the status quo to get through the week, management by walk through, people pushing through to get home - clock watching, rather robotic - going through the motions, facial expressions of workers shift as they pass through the turnstiles.

Standing ~ Waiting

Standing around, two people standing and pointing fingers at each other.

Just waiting for the bell to ring, waiting for leadership, waiting for direction, standing around waiting for instructions, had to wait (as an observer) to be noticed, waiting on management direction.

Blame

Blame is rampant, blamers and "pointers", blaming co-workers, being blamed, blame-storming, reflection with intent to blame, disconnected - socially, mentally, geographically, blame other people, constantly worried about being blamed, people blaming each other when something goes wrong, meeting situation - pointing (blaming) - hesitant to speak out, blame of the person - not the system, know how to take credit/avoid blame, follow procedures - avoid blame/receive blame, point blame, blaming others for failures, people placing blame, demotivation and blame culture, part meets print - "next" blame passing, blame and shifting burden.

Mental ~ Over

Ain't my problem mentality, meetings held with "yes man" mentality, what's in it for me mentality, mental fences, CYA mentality, throw-it-over-the- wall mentality, drone mentality.

Gang signs all over the place, over hiring - no HR department, bosses always feel the need to look over people's shoulders, bickering over everything/anything.

CYA ~ Cover

CYA attitude, mentality, and activity and is #1, cover your ass, covering their tail - playing defense.

Compete

Competition - internal - between departments - us and them, competitive with one another, sub-optimizing and competing, more competitive than cooperative, competition between groups, competitive and unfamiliar to each other, competitive conversations, uncooperative and competitive, compete with each other rather than work together, highly competitive.

*Individual ~ Back

People isolated into individual cliques, frustrated individuals, celebrate their "own" success individual awards, people working individually, focus on individual accomplishments, isolated individuals, individual accountability vs. team accountability, individuals responsible for own personal growth, individual work, bunch of individual awards, work as individuals - do not look up or downstream, lot of individuals, very individualistic, individual motivation, isolated/individualists, team structure focused on individual team vs. the overall system optimization.

Holding back, back stabbing, not talking back and forth, back room whispering.

*Separated ~ Silos

Everyone working on separate tasks, separate agendas, working separately, engineering headquarters and manufacturing are separated - different buildings/different states, separate manufacturing managers - cap vs. pen.

Working in silos, disciplinary teams - silos, narrow focus - their silo, working in silos.

*Independent ~ Performance

Independent, caps and pen people working independently, no independence, working independently, seeking independent recognition, very independent.

Accept the performance flaw, schedule PAR (performance), dread of performance appraisals, performance based on quotas.

*Clock

Clock watchers, people watching clocks, clock watching, people pushing through to get home - clock watching, clock punchers.

*Complain

People complaining a lot, complaining about management, complainers, breaks to gripe/complain.

*Fire

Very busy fighting fires, always fighting fires, fire-fighting, fire-fighters, fire drills, former blue pen company employees - recently fired, firemen, fire-fighting mode.

*Crisis

Crisis driven, always in crisis, crisis management - task forces - tiger teams, work schedules are interrupted by crises.

*Requirements ~ Only

Only do what they are required to do, stay within the boundaries - only do what is only required, requiring tasks outside training or qualifications, confused - don't understand what is required, wrong idea of fit requirement.

Lots of people in meetings - only one speaker, concerned ONLY with doing their job correctly, meetings where only one person talks, concerned only about their product goals, only do what they are required to do, only focused on their job, follow only rules, stay within the boundaries - only do what is only required, only interested in themselves, only know their task/specific job, employees who have only worked in this industry, hierarchical organization - can only talk to your direct counter-parts, segregated employees not wanting to share ideas - their way is the only way, clutter of email correspondence - email communication only, only do their job, only understand their piece of the picture, workers motivated only by pay/salary.

RedPen Company People Generic Descriptive

*Not

Not much change, Not prideful of their work, not customer focus, not looking up the line, not proactive, not very busy - not many orders, not concerned about the outcome - concerned about their end results, not willing to work overtime, too many chiefs, not enough Indians, not allowed to leave area, schedule driven (not quality driven), workers just doing their job ("not my job"), do not use their own product, not a strong system level team tied into the customer, not cross trained, not motivated, management not listening to their workers, they are cautious - do not want their parts to fail, over-the-wall behaviors ("your job, not "), managers (not leaders), not my job, not focused on their job, not working to the ball, not sure what to do - look busy, clear signs of who is management and who is not, not collaborating, not creative, people not knowing what other divisions are doing, not open to taking risks or F.A.B., not as happy, would not be willing to share info, not-my-job attitude, ideas not heard, missing from the work station - not at their desks, not enough time, not sharing, not storing information, blame of the

person - not the system, not helpful and friendly, would not tend to volunteer, busy/not productive, not smiling, it's not my fault, not trained, not committed to the product, compliant but not committed, not talking back and forth, not very happy/friendly, not engaged in the work, not working on something big, busy/but not necessarily productive, work as individuals - do not look up or downstream, people not having conversations at all, not in my job description, doing tasks that they feel are not necessary, risk adverse - process focused - not forward thinking, workers are not operators - push buttons/read the paper, people with jobs/not careers, people showing compliance (not commitment), segregated employees not wanting to share ideas - their way is the only way, not very specialized people, not organized, not motivational, people are not interactive with each other, production atmosphere - "throw it over the wall" - "not my job," not customer oriented, not working together, not aware of product quality, do not care, not friendly to visitors, not happy with working environment, quantity not quality focused, not compensated, not a team effort, not procedure - oriented, high percentage are not there, not happy to show up for work, not very proactive.

RedPen Company Physical Qualitative Findings

RedPen Company Physical

Closed ~ Locked ~ Doors

Manager's door closed, closed doors everywhere, closed in, closed office doors, closed offices, closed cubicles, closed-off areas, conference rooms closed off from the work areas, closed offices/doors/walls, closed/confined areas, closed environment, closed spaces, closed offices and high partitions.

Locked areas, locked desks, locked doors, locked drawers, locked at secured areas, more information locked or guarded, everything's locked up, locked up office

supplies, locks and guards, offices with doors locked with cabinets filled with information.

Time clock by the door, lack of facilities for employees - lunch room, break rooms, manager's door closed, lots of doors, closed doors everywhere, doors closed, closed office doors, titles on the doors, locked doors, name tags (managers) on doors, names on doors, locked doors and drawers, closed offices/doors/walls, walls and doors, doors are closing - movers are coming, offices with doors, lots of closed doors and cubicles, get it out the door, fire-door open, doors are shut, offices with doors locked with cabinets filled with information, obvious boundaries - lots of doors.

Pliers ~ Hammers

Line for pliers, pliers business, pliers on every desk, manufacture pliers, large inventory of pliers, pliers and hammers, hammer/pliers check out station - only certain people have access to it, lots of pliers and hammers - test equipment.

Hammers in the assembly area, hammers everywhere, tiny hammers.

Caps ~ Pens

2 assembly rooms - pen (bodies) and caps, customer support center - to help with customer issues on caps being too tight, pen and caps areas - forced together without QC, manufacture facilities for caps and bodies are separate, unusable red caps on floor, complex with huge separate buildings - one for pens and one for caps, more inventory - need to find large caps, small caps, big bin for broken caps, separate measures for # pens/ # caps made, two separate production lines - one for caps/one for bodies, baskets full of caps/barrels, caps & pens located in different areas - brought together for assembly, outsourced caps.

Use blue pens, blue pens at all work stations, no bay walls - bull pen environment, pens everywhere, smaller size company than Blue Pen Company, waste of product - scrap bins of pens, cap and pen teams not co-located, 2 assembly rooms - pen (bodies) and caps, pen and caps areas - forced together without QC, use some other brand of red pens, were not using red pens, complex with huge separate buildings - one for pens and one for caps, red pen materials, uncapped pens, huge building to store returned pens, lots of stock for getting pens to fit, equipment (pens) looked damaged upon delivery, lots of red pens, separate measures for # pens/ # caps made, caps & pens located in different areas - brought together for assembly, blue pens being reverse - engineered, pen price = metric, lots of unsold red pens.

Red ~ Tagged

Use red ink, lots of red and yellow signs, lots of red ink in stock, red lights in parking lot, messy and red ink all over the place, unusable red caps on floor, were not using red pens, red tagged equipment, red pen materials, red equipment, VSP charts with cap team-green, body-green, assembly-red, red tags and broken equipment, numeric goals - red/green, lots of red pens, barrels of red ink, lots of unsold red pens.

So many tags and NR's - racks over flowing, red tagged equipment, red tags and broken equipment, name tags (managers) on doors, large number of expedite tags, insufficient lighting shining on scrap tags.

Executive ~ Parking

Secretary area blocking the executives' entrance, special executive row, isolated executives, executive restrooms/covered parking, executives are located far away, executive cafeteria and regular cafeteria, executive lunchroom, executive dining room

and bathroom, executive parking, fancy executive area, separate performance matrices for executives and non executives, executives park in separate parking lot.

Unorganized parking lot, covered parking for senior leadership, red lights in parking lot, employee of the month - parking, parking spot, exclusive executive restrooms/covered parking, poor parking lots - needs resurfacing, personalized parking spaces, defined parking spaces, named car parking spots, symbols of status - parking spaces, preferred parking, visitors park at a distant, reserved parking, assigned parking spaces, car parking spaces, lots of cars parking lot after hours, preferred parking spaces, allocated car parking spaces, executives park in separate parking lot, numbered parking.

Cubicles

Cubicles, cubicles and other efforts of isolation, cubicles with individual's data, levels of offices - big (windows) - small cubicles, cubicle farms, endless cubes, overcrowded cubicles, standardization of cubicles, small - individual cubicles in straight rows, cubes with really high walls, cubicle size proportional to status, occasional cubes covered with small awards, individual cubes - not group atmosphere, closed cubicles, a sea of cubicles, lots of cubicle and cubby holes, walls and cubicles, hierarchy of space - large corner offices - tiny cubes, cubes, lots of closed doors and cubicles, segregated cubicles, no visual contact between staff (closed doors, high walls), offices and cubicles - "my space", cubicles (small ones), Mahogany row vs. cramped cubicles, cubicles arranged for privacy, planned floor layout - grid style - boxed-in cubes, cube-by-cube goals - per worker cost saving.

*Independent ~ Performance

Independent, independent performance.

Group metrics that prove team performance, independent performance, performance metrics - department, separate performance matrices for executives and non executives, departmental performance charts, metrics of performance - by individual, bar charts/performance charts - individual/departments.

Outdated ~ Rules

Volumes of rules and procedures, rules of behavior placard, rules posted on the wall, posters with rules, info - rules and regulations, rules very evident, rules/edicts, lots of rules, regulated - rules on how to conduct a meeting, rules posted everywhere - do's and don'ts, rules and regulations posted - more structured, outdated bulletin boards with posted rules.

Manufacturing procedures are outdated, outdated equipment, outdated, cushioned managerial offices with outdated offices for staff, outdated tools (damaged) lack of, outdate machinery, maps are outdated, outdated bulletin boards with posted rules.

Slogans ~ Lack

Slogans and banners, lots of banners - slogans of the day, slogans and awards posted, posters - exhortation/slogans, statements - slogans, messy, disorganized, slogans without substance, slogans on wall, rah-rah slogan-of-the-month, lots of motivation posters and slogans, company slogans, slogans - "better - faster – cheaper," posters/slogans - "work harder," awards and slogans, negative slogans, slogans "quality is free," slogan signs "attention to detail day," lots of signs with slogans - "work hard" "change is constant."

Lack of Quality Control, lack of info charts or bulletin boards and process charts, lack of investment, lack of tolerances, lack of training, lack of equipment, apparent lack of flow, lacking substance, lack conference, lack of association, outdated tools (damaged) lack of, lack of information available, lack of cause and correction action process, lack of overall metrics.

*Requirements ~ Only

More safety requirements with the products.

Department only lounges, posted "department only" issues, only good data is visible, hammer/pliers check out station - only certain people have access to it, managers - only meetings (with hot food).

*Fixed ~ Ways

Fixed - not flexible, fixed hours - punch clock, desk – fixed.

Narrow passage ways.

*Written ~ Dress Code

Read/write password protected files, goals written on metrics board.

Dress code.

*Employee ~ Month

Employee of the month - parking, employee-of-the X, employee-of-the-month plaques, rating charts - "employee of the month."

Employee of the month - parking, end of month reporting, employee of the month, employee-of-the-month plaques, rah-rah slogan-of-the-month, rating charts - "employee of the month," lots of monthly reports with goals.

*Hierarchy ~ Status

Hierarchical amenities, hierarchical furniture, very clear hierarchical distinctions, hierarchy of space - large corner offices - tiny cubes, offices - evident of hierarchy, offices reflect hierarchy, physical separation - by program/status/hierarchy, hierarchy.

Space = status (corner offices), cubicle size proportional to status, quality of furnishings proportional to status, symbols of status - parking spaces, evidence of status symbols - size of offices, physical separation - by program/status/hierarchy.

*Cost

High labor costs, unit cost control data (part data) on the wall, cost charts, cube-by-cube goals - per worker cost saving.

*Clock

Time clock by the door, time clocks, fixed hours - punch clock, lots of clocks, time clock - work bell – whistle.

*Complain

Desks overflow with complaints from customers, large complaint department.

*Badge

Yellow and white badges, badges with titles, different badges for different levels.

*Crisis

Fault tree diagrams in conference rooms - signs of crisis.

*Fire

Fire-door open.

RedPen Company Physical Characteristics

Old

Specifications are old and not updated, old unmaintained equipment, old furniture and furnishings, old style machines, old, old building with few windows, old tooling, preponderance of older male employees, old-style products, old facility, older manufacturing equipment, old or archaic equipment, old rundown manufacturing facility, old and worn out equipment, capital equipment - old and uncompetitive, worn - out old machines, old tools, older equipment - use it until it dies, old fashioned - where I work now, old and rusty machines, old and worn out tools, old machines in need of repair.

Reactive ~ Broken

Reactive, reactive organized - things broken.

Broken equipment, red tags and broken equipment, big bin for broken caps, no information boards environment broken into departments, reactive organized - things broken, going broke.

Messy ~ Clutter

Messy, lots of messy desks, messy and red ink all over the place, messy environment, messy work areas - clutter, messy/ineffective layout, messy restroom, unorganized/messy, messy assembly area, messy areas, messy spaces.

Cluttered, clutter and confusion, lots of clutter on the desks, cluttered shop, cluttered work areas, clutterness, stagnation and clutter, disorganized and cluttered, cluttered desks, cluttered notice boards - notices out of date.

Disunorganized

Unorganized, unorganized parking lot, unorganized lot of scrap in barrels, unorderly and unorganized, disorganized, dirty and disorderly, unorganized production

facilities, disorganization, disorganized factory layout, unorganized buildings, disorganized repair bays in full view of customers, disjointed processes, disjointed metrics posted in some work areas, unorganized process, unorganized/messy, disorderly work place, disorganized areas, hand tools disheveled/unorganized, unorganized work environment, disorganized work spaces, disorganized and cluttered, disorganized equipment, disorganized process flow.

Untidy

Dirty/untidy, untidy work areas.

Unsafe ~ Dirty

Unsafe work conditions, dirty, not well-maintained, unsafe, unsafe, safety notices - unsafe - slippery floors.

Dirty shop, dirty and disorderly, dirty machines, disorganized and dirty, equipment and machines are dirty, dirty facility, dirty, not well-maintained, unsafe, dirty/untidy, dirty carpets, walls - dirty, dirty/messy.

Poor ~ Dark

Poor management, poor lighting, poor tolerance controls, poor QC, poor quality equipment, poorly maintained, poor maintenance, poorly lit - dark and dreary, poor engineering, poor flow of production, poor parking lots - needs resurfacing, poor housekeeping, poorly maintained machinery, poorly maintained equipment, poor lay out/materials, poorly equipped inspection area, poor working areas, poor lighting, poor equipment, poorly organized, poor test facility, poor ventilation, poor lighting (fluorescent).

Gloomy and dark, poorly lit - dark and dreary, dark and impersonal, dark environment, dark/dull lighting, dark colors, dark and smelly.

*Need

Machines need maintenance, peeling signage - in need of paint, more inventory - need to find large caps, small caps, facilities in need of repair, notes left on peoples desk - "you need....," corrective actions as the need arises, a need for process improvements, old machines in need of repair.

*Sloppy

Sloppy

RedPen Company Physical Layout

Departmental ~ Segregated

No training department, different departments all in separated areas of the building - not co-located, no customer relations department, departmentalized, separate departments in separate areas, many different departments, small R&D department, more managers and departments, different departments under one company, areas segregated off by departments - no blending, posting of goals/metrics for "this" department, rigidly departmentalized, distinctly segregated departments, charts with comparisons to other companies/departments, obvious separation by product and department, large internal security department, department only lounges, posted "department only" issues, segregation by departments vs. functionally put together, departments with information vs. information with the group, performance metrics - department, siloed - many departments separated, no information boards environment broken into departments, isolated department structure, each department creates their own environment, very individual work areas - departments, apparent departmental blinds, busy "first aid/ergo" department, departmental performance charts, departmental org charts and telephone directories, restrictions to communication between departments - walls/partitions, metrics

on wall - by departments, separation of departments and groups, departments in different buildings, bar charts/performance charts - individual/departments, strong team/department focus, no R&D department, structured organizational departments, large complaint department, departmentalization.

Segregated areas, areas segregated off by departments - no blending, distinctly segregated departments, clear sense of segregation, segregation by departments vs. functionally put together, segregated by function, segregated cubicles, supportive staff away from/segregated from rest of floor – isolated.

Isolated ~ Away

Things put away and hidden, upper level management is located physical far away, executives are located far away, throw data away/store indefinitely, managers in corner offices - away from the work, supportive staff away from/segregated from rest of floor – isolated.

*Individual ~ Back

Individuals (us teams), groups and individuals were isolated, very individual work situations, cubicles with individual's data, individual offices, small - individual cubicles in straight rows, a lot of storage room in offices - individual storage room, individualized work areas, individual part emphasis, individual cubes - not group atmosphere, separate individual offices, individual recognition, individual goals, charts depict individual success, individual resources, individual recognition, too much individualization between sites vs. a sense of community, emphasis on individual goals/deadlines/charts/graphs, individual task list and metrics, very individual work areas - departments, individual achievement awards, individual high walled offices, individual offices/high walls/ - management; cut back communication, individual successes, metrics of performance - by

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individual, bar charts/performance charts - individual/departments, individual department area.

Back logs, individual offices/high walls/ -management; cut back communication.

*Separated ~ Silos

Silos, siloed facilities, obvious silos, silo based, siloed - many departments separated, silos, engineering - manufacturing - quality - silos, silos, disconnected and silos.

Different departments all in separated areas of the building - not co-located, manufacture facilities for caps and bodies are separate, complex with huge separate buildings - one for pens and one for caps, separated, separate manufacturing lines, separate break rooms, team members geographically separated, one fabulous meeting room for the customer - separated from the workers, secret systems - "separate data systems," separation of controllers from controlees, separation of shop and office spaces, functions in separate areas, obvious separation by product and department, management offices separate from workers offices, management separated by employees, location of office is based on hierarchy, i.e., manager, lead person, etc., leaders and operators are separated, separate individual offices, separation, separate buildings - engineering/management/operations, separate measures for # pens/ # caps made, engineering/manufacturing - separated, two separate production lines - one for caps/one for bodies, separate work areas, siloed - many departments separated, divisions clearly separated, separate performance matrices for executives and non executives, everyone is separate, widely separated/in tables, separation of departments and groups, physical separation - by program/status/hierarchy, executives park in separate parking lot,

organizations separated by physical boundaries, team members are more separated, separate dining rooms.

RedPen Company Physical Generic Descriptive

Lots

Lots of inspection, unorganized parking lot, lots of red and yellow signs, lots of red ink in stock, lots of standards, unorganized lot of scrap in barrels, lots of scrap, red lights in parking lot, lots of rejects in piles, lots of messy desks, lot of work in progress, lots of barriers, lots of clutter on the desks, lots of reports, lots of walls, a lot more specialized equipment, a lot of waste, lots of red ink, lots of scrap and rework, lots of doors, a lot of equipment - more automation, lots of banners - slogans of the day, lots of rework and scrap bins, lots of stock for getting pens to fit, lots of security cameras, lots of piles of parts, lots of carpeting, lots of walls, lots of wasted space, poor parking lots - needs resurfacing, lots of charts with "yellowed" paper, lots of metrics charts on wall, a lot of storage room in offices - individual storage room, lots of office equipment, lots of cubicle and cubby holes, lots of postings of cynical humor, lots of motivation posters and slogans, lots of offices - managers, lots of inventory/supplies, lots of priority/orders, lots of red pens, lots of manual labor, lots of pliers and hammers - test equipment, lots of tools, lots of rules, lots of clocks, lots of closed doors and cubicles, lots of out of dated notice boards, lots of cubes, lot of excess, lots of cars parking lot after hours, lots of partitions, lots of posters and slogans, obvious boundaries - lots of doors, lots of unsold red pens, lots of rules and regulations, lots of pass/fail (attribute) data, few parts and lots of returns, lots of metrics on the wall, lots of monthly reports with goals, lots of structure, lots of stuff - waste, lots of signs with slogans - "work hard" "change is constant."

Excess

Excess (more stuff), excessive documentation, lot of excess, excessive handling, excess inventory.

No

No instructions, no quality control, no windows, no maintenance, no training department, no friggin' windows, no testing equipment, no bay walls - bull pen environment, no product improvement changes, no customer relations department, no Quality Assurance area, no computer equipment, no test facility, no method of tracking customer satisfaction, no order, no measurement tools or gauging, no personal photo's, no real order, no value scorecard, no meeting places, no modernization, no a/c in summer, no climate control, no spc, no statistical controls, no cafeteria, organization is not working together - no relationships between, no visible flow, areas segregated off by departments - no blending, no where to eat lunch, no order conditions, no visual management techniques (5s), no plants or greenery, no ergonomic equipment, go, no/go gages, no training, no signs of creativity in the office, no evidence of continuous improvement, no/little areas for informal discussions, no shared facilities, no signs of team/group activity, no meeting areas, no evidence of equipment collaboration, absolutely no mention of anything to do with customer, no metrics displayed, no inventory (plus expeditors, no good tools, no documentation, no "point of use", no productivity measures, no open space, no evidence of team success, no defined product flow, no communication, no/little evidence of direction, no attention paid to aesthetics, no information boards environment broken into departments, no change from place to place, little/no personal items in work areas, no training facility, huge factory - no concern for research, no visual contact between staff (closed doors, high walls), no customer or

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supplier offices, no flow to the product at all, no areas for people to interact, leading to the impression that there is no room for change, no variation in furniture or layout - homogeneous, no colors, no R&D department, no organized system of product assembly, no Quality Assurance, no indication of an "innovation organization", no testing, no communications, no inspection area, no testing facility, no process control data, no profit.

You ~ Don't

If it works then you don't need the extras, environment of "woe is me"/losers - "I'm better than you"/winners, use procedures to tell you why you cannot do something, organizational chart (so you know where you're at), don't look at me - I told you so, us/you, hierarchical organization - can only talk to your direct counter-parts, conversations change when you enter the room, clear identification of which group you belong to, I designed it - "you build it", work on a task or problem on your own, lemming behavior - everybody in line - do your thing

Don't care about their jobs, if it works-don't fix it, don't expect or solicit customer feedback, Don't have an understanding that what they do effects next, Don't respect their managers and colleagues, older employees who don't care, don't seem to care about solving the problem, if it works then you don't need the extras, don't want to be there, fairly closed - don't want to share, unhappy don't know their customer and how their part fits into the big picture, don't use their own pens, don't have a desire for customer satisfaction, don't listen to each other, don't know answers, don't look real happy animosity, don't help others, don't look forward to going to work, bunched - don't want to interact, don't think, don't venture out of the box, do as commanded - don't question, stratified organization - with levels of management that don't communicate, don't look at me - I told you so, don't know each other, confused - don't understand what is required,

don't use their own pens, don't know who their customer is, don't pay me to think, people don't know each other well, staff who don't know/explain how their contribution matters, don't want to participate, don't look happy, lack of awareness - "don't care", don't fix it unless it's broken, people don't express ideas that are work related.

*Not

Not painted in years, specifications are old and not updated, different departments all in separated areas of the building - not co-located, lots of updated tools and equipment (not as much as BluePen Company, not as pleasant a place to work, not calibrated, not organized, cap and pen teams not co-located, not well maintained work area, concerned about production output - not quality, were not using red pens, more policies on the walls - Do Not Do This...., toilet did not work, work areas were not real clean, not clean, task groupings (not cellular design), design of product - not good, tooling equipment not precise/inadequate, not clean and crisp, organization is not working together - no relationships between, retro - not up to date, dirty, not well-maintained, unsafe, areas not efficiently laid out, tally board of numbers and goals - achieved or not, items not in place, manuals on how to determine if part is in spec or not - process on how to return to spec, posters - not art, not open, fixed - not flexible, not as neat, not very clean, individual cubes - not group atmosphere, equipment not maintained, not work flow, not utilizing natural lighting, not set up for good communication, were not enough suppliers, not as structured/organized physically, not clean, not tidy, not organized, things that are not maintained, outward appearance of building - not well maintained, not as cheery/gloomy, not innovative, not maintained, areas are functional - not well kept, not set up for quality concerns, support functions not co-located, equipment not kept up - not maintained, bathrooms are not clean, building not worker friendly.

CHAPTER FOUR SUMMARY

This chapter presented the results of the Type IV mixed model research. Manifest variables were first created from the qualitative data and then unitized. Latent meaning variables were created combining manifest variables with similar meanings. The data were then statistically analyzed to produce the significant variables distinct to the BluePen Company and the RedPen Company. The significant manifest variables also existing in latent meaning variables were dropped to reduce redundancy. The BluePen Company and the RedPen Company significant variables were then statistically analyzed to reveal the distinct relationships with the physical and people sub-categories. Principal components analysis was performed as the final quantitative phase of the study to reveal relations between the significant variables and provide an order for the variables. The qualitative narrative was then presented in the order suggested by the principal components analysis. Finally the significant variables were renamed based on the meaning presented in qualitative narrative. The next and final chapter will present a summary, theoretical implications, practical implications, recommendations for future research, and the conclusion.

Chapter 5: Summary, Recommendations, and Conclusion

This study explored possibilities beyond traditional perspectives of leadership. The traditional perspective of leadership has been reinforced for 100 years by academics, media, and practitioners in the organizational context (Rost, 1991). The traditional perspective has been committed to a limited view primarily of individuals referred to as leaders focusing on their characteristics and behaviors influencing others (Hughes, et al., 2006; Daniel Katz & Kahn, 1978). The emerging perspective expanded upon in this study looks at leadership as the emergent property of a complex dynamic of rich diverse non-linear interactions. The emerging perspective is inclusive of the whole not just the parts. This perspective, expanded upon in this study, views organizations as complex adaptive systems consisting of interacting diverse agents (people in the organizational leadership context) whose interactions are rich, nonlinear, and influence each other and the environment leading to unpredictable outcomes (Cilliers, 1998). The organization parts are interacting to make up the whole and the whole is interacting with other whole organizations. This dynamic makes up highly sensitive and influential complex interdependent relationships producing patterns. The sensitivity to initial conditions, rich non-linear interactions, anticipation of emergent patterns, communication feedback loops, adaptation and creativity can lead to producing desirable outcomes that are the results of the interactions and nonexistent in any one individual. This is working together informed by complexity science rather than resisting and imposing on the complex systems natural ways of being.

The purpose of this study was to gain insights from a large raw data set to contribute original theory to the field of leadership. The aim of this study was to explore what are the perceived essential components of an ideal organization, which may be

enacted through complex systems leadership. A mixed model research approach was used to analyze and synthesize the raw data collected from 150 leadership seminars from 2000 to 2006. The data consisted of qualitative aggregate seminar responses about the physical environment and people in the operationally defined the RedPen Company and the BluePen Company. The qualitative data were unitized. Quantitative methods were used to categorize, analyze, and synthesize the unitized qualitative data to show statistical significance in order to define the perceived essential components.

Two hypotheses were tested and confirmed by the data analysis. The first hypothesis stated the BluePen Company and the RedPen Company demonstrate significantly different emergent categories. The second hypothesis stated the subsets people and physical of the BluePen Company and the RedPen Company demonstrate significantly different emergent categories.

Four research questions were addressed. (1) What are the perceived essential components of a BluePen Company? (2) What are the perceived essential components of a RedPen Company? (3) What are the perceived essential components of the physical environment of the companies? (4) What are the perceived essential components of the people in the companies?

Five steps were taken to statistically analyze and synthesize the qualitative data. (1) Identified manifest variables. (2) Unitized the qualitative data. (3) Identified latent meaning variables. (4) Employed chi-square test for independence to determine which variables were significantly different between the BluePen Company and the RedPen Company and the subsets of physical and people. (5) Applied principal components analysis to further reduce the categories identified in Step 4.

The study began with 4,036 variables from the 5396 responses. The statistical analysis reduced the data to 107 significant variables. The BluePen Company combined

manifest and latent meaning significant variables were reduced to 51. There were 20 latent variables unique to the BluePen Company people category. There were 14 uniquely describing the BluePen Company physical category. There were 17 significant variables not distinct to either the people or physical category and were labeled BluePen Company General. The RedPen Company combined manifest and latent meaning significant variables were reduced to 56 latent variables. There were 19 unique to the RedPen Company people category. There were 20 uniquely describing the RedPen Company physical category. There were 17 significant variables not distinct to either the people or physical category and were labeled RedPen Company General.

The qualitative responses from the significant variables of the BluePen Company and the RedPen Company were then clustered. The first of two sets of clusters was people who and what labels, people characteristics, and people behavior. The second set of clusters was the physical what labels, physical characteristics, and physical layout. These emergent clusters represented the organization as a whole in the organizational leadership context unlike the traditional perspective with its primary focus on leaders characteristics and behaviors.

The BluePen Company and the RedPen Company were distinct and polar. The BluePen Company people were described as cross-functional self-directed multi-disciplined teams. The RedPen Company people were described as bad bosses looking over the shoulders of job doers doing the minimum it takes to get the job done. The BluePen Company people were driven by the big picture, common purpose and common goals, and an integrated plan supporting the company's vision and they know how they are connected to it. The RedPen Company people were driven by outdated rules and regulations. The BluePen Company physical layout is open and designed to support rich interaction. The RedPen Company physical layout is closed resulting in isolation. The

BluePen Company is highly interactive and interdependent. The RedPen Company is isolated and independent. The BluePen Company is a flat structure. The RedPen Company is hierarchical with status indicators.

Figures 3 and 4 are diagrams showing a high level abstraction of the essence of the BluePen Company and the RedPen Company. Each company's diagrams are followed by description.

Figure 3: BluePen Company Diagram
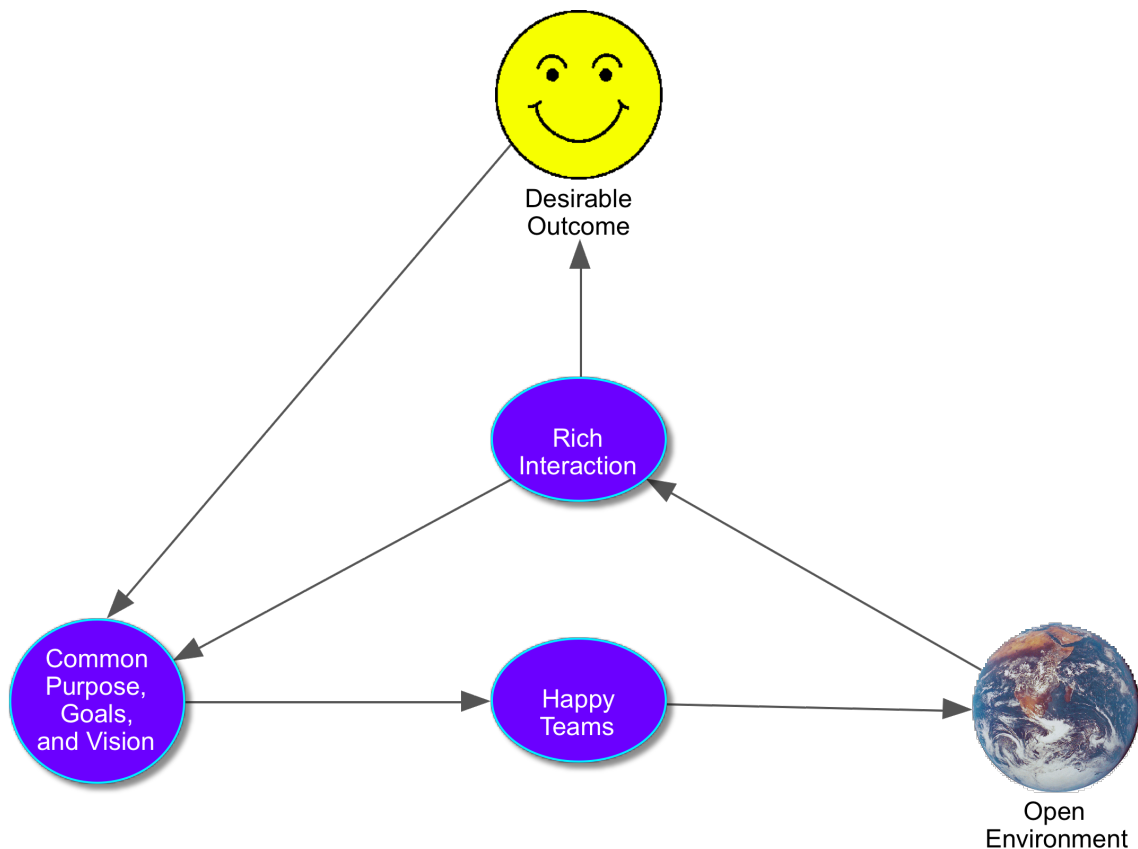
The BluePen Company people are driven by common purpose, common goals, common vision, an integrated plan and they know how they are connected to it. They are made up of teams of happy people who take pride in their work. It is a flat structure

where everyone contributes to fulfill the purpose of the whole. They work in an open environment designed to be functional and support interaction. The environment is well lit, has open space, and processes flowing together are located near each other. The rich interactions are among each other, other teams, and are inclusive of customers and suppliers. The interactions encourage creativity and free discussion. The interactions are aligned with the purpose, goals, and vision of the company. This forms the first feedback loop starting from purpose and feeding back through interaction to the purpose. The first loop interacts with a second loop including desired outcomes. The desired outcome is the BluePen Company product works as intended and the pens and caps are snap fit. The attention to quality control during the rich interactions contributes to the quality products. The BluePen Company people celebrate and share their success with each other, family, friends, customers and suppliers.

In contrast, the following diagram represents an abstraction of the essence of the RedPen Company.

Figure 4: RedPen Company Diagram
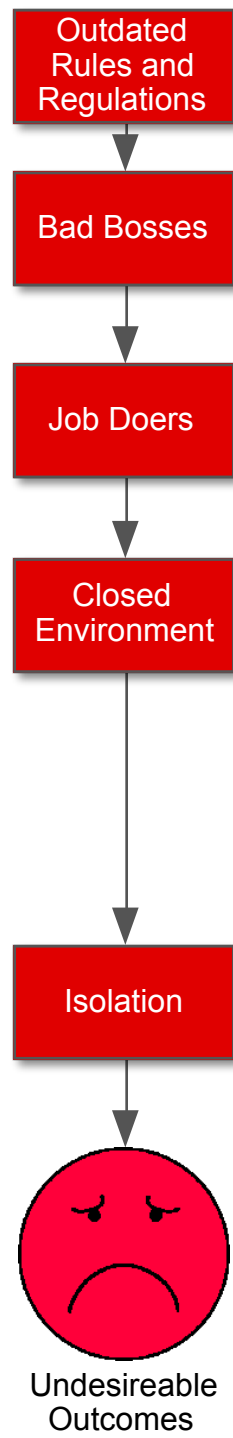
The RedPen Company people are driven by outdated rules and regulations enforced by "bad bosses" looking over the shoulders of the "job doers"—the employees who just do enough to get the job done. The employees are unhappy and have their heads down. The environment is closed, dark, dirty, disorganized, with walls, cubicles, and other status indicators representing an obvious hierarchical structure. The RedPen Company is filled with fear, anxiety, backstabbing, blaming, and isolation. This leads to undesirable outcomes such as the product not working or functioning properly—the pens and caps do not fit and require hammer to put on the cap and pliers to remove the cap. This diagram reveals the hierarchy and the lack of feedback in this closed environment.

The RedPen Company is the antithesis of the BluePen Company. The results are clear the BluePen Company is an inspiring model of the ideal organization which. Table 9 below presents in detail the RedPen Company and BluePen Company polarities revealed in the findings.

Table 9: RedPen Company and BluePen Company Polarities

RedPen	BluePen (Ideal)
Individuals	Teams
Outdated Rules Driven	Shared Purpose Driven
Individual Goals	Shared Goals
Own Agenda	Big Picture
Own Vision	Company Vision
Unhappy	Happy
Negative	Positive
Low Esteem	Confident
Low Motivation	High Motivation
Low Pride	Take Pride
Low Morale	High Morale
Low Energy	Energetic
Working Alone	Working Together

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Rushed		Relaxed
High Stress		Calm
Risk Averse		Risk Takers
Suspicious		Curious
Hesitant		"Can Do Attitude"
Little Trust		High Trust
Compliant		Creative Dissent
Quiet		Talkative
Own		Shared
"If It Works Don't Fix It"		Inventive
Sloppy		Tidy
Unfriendly		Friendly
Unenthusiastic		Enthusiastic
Uninvolved		Involved
Mean		Nice
Rigid		Adaptable
Uninformed		Knowledgeable
Decline		Continuous Improvement
Closed		Open
Dirty		Clean
Disorganized		Organized
Unsupportive		Supportive
Absent		Engaged
Little Interaction		High Interaction
Little Conversation		Lots of Conversation
Independent		Interdependent
Waiting for Direction		Self-Directed
Blamestorming		Brainstorming
Bickering		Cooperating
Competing		Collaborating
Separate		Connected
Isolated		Integrated
Too Many People		Enough People
Silos		Co-locations
Hierarchical		Flat

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Independent Recognition		Shared Recognition
Independent Performance		Team Performance
Crisis		Ease
No Quality Control		Quality Control
Forced		Free
Don't Fit		Snap Fit
Broken		Not Broken
Old		New
Outdated		Updated
Personalized Parking		Common Parking
Cubicles		Common Space
My Space		Shared Space
Lack of Training		Lots of Training
Lack of Information		Lots of Information
Lack of Cause and Corrective Action Process		Cause and Corrective Action Process
Lack of Flow		Ease of Flow
Fixed		Flexible
Complaints		Compliments
Unsafe		Safe
Old Equipment		New Equipment
Old Furniture		New Furniture
Old Machines		New Machines
Old Tools		New Tools
Old Products		New Products
Reactive		Creative
Unhealthy Work Conditions		Healthy Work Conditions
Disorder		Order
Dark		Well Lit
Untidy		Tidy
In Need of Repair		Maintained
Hidden		Accessible
Disorganized Factory Layout		Organized Factory Layout
Unorganized Building		Organized Building
Disorganized Equipment		Organized Equipment

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Disorganized Process Flow	_____	Organized Process Flow
Poor Designed Layout	_____	Good Designed Layout
Broken Equipment	_____	Smooth Flowing Equipment
Individualistic	_____	Community

THEORETICAL IMPLICATION

The RedPen Company and the BluePen Company emergent polarities from this exploratory study are aligned with the traditional perspective and emerging perspective polarities inspired by the article Complexity Science: A Worldview Shift (Dent, 1999). Dent explains the distinction between dichotomies and polarities. The dichotomy refers to an "either or" situation—one or the other. Polarities accept both possibilities—they offer a "both and" possibility. While the findings in this study revealed the dominant features of the RedPen Company and the BluePen Company, it is possible the traditional perspective and the RedPen Company would view the world as dichotomous—either or and perhaps not even see the emerging/complexity perspective or the BluePen Company as a possibility. While the emerging/complexity perspective and the BluePen Company likely would see the traditional perspective and the RedPen Company as well as the variation between the polarities as possible options relevant based on the context. Table 10 below is a complexity matrix developed from the literature revealing the traditional perspective and the emerging/complexity perspective.

Table 10: Complexity Matrix of the Traditional Perspective and the
Emerging/Complexity Perspective

Traditional Perspectives	**Emerging/Complexity Perspectives**
Independent, Co-dependent, Dependent	Interdependent

Leave Your Mark	Reduce Your Footprint
Control	Mutual Influence
Actions	Ethical Interactions
Prediction and Forecasting	Possibilities and Options (Scenario Planning)
Disciplines and Interdisciplinary	Transdisciplinary
Linear	Non-Linear
Boundaries as Divisions	Boundaries as Connections
Dichotomous and Continuums	Polarities
Isolated Parts	Relational Parts, Related Wholes, Emergent Properties
Self = Me	Self = Me, All of my Relations and Experiences
Event	Patterns
Cause and Effect	Probability and Messes, Complex Causal Connections/Relationships
Uncertainty and Surprise are Avoided	Uncertainty and Surprise are Normal and Embraced
A Resistance to Change	Adaptive, Responsive, Dynamical
React	Enact and Entrain
Environment is Something Outside of us	I am Part of the Environment
One Way	Many Ways and Feedback Loops

My Company	Our Systems
Sameness, Homogeneity	Variation, Diversity, Heterogeneity
Chaos is Bad and to be Avoided and it is Because of Someone Else	Chaos is Understood and Worked with as We Co-create
Simple and Complicated	Complex
Status Quo	Creative and Innovative
Because That is the Way it Has Always Been Done	What Other Ways are Possible?
Everyone for Themselves	Shared and Emergent Purpose
Me and You, Us and Them	We and Us
Segregated, Silo, Stove Pipes	Interconnected
Private	Public
Closed	Open
Individual and Combined	Shared and Emergent
Experienced	Experiencing
Learned	Learning
Static	Evolving/Co-evolving
Organizing Self	Self-Organizing
Separate	Together
Part	Whole
Analysis	Synthesis

The BluePen Company is congruent with the complex systems theoretical framework discussed in chapter 2. Below are responses representing the specific complex systems concepts.

Systems Interacting Wholes

The BluePen Company is complex and has more advances in a good way. There are more system-level—system success. The employees are more familiar with the roles of others in the organization—teams looking at the pieces knowing how they interact and how they contribute and fit into the big picture. Everyone works together. Everyone is part of the success. There is involvement of all. They are interdependent. There is a focus on utilizing team members and on capitalizing everyone's strength. Each person knows the next person's procedure. People know what they are doing and what the impact of their actions is on others.

There is lots of interaction. The layout is geared toward the relationships in the business. The layout promotes more interaction—sales, marketing, research and development, design, and manufacturing are co-located. There is sharing among teams and a sense of a community. The interaction is free. Parts are organized systematically during manufacturing.

Visual measures showing how targets flow to the bigger picture. There are visual connectedness displays. The performances for the whole organization are highlighted in a common area.

Purposeful

The BluPen Company is purposeful. The people have purposeful expressions on the faces. There is a sense of common purpose and goal. The people are driven by shared vision, passion, and purposefulness. They support the company vision plan. The vision is visible to the work force and they know how they are connected to it.

Nested Systems ~ Hierarchy

The BluePen Company is not organized in a hierarchical way. It is a more level flat organization. There is a sense of equal importance. There are self-directed work teams. It is not easy to distinguish top, middle, or bottom.

Openness

The BluePen Company is Open. There is open space, open communication, open plan—lack of barriers, open assembly area-open floor (not compartmentalized), open windows, and open office areas. The coffee/lunch room is open to everyone. The space is circular and open. If there are doors they are open doors—no doors. The open areas encourage conversation. There are no cube walls in this open workspace.

Environment

The BluePen Company environment is a relaxed organized work environment. It is clean, well lit, creative, colorful, and a stimulating environment. It is a highly collaborative professional environment.

Non-Linearity ~ Emergent Properties, Self-organization, Patterns

Non-linearity, emergent properties, self-organization, and patterns all refer to the richness of interactions. While the significant data did not mention these technical terms, the BluePen Company is designed to produce each of these concepts. The open space, sharing, information flow, working together, collaborating, free discussion, and round tables all contribute to supporting non-linear interactions leading to self-organization, patterns, and emergent properties.

Diversity also contributes to these concepts. The BluePen Company consists of diverse teams; people from different functional areas working in teams, cross-functional teams with customers and suppliers, multi-skilled, and multi-disciplined work teams. The

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BluePen Company people have the ability to do lots of different tasks. There is also more variation in the physical layout.

Complexity Leadership

The complex systems leadership models emphasized adaptability, learning, and creativity. The BluePen Company is also congruent with these concepts.

Adaptable

The BluePen Company will flex and flow with uncertainty and change. The people are flexible and adaptive. The facility is flexible also—mobile and adaptive.

Learning

The BluePen Company people are in teams engaged in learning new things. They are at ease and there is easy access to training and resources. They are thinking of new products and new markets. People always have ideas, are rewarded for ideas, and encouraged to come up with new ideas. There is a shared vision. They view ideas as an opportunity. People are seeking improvement from others. Everybody contributes (ideas and knowledge) and they are enthused and engaged about contributing ideas.

Creativity

The BluePen Company is creative. Creative dissent is encouraged. There is creative thinking and freethinking. The people are working together to create improved products.

PRACTICAL IMPLICATIONS

How can this be put into practice? As stated in the chapter one: the results of this study are not meant to be best practices blindly imposed out of context. These are options to be considered. It is the expertise of practitioners within their unique particular context to decide through exploration, implementation, continuous reflection, and assimilation

which options are best under which context, during which situations, during what times, and with which particular people.

Here are a few questions to consider: How might everyone in the organization be engaged in the leadership process in creating the ideal organization? What questions would be asked to explore the possibilities of creating such an organization? What if people working in the organization regularly ask each other what would make this the most incredible place to work and how can we support each other to create our shared ideal organization? A variation of this question can be asked to customers, clients, and suppliers. How could we improve the organization so we are the ideal to interact with as a customer, client, and supplier? How might we design the physical space so that it nourishes interactions naturally? How big is our system? How are we connected and to who and what? What patterns of behaviors do we want to reinforce? Which current behaviors do we have that we want to keep? Which behaviors do we want to stop no matter how long we have been reinforcing them? How can we continue to nurture creativity, learning, and adaptability as ways of being daily? What is our purpose? What matters most to us as a whole? Are we engaged, happy, energetic, confident, and motivated? How can we improve sharing of ideas and knowledge? Is our environment well lit, open, clean, and organized? This is not a onetime experience or a once a year experience of exploration. These and many other questions the organization proactively produces are relevant and important to reflect and act on regularly.

RECOMMENDATIONS FOR FUTURE RESEARCH

Future research for this data is plentiful. A comparison of the 100 best companies to work for would be interesting. An instrument could be created to show how ideal an organization is based on the polarities of the RedPen Company and the BluePen

Company. Another possibility is to partner with other researchers to explore confirmatory research based on this exploratory study. An example of such a partnership could be looking at the relationship between creativity and teams in advertising to the ideal organization or the BluePen Company.

CONCLUSION

This project led to the understanding of perceived essential components of an ideal organization. It attempted to clarify complex literature on complex systems often written for a scientific audience. The study also explored specific practical implications to contribute to the field of organizational leadership. It provided specific suggestions to improve any organization. In addition the research revealed the usefulness of a mixed model study. This model allowed for open responses to be objectively statistically analyzed with clarity of meaning revealed from the original qualitative narrative. In conclusion, this is an invitation to actively explore leadership together choosing the adventure and co-creating ideal organizations with an ultimate aim of positively contributing to the greater system of which we are a part.

Appendices

APPENDIX A: IRB APPROVAL

OFFICE OF RESEARCH SUPPORT

THE UNIVERSITY OF TEXAS AT AUSTIN

P.O. Box 7426, Austin, Texas 78713 (512) 471-8871 -FAX (512 471-8873)
North Office Building A, Suite 5.200 (Mail code A3200)

FWA # 00002030

Date: **07/27/10**

PI(s): **Ryan J Schoenbeck**   Department & Mail Code:

Title: **Complex Systems Leadership in BluePen Organizations: A**
       Mixed Model Study of Perceived Essential Components in
       Ideal Organizations

IRB APPROVAL – IRB Protocol # **2006-02-0131**

Dear: **Ryan J Schoenbeck**

The IRB reviewed the above listed study and determined that it is not human research as defined in the Common Rule (45 CFR 46) or FDA regulations (21 CFR 50 & 56). This study falls outside the IRB's jurisdiction. At this time you are free to begin your project without IRB approval. Please feel free to call this office (471-8871, orsc@uts.cc.utexas.edu), if you have any questions. Thank you for your help in this matter.

Sincerely,

Jody L. Jensen, Ph.D.
Professor
Chair, Institutional Review Board

Protocol Number: **2006-02-0131**   Approval Dates: -

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APPENDIX B: LATENT MEANING VARIABLES

Lat_arguing=ARGUING ARGUMENTATIVE BICKERING

Lat_blame=BLAME BLAMED BLAMERS BLAMING

Lat_block=BLOCK BLOCKING BLOCKS

Lat_board=BOARD BOARDS

Lat_body=BODIES BODY

Lat_book=BOOK BOOKS

Lat_bored=BORED BORING

Lat_boss=BOSS BOSSES BOSSS

Lat_box=BOX BOXED BOXES

Lat_brain=BRAIN BRAINS

Lat_brainstorm=BRAINSTORM BRAINSTORMING

Lat_break=BREAK BREAKS

Lat_bright=BRIGHT BRIGHTLY

Lat_broken=BROKE BROKEN

Lat_budget=BUDGET BUDGETS

Lat_build=BUILD BUILT

Lat_building=BUILDING BUILDINGS

Lat_bulb=BULB BULBS

Lat_bulletin=BULLETIN BULLETINS

Lat_bunch=BUNCH BUNCHED

Lat_bureaucracy=BUREAUCRACY BUREAUCRATIC

Lat_cafe=CAFE CAFETERIA CAFETERIAS

Lat_calibrated=CALIBRATED CALIBRATION

Lat_calm=CALM CALMER CALMNESS

Lat_can=CAN CANNOT CANS CANT

Lat_cap=CAP CAPS

Lat_car=CAR CARS

Lat_care=CARE CARES

Lat_care=CARE CARES CARING

Lat_careful=CAREFUL CARELESS

Lat_carpet=CARPET CARPETING CARPETS

Lat_casual=CASUAL CASUALLY

Lat_cause=CAUSE CAUSED CAUSES

Lat_cautious=CAUTIOUS CAUTIOUSLY

Lat_ceiling=CEILING CEILINGS

Lat_celebrate=CELEBRATE CELEBRATION

Lat_cells=CELLS CELLULAR

Lat_central=CENTER CENTRAL CENTRALLY

Lat_ceo=CEO CEOS

Lat_chain=CHAIN CHAINS

Lat_challenge=CHALLENGE CHALLENGED CHALLENGING

Lat_change=CHANGE CHANGED CHANGES CHANGING

Lat_chaos=CHAOS CHAOTIC

Lat_charge=CHARGE CHARGING

Lat_chart=CHART CHARTING CHARTS

Lat_cheap=CHEAP CHEAPER

Lat_check=CHECK CHECKING

Lat_cheerful=CHEERFUL CHEERY

Lat_circular=CIRCLES CIRCULAR

Lat_classes=CLASS CLASSES CLASSROOMS

Lat_clean=CLEAN CLEANER CLEANLINESS

Lat_clear=CLEAR CLEARLY CLARITY

Lat_clique=CLIQUE CLIQUES

Lat_clock=CLOCK CLOCKS

Lat_closed=CLOSED CLOSING

Lat_closeness=CLOSE CLOSENESS CLOSER

Lat_clutter=CLUTTER CLUTTERED CLUTTERNESS

Lat_code=CODE CODED CODES CODING

Lat_collaborating=COLLABORATE COLLABORATING COLLABORATION COLLABORATIVE

Lat_collect=COLLECT COLLECTED COLLECTION COLLECTORS

Lat_color=COLOR COLORED COLORFUL COLORS

Lat_come=COME COMES COMING COMINGS

Lat_command=COMMAND COMMANDED

Lat_commitment=COMMITMENT COMMITTED

Lat_community=COMMUNAL COMMUNITY

Lat_communicate=COMMUNICATE COMMUNICATING COMMUNICATION COMMUNICATIONS COMMUNICATIVE

Lat_company=COMPANIES COMPANY COMPANYS

Lat_compartmental=COMPARTMENTAL COMPARTMENTALIZATION COMPARTMENTALIZED COMPARTMENTALIZING

Lat_compensation=COMPENSATED COMPENSATION

Lat_compete=COMPETE COMPETENT COMPETING COMPETITION COMPETITIVE

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Lat_complain=COMPLAIN COMPLAINERS COMPLAINING COMPLAINT COMPLAINTS

Lat_compliant=COMPLIANCE COMPLIANT

Lat_complement=COMPLEMENT COMPLIMENTS

Lat_computer=COMPUTER COMPUTERIZED COMPUTERS

Lat_concept=CONCEPT CONCEPTS

Lat_concern=CONCERN CONCERNED CONCERNS

Lat_condition=CONDITION CONDITIONED CONDITIONS

Lat_conduct=CONDUCT CONDUCTED

Lat_confidence=CONFIDENCE CONFIDENT

Lat_confused=CONFUSED CONFUSING CONFUSION

Lat_congested=CONGESTED CONGESTION

Lat_connected=CONNECTED CONNECTEDNESS CONNECTING CONNECTIONS

Lat_conscious=CONSCIENTIOUS CONSCIOUS CONSCIOUSNESS

Lat_consideration=CONSIDERATE CONSIDERATION CONSIDERATIONS

Lat_constant=CONSTANT CONSTANTLY

Lat_constrained=CONSTRAINED CONSTRAINTS

Lat_contentment=CONTENT CONTENTMENT

Lat_continuous=CONTINUALLY CONTINUITY CONTINUOUS

Lat_contract=CONTRACT CONTRACTS

Lat_contribute=CONTRIBUTE CONTRIBUTES CONTRIBUTING CONTRIBUTION CONTRIBUTIONS

Lat_control=CONTROL CONTROLEES CONTROLLED CONTROLLERS CONTROLS

Lat_conversation=CONVERSATION CONVERSATIONS

Lat_cooperative=COOPERATION COOPERATIVE

Lat_coordinated=COORDINATED COORDINATION

Lat_corporated=CORPORATE CORPORATED

Lat_correct=CORRECT CORRECTLY

Lat_correction=CORRECTION CORRECTIVE

Lat_cost=COST COSTS

Lat_count=COUNTER

Lat_cover=COVER COVERED COVERING COVERS

Lat_creative=CREATE CREATES CREATIVE CREATIVITY

Lat_crib=CRIB CRIBS

Lat_crisis=CRISES CRISIS

Lat_criteria=CRITERIA CRITERION

Lat_criticism=CRITICISM CRITICIZED

Lat_cubicle=CUBE CUBES CUBICLE CUBICLES CUBICLES_A

Lat_culture=CULTURAL CULTURE CULTURES

Lat_curious=CURIOSITY CURIOUS

Lat_customer=CUSTOMER CUSTOMERS CUSTOMERS_A

Lat_cynical=CYNICAL CYNICISM

Lat_date=DATE DATED

Lat_day=DAY DAYS

Lat_deadline=DEADLINE DEADLINES

Lat_deception=DECEIVED DECEIVING DECEPTION

Lat_decor=DECO DECOR DECORATED DECORATIONS

Lat_dedicated=DEDICATED DEDICATION

Lat_defects=DEFECTIVE DEFECTS

Lat_defensive=DEFENDERS DEFENSE DEFENSIVE

Lat_defined=DEFINED DEFINING DEFINITION

Lat_delivery=DELIVERING DELIVERY

Lat_demarcated=DEMARCATED DEMARCATION

Lat_departmental=DEPARTMENT   DEPARTMENTAL   DEPARTMENTALIZATION

DEPARTMENTALIZED DEPARTMENTS

Lat_depressed=DEPRESSED DEPRESSING

Lat_description=DESCRIPTION DESCRIPTIONS DESCRIPTIVES

Lat_design=DESIGN DESIGNED DESIGNERS DESIGNS

Lat_desk=DESK DESKS DESKTOP

Lat_determine=DETERMINE DETERMINING

Lat_develop=DEVELOP DEVELOPED DEVELOPMENT

Lat_difference=DIFFERENCE DIFFERENCES DIFFERENT

Lat_difficult=DIFFICULT DIFFICULTY

Lat_dimensions=DIMENSIONAL DIMENSIONS

Lat_direct=DIRECT   DIRECTED   DIRECTING   DIRECTION   DIRECTIONAL

DIRECTIONS DIRECTIVE DIRECTLY

Lat_directory=DIRECTORIES DIRECTORY

Lat_disagree=DISAGREE DISAGREEMENT

Lat_disarray=DISARRAY DISARRAYED

Lat_disciplinary=DISCIPLINARY DISCIPLINE DISCIPLINED

Lat_discover=DISCOVER DISCOVERING

Lat_discuss=DISCUSS DISCUSSING DISCUSSION DISCUSSIONS

Lat_disorganized=DISHEVELED DISJOINTED DISORDERLY DISORGANIZATION

DISORGANIZED

Lat_display=DISPLAY DISPLAYED DISPLAYING DISPLAYS

Lat_disunorganized=DISHEVELED DISJOINTED DISORDERLY DISORGANIZATION DISORGANIZED UNORGANIZED UNORGANZATION

Lat_distinctive=DISTINCT DISTINCTION DISTINCTIONS DISTINCTIVE DISTINCTLY

Lat_diverse=DIVERSE DIVERSIFIED DIVERSITY

Lat_divided=DIVIDED DIVIDERS DIVISION DIVISIONS

Lat_document=DOCUMENT DOCUMENTATION DOCUMENTED DOCUMENTS

Lat_doers=DOERS DOING DONE

Lat_doesn_t=DOESNT DONT DONTS

Lat_door=DOOR DOORS

Lat_drawing=DOODLING DRAW DRAWERS DRAWINGS DRAWN

Lat_dressed=DRESS DRESSED

Lat_drive=DRIVE DRIVEN DRIVERS DRIVING

Lat_dust=DUST DUSTY

Lat_eager=EAGER EAGERLY EAGERNESS

Lat_ear=EAR EARS

Lat_easy=EASE EASIER EASILY EASY

Lat_eat=EAT EATING

Lat_education=EDUCATED EDUCATION EDUCATIONAL

Lat_effect=EFFECT EFFECTS

Lat_efficient=EFFICIENCY EFFICIENT EFFICIENTLY

Lat_effort=EFFORT EFFORTS

Lat_email=EMAIL EMAILS

Lat_emphasis=EMPHASIS EMPHASIZE

Lat_employee=EMPLOYEE EMPLOYEES

Lat_empty=EMPTIED EMPTY

Lat_encourage=ENCOURAGE ENCOURAGED ENCOURAGEMENT ENCOURAGES ENCOURAGING

Lat_energetic=ENERGETIC ENERGIZED ENERGY

Lat_engaged=ENGAGE ENGAGED ENGAGEMENT ENGAGING

Lat_engineer=ENGINEERED ENGINEERING ENGINEERS ENGINEERS_A

Lat_enjoy=ENJOY ENJOYED ENJOYING

Lat_enthusiastic=ENTHUSED ENTHUSIASM ENTHUSIASTIC

Lat_environment=ENVIRONMENT ENVIRONMENTALLY ENVIRONMENTS

Lat_equal=EQUAL EQUALLY EQUALS

Lat_ergonomic=ERGO ERGONOMETRIC ERGONOMIC ERGONOMICALLY ERGONOMICS

Lat_everybody=EVERYBODY EVERYBODYS EVERYONE EVERYONES

Lat_everything=EVERYTHING EVERYTHINGS

Lat_exact=EXACT EXACTLY

Lat_excess=EXCESS EXCESSIVE

Lat_exchange=EXCHANGE EXCHANGING

Lat_excited=EXCITED EXCITEMENT

Lat_executives=EXECS EXECUTIVE EXECUTIVES EXECUTIVES_A

Lat_exhortation=EXHORTATION EXHORTATIONS

Lat_expect=EXPECT EXPECTATIONS EXPECTED

Lat_expedite=EXPEDITE EXPEDITORS

Lat_experience=EXPERIENCE EXPERTISE

Lat_expression=EXPRESS EXPRESSION EXPRESSIONS

Lat_extra=EXTRA EXTRAS

Lat_eye=EYE EYES

Lat_fabulous=FAB FABULOUS

Lat_face=FACE FACES FACIAL

Lat_facilitate=FACILITATE FACILITATED

Lat_facilities=FACILITIES FACILITY

Lat_failure=FAIL FAILURE FAILURES

Lat_falling=FALLEN FALLING

Lat_family=FAMILIES FAMILY

Lat_fashion=FASHION FASHIONED

Lat_fast=FAST FASTER

Lat_fear=FEAR FEARFUL FEARLESS

Lat_feeling=FEEL FEELING FEELS

Lat_few=FEW FEWER

Lat_fighting=FIGHTERS FIGHTING

Lat_file=FILE FILED FILES

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Lat_find=FIND FINDING

Lat_finger=FINGER FINGERS

Lat_fire=FIRE FIRED FIREMEN FIRES

Lat_fit=FIT FITS

Lat_fix=FIX FIXED

Lat_fixture=FIXTURE FIXTURES

Lat_flat=FLAT FLATTER

Lat_flavor=FLAVORED FLAVORS

Lat_flexible=FLEX FLEXIBILITY FLEXIBLE FLEXIBLY

Lat_flow=FLOW FLOWING FLOWS FLUID

Lat_focus=FOCUS FOCUSED

Lat_follow=FOLLOW FOLLOWED FOLLOWERS

Lat_force=FORCE FORCED FORCES

Lat_formal=FORMAL FORMALITY

Lat_form=FORM FORMER FORMING

Lat_founder=FOUNDER FOUNDERS

Lat_free=FREE FREEDOM FREELY

Lat_frequent=FREQUENT FREQUENTLY

Lat_fresh=FRESH FRESHLY

Lat_friendship=FRIENDLIER FRIENDLINESS FRIENDLY FRIENDS FRIENDSHIP

Lat_frustrated=FRUSTRATED FRUSTRATION

Lat_full=FULL FULLY

Lat_function=FUNCTION FUNCTIONAL FUNCTIONALITY FUNCTIONALLY FUNCTIONING FUNCTIONS

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Lat_gather=GATHER GATHERING GATHERINGS

Lat_gauge=GAGES GAUGING

Lat_gear=GEAR GEARED

Lat_general=GENERAL GENERALLY

Lat_get=GET GETTING

Lat_glass=GLASS GLASSES

Lat_goal=GOAL GOALS

Lat_go=GOES GOING

Lat_good=GOOD GOODIES GOODNESS

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Lat_green=GREEN GREENERY

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Lat_group=GROUP GROUPINGS GROUPS

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Lat_hammer=HAMMER HAMMERS

Lat_handoff=HANDLING HANDOFFS

Lat_hands=HAND HANDS

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Lat_hazard=HAZARD HAZARDOUS

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Lat_homogeneous=HOMOGENEOUS HOMOGENOUS

Lat_honest=HONEST HONESTY

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Lat_hurry=HURRIED HURRY

Lat_hushed=HUSHED HUSHING

Lat_ideas=IDEA IDEAS

Lat_identify=IDENTIFICATION IDENTIFIED IDENTIFY IDENTIFYING

Lat_important=IMPORTANCE IMPORTANT

Lat_improve=IMPROVE   IMPROVED   IMPROVEMENT   IMPROVEMENTS
IMPROVING

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Lat_independent=INDEPENDENCE INDEPENDENT INDEPENDENTLY

Lat_indication=INDICATION INDICATIONS INDICATORS

Lat_indifferent=INDIFFERENCE INDIFFERENT

Lat_indirect=INDIRECT INDIRECTLY

Lat_individual=INDIVIDUAL   INDIVIDUALISTIC   INDIVIDUALISTS
INDIVIDUALITY   INDIVIDUALIZATION   INDIVIDUALIZED   INDIVIDUALLY
INDIVIDUALS INDIVIDUALS_A

Lat_inflexible=INFLEXIBILITY INFLEXIBLE

Lat_informal=INFORMAL INFORMALLY

Lat_information=INFO INFORMATION INFORMED

Lat_initiative=INITIATIVE INITIATIVES

Lat_injury=INJURIES INJURY

Lat_innovation=INNOVATION INNOVATIVE

Lat_inspection=INSPECTION INSPECTORS

Lat_inspirational=INSPIRATIONAL INSPIRED

Lat_instruction=INSTRUCTION INSTRUCTIONS

Lat_interact=INTER INTERACT INTERACTING INTERACTION INTERACTIONS INTERACTIVE

Lat_interest=INTEREST INTERESTED INTERESTING INTERESTS

Lat_internal=INTERNAL INTERNALLY

Lat_interrupt=INTERRUPTED INTERRUPTING

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Lat_inventory=INVENTORIES INVENTORY

Lat_investment=INVESTED INVESTMENT

Lat_invoved=INVOLVED INVOLVEMENT INVOLVING

Lat_isolated=ISLANDS ISOLATED ISOLATION

Lat_issue=ISSUE ISSUED ISSUES

Lat_jam=JAM JAMMING

Lat_job=JOB JOBS

Lat_joint=JOINT JOINTLY

Lat_keep=KEEP KEEPING KEPT

Lat_knowledge=KNOW KNOWING KNOWLEDGE KNOWLEDGEABLE KNOWN KNOWS

Lat_labor=LABOR LABORERS

Lat_lab=LAB LABS

Lat_lack=LACK LACKING

Lat_landscape=LANDSCAPED LANDSCAPING

Lat_large=LARGE LARGENESS LARGER

Lat_late=LAST LATE

Lat_laugh=LAUGH LAUGHING LAUGHTER

Lat_layout=LAYOUT LAYOUTS

Lat_lead=LEAD LEADER LEADERS LEADERSHIP LEADING

Lat_leak=LEAKING LEAKS

Lat_learn=LEARN LEARNED LEARNING

Lat_leave=LEAVE LEFT

Lat_level=LEVEL LEVELS

Lat_library=LIBRARIES LIBRARY

Lat_light=LIGHT LIGHTING LIGHTS LIT

Lat_like=LIKE LIKES

Lat_limit=LIMITED LIMITS

Lat_line=LINE LINED LINES

Lat_listen=LISTEN LISTENING LISTENS

Lat_live=LIVE LIVED LIVELY LIVING

Lat_location=LOCATED LOCATION LOCATIONS

Lat_lock=LOCKED LOCKS

Lat_log=LOG LOGGED

Lat_logical=LOGIC LOGICAL LOGICALLY

Lat_logo=LOGO LOGOS

Lat_log=LOG LOGGED LOGS

Lat_long=LONG LONGER

Lat_look=LOOK LOOKED LOOKING LOOKS

Lat_losing=LOSERS LOSING LOSS LOST

Lat_lot=LOT LOTS LOTS_A

Lat_loud=LOUD LOUDER

Lat_lounge=LOUNGE LOUNGES

Lat_low=LOW LOWER LOWEST

Lat_loyal=LOYAL LOYALTY

Lat_lunch=LUNCH LUNCHEON LUNCHROOM

Lat_machine=MACHINE MACHINERY MACHINES MACHINIST

Lat_maintain=MAINTAIN   MAINTAINED   MAINTAINING   MAINTAINS
MAINTENANCE

Lat_make=MAKE MAKERS MAKES MAKING

Lat_male=MALE MAN

Lat_management=MANAGED   MANAGEMENT   MANAGER   MANAGERIAL
MANAGERS MANAGERS_A MANAGING MANGERS

Lat_manual=MANUAL MANUALS

Lat_manufacture=MANUFACTURE MANUFACTURING

Lat_maps=MAPPED MAPS

Lat_marketing=MARKET MARKETING MARKETS

Lat_marked=MARKED MARKING

Lat_match=MATCH MATCHES

Lat_material=MATERIAL MATERIALS

Lat_matrix=MATRICES MATRIX MATRIXED

Lat_matter=MATTER MATTERS

Lat_maximize=MAXIMIZES MAXIMIZING

Lat_measure=MEASUREABLE MEASURED MEASUREMENT MEASUREMENTS
MEASURES MEASURING

Lat_mechanical=MECHANICALLY MECHANICS MECHANISM

Lat_meet=MEET MEETING MEETINGS MEETS

Lat_memo=MEMOS MEMOS_A

Lat_male=MALE MAN MEN

Lat_mental=MENTAL MENTALITY MENTALLY

Lat_message=MESSAGE MESSAGES

Lat_messy=MESSIER MESSY

Lat_method=METHOD METHODICAL METHODS

Lat_meticulous=METICULOUS METICULOUSLY

Lat_metrics=METRIC METRICS

Lat_mill=MILL MILLING

Lat_mind=MIND MINDED MINDEDNESS MINDS

Lat_minimal=MINIMAL MINIMIZE MINIMUM

Lat_missed=MISSED MISSING

Lat_mix=MIX MIXED

Lat_modern=MODERN MODERNIZATION MODERNIZED

Lat_monitor=MONITOR MONITORED MONITORS

Lat_month=MONTH MONTHLY MONTHS

Lat_most=MOST MOSTLY

Lat_motivate=MOTIVATE MOTIVATED MOTIVATING MOTIVATION
MOTIVATIONAL

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Lat_mouth=MOUTH MOUTHING

Lat_move=MOVE MOVEABLE MOVED MOVEMENT MOVERS MOVING

Lat_mutiple=MULTI MULTIPLE

Lat_muscle=MUSCLES MUSCULAR

Lat_name=NAME NAMED NAMES

Lat_narrow=NARROW NARROWER

Lat_natural=NATURAL NATURALIZED

Lat_neat=NEAT NEATER NEATLY

Lat_need=NECESSARILY NECESSARY NECESSITIES NEED NEEDED NEEDS

Lat_network=NETWORK NETWORKED

Lat_new=NEW NEWER NEWEST

Lat_news=NEWS NEWSLETTER NEWSPAPER

Lat_nice=NICE NICER

Lat_nobody=NOBODY NOBODYS

Lat_noise=NOISE NOISY

Lat_normal=NORM NORMAL

Lat_notice=NOTICE NOTICED NOTICES NOTIFICATION

Lat_number=NUMBER NUMBERED NUMBERS NUMERIC

Lat_objective=OBJECTIVE OBJECTIVES

Lat_observe=OBSERVABLE OBSERVATION OBSERVER OBSERVING

Lat_obvious=OBVIOUS OBVIOUSLY

Lat_occur=OCCUR OCCURS

Lat_offer=OFFER OFFERING

Lat_office=OFFICE OFFICES

Lat_old=OLD OLDER

Lat_one=ONE ONES

Lat_open=OPEN OPENING OPENINGS OPENNESS

Lat_operation=OPERATING OPERATION OPERATIONAL OPERATIONS OPERATOR OPERATORS

Lat_opinion=OPINION OPINIONS

Lat_opportunity=OPPORTUNITIES OPPORTUNITY

Lat_optimization=OPTIMIZATION OPTIMIZING

Lat_order=ORDER ORDERLY ORDERS

Lat_organizational=ORG ORGANIZATION ORGANIZATIONAL ORGANIZATIONS

Lat_organized=ORGANIZATION ORGANIZED

Lat_orientate=ORIENTATED ORIENTATION ORIENTED

Lat_other=OTHER OTHERS OTHERS_A

Lat_outdate=OUTDATE OUTDATED

Lat_outsource=OUTSOURCE OUTSOURCED OUTSOURCING

Lat_overflow=OVERFLOW OVERFLOWING

Lat_ownership=OWN OWNERS OWNERSHIP

Lat_pace=PACE PACED

Lat_packaged=PACKAGED PACKAGING PACKED

Lat_paint=PAINT PAINTED

Lat_paper=PAPER PAPERS PAPERWORK

Lat_paranoia=PARANOIA PARANOID

Lat_park=PARK PARKING

Lat_participatory=PARTICIPATE PARTICIPATION PARTICIPATIVE PARTICIPATORY

Lat_parts=PART PARTS

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Lat_party=PARTIES PARTY

Lat_pass=PASS PASSED PASSING

Lat_passion=PASSION PASSIONATE

Lat_passive=PASSIVE PASSIVELY

Lat_pay=PAID PAY PAYCHECK PAYLOAD PAYS

Lat_pens=PEN PENS

Lat_people=PEOPLE PEOPLES PEOPLES_A

Lat_performance=PERFORMANCE PERFORMANCES PERFORMING

Lat_periodic=PERIODIC PERIODICALLY

Lat_person=PERSON   PERSONABLE   PERSONAL   PERSONALITIES
PERSONALIZED PERSONNEL PERSONS

Lat_phone=PHONE PHONES

Lat_photos=PHOTOS PHOTOS_A

Lat_physical=PHYSICAL PHYSICALLY

Lat_picnic=PICNIC PICNICS

Lat_photos=PHOTOS PHOTOS_A PICTURE PICTURES

Lat_pieces=PIECE PIECES

Lat_place=PLACE PLACES PLACING

Lat_plan=PLAN PLANNED PLANNING PLANS

Lat_plant=PLANT PLANTS

Lat_placard=PLACARD PLAQUES

Lat_plastic=PLASTIC PLASTICS

Lat_play=PLAY PLAYERS PLAYING

Lat_pleasant=PLEASANT PLEASANTNESS PLEASING

Lat_plenty=PLENTIFUL PLENTY

154

Lat_point=POINT POINTERS POINTING POINTS

Lat_policy=POLICIES POLICY

Lat_politic=POLIS POLITICAL POLITICKING

Lat_poor=POOR POORLY

Lat_position=POSITION POSITIONING

Lat_possible=POSSIBLE POSSIBLY

Lat_postings=POST POSTED POSTERS POSTING POSTINGS

Lat_power=POWER POWERFUL POWERLESS

Lat_precise=PRECISE PRECISION

Lat_preference=PREFERENCE PREFERRED

Lat_president=PRESIDENT PRESIDENTS PRESIDENTS_A

Lat_pressure=PRESSED PRESSURE

Lat_preventative=PREVENTATIVE PREVENTIVE

Lat_pride=PRIDE PRIDEFUL

Lat_print=PRINT PRINTS

Lat_privacy=PRIVACY PRIVATE

Lat_problems=PROBLEM PROBLEMS

Lat_procedures=PROCEDURE PROCEDURES

Lat_process=PROCESS PROCESSES

Lat_product=PRODUCT PRODUCTS

Lat_production=PRODUCING PRODUCTION

Lat_productive=PRODUCTIVE PRODUCTIVITY

Lat_profit=PROFIT PROFITABLE

Lat_programs=PROGRAM PROGRAMS

Lat_projects=PROJECT PROJECTS

Lat_promotion=PROMOTED PROMOTES PROMOTING PROMOTION PROMOTIONS

Lat_proper=PROPER PROPERLY

Lat_protective=PROTECTED PROTECTIVE

Lat_pride=PRIDE PRIDEFUL PROUD

Lat_provide=PROVIDE PROVIDES

Lat_punch=PUNCH PUNCHERS

Lat_punish=PUNISHED PUNISHMENT

Lat_purpose=PURPOSE PURPOSEFUL PURPOSEFULNESS

Lat_push=PUSH PUSHERS PUSHING

Lat_put=PUT PUTTING

Lat_question=QUESTION QUESTIONING QUESTIONS

Lat_quick=QUICK QUICKER

Lat_quiet=QUIET QUIETLY

Lat_quota=QUOTA QUOTAS

Lat_radio=RADIO RADIOS

Lat_random=RANDOM RANDOMNESS

Lat_rank=RANK RANKING RANKS

Lat_rate=RATE RATING

Lat_react=REACT REACTIVE

Lat_read=READ READING

Lat_ready=READILY READY

Lat_real=REAL REALLY

Lat_receive=RECEIVE RECEIVING

Lat_reception=RECEPTION RECEPTIONIST RECEPTIONISTS

Lat_recognition=RECOGNITION RECOGNIZE RECOGNIZED RECOGNIZING

Lat_records=RECORDING RECORDS

Lat_redundant=REDUNDANCIES REDUNDANCY REDUNDANT

Lat_reflect=REFLECT REFLECTION

Lat_regulations=REGIMENTED REGS REGULATED REGULATIONS

Lat_reject=REJECT REJECTABLE REJECTION REJECTS

Lat_relationship=RELATED RELATIONS RELATIONSHIP RELATIONSHIPS

Lat_relax=RELAX RELAXATION RELAXED RELAXING

Lat_reluctant=RELUCTANCE RELUCTANT

Lat_report=REPORTING REPORTS

Lat_requirement=REQUIRED REQUIREMENT REQUIREMENTS REQUIRING

Lat_resistant=RESISTANCE RESISTANT

Lat_resolve=RESOLVE RESOLVING

Lat_resource=RESOURCE RESOURCES

Lat_respect=RESPECT RESPECTFUL

Lat_responsibility=RESPONSIBILITIES RESPONSIBILITY RESPONSIBLE

Lat_restrictions=RESTRICTION RESTRICTIONS

Lat_restrooms=RESTROOM RESTROOMS

Lat_results=RESULT RESULTS

Lat_returns=RETURN RETURNED RETURNS

Lat_reviewed=REVIEWED REVISITED

Lat_rewards=REWARD REWARDED REWARDS

Lat_rigid=RIGID RIGIDLY

Lat_risk=RISK RISKS

Lat_robotic=ROBOT ROBOTIC

Lat_roles=ROLE ROLES

Lat_rooms=ROOM ROOMS

Lat_routine=ROUTINE ROUTINES

Lat_rows=ROW ROWS

Lat_rules=RULE RULES

Lat_rumors=RUMOR RUMORS

Lat_run=RUN RUNNING

Lat_rushed=RUSHED RUSHING

Lat_safety=SAFE SAFETY

Lat_sales=SALES SALESMAN

Lat_same=SAME SAMENESS

Lat_satisfaction=SATISFACTION SATISFIED

Lat_saved=SAVED SAVING

Lat_say=SAY SAYING

Lat_schedule=SCHEDULE SCHEDULES

Lat_scrap=SCRAP SCRAPPED

Lat_secret=SECRET SECRETIVE

Lat_security=SECURE SECURED SECURITY

Lat_see=SEE SEEING

Lat_seek=SEEK SEEKING

Lat_seem=SEEM SEEMED SEEMS

Lat_segregated=SEGREGATED SEGREGATION

Lat_sell=SELL SELLING

Lat_separated=SEPARATE SEPARATED SEPARATELY SEPARATION

Lat_serious=SERIOUS SERIOUSLY

Lat_service=SERVICE SERVICES SERVING

Lat_share=SHARE SHARED SHARING

Lat_shift=SHIFT SHIFTING

Lat_shiny=SHINING SHINY

Lat_ship=SHIP SHIPPING

Lat_shirt=SHIRT SHIRTS

Lat_short=SHORT SHORTS

Lat_show=SHOWING SHOWN SHOWS

Lat_side=SIDE SIDES

Lat_signs=SIGN SIGNAGE SIGNS

Lat_silent=SILENCE SILENT

Lat_silos=SILO SILOED SILOS

Lat_simple=SIMPLE SIMPLICITY

Lat_sites=SITE SITED SITES

Lat_sits=SITS SITTING

Lat_situation=SITUATION SITUATIONS

Lat_size=SIZE SIZED SIZES

Lat_skill=SKILL SKILLED SKILLS

Lat_sleep=SLEEP SLEEPING

Lat_slogans=SLOGAN SLOGANS

Lat_small=SMALL SMALLER

Lat_smell=SMELL SMELLS SMELLY

Lat_smile=SMILES SMILEY SMILING

Lat_smooth=SMOOTH SMOOTHLY

Lat_social=SOCIAL SOCIALIZATION SOCIALIZE SOCIALIZING SOCIALLY

Lat_solicit=SOLICIT SOLICITING

Lat_solutions=SOLUTION SOLUTIONS

Lat_solutions=SOLUTION SOLUTIONS SOLVE SOLVERS SOLVING

Lat_space=SPACE SPACES SPACIOUS

Lat_speak=SPEAK SPEAKER SPEAKERS SPEAKING SPEAKS

Lat_special=SPECIAL SPECIALS

Lat_specialized=SPECIALIST SPECIALIZED

Lat_specification=SPECIFIC SPECIFICATION SPECIFICATIONS

Lat_spots=SPOT SPOTS

Lat_stage=STAGE STAGED

Lat_stagnant=STAGNANT STAGNATION

Lat_stamp=STAMP STAMPED

Lat_standards=STANDARD STANDARDIZATION STANDARDIZED STANDARDS

Lat_starting=STARTERS STARTING

Lat_state=STATE STATES

Lat_statements=STATEMENT STATEMENTS

Lat_state=STATE STATES STATING

Lat_station=STATION STATIONS

Lat_stifled=STIFLED STIFLING

Lat_smell=STINKY SMELL SMELLS SMELLY

Lat_stop=STOP STORAGE

Lat_stock=STOCK STOCKING

Lat_store=STORE STORED STORING

Lat_strategic=STRATEGIC STRATEGIES

Lat_stress=STRESS STRESSED

Lat_strong=STRENGTH STRONG STRONGLY

Lat_structure=STRUCTURE STRUCTURED STRUCTURES

Lat_subordinate=SUBORDINATE SUBORDINATES

Lat_success=SUCCESS SUCCESSES SUCCESSFUL

Lat_suggestion=SUGGESTION SUGGESTIONS

Lat_suit=SUIT SUITS

Lat_supervison=SUPERVISION SUPERVISOR SUPERVISORS

Lat_supplier=SUPPLIER SUPPLIERS

Lat_supply=SUPPLIES SUPPLY

Lat_support=SUPPORT SUPPORTIVE

Lat_surprise=SURPRISE SURPRISES

Lat_suspicion=SUSPICION SUSPICIOUS

Lat_sweat=SWEAT SWEATY

Lat_system=SYSTEM SYSTEMATIC SYSTEMATICALLY SYSTEMIC SYSTEMS

Lat_table=TABLE TABLES

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Lat_tagged=TAGGED TAGS

Lat_take=TAKE TAKERS TAKES TAKING

Lat_talk=TALK TALKATIVE TALKING TALKS

Lat_target=TARGET TARGETED TARGETS

Lat_task=TASK TASKS

Lat_teach=TAUGHT TEACH TEACHER TEACHING

Lat_team=Team   TEAM_2   TEAMING   TEAMMATES   TEAMS   TEAMS_A
TEAMWORK

Lat_technical=TECH TECHNICAL TECHNOLOGICALLY TECHNOLOGY

Lat_telecommunication=TELECOMMUNICATION TELEPHONE PHONE PHONES

Lat_tell=TELL TELLING

Lat_tension=TENSE TENSION

Lat_territories=TERRITORIAL TERRITORIES

Lat_test=TEST TESTERS TESTING TESTS

Lat_that=THAT THATS

Lat_theory=THEORIES THEORY

Lat_things=THING THINGS

Lat_think=THINK THINKERS THINKING

Lat_thought=THOUGHT THOUGHTFUL THOUGHTLESS

Lat_tidy=TIDINESS TIDY

Lat_tie=TIE TIED TIES

Lat_time=TIME TIMELESSNESS TIMES TIMING

Lat_title=TITLE TITLES

Lat_together=TOGETHER TOGETHERNESS

Lat_toilets=TOILET TOILETS

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Lat_tolerance=TOLERANCE TOLERANCES TOLERANT TOLERATED

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Lat_tool=TOOL TOOLING TOOLINGS TOOLS

Lat_top=TOP TOPS

Lat_total=TOTAL TOTALLY

Lat_tour=TOUR TOURS

Lat_toward=TOWARD TOWARDS

Lat_tower=TOWER TOWERS

Lat_training=TRAINED TRAINING

Lat_transparent=TRANSPARENCIES TRANSPARENT

Lat_treat=TREAT TREATED

Lat_try=TRIED TRY TRYING

Lat_trust=TRUST TRUSTING TRUSTWORTHY TRUTHFUL

Lat_turn=TURN TURNS

Lat_turnstile=TURNSTILE TURNSTILES

Lat_type=TYPE TYPES

Lat_uncertain=UNCERTAIN UNCERTAINTY

Lat_uncooperative=UNCOOPERATION UNCOOPERATIVE

Lat_understand=UNDERSTAND UNDERSTANDING UNDERSTANDS

Lat_unhappy=UNHAPPINESS UNHAPPY

Lat_uniform=UNIFORM UNIFORMED UNIFORMITY UNIFORMS

Lat_union=UNION UNIONS

Lat_unorganized=UNORGANIZED UNORGANZATION

Lat_unused=UNUSABLE UNUSED

Lat_unwilling=UNWILLING UNWILLINGNESS

Lat_updated=UPDATED UPDATING

Lat_upgraded=UPGRADED UPGRADING

Lat_use=USE USED USEFUL USELESS USERS USES USING

Lat_utility=UTILITY UTILIZATION UTILIZED UTILIZING

Lat_vacancies=VACANCIES VACATES

Lat_value=VALUABLE VALUE VALUED VALUES

Lat_variation=VARIABLE VARIATION VARIATIONS VARIED VARIETY VARY

Lat_views=VIEW VIEWING VIEWPOINT VIEWS

Lat_visible=VISIBILITY VISIBLE VISIBLY

Lat_visitor=VISITOR VISITORS

Lat_visual=VISUAL VISUALLY

Lat_voice=VOCAL VOICE VOICES

Lat_volunteer=VOLUNTEER VOLUNTEERING VOLUNTEERISM

Lat_wage=WAGE WAGES

Lat_wait=WAIT WAITING

Lat_walk=WALK WALKED WALKING WALKWAYS

Lat_wall=WALL WALLED WALLS

Lat_want=WANT WANTING

Lat_warn=WARN WARNING

Lat_waste=WASTE WASTED WASTING

Lat_watch=WATCH WATCHERS WATCHING

Lat_way=WAY WAYS

Lat_weak=WEAK WEAKER

Lat_wear=WEAR WEARING

Lat_web=WEB WEBEX WEBSITE

Lat_week=WEEK WEEKS

Lat_welcome=WELCOME WELCOMING

Lat_well=WELL WELL_A

Lat_were=WERE WERE_A

Lat_what=WHAT WHATS

Lat_whistle=WHISTLE WHISTLING

Lat_who=WHO WHOM WHOS

Lat_wide=WIDE WIDELY

Lat_willing=WILLING WILLINGNESS

Lat_window=WINDOW WINDOWS

Lat_win=WIN WINNERS

Lat_women=WOMEN SHE

Lat_word=WORD WORDS

Lat_work=WORK WORKABLE WORKED WORKER WORKERS WORKFLOW
WORKFORCE WORKING WORKMANSHIP WORKPLACE WORKS WORKSPACE
WORKSPACES

Lat_worker=WORKER WORKERS WORKFORCE

Lat_workplace=WORKPLACE WORKSPACE WORKSPACES

Lat_worry=WORRIED WORRY

Lat_write=WRITE WRITING WRITTEN

Lat_year=YEAR YEARS

Lat_yellow=YELLOW YELLOWED

Lat_young=YOUNG YOUNGER

Lat_you=YOU YOUR YOURE

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Ryan John Schoenbeck graduated from Bishop Gallagher High School. Mr. Schoenbeck received an Associates Degree in 1996 from Macomb Community College, which included eighteen credit hours from the Arizona State University College of Business. He then received an Interdisciplinary Bachelors Degree from Michigan State University in 2001 with focuses in accounting, philosophy, theatre, and a two-year proficiency in Spanish completed at the Yucatan University, Merida, Mexico. In 2003 Mr. Schoenbeck graduated with a Masters Degree from The University of Texas at Austin where he continued to pursue a Doctorate Degree. Mr. Schoenbeck has worked over twenty-six years in positions of management, customer relations, and in the university setting in the Departments of Residence Life and Career Services at Michigan State University and Campus and Community Involvement in the Office of the Dean of Students at The University of Texas at Austin. Mr. Schoenbeck has also worked as a teaching assistant for an undergraduate leadership course and a graduate educational research course at The University of Texas at Austin. He is an adjunct professor for the graduate school of management and business at St. Edward's University in Austin, Texas where he taught the foundation course entitled Systemic Intervention and designed and taught two courses named Complexity Leadership in Organizations and Intentional Organizational Design and Renewal. He is the CEO and founder of ActionLiving, LLC providing international professional coaching, consulting, and public speaking services.

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