HIGH-TECHNOLOGY ORGANIZATIONAL CULTURE
AND EMOTIONAL INTELLIGENCE

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Abstract

The relationship between emotional intelligence (EQ) and high-technology organizational culture is ethnographically explored. High-tech managers talk about the occupational community and how its culture impacts EQ. The culture they characterize places value on aspects, such as individual achievement, that contribute to its allure but stifle engagement. High-tech culture focuses on personal identity and value while it eludes the complementary qualities that support socially responsible behavior. Organizations benefit from, and systemically encourage, this imbalance; creating employer-employee relationships that foster skewed EQ – strong self-oriented skills and weak other-oriented competencies. To realize the full potential of the human spirit, organizations have to promote balanced emotional competencies and espouse values that engage the richness of the human experience.
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Dedication

To the memory of my father, Henry Herriford,
who began my lessons in engagement,
and to Jesse Williams,
who continues them.
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CHAPTER 1
INTRODUCTION

When John Naisbitt (1984) presented the formula for living with technology, which he termed “high tech/high touch,” he envisioned our society’s growing need to counterbalance the introduction of new technology with a human response. Naisbitt believed that “technology and our human potential are the two great challenges and adventures facing humankind today” (Naisbitt, 1984, p. 36). The lesson that must be learned is balance. Unfortunately, there is a widespread assumption in our society that the people who introduce technology are the most lacking in the balance to which Naisbitt refers.

A widely-held belief is that individuals who work in the high-technology professions have admirable intellectual skills but lack comparable personal and social competencies (Castells, 1998; Cringely, 1996; Delbecq & Weiss, 2000; Edwards, 2001; Goleman, 1998b; Kaplan, 1999; Maccoby, 2000a; Sprague & Ruud, 1988). This assumption is widespread because it is a common observation – in news media, books, movies, schools, workplaces, and social groups. In fact, the assumption is so common that it has become a stereotype. Technologists are creative, smart, hard-working problem solvers, but they are also techno-centric, unbalanced, and lacking in social imagination (Castells, 1998; Cringely, 1996; Delbecq & Weiss, 2000; Goleman, 1998b; Rosenberg, 1995). However, as is the case for any stereotype, this is an assumption that needs to be questioned.
The high-tech/low touch stereotype needs to be challenged and understood because of the impact knowledge workers have on the economy, society, and workplace. People and their knowledge are the wealth of postindustrial organizations (Drucker, 1993). Beyond being a postindustrial society, the new millennium’s society has been called the era of the knowledge, information, and global networks (Drucker, 1993; Dyson, 1997; Tapscott, 1996). Organizations are requiring more specialization, resulting in workforces dominated by highly skilled technologists (Drucker, 2002; Feldman, 2000). However, as knowledge workers become increasingly important to organizational performance, intellect and know-how are fading as predictors of success (Cherniss, 2001; Goleman, 2000). Innovation does not always guarantee market-share, productivity, revenue, and profit (Rosenberg, 1995). As change and uncertainty increases, the differentiation is not what people know, but how people feel – about themselves, their responsibilities, environments, and relationships (Goleman, Boyatzis, & McKee, 2001).

That difference is emotional intelligence (EQ), our personal and social skills. Research has shown that EQ, not IQ, is the best measure of top performers (Cherniss, 2001; Goleman, 2000; Spencer, 2001). Thus, it follows that people behind the success of high-technology organizations should be emotionally intelligent. In spite of being at the forefront of the U.S. economy since the late 1970s, the high-technology industry has gained a reputation for hiring people lacking in non-cognitive skills (Cringely, 1996; Maccoby, 2000a). High-technology organizations have demonstrated that knowledge and innovation are important indicators of economic performance, but the industry’s knowledge workers and innovators remain stigmatized as socially and emotionally inept.
People develop and apply themselves as a reaction to their environments (Gardner, 1999; Saarni, 2000). High-technology organizational culture could be the social bane of the technologist just as television has become the intellectual “disease of images” that afflicts the mainstream American (Shenk, 1999). Exploring the relationship between the high-technology environment and emotional intelligence adds insight into a phenomenon that is widely accepted but narrowly understood. Such insight leads to new assumptions about the potential of knowledge workers and the performance of high-technology organizations.

Background of the Problem

Knowledge-based industries, such as high technology, medicine, law, communications, and education, are having an increasing impact on both society and the economy (Handy, 1998a). High technology, which includes computers, software, telecommunications, and consumer electronics, underpins the rest of the knowledge industries because high-tech products and services manage and move knowledge. Since the invention of the transistor in 1947, the high-tech industry has demonstrated how the combination of innovation and venture capital can drive our economy (Mandel, 2000). As a result, high-technology organizations have become the navigators of the knowledge industry through the postindustrial era into a new, global, networked economy. This new era of high growth and high risk is much more susceptible to uncertainty because its strength and weakness is a market mechanism devoted to finding and funding technological and business innovation on a large scale (Mandel, 2000). High-tech organizations have been forced to deal with cycles of long, rapid growth followed by sudden, surprising downturns. These are true tests of organizing, surviving, and learning
as knowledge and change have become harder to manage and anticipate. The high-tech industry’s experience in meeting these challenges may become lessons for weathering the unceasing, exciting change of our times in any innovation-driven organization.

The remedy for surviving turbulent times lies in the capabilities and performance of people. This solution is evidenced by the emergence of the numerous organizational transformation theories based upon the behavior, motivation, and values of individuals and leaders (Thompson, 1999). Though high-technology organizations are fitting environments to champion people as a critical source of innovation and success, the capabilities and performance valued are often one-dimensional, focusing on technical productivity. Intellectual skills are the primary qualifications for job positions. However, studies of organizational performance across all industries are showing that upon meeting the technical qualifications for jobs, the most effective, productive, and adaptable workers and leaders have competencies beyond cognitive skills (Goleman, 1998b; Spencer, 2001). They are more emotionally, rather than technically, competent (Goleman, 1998b). These emotional competencies are learned capabilities, such as self-awareness, conscientiousness, empathy, teamwork, and adaptability. They are capabilities based upon emotional intelligence (EQ) and are multiplicative, not just additive, to cognitive skills (Goleman, 1998b).

High-technology organizations generally have a unique workforce and culture that differentiate them from other types of work environments. The culture often embodies the antithesis of the interpersonal and intrapersonal competencies mentioned above (Cringely, 1996; Kaplan, 1999). Individuals in high-tech industries are often characterized as eccentric, preferring to work alone, and lacking in social life or
consciousness, while at the same time revered as creative, prolific, hard workers. As the demand for technical skills has increased with the growth of the sector, high-tech workers have garnered an updated reputation. They are now also considered to be self-loyal, free agents who go to the highest bidders and are attracted most by stock options and opportunities to innovate (Castells, 1998; Delbecq & Weiss, 2000).

Increasing diversity and the popularity of virtual teams compounds the complexity of the high-technology workplace. Silicon Valley has attracted people from all over the world (Castells, 1998; Douglass, 1991; English-Lueck, 2002) and the team approach to projects brings together myriad values, beliefs, and behaviors to accomplish a goal for which there are an equal amount of perspectives (Druskat & Wolff, 2001a; English-Lueck, 2002).

Telecommuting has its origins in high technology. The technology created and marketed during the early 1980s enabled access to information and electronic communication from anywhere in the world. In the next decade, project teams began to emerge as the organizational structure for product design, development, and delivery, and consequently, telecommuting began to lose its effectiveness (English-Lueck, 2002). However, many high-tech workers still insist upon the perk of working from home – alone. The preference to work alone impacts teams when members interact virtually rather than in person. Contributions are viewed as components instead of collaboration (Prusak & Cohen, 2001). This virtuality erodes relationships, diminishes group effectiveness, and is an enemy of an organization’s social capital (Prusak & Cohen, 2001, p. 87).
What remains constant in the high-tech environment is innovation and change as requirements for survival. Competition is fierce (Sprague & Ruud, 1988). Partnerships are critical and workplaces are simultaneously stressful and exciting (Kaplan, 1999). As technology becomes more ubiquitous and innovation becomes the prerequisite to compete in any business, other industries will be faced with similar issues and challenges. In the new millennium, it appears that fewer and fewer organizations will be immune to the impact of rapid, turbulent change on their performance and people (Bergquist, 1993; Huy, 1999). Therefore, the high-technology environment is an innovation in itself as it has successfully embraced change and uncertainty. High-tech organizations epitomize the fluid, boundary-less postmodern organization visualized in this era of new knowledge, information, and relationships (Bergquist, 1993). Understanding the interplay between high-technology culture and the people shaping it helps to contemplate the workplace and worker of the future. For example, parallels between high technology and the rapidly growing biotech industry are already being drawn (Mandel, 2000).

In spite of its position as an economic pacesetter and the significance of its people, the high-tech sector cannot seem to shake the reputation for a workforce of individuals and leaders with low EQ (Douglass, 1991; Goleman, 1998b; Maccoby, 2000a). Discussion of people in information technology often includes derogatory labels, such as *nerd, geek, and hacker*, terms that imply low interpersonal skills (Cringely, 1996; Goleman, 1998b). Some of the industry’s most visible leaders have even been called sociopaths (Cringely, 1996). As a result of the 1999-2001 dotcom boom and bust and the turbulent impact it had on many organizations and local economies, dotcomer, the latest
moniker, has become synonymous with greed, arrogance, and personal imbalance (Darrow, 2000; Daumeyer, 2001).

Like most scientific inquiry since Sir Isaac Newton, technological innovation is incited by the pursuit of knowledge for human gain with minor concern for human growth (Castells, 1998; Sprague & Ruud, 1988). This approach to discovery perpetuates the modernist philosophy that originated in Newton’s era. Modernism posits that the destiny of humankind is to understand and shape the universe, the external (Borgmann, 1992). What is overlooked by this perception of creativity and innovation is the contribution of human experience and development – the understanding and shaping of people, the internal (Capra, 1982). When organizations assume this modernistic focus on innovation, they are not realizing their fullest potential because they overlook people. There is a public outcry for organizations to be socially responsible and accept accountability to current and future stakeholders, including the environment. Placing value on technological innovation at the expense of social capital neglects an opportunity to develop people to be better contributors, and from a larger perspective, better human beings and better citizens (Prusak & Cohen, 2001). It is a difficult paradigm to escape, but the shift needs to happen (Capra, 1982).

A step in breaking away from this paradigm is gaining a better appreciation for the significance of self-knowledge and social connection to every human endeavor. The research and practice of theory related to emotional intelligence is taking that kind of step. Though there are several EQ concepts and approaches (Hedlund & Sternberg, 2000; Mayer, Salovey, & Caruso, 2000), they all have successfully demonstrated that the combination of self-knowledge and technical knowledge is a powerful mix for both
individual and organizational performance (Goleman, 2001b). EQ research has also revealed that environments subject to rapid change, unprecedented competition, and a dependency on innovation have difficulty leveraging the inner qualities of people (Cherniss, 2000a). High-technology workplaces provide settings to study this phenomenon and gain understanding of how individual EQ and the characteristics of such environments systematically interact to impact personal and organizational performance.

Problem Statement

High-technology workers are generally perceived to be people with high intellectual skills and low interpersonal and intrapersonal skills. There is little research on how and why this stigma of high IQ/low EQ has become so widely assumed. A study of emotional intelligence and high-technology organizational culture adds insight into this phenomenon and explores the value and application of this competency in work environments with missions to innovate. Bringing high-tech innovations to market successfully is the result of the day-to-day, project-level efforts of the people in the business (Delbecq & Weiss, 2000). Learning how the development and application of individual EQ relates to the culture of high-technology organizations increases understanding of why environments that stand to benefit most from these competencies have poor reputations for leveraging them.

Purpose of the Study

This study identifies relationships between individual emotional intelligence and cultural characteristics of high-technology organizations. Using a multi-case, ethnographic design, the research sought answers to why organizations on the leading edge of our economy, which are in great need of emotionally competent people, appear to
have difficulty attracting and cultivating them. The resulting insight into this dilemma suggests potentially useful theory for exploring how high-tech organizations and the individuals who work for them influence each other’s development and effectiveness.

Theoretical Framework of the Study

The study began with two assertions: (1) Emotional competencies are better indicators of effective performance than cognitive, intellectual abilities, and (2) high-technology organizations can benefit from individual emotional intelligence despite the common belief that they do not. The former assertion is based upon studies demonstrating that emotional competencies differentiate star performers, responsible risk-takers, and leaders that get results (Campbell, 2000; Goleman, 2000; Spencer, 2001). The latter assertion is based upon theories positing that knowledge-based, innovation-driven organizations overcome uncertainty, master change, and perform best when their workers and leaders have balanced capabilities (Book, 2000; Cherniss, 2000a; Cooper & Sawaf, 1998; Goleman et al., 2001; Handy, 1998b; Hesselbein, 1996; Huy, 1999; Prusak & Cohen, 2001; Weiseinger, 1998). High-technology organizations fit this description and many have demonstrated such outcomes. However, the workers and leaders have a reputation for an imbalance favoring their knowledge of things over their knowledge of self and others.

Emotional Intelligence

There is increasing scholarly and business discourse on the theory and application of multiple intelligences (Cherniss & Goleman, 2001; Gardner, 1999). This field of inquiry has been popularized by the widespread debate that emotional intelligence (EQ), separate but synergistic with intellectual intelligence (IQ), is the better indicator of
performance (Cherniss & Goleman, 2001; Cooper & Sawaf, 1998). IQ began as a test of verbal memory, verbal reasoning, numerical reasoning, appreciation of logical sequences, and the ability to state how one would solve the problems of daily living (Gardner, 1999). Since the early 1920s, IQ has been the accepted measure of overall cognitive abilities.

Salovey and Mayer (1990) first presented the concept of emotional intelligence as the “ability to monitor one’s own and other’s feelings and emotions, to discriminate among them, and use this information to guide one’s thinking and action” (p. 189). There is increasingly widespread acceptance of emotional intelligence as a theory of performance, encompassing the abilities to recognize and regulate emotions in ourselves and in others (Goleman, 2001a). This conceptualization of EQ contains four major domains: self-awareness, self-management, social awareness, and relationship management (Goleman, 2001b). More recent theories of human intelligence present emotional intelligence as a cultural phenomenon or zeitgeist. A new group of protagonists view EQ as welcome relief from the emotion vs. reason tension of Western thought or even a link to higher human consciousness (Mayer, Salovey et al., 2000; Zohar & Marshall, 2000). This study agrees with EQ as Weltanschauung, a meaningful and comprehensive worldview, but focuses on its bearing on individuals and in organizations.

Studies have shown that individuals, groups, and leaders with high emotional intelligence get results and out-perform targets (Goleman, 2000; Spencer, 2001). Emotionally competent individuals and leaders have the resilience, initiative, optimism, and adaptability to leverage change, learning, and diversity in a competitive landscape (Cherniss, 2001; Goleman, 2001a; Huy, 1999). It follows that the technology sector, an environment fraught with change, uncertainty and competition, would promote EQ, but
this does not appear to be the case. Though they are strong in intellectual and strategic intelligences, leaders in technology-producing organizations have lower emotional intelligence than management in other socio-economic sectors (Goleman, 1998b; Maccoby, 2000a).

High Technology and EQ

Within the last two decades, high technology has been on the leading edge of three cycles of economic growth, recession, and recovery. In spite of this fact, society’s reverence of high technology’s scientific prowess makes the industry an icon of economic vitality (Mandel, 2000). The reason for this perception may be that the survivors of each cycle continue to be major players in the next one. Intel was the surviving semiconductor company after Japan took control of the memory chip market during the late 1970s. To survive, Intel transformed itself from a memory chip company into a microprocessor company and led the high-tech industry into the personal computer boom of the early 1980s (Burgelman & Grove, 1996). Other examples of this resilience include the resurgence of IBM and the rise of Microsoft after the fallout from the subsequent personal computer failures that occurred a few years later. It was the hardware/software partnership of these two companies that set the standard going forward, leading to the demise of personal computer makers that did not make IBM clones (Cringely, 1996; Delaney, 1995). As the century turned, America Online leveraged the Internet bubble to buy Time Warner, transforming itself into an unprecedented content and service provider, which was still standing after the failure of hundreds of “dotcoms”. As these examples show, this is the nature of an innovation- and
venture-driven new economy that is not as “new” as touted and is here to stay (Cringely, 2000; Mandel, 2000; Munroe, 2002).

Exceptional, high-performing organizations place value on personal mastery as well as intellect (Senge, 1990) (Cherniss & Goleman, 2001; Thompson, 1999). Though they often perform well, high-technology organizations are not known for leadership with exemplary inner qualities (Cringely, 1996; Kaplan, 1999). However, a few high-tech companies make the lists of best places to work or most admired companies. Intel and Microsoft made a recent list of admired companies for their ability to navigate the waves of change confronting them (Boyle, 2002), many high-tech organizations still get bad press (Anders, 2001; Edwards, 2001; Francisco, 2001; Katz, 2001; K. McCarthy, 2001). Emotional intelligence is apparent in the good and the bad press. Apple, Oracle, and Microsoft continue to succeed in spite of leaders whose personalities are often ridiculed (Cringely, 1996; Edwards, 2001). Conversely, MicroStrategy’s mantra “We live in an ignorant world – our mission is to purge that ignorance” was an artifact of an arrogant culture that caused it and so many other Internet companies like it to fall from grace (Collingwood, 2001; Salter, 2000).

In spite of the fertile ground it provides, high technology is poorly represented in studies that show how emotional competence is good for business (Cherniss, 2001; Spencer, 2001). If technological organizations are playing such a significant role in the economy, how they perceive, apply, and nurture emotional intelligence is of interest to any business driven by innovation. For example, innovation goes unrealized if it doesn’t have a market, is improperly sold, or has poor quality (Moore, 1991; Rosenberg, 1995). Developing a new market benefits from marketing managers with social awareness and
good relationship management. When an innovation matures into a commodity, it is service that sustains market share and exceptional service providers require even more of the emotional competencies (Goleman, 1998b; Moore, 1991; Spencer, 2001). High-tech organizations can become consistent, high performers, if they can address the characteristics of their environments that inhibit EQ and leverage those that nurture it.

There appears to be a systemic relationship between characteristics of the high-technology organizational culture and individual emotional competency. The following aspects of the high-tech culture are potentially non-conducive to the development and application of emotional intelligence:

1. Technical skills and innovation are considered of more value and importance than personal skills and relationships (Castells, 1998; Cringely, 1996; Delbecq & Weiss, 2000; Goleman, 1998b; Slocombe, 2000).

2. Commitment to the occupational community (Schein, 1992) and personal contribution to it often exceeds commitment to organizations and relationships (Castells, 1998; Feldman, 2000; Slocombe, 2000).

3. The technical people in research and development hold different worldviews than the business people in marketing, sales, and finance (Delbecq & Weiss, 2000; Slocombe, 2000; Sprague & Ruud, 1988).

4. The culture of the occupational community underlies the culture within high-technology organizations as a result of the fluid movement of people between companies (Delbecq & Weiss, 2000) and organizational structures that reinforce it (Douglass, 1991; Feldman, 2000).
Underlying these characteristics is the assumptions that EQ is secondary to the intellect’s contribution to innovation and business goals. This contradicts a significant amount of study that shows a positive relationship between emotionally intelligent workers, groups, and leaders and organizational performance (Cherniss, 2001; Cherniss & Goleman, 2001; Cooper & Sawaf, 1998; Druskat & Wolff, 2001a; Goleman, 2000; Megerian & Sosik, 1999).

Research Questions

Based upon the problem and theoretical framework outlined above, this study will seek answers to the following questions:

1. What cultural characteristics set high-technology organizations apart from others as work environments that may benefit from, but fail to nurture emotional intelligence?

2. How do these characteristics impact the development and application of individual emotional intelligence?

This study explores the relationship between individual emotional intelligence and the culture of high-technology organizations. To encompass the entire occupational community, all categories of high-tech organizations are studied – from startups to small-to-medium publicly held technology providers to large Fortune 1000 companies. The data is derived from multiple interviews of middle managers who also completed a self-reporting assessment of their own emotional intelligence. Analysis focused on identifying the influence culture has on EQ and distinguishing patterns of that influence for the purpose of developing theory for further consideration.
Significance of the Study

It is a common assumption in our society that high-tech workers have poor social and personal skills. However, the reasons often cited are inconsistent and difficult to validate. Some examples of reasons given for why high-tech workers have low EQ might be that “they don’t socialize,” “they don’t have the abilities,” “they’re consumed by their work,” “they spend too much time in front of their computers,” “they don’t get the opportunities to develop personal skills,” or “personal skills are not important to them.” There are many arguments that can be made against such generalizations of this commonly held assumption. The significance of this study is to understand why people associated with high technology are stigmatized with high IQ/low EQ. The generalizations begin with the association with high technology therefore the study focused on the culture of the high-technology occupational community.

In the opening chapter of The Emotionally Intelligent Workplace, Cary Cherniss (Cherniss, 2000a) identifies a potential reason for this problem – the impact of environment on EQ. Cherniss states that the same conditions that make emotional intelligence so vital for organizational effectiveness – rapid technological change, a diverse workforce, and global markets – also make it difficult to nurture. The highly turbulent, dynamic, and competitive climate of contemporary organizations places a focus on short-term results and inhibits the sustained reflection necessary to develop emotional intelligence.

Understanding of the relationship between cultural characteristics typical of a high-technology organization and the emotional competency of its workforce may also provide insight into why the industry’s performance has not been as consistent as its
innovation. Despite its continuous invention and productivity, high technology has been a significant factor in three of the U.S. economic recessions and recoveries since its emergence as a major industry in the mid 1970s. On a broader scale, understanding how people and the environment contribute to this phenomenon will begin to explain why the high-technology work environment has not been an exemplar workplace for the other knowledge industries it so effectively empowers.

Definition of Terms

Many of the terms used in this study will be defined as they emerge. However, what follows are definitions that were useful upon embarking into the field.

*Emotional intelligence (EI, EQ)* – This term and acronyms refer to the ability to monitor one’s own and other’s feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking, action, and relationships with others (Goleman, 1995a; Salovey & Mayer, 1990).

*High technology* – In this study, high technology is the business of storing, manipulating, and presenting information using semiconductors and related products, computers hardware and peripherals, computer software, and online/Internet communication hardware, software, and services. High technology is also referred to as information technology or high-tech.

*High-technology environment* – The high-technology environment is an occupational community of people with a shared set of basic assumptions about itself, its work, its relationship to its environment, and its clients (Schein, 1992). An occupational community is a group of practitioners, researchers, and teachers who have a common
base of knowledge, a common jargon, similar background and training, and a sense of identification with each other (Schein, 1992).

**High-technology organizational culture** – High-technology organizational culture is the set of shared assumptions, espoused values, and artifacts that high-tech organizations inherit from the high-tech environment or occupational community.

Assumptions, Limitations, and Delimitations

The study makes the following assumptions:

1. In-depth interviews with managers are an effective means of developing a case study of an organizational culture and the meaning respondents attach to that culture.
2. Assessment of individual EQ will serve the participant in responding to interview questions regarding the relationship between the high-tech environment and EQ.
3. It is possible to increase understanding of the relationship between high-tech culture and individual EQ through an analysis of respondents’ perceptions of that relationship.

The major limitation of the study is the nature of the data, which are the personal perceptions and interpretations of high-tech culture and the concept of emotional intelligence by the individuals interviewed. This limitation is common of ethnographic studies (Miles & Huberman, 1994; Spradley, 1979). Perceptions and interpretations are dependent upon experience and knowledge of the subject matter. Participants may also assign unique meaning to terminology used and find some of the topics sensitive. These aspects of human language and dialog will result in both common and unique observations, requiring some analysis of the data to be interpretive (Gioia & Pitre, 1990).
This study was limited to high-tech workplaces in Silicon Valley for two reasons: (1) The region is generally accepted as the industry’s icon (Castells, 1998; Cringely, 1996; Delbecq & Weiss, 2000; Douglass, 1991; Kaplan, 1999), and (2) it is convenient to the researcher, who lives in the area. Though the population of the study – middle managers in high-tech – is large, there were only nine cases studied. The participants were referrals from professional contacts of the researcher. These two delimitations make the sample very small and non-random. Therefore, the findings have narrow generalizability and could be subject to other interpretations. Additionally, the study did not examine the emotional intelligence of the individual participants or seek to develop any theory specific to the population as a group (e.g. the emotional intelligence of middle managers in high-technology organizations). Individual EQ scores will not be reported or analyzed.

Summary

Due to the role high-tech plays in the U.S. economy, the performance of its organizations, leaders, and workers is often under scrutiny. Depending upon where in the turbulent technology cycle this scrutiny takes place, the players are either praised or ridiculed. At the height of an innovation cycle, high-tech is views as a glamorous industry and its workforce is lauded as creative, with all of its eccentricities celebrated. At the low point of the cycle, however, high-tech is eschewed from Wall Street to Main Street, and the ineptitudes of its organizations and people become the topic of business books (Munroe, 2002). In both scenarios, there is a common stigma – a characterization of individuals in high-tech as unwise and unbalanced, personally and socially. This study is an exploration of that stigma.
The conceptual framework begins with an examination of: (1) the culture of high-technology organizations, and (2) emotional intelligence as a distinguishing characteristic of individual performance. The literature review closes with arguments for an increasing need of emotional intelligence in high-technology organizations and propositions about relationships within the framework. The interaction between high-tech culture and individual EQ is the focus of the research. Interdependencies will be identified through the experiences of individuals immersed in the culture. With the deeper understanding of this relationship, new concepts may emerge that offer different perspectives about innovative organizations and the nature of people who innovate.
CHAPTER 2

REVIEW OF LITERATURE

The High-technology Landscape

High technology is an occupational community that has developed a shared set of basic assumptions about itself, its work, and its external relationships. The community has created a culture that has evolved with the industry and underpins the organizational culture of almost every company in the high-tech business. High technology qualifies as an occupational community because it is a group of practitioners, researchers, and teachers with a common base of knowledge and jargon, similar background and training, and a sense of identification with each other (Schein, 1992). The environment is further influenced by the dynamics of its people, social and organizational structures, and the competitive market it originated. It is difficult to describe the high-technology landscape in terms that do not include more than one of these aspects. This examination of the environment will begin with the legacy that created the culture and build toward a comprehensive perspective of the high-technology workplace. In doing so, the review attempts to illustrate the systemic influences the multiple factors have on each other and the environment.

Technology and Postindustrial Society

The postindustrial society is based upon the production of knowledge and services and information processing technology (Drucker, 1993). The transformation from industrial to postindustrial has been the shift from physical assets to intangible ones as the major producers of value and growth. In 1929, the ratio of intangible business capital to
tangible business capital was 30% to 70%. However, in 1990, that ratio was 63% to 37% (Webber, 2000). This reversal of human and physical assets confirms the emergence of a knowledge society in which the basic economic resources are no longer capital, natural resources, or labor but, rather, knowledge. It is an economy and work environment where the *knowledge worker* will play a central role (Drucker, 1993).

A knowledge-based economy forces a different relationship between the organization and the worker compared to the old, capital-based industrial economy. Employees still work because organizations exist, but they own the ‘means of production’ – their knowledge (Handy, 1998a). Knowledge workers are independent and highly mobile. They force organizations to continuously transform as innovation becomes obsolete or knowledge departs as they do. Innovation must keep pace with the rate of information movement, which accelerates and proliferates via technology. The knowledge-based economy becomes increasingly global and competitive because the accelerating motion of innovation, information, and technology drives it.

High technology is the bellwether of this transforming economy, placing it ahead of other knowledge industries such as the medical, legal, and education sectors (English-Lueck, 2002). Characteristics that set high technology apart are highly skilled workers, fast growth, high ratios of R&D to sales expense, and a global market for the products (Sprague & Ruud, 1988). From its beginnings, high technology has demonstrated how venture capital can drive innovation (Kaplan, 1999; Mandel, 2000), a phenomenon that began with semiconductors, not the Internet. Telecommunications, aerospace, and biotechnology are often considered “high-tech,” but it is the computer industry, alternatively called the information technology industry, that owns the high-tech “brand.”
Given this widely held definition of the industry (Douglass, 1991; Henton, Walesh, Brown, Nguyen, & Nissly, 2002), a high-tech technology organization is defined as any company whose primary business is:

1. Computer hardware or peripherals
2. Computer software
3. Semiconductors and related products
4. Online/Internet communications, software, or services

*High Technology’s Emergence to the Forefront of the Knowledge Industry*

The development of the microprocessor in 1971, by Ted Hoff of Intel, marked the beginning of the paradigm shift that brought computer technology out of secured, glass rooms with air-conditioning and raised floors to the desktops of middle managers, small businesses, and, most importantly, consumers (Cringely, 1996; Sprague & Ruud, 1988). By the mid-1980s, computers were on their way to becoming as ubiquitous as consumer electronics. High-tech business was developing into a battle for market share with three ways to win:

1. New innovations win the early adopters – businesses and people on the leading edge seeking new features and functions and get a jump on a new market (Moore, 1991).
2. The swift, strategic marketing of the innovator or a competitor wins the large cost- and quality-sensitive mainstream that follows the early adopters (Moore, 1991).
3. Start-ups grab market share from large incumbents with the rapid deployment of a *killer app* – a new, breakthrough application of high technology (Castells, 1998; Mandel, 2000; Tapscott, 1996).

Another original characteristic of the high-technology business environment is the short product life cycles. The period of design, development, introduction, support, and obsolescence of a successful product is often as short as two years and seldom longer than three (Cringely, 1996; Delbecq & Weiss, 2000; Kaplan, 1999; S. P. McCarthy, 2001; Moore, 1995). Semiconductor products have fueled this trend since the introduction of the integrated circuit. Moore’s Law has become a basic assumption of the high-tech occupational community.

Gordon Moore, one of the co-founders of Intel, made high-tech folklore when he prophesized the doubling of the number of transistors in an integrated circuit every eighteen months (Moore, 1965). Though he contended that his prediction would only be a ten-year trend, it still holds true today. Intel’s Pentium III processor, which was introduced in 1999, had 24 millions transistors. The latest Pentium IV, introduced in January 2002, twenty-seven years beyond Moore’s cut-off, has 55 million transistors (2001a). This underlying innovation makes the life cycle of most computer products eighteen months to three years, and it fuels the opportunity, turbulence, and pace that characterize the high-tech industry.

Given such consistent performance improvement, it could be argued that technological advances are predictable and controllable relative to the impacts they have on business, but technology is simply a tool. How it is developed and applied is the result of the creativity and behavior of people. Thus, the turbulence and unpredictability that
The People of High Technology

The people that characterize the information technology industry are its knowledge workers: individuals working in the areas of research and design, product development, production, marketing, sales, and customer services. These are the people who bring innovations to market and/or engage in the day-to-day efforts of maintaining them (Delbecq & Weiss, 2000). These workers are well educated, creative, and more loyal to the technology itself than to the organizations that employ them (Slocombe, 2000; Sprague & Ruud, 1988). High-tech has a “work-hard, play hard” culture that is fast paced, freewheeling, high energy, and entrepreneurial (Sprague & Ruud, 1988). A structural downside is that this culture often overlooks a stratum of workers seldom included in the group described above – the hourly workers in factory and support positions (Angwin & Laura, 1998; Douglass, 1991; English-Lueck, 2002). High-tech has a bifurcated workforce, an issue that will be addressed as an aspect of organizational structure later in this review.

High-technology Culture

Silicon Valley is to high-tech what Hollywood is to the entertainment industry. However, the high-tech culture of Silicon Valley is not the one reflected by the relaxed image of California portrayed by Hollywood. A different California culture began to emerge with the semiconductor. Those first high-tech work environments were casual, but the people “worked like beavers” (Kaplan, 1999, p. 52). Kaplan (1999) tells the story of when the CEO of the New York-based parent company of Fairchild Semiconductor
visited the Mountain View, California facility for the first time in the late 1950s. What made the visit memorable were the limousine and particularly the chauffer who drove it. The engineers were amazed and puzzled that a person could sit, wait, and do nothing for so long.

Steve Jobs, Steve Wozniak, Paul Allen, and Bill Gates are media-created, high-tech celebrities in spite of their lack of star-quality personal skills. This feeds on the culture’s most central assumption, one that leads workers to believe that they, too, can join those ranks if they are bright and dedicated to their work. This assumption appears to underlie several of the interrelated aspects of the high-tech culture Castells (1998) describes below. Castells contends the culture is characterized by:

1. The centrality of work that makes job satisfaction increase with the number of hours worked and makes work the basis of social activity. High-tech workers tend to give more importance to the work they do than the money they earn, and gain most of their satisfaction in life from that work.

2. The desire to innovate: to be on the cutting edge and historically important.

3. Entrepreneurialism and the belief that is possible to start out poor and become rich by working hard.

4. Competitiveness, between both individuals and firms. There is “an all-out struggle to get ahead, leading to loose moral standards” (p. 114).

5. Extreme individualism – high-tech workers are often single, recently immigrated (from out-of-town or out-of-country), and do battle in the “day-to-day jungle” of this high stakes territory.
6. Affluence and the expectation of prosperity at a young age. Associated with this characteristic is intolerance for failure, which reinforces individualism.

7. Social and psychological stress – the cost of the six characteristics listed above.

8. Subcultures as mechanisms to deal with these characteristics. The centrality of work leads to the melding of work and life. Organizations must sponsor social activities, offer flexible work hours, and encourage other forms of personal interaction to protect and retain their people.

9. Compensatory consumption; as another means of releasing stress, the immediate rewards of playing hard in extravagant, lavish, and experimental ways.

Three reinforcing elements sustain the culture across the occupational community: gain sharing, fluid career paths, and meritocracy (Delbecq & Weiss, 2000). Gain sharing supports the assertion of the entrepreneurial aspects of the culture. Creativity and hard work can result in shared wealth using a common currency of stock options and incentives. Career paths are fluid as a result of the high-tech “loyalty ethic.” Most high-tech workers set their tenure at a company at 2 to 4 years. They personally commit to stay through completion of a mission or until they feel their utility to the industry out-weighs that to the company. Many expect to lead or at least be involved in a technical breakthrough (Maccoby, 2001). High-tech workers move between “academy companies” where they learn, like Intel and Oracle, and small startups, where they hope to innovate and get rich. Some believe Silicon Valley and its high-tech business culture is a meritocracy, where organizations “don’t care how the talent is wrapped” (Delbecq & Weiss, 2000, p. 40). Minorities, immigrants, the socially-impaired, and the extremely young can head major projects and draw substantial resources because it is “the quality of
ideas, the willingness to creatively problem solve, [and] the ability to arrive at a breakthrough technical solution” (Delbecq & Weiss, 2000, p. 40) that are most valued.

There are increasing arguments contrary to the meritocracy of the high-technology workplace (Angwin & Laura, 1998; Douglass, 1991; Petersen, Saporta, & Seidel, 2000). It appears that organizations in knowledge industries reflect the same forms of race, gender, and class hierarchy that take place in postindustrial society in general. The exposure of high-tech in our society increases the scrutiny of its workforce diversity. The bifurcation of the workforce and the under-representation of Blacks and Hispanics, relative to the general population, have resulted in a current issue referred to as “the digital divide.” High-tech’s occupational structure is one that includes a large, predominantly male, well-educated, high paid professional and managerial workforce and an equally large, predominantly female, poorly educated, low paid production and support workforce. White men dominate the top decision-making positions; white women and men of color hold clerical, administrative, affirmative action, and lower level management positions; and women of color hold most of the production jobs at the bottom of the structure (Angwin & Laura, 1998; Douglass, 1991). The higher representation of Asian American men and immigrants are exceptions that give the illusion of meritocracy and diversity (Delbecq & Weiss, 2000; Kaplan, 1999) because of their numbers in technical and engineering positions (Angwin & Laura, 1998). However, they, too, are also underrepresented in management (Angwin & Laura, 1998; Douglass, 1991). Although women and minorities are beginning to appear in traditionally white male positions, the overall race and gender structure the high-tech workforce has not fundamentally changed (Angwin & Laura, 1998). The digital divide and its impact on
occupational structure and workplace meritocracy is an issue that cannot be overlooked when studying high-tech culture. It serves to illustrate how a culture within a culture can form.

**Cultures within a Culture**

Race and gender contribute to the formation of small informal networks within larger ones (Petersen et al., 2000). These networks begin as social subcultures (Castells, 1998) but evolve to impact learning (Kram & Cherniss, 2001), hiring (Petersen et al., 2000), and movement between organizations (Delbecq & Weiss, 2000). Engineers, usually white males, work long hours and then spend their scant social time together discussing work. Women in support and operational positions learn about their relationships with the men in engineering and management through social interaction with their female peers. Similarly, within the white-dominated, high-tech culture, African-American and Hispanics share keys to survival through their own networks of peers, a network that is usually more professional than social. Ethnic minority networks in Silicon Valley are actually more formal than informal, established around professional organizations such as the National Society of Black Engineers, Society of Hispanic Professional Engineers, or the Black Data Processing Associates (Angwin & Laura, 1998; Petersen et al., 2000).

Network members that move to other organizations blaze trails for their colleagues and recruit them away from their old employers. Sixty percent of new hires in Silicon Valley are the result of internal referrals (Petersen et al., 2000). Thus, these social networks become very important to individual career and personal growth. As more women enter the ranks of high-technology engineering, sales, marketing, and
management, the gender networks are blending. Instead of an “old boys’ network,” high-technology culture has become a “young white girls’ and boys’ network” (Petersen et al., 2000). Ethnic minorities, men and women, are finding these networks difficult to penetrate, creating a dividing line for the benefits they can provide – and another manifestation of the digital divide.

Another form of bifurcation in high-technology culture is the gap between the ideologies of the business people and the technologists (Sprague & Ruud, 1988). To understand the opposing worldviews of high-tech engineers and marketers, one must first understand that innovation is a process (Rosenberg, 1995). Discussion of high technology often focuses on the discovery component of innovation – the invention or significant improvement of a product – taking for granted the marketing creativity it requires. A product invention or improvement must become an accepted fulfillment of a customer need to be an innovation (Rosenberg, 1995). This innovation cannot be done without marketing and sales – marketing identifies or creates the need and sales lobbies for its acceptance. The high-tech work environment is actually a “unique blend of high-powered marketing and cutting edge technology” (Sprague & Ruud, 1988, p. 179).

High-tech marketing strategy centers on the latest breakthrough within the field of competition (Castells, 1998; Douglass, 1991; Moore, 1991; Sprague & Ruud, 1988). The competitive gap is determined by how an organization is positioned in that field. A player can be the creator of a new market, the leader in an early market, or a “me too” competing for a piece of the mainstream market by adding value to the original innovation (Moore, 1995). The pressures to create, innovate, and compete for market
share significantly impact the attitudes, actions, and cultural norms of high-tech companies.

These pressures manifest in the tension that exists between the business and engineering camps of high-tech organizations (Sprague & Ruud, 1988). The business side includes flashy public relations focused on attracting venture capital, marketing strategies fixed on accelerating time to market, and aggressive sales aimed at market position and maximum revenue. The engineering side of the high-tech industry reflects the traditional values of research and testing of alternatives, making conservative claims bound by codes of ethics and sound procedures and protecting the public interest (Sprague & Ruud, 1988). These conflicting worldviews cause the sales and marketing departments and engineering factions to often be at odds with one another, usually about timelines and product quality. The following is a common scenario that results from this friction.

“[A] small startup company sold software packages that were marketed through independent distributors. The software was not customized to individual user needs and did not include training or service agreements. This is why the product was priced lower than those from larger established competitors. The distributors could provide the training and service agreements to the customer either by raising the price or cutting into their own commissions. Or they could make clear to customers what the limitations were. Instead, they told customers to call the manufacturer if they ran into problems. Since this organization did not have a customer support department, design engineers ended up spending their time on the phone providing customer support. Their own design work did not get done or they did it after hours and on the weekends. These engineers adamantly insisted that management direct marketing and the distributors to stop making false promises. Yet, time and again, management seemed to back the ones who were making the sales and asked the engineers to help out ‘just this once’” (Sprague & Ruud, 1988, p. 180).

The competition and pace of high-technology business makes role conflict a recurring issue within organizations that are racing to get products to market. The example above demonstrates that engineers are often willing to take on different roles to contribute to
their company’s success, but when it happens “month to month,” along with expectations that they still meet their own deadlines, they become less willing. The excitement of the start-up dream begins to wear out for the employee who is expected to be engineer, clerical assistant, customer support representative, and dock loader. When workers begin to complain or refuse to comply, the managers making the demands accuse them of having “bad attitudes” (Sprague & Ruud, 1988). This accusation creates tension between the technical and business factions and is often the reason many engineers leave organizations. Engineers want to see their creations manifested as successful products in the marketplace, but not at the expense of their quality and usefulness (Castells, 1998; Delbecq & Weiss, 2000; Slocombe, 2000; Sprague & Ruud, 1988).

The philosophical conflict of short-term profit motivation with long-term technological growth and consumer satisfaction is an ongoing debate that epitomizes the turmoil of high-tech organizations. When this conflict and its resulting exodus are considered along with the other characteristics of the culture described thus far, one of the major reasons high-technology organizations inherit the shared beliefs of the occupational community becomes more apparent. The movement of talent between companies reinforces the culture – the philosophical conflicts and the shared beliefs about the environment (Delbecq & Weiss, 2000).

The Culture’s Origins and Diaspora

The phenomenon of fluid movement and industry loyalty began early in high-technology history. When Robert Noyce, Gordon Moore, Jean Hoerni, Gene Kleiner, Jay Last, Sheldon Roberts, Victor Grinich, and Julius Blank left Shockley Semiconductor Lab in 1957 to form Fairchild Semiconductor, William Shockley labeled them the
“Traitorous Eight” (Kaplan, 1999). This event was the first high-tech worker movement driven by disagreement with management style and product strategies (Cringely, 1996; Kaplan, 1999). William Shockley was an eccentric with a dissonant management style, but the “Traitorous Eight” also believed the semiconductor technology they were designing had a different potential than the direction Shockley intended (Kaplan, 1999; Wolfe, 1997).

The defections from Fairchild began in 1961 when Jean Hoerni and two others left to form Teledyne in 1961. The diaspora of Fairchild talent eventually gutted the company and spawned the first wave of high-tech startups in Silicon Valley (Kaplan, 1999). Robert Noyce and Gordon Moore, the last of Shockley’s “Traitorous Eight” to leave Fairchild, formed Intel in 1968. By then, the mobility of talent had become commonplace in the Valley, and it would continue in waves with each new technological breakthrough. The breakthrough that motivated the Traitorous Eight to form Fairchild Semiconductor was the transistor. The scattering of the “Fairchildren” (Cringely, 1996; Kaplan, 1999) was inspired by the integrated circuit and led to the invention of the microprocessor at Intel. The microprocessor enabled the personal computer boom of the 1980s that brought computing power out of corporate data centers and into small business offices and homes. Fifteen years later, personal computers made the Internet accessible.

With each of these breakthroughs, there was movement of talent seeking the opportunity to innovate and the potential for wealth. Each wave resulted in a plethora of new startups, the majority of them remaining in Silicon Valley. It is no wonder that the cultural characteristics that emerged in the 1960s are still evident in most high-technology organizations as we enter the 21st century.
Stuck with the Default Culture

Many high-tech organizations have cultures that mirror those of the community because their own unique cultures do not have the opportunity to evolve. The key factor in this lack of cultural development is the industry’s rapid change, which spurs the movement of people and inhibits routine (Power, 1998). Market and workforce turbulence prevents companies from realizing systems of attitudes, actions, and norms that endure over time. Organizational cultures of high-tech companies, particularly newer ones, embody the industry-wide attitudes, actions, and norms. Truly unique corporate cultures in high-tech are the exception (Fishman, 1999).

Schein (1992) defines the culture of a group as

“a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (p. 12).

The key point in this definition relative to high-tech culture is the nature of the problems being solved – external adaptation and internal integration. Externally, high-tech organizations must deal with the pace and pressure of change and competition. Internally, they must contend with diverse worldviews and innovate as a team to survive. Both problems systemically impact the other and are the source of turmoil for the industry and its organizations.

Systems thinking is helpful in the study of high-technology organizational culture because of its complexity (Senge, 1990). Each influence in its formation is both cause and effect. To illustrate this point, consider one mantra of high-tech, rapid time to market. Rapid time to market means getting a product to market as quickly as possible, ahead of competition, and often at any cost. However, reducing time to market has
different effects in the short and long terms. In the short term, the effect is higher market share. In the long term, the result can be decreased market share, particularly if the cost is quality. As mentioned earlier, time to market is often at the center of the tension between high-tech business and technical people.

The history of high-tech business has many stories of unintended success and accidental marketing strategies. The commercial use of the microprocessor was aimed at hobbyists, not small businesses and personal desktops (Cringely, 1996; Delaney, 1995). When Bill Gates and Paul Allen formed MicroSoft, the business was the development of PC programming languages. Their emergence as a PC operating systems business was the result of a missed opportunity of a partner (Kaplan, 1999).

High technology is rife with a lack of social imagination (Rosenberg, 1995). Social imagination gives one an overall view, a perspective of the unseen yet anticipated chain of conditions and consequences of a chosen course of action. It follows that a limited end view of personal and social actions can create a focus on instant gratification and disregard, even indifference, to future consequences. Human conduct for any common good requires the successful cooperation between real present facts and acts and imagined consequences and possibilities, between the observable “here and now” and the imaginable “big picture” (Ziniewicz, 1999). Technology has had many unintended consequences, and each innovation generates another problem. As technology saturates the high-tech occupational community, it “colonizes” the life of its workers and begins to have similar impacts in the personal and social realms (English-Lueck, 2002).

The short-sighted environment of high-tech organizations become increasingly reactive instead of proactive. Technology business strategies such as rapid time to market
are about speed, but speed often neglects rules and civility. The hyper growth on the upside of technology breakthroughs thwarts traditional processes and approaches to business. Moreover as the cycles move faster, they confuse the judgment of decision-makers, who in turn, stay stuck in the cycle of speed and perpetuate the default culture.

**Organizational Structures in High-Tech**

Rapid responses to a changing market require creativity at all levels of an organization, from design and development to marketing, sales and customer support. To foster innovation, high-technology organizations are informal in nature, eschewing top-down management styles to avoid its negative impact on creativity (Slocombe, 2000; Sprague & Ruud, 1988). Organizations are flatter, less hierarchical and more matrix-like in structure. Rather than establishing permanent groups, critical responsibilities are often assigned to temporary teams with the skills and resources necessary to achieve a given objective. Such teams are cross-organization and cross-function, and members can also bring ethnically diverse backgrounds to the group’s complexities.

Startups and smaller organizations have a familial sense to them. Everyone from the CEO to the night shift network operator is on a first name basis. As the companies grow, they strive to maintain these relationships. However, this interaction becomes difficult for several reasons. The most obvious change is in the makeup of leadership. Secondarily, power and status shifts when success and growth transform small, casual companies into larger, traditional organizations.

Most high-tech startups are founded by technologists, the engineers, and sometimes the marketers, that visualized or created the product. As the organization evolves, however, business people move into the ranks to run the going concern. It is
common for founding CEOs to leave or take less responsible positions when their business outgrows their abilities to manage them. As a company becomes larger, fewer technical people remain in senior positions. Career paths within larger organizations also reflect this actuality. Technical people have fewer options for advancing than business people. It should be noted that individuals with technical backgrounds often lack the desire or skills to manage (Cringely, 1996; Delbecq & Weiss, 2000; Douglass, 1991; Slocombe, 2000) and high-technology organizational structures have come to reflect that fact. This reality limits the perspective of technical people to their individual contributions as opposed to the entire business, which explain the tendency toward loyalty to technology over the organization. Engineers feel justified in moving elsewhere to rekindle their creativity (Delbecq & Weiss, 2000; Slocombe, 2000).

Growth as a result of success also begins to expose the gaps in power, salaries, perks, and stock options that were not an issue in the startup stages. Salaried professionals gain during the boom times, but line workers and employees in hourly positions advance much more slowly and rarely get comparable stock options, if at all (Sprague & Ruud, 1988). Another growth phenomenon that creates factions is the insertion of “outsiders” into the management ranks to bring the experience required for transformation. Workers hired by the founders in the organization’s early stages can resent being unconsidered for leadership roles in the growth stages (often appropriately so). A new economy organization’s translation of “Us” and “Them” is often “pre” and “post” IPO. They have the same meaning and effect – separate camps with different loyalties and subcultures.
A recent trend impacting organizational structure is outsourcing operational and production support functions (Melchionno, 1999). Medium to large high-tech organizations are leveraging two approaches to outsourcing – complete and partial outsourcing of a function. Complete outsourcing employs a third party for all requirements for delivery of a service or function – facilities, materials, infrastructure, and people. Examples are call centers for customer service and component manufacturers for turning designs into products. Partial outsourcing establishes contracts for facilities or people. Examples are “server farms” for application hosting or production line positions sourced through temp agencies. The latter type of outsourcing has become increasingly common in Silicon Valley (Jayadev, 2002; Melchionno, 1999). This trend impacts organizational structure in two ways. First, these low-paying jobs are traditionally performed by women and ethnic minorities. This demographic exacerbates the male/female, white/brown bifurcation of the workplace discussed earlier and it does nothing to improve the plight of “Silicon Valley’s underbelly” (English-Lueck, 2002; Gomes, 2002; Jayadev, 2002). Temp workers continue to have the same profile as low-end, hourly workers – they are still young, brown and mostly female, overworked and underpaid, yet essential to the high-tech economic engine. Second, it allows organizations to remove this classification of job while saving a significant amount of money in salaries and benefits. This industrial era approach to the physical, mechanical, labor-intensive requirements of high technology is another example of the inequities inherent in the structure and the culture’s unwillingness to confront it.
The Ethos and Ideology of High Technology

The ethos and ideology of high technology is a reflection of how scientific inquiry has shaped Western thought since the Enlightenment. Modern thought, originating with Descartes, Bacon, and Locke, concerns itself with mastery and control, denial of the body (feelings) and preoccupation with the mind (intellect) (Borgmann, 1992). The high-tech industry is modernist in its emphasis on problem solving and control of information as a means of saving time and labor. High-tech’s manifestation of scientific thought is not much different that the “rugged individualism” that tamed the New World with the industrial revolution. Similarly, the social conscious of the high-tech industry is not far removed from that of the industrial era. In spite of the many problems the world faces, such as a degrading environment, the growing threat of terrorism, and a global economy unevenly skewed between “haves and have nots,” high-tech’s primary focus is on creating gee-whiz gizmos and applications. Consumer technology and the escape from consumer technology are the two biggest markets in the U.S. economy (Naisbitt, Naisbitt, & Philips, 2001). The industry does not concern itself with the better good unless it sells (Turner, 2001).

High technology has the spirit and the threats of a “new frontier”; opportunity is great, but so is the danger and paranoia of cutthroat competition. Trust is low among high-tech workers who think their peers lie on resumes, steal from their companies, and “will do anything to get ahead” (Castells, 1998, p. 114). This lack of trust manifested in management styles, such at that of Andrew Grove, CEO of Intel from 1987 to 1998. Grove sent out an annual memo reminding employees that Christmas Eve was a full workday. He also instituted the Late List. Any employee that showed up after eight
o’clock was required to sign in with the guard. Names on the list would be shared with management, with no regard for how long the employee may have worked the night before (Kaplan, 1999). Grove softened his style toward the end of his tenure at Intel, but these practices certainly underlie the philosophies of his 1996 book *Only the Paranoid Survive*.

*The Characteristics of High-technology Organizational Culture*

As a mobile community of practice, the high-tech workforce sets the underlying, shared assumptions that create a culture and reinforce it across the industry via its movement. Developing organizations default to this common culture, which can be influenced by leaders and external forces that reinforce, change, or overlay these basic beliefs, creating a mixture of cultural manifestations of different levels and kinds ( Alvesson, 1993). Studies of culture having a focus, such as the particular cultural aspects of high-technology organizations, often reflect upon specific guiding principles or abstractions that further understanding of their complexity or ubiquity. These aspects or abstractions influence and even predetermine corporate culture (MacKenzie, 1996). Thus it appears that there are cultural characteristics of the high-technology community, based upon capitalism, education, work ethic, consumerism, shared experiences, and possibly political and social policy, that are the norm in many organizations.

Cultures form and are reinforced over time. Based upon that assertion, this study will consider the cultural characteristics that have emerged and remained evident within the high-tech community of practice since its emergence. Those characteristics are described as follows:
1. Technical skills and innovation are considered more valuable and more important than personal skills and relationships (Castells, 1998; Cringely, 1996; Delbecq & Weiss, 2000; Goleman, 1998b; Slocombe, 2000).

2. Commitment to the occupational community (Schein, 1992) and personal contribution to it often exceeds commitment to organizations and relationships (Castells, 1998; Feldman, 2000; Slocombe, 2000).

3. The technical people in research and development hold different worldviews than the business people in marketing, sales, and finance (Delbecq & Weiss, 2000; Slocombe, 2000; Sprague & Ruud, 1988).

4. The culture of the occupational community underlies the culture within high-technology organizations as a result of the fluid movement of people between companies (Delbecq & Weiss, 2000) and organizational structures that reinforce it (Douglass, 1991; Feldman, 2000).

   Organizations that break away from the conflicting and stressful aspects of high-tech culture do so by developing strong, unique cultures of their own that transform the balancing/resistive cycle of community culture to a reinforcing cycle in which the external forces have less impact (Senge, 1990). Strong cultures also have stories and storytellers that influence employees, who then operate more effectively, with increased understanding of and identification with the company (Weick, 1987). Thus, organizations with visionary, charismatic, or dynamic leaders have cultures that embody their beliefs and assumptions about the environment in which the organization performs. Their communication with employees builds upon a system of attitudes and actions that, over time, produces a common psychology, particularly in the early stages of an organization’s
growth (Schein, 1992). Strong cultures maintain the familial nature of a startup. Founding leaders reinforce the culture and the way business is done, focusing on creating change in the environment rather than reacting to it. However, the key element of culture is still time. The turbulence of the industry, which often results in high turnover of leadership, makes longevity and strong cultures the exception and external environment as the culture builder the rule (Power, 1998).
The Emotional Intelligence Paradigm

You better watch out, it’s alright to cry
But we don’t like nobody whines
And being cool ain’t acting, son
It’s like reading between the lines
Try a little dignity, have self-respect
And you’ll reap just what you sow
If you’re not sure about something
Don’t worry about it
Just tell ‘em –I don’t know

Boz Scaggs (2001)
“Get on The Natch”
Dig

Emotional intelligence has become a convenient term to describe the emotional and social abilities one can apply to being successful in life and work. Daniel Goleman (1995) popularized the term when his book of the same name suggested that EQ is just as important, if not more important, as IQ. America embraced the concept because it focused attention on human talent and incorporated the complexity of a person’s capability (Boyatzis, Goleman, & Rhee, 2000). Emotional intelligence made it to the cover of Time in 1995 and the proliferation of research, redefinition, and critique of this topic continues to this day (Mayer, Salovey et al., 2000).

Emotional intelligence, in its broadest meaning, can have impact on a culture. EQ as a cultural trend, or zeitgeist, has become a popular context because it addresses two tensions of Western thought. The first is the conflict between emotional and reason that stems from the stoic roots of many Western philosophies and religions. The second
tension is between egalitarianism and elitism, coming from the emergence of recent
social and political ideologies (Mayer, Salovey et al., 2000).

Much of postmodern thought has been the “flight from the rigors of intellect,” the
deconstruction of scientific inquiry, and a quest for a more holistic approach to
interacting in the world (Borgmann, 1992; Capra, 1982; Mayer, Salovey et al., 2000).
The integration of emotion and thought is appealing because of its departure from the
anti-emotional tendencies of Western society. Moreover, Western society has historically
divided the elite and the lower class by intellect – knowledge is power and wealth.
Emotional intelligence is egalitarian because anyone can learn to be so. Hence,
sensationalism and broad constructs surround a concept that many scholars still toil to
validate (Goleman, 2001b; Hedlund & Sternberg, 2000; Mayer, Salovey et al., 2000).
These same scholars acknowledge but dismiss emotional intelligence as zeitgeist,
preferring to consider it as personality or mental ability (Mayer, Salovey et al., 2000;
McCrae, 2000). However, a review of how the paradigm has developed and the concepts
into which it feeds reveals why EQ as a “spirit of an age” cannot be ignored (Mayer,
Salovey et al., 2000, p. 92).

Building the Paradigm

The common term and measure for intelligence is IQ, developed in 1912 by
Wilhelm Stern, a German psychologist. “Intelligence quotient” is the ratio of one’s
mental age to one’s chronological age multiplied by 100, which explains why everyone is
expected to have an IQ of 100 or better. Stern’s IQ test measured verbal, logical, and
mathematical abilities. By the mid-1920’s, IQ testing was a common educational practice
in Western countries (Gardner, 1999).
E.L. Thorndike, an educational psychologist, was first to suggest that there were individual capacities beyond intellect. In 1920, he proposed the existence of social intelligence (Goleman, 2001b). Thorndike defined social intelligence as the ability to understand and manage others and to act wisely in relationships. Fifty years later, Howard Gardner (1983) introduced his influential model of “multiple intelligence.” Gardner’s theory is grounded on the definition of intelligence as the intellectual ability to solve problems or to create products that are valued within one or more cultural settings (Gardner, 1999). In his first presentation of the theory, Gardner proposed the existence of seven kinds of human intelligences: linguistic, logical-mathematical, interpersonal, intrapersonal, musical, bodily-kinesthetic, and spatial.

IQ tests measure linguistic and logical-mathematical intelligence (Gardner, 1999; Goleman, 2001b). Linguistic intelligence is the sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals (Gardner, 1999). Lawyers, speakers, writers, and poets have high linguistic intelligence. Logical-mathematical intelligence is the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically (Gardner, 1999). Mathematicians, scientists, and engineers have high logical-mathematical intelligence.

The next contribution to the paradigm of multiple intelligences was a 1988 doctoral dissertation by Reuven Bar-On (Goleman, 2001b). Bar-On introduced “emotional quotient” (EQ) as a measure of non-cognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and
pressures. The factors of EQ are interpersonal, intrapersonal, stress management, motivational and general mood, and adaptability (Bar-On, 2000).

Peter Salovey and John Mayer introduced the term *emotional intelligence* in 1990. The first definition of emotional intelligence was the “ability to monitor one’s own and other’s feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and action” (Salovey & Mayer, 1990). The Salovey-Mayer model was more in line with Gardner’s in that it emphasized emotional intelligence as a mental ability rather than social and behavioral characteristics. The Salovey-Mayer characterization of emotional intelligence fits Gardner’s meanings of interpersonal and intrapersonal intelligence (Gardner, 1999). Interpersonal intelligence is the capacity to understand the intentions, motivations, and desires of other people, and to work effectively with others. Intrapersonal intelligence is the capacity to understand oneself, to have an effective working model of oneself, and to use this information effectively in regulating one’s own life (Gardner, 1999).

**EQ Goes Mainstream**

Daniel Goleman popularized the concept in 1999 with his best-selling book, *Emotional Intelligence*. Although it was not a new concept, *Emotional Intelligence* gave expression to the essential value of emotional and social skills in comparison and conjunction with intellectual skills. Goleman defined emotional intelligence as the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships (Goleman, 1995). However, Goleman’s contribution to the emotional intelligence paradigm was a theory that linked emotional intelligence with personal effectiveness. He later expanded the
theory of individual EQ and performance to include group and organizational performance (Cherniss, 2000a, 2001; Goleman, 1998a, 2001a). Goleman’s performance framework for emotional intelligence adapts the Salovey and Mayer EQ model to one more applicable to abilities related to effectiveness and well-being (Boyatzis et al., 2000; Goleman, 1995a). Emotional intelligence is observed when a person or group demonstrates self-awareness, self-regulation, motivation, empathy, and social skills at the appropriate times and the appropriate methods with sufficient frequency to be effective in a situation.

Goleman presented his theory as a means of distinguishing star performers from average ones. Intellectual competencies are threshold abilities, the minimal skills needed to assume a given position and get the job done, while emotional competencies are the capabilities that set exemplary performers apart from people who simply accomplish assigned tasks. Research results demonstrated that emotional competencies were twice as important in contributing to excellence than IQ and technical expertise (Goleman, 1995a). These findings stirred the business community worldwide, and subsequent research replicated these results.

**Paradigm Updates**

Cooper and Sawaf (1996) present a much broader conceptualization of emotional intelligence. They begin by defining emotional intelligence as the ability to sense, understand, and effectively apply the power and acumen of emotions as a source of human energy, information, connection, and influence (Cooper & Sawaf, 1998). The concept is modeled using four cornerstones of emotional intelligence - emotional alchemy, emotional literacy, emotional depth, and emotional fitness.
Table 1

*The four cornerstones of emotional intelligence (Cooper & Sawaf, 1998)*

<table>
<thead>
<tr>
<th>First Cornerstone</th>
<th>Second Cornerstone</th>
<th>Third Cornerstone</th>
<th>Fourth Cornerstone</th>
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</thead>
<tbody>
<tr>
<td>Emotional Literacy</td>
<td>Emotional Fitness</td>
<td>Emotional Depth</td>
<td>Emotional Alchemy</td>
</tr>
<tr>
<td>Emotional Honesty</td>
<td>Authentic Presence</td>
<td>Unique Potential</td>
<td>Intuitive Flow</td>
</tr>
<tr>
<td>Emotional Energy</td>
<td>Trust Radius</td>
<td>and Purpose</td>
<td>Reflective Time-</td>
</tr>
<tr>
<td>Emotional Feedback</td>
<td>Constructive</td>
<td>Commitment,</td>
<td>Shifting</td>
</tr>
<tr>
<td>Feedback</td>
<td>Discontent</td>
<td>Accountability,</td>
<td>Opportunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and Conscience</td>
<td>Sensing</td>
</tr>
<tr>
<td>Practical Intuition</td>
<td>Resilience and</td>
<td>Applied Integrity</td>
<td>Creating the Future</td>
</tr>
<tr>
<td></td>
<td>Renewal</td>
<td>Influence without</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Authority</td>
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</table>

Many of the competencies described in previous EQ frameworks are included within the four cornerstones, but the model goes beyond skills and abilities by adding attributes that “enter the realm of direct knowing” (Cooper & Sawaf, 1998, p. xxvii). Elements of the model – such as emotional energy, practical intuition, intuitive flow, authentic presence, unique potential and purpose, resilience and renewal, and constructive discontent – consider aspects of human energy, personality, connection, and consciousness. The Cooper-Sawaf EQ model is emotional intelligence as zeitgeist (Mayer, Salovey et al., 2000).

Bar-On refined his EQ theory while maintaining a focus on well-being and behavior. Bar-On’s definition of EQ is an array of knowledge and abilities affecting one’s ability to cope with the environment, falling into five domains; interpersonal skills,
intrapersonal skills, adaptability, stress management, and general mood (Goleman, 2001b).


Goleman updated his EQ theory by reducing the five dimensions in his earlier model to four EQ domains: self-awareness, self-management, social awareness, and relationship management (Goleman, 1998b). Each domain is described as a cluster of related competencies necessary to master its fundamental abilities. Maintaining the focus of his theory on performance, Goleman defines an emotional competence as a learned capability based upon emotional intelligence that results in outstanding performance at work (Goleman, 1998b). He defines each EQ domain as the following fundamental abilities:

- *Emotional Self-Awareness*: Knowing what one feels
- *Emotional Self-Management*: The ability to regulate what one feels
- *Social Awareness*: The ability to read and assess what others feel
- *Relationship Management*: The ability to attune to or influence the emotions of others
Research identified nineteen emotional competencies grouped as clusters that describe and relate to the effectiveness of each domain (Boyatzis et al., 2000; Goleman, Boyatzis, & McKee, 2002).

![Figure 1. Framework of emotional competencies.](image)

In the workplace, individuals will usually demonstrate various competencies in groupings across the clusters that support each other, given the situation or level of individual mastery. For example, an effective project leader has teamwork, collaboration, and communications skills from the relationship management domain coupled with achievement and initiative for self-management. Individuals who demonstrated strength...
in six or more competencies with at least one competency from each of the four clusters were top performers in their roles (Boyatzis et al., 2000; Goleman, 2001a).

Goleman’s framework of emotional competencies drew criticism because it was beginning to include “almost everything but IQ” (Hedlund & Sternberg, 2000, p. 146). The criticism was aimed at EQ concepts that encompassed personality and behavioral traits, which included theory presented by Goleman, Bar-On, and Cooper (Hedlund & Sternberg, 2000; Mayer, Salovey et al., 2000). Critics assert that characterizations such as motivation, adaptability, service orientation, stress management, impulse control, and general mood stretch beyond emotion or intelligence (Mayer, Salovey et al., 2000).

In his most recent work, Gardner (1999) presents a pertinent challenge to emotional intelligence because he places it in a category that includes moral and spiritual intelligence. Doing so, he acknowledges these concepts of intelligence as popular movements (Gardner, 1999). Although he agrees that emotional intelligence encompasses his characteristics of interpersonal and intrapersonal intelligence (Gardner, 1999), he disagrees that EQ, as Goleman embellishes it, is an intelligence. Gardner believes that intelligences are descriptive, not prescriptive, and are “morally neutral” and “value free” (Gardner, 1999). He contends that Goleman implicates recommended behaviors in his concept, which is plausible since it is a performance-based theory. Even so, Gardner believes in taking this direction EQ departs from the science of intelligence and enters the realm of morality, values, and social structures, as does moral and spiritual intelligence. In other words, emotional, moral, and spiritual intelligences are not independent of social and cultural values. It follows that these intelligences will reflect cultural trends, or zeitgeists.
Zohar and Marshall (2000) disagree with Gardner’s central critique – that emotional and spiritual intelligences do not arise from human capacities alone and, therefore, are not intelligences. Although one of Gardner’s criteria for qualifying an intelligence as distinct from others is the potential of isolation by brain damage, in his critique, he omits references to recent neurological research linking emotions and rational thought (Damasio, 1994). Goleman and Cherniss (2000) and Zohar and Marshall (2000) cite studies performed by Damasio (1994) demonstrating coordination between cognitive and emotional intelligence and the effects on both when specific parts of the brain are damaged. Based upon analysis of this research, Zohar and Marshall (2000) argue that spiritual intelligence (SQ) is the necessary foundation for effective functioning of both intellectual intelligence (IQ) and emotional intelligence (EQ) (Zohar & Marshall, 2000). Spiritual intelligence is the unifying function operating out of the center of the brain. It underlies the human propensity to discriminate, to find meaning, question rules and values, and ponder possibilities. SQ connects all intelligences and may be the essence of human consciousness (Zohar & Marshall, 2000).

All of the potential intelligences can be linked to one of three neural systems in the brain: serial, parallel, or unifying (Zohar & Marshall, 2000). Serially connected neural tracts enable the brain to think logically and step-by-step, the basis for intellectual abilities or IQ. The relationship between neural tracts and IQ explains why IQ ceases to improve in adulthood. Linguistic, logical-mathematical, musical, and spatial intelligences are the result of serial thinking capabilities. Neural networks, thousands of neural cells haphazardly connected and working in parallel, are the basis of EQ, intelligence that is associative, emotion-driven, pattern-recognizing, and habit-building. All of the
competencies of social and emotional intelligence are the result of this associative process of thought. The brain’s third neural system is the synchronous neural oscillations that unify, integrate, and transform data arising from the serial and associative processes. According to Zohar and Marshall (2000), this unitive process “facilitates dialogue between reason and emotion, between mind and body. It provides a fulcrum for growth and transformation. It provides the self with an active, unifying, meaning-giving center” (p.7). This intelligence begets creativity, establishes values, and drives behaviors. It places IQ and EQ into the wider context from which one decides upon how to use them.

Table 2

<table>
<thead>
<tr>
<th>Intelligence</th>
<th>Neural Organization</th>
<th>Way of Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ</td>
<td>Neural tracts</td>
<td>Serial</td>
</tr>
<tr>
<td>EQ</td>
<td>Neural networks</td>
<td>Associative</td>
</tr>
<tr>
<td>SQ</td>
<td>Synchronous oscillations</td>
<td>Unitive</td>
</tr>
</tbody>
</table>

The strength of the theory of multiple intelligences presented by Zohar and Marshall is that it is holistic. Instead of attempting to reduce intelligence to its parts, it considers how the whole interacts. Goleman also views human ability holistically in his assertion that IQ and EQ interact for optimal performance (Goleman, 1998a, 1998b, 2001a). Damasio’s (1994) research linking rational and emotional thought presents a similar argument.

Holism is an approach to scientific inquiry that began in the twentieth century with the emergence of quantum theory and systems thinking (Capra, 1982; Checkland, 1999). Neurological research is finding that the brain is self-organizing, a fundamental
characteristic of holistic, adaptive, self-referential systems (Wheatley, 1999). For this reason, it is difficult to accept that any specific intelligence is independent of others. Moreover, there is a need to better understand how consciousness of and interaction with the environment influence human ability and character. All of the words used to differentiate us as individuals—IQ, EQ, SQ, personality, ego, self, identity, and temperament—at best refer to the unifying sameness of people and actually neglect our individuality. We each respond to the world differently and the result is our individuality and character (Hillman, 1999). Response is feeling, and feeling will bring us closer to the truth of who we are than thinking (Tolle, 1999).

The groundswell of our society’s connection to emotional intelligence presents significant opportunities. Although spiritual intelligence, holistic thinking, and collective consciousness may still be too outlying to consider for practical application today, their links to emotional intelligence can set the groundwork for their emergence in the future.

**EQ and Environment**

Emotional competence is influenced by an individual’s environment (Goleman, 2001a; Saarni, 2000). An analysis of EQ data on several thousand executives and climate surveys of the people who worked for them found that 50 to 70 percent of the employees’ perception of the working climate is linked to the EQ characteristics of the leader (Goleman, 2000). Even Gardner (1999) acknowledged systemic impacts when he updated his definition of intelligence to be a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture. This characterization makes two new assertions. First, intelligences are indeed neurological potentials. Second, “they will or will not be activated, depending
upon the values of a particular culture, the opportunities available to that culture, and the personal decisions made by individuals and/or their families, schoolteachers and others” (Gardner, 1999, p. 34). The emergence, application, and efficacy of intelligence is a function of an individual’s perception and personal meaningfulness of environment and the options it presents.

Environmental influence creates a dilemma for the cultivation of EQ (Cherniss, 2000a). The rapid change, increasing diversity, and global issues that challenge today’s societies and organizations create a need and longing for emotional intelligence, yet these same factors underlie the difficulties in developing and applying it (Cherniss, 2000a). The mastery and benefit of EQ is realized over time, as it is for any type of competency. This commitment, at least to emotional and social growth, appears to be incompatible with Western society’s individual and organizational priorities that focus on instant gratification and short-term results.

*The Other Side of Emotional Intelligence*

Alexithymia is a term used to describe an individual’s difficulty identifying, expressing, differentiating, and representing his or her own emotions. It also describes a tendency toward externally-oriented thinking (Taylor & Bagby, 2000). Externally oriented thinking is a cognitive style preoccupied with the minute details of external events rather than feelings and other aspects of inner experience. Alexithymia is the inverse of the intrapersonal aspect of emotional intelligence – the awareness and management of one’s own feelings. A study exploring the relationship between alexithymia and EQ by correlating the results of assessment tools for each concept found that alexithymia also negatively impacts interpersonal competencies. The findings show
that alexithymic individuals not only lack emotional self-awareness and empathy, but they also have difficulty establishing warm relationships, tend toward unhappy states of mind, and are unable to think about and use emotions to cope with stressful situations (Taylor & Bagby, 2000).

Individual alexithymia or emotionally intelligence can be explained by Gardner’s (1999) theory for how the types and levels of intelligence develop: the activation of an individual’s intelligence depends upon the values of his or her particular culture, the opportunities available to that culture, and the personal decisions made by the individual and/or his or her family, schoolteachers and others. Alexithymia and emotional intelligence are the individual outcomes of social history, including cultural beliefs, attitudes, and assumptions; observation of important others; and reinforcement from involvement with those significant others (Saarni, 2000; Taylor & Bagby, 2000). In case studies of alexithymia, the social histories are negative (Taylor & Bagby, 2000). Higher levels of emotional intelligence are associated with social histories of well-being, resilience, confidence, curiosity, relatedness, and communication (Goleman, 1995b; Saarni, 2000). Emotional competencies are learned behaviors, making their development an important issue for K-12 education as well as corporate training initiatives (Goleman, 1995b, 1998a; Johnson & Indvik, 1999; Kram & Cherniss, 2001; Saarni, 2000).
Emotional Intelligence in the Workplace

In the forward to *The Emotionally Intelligent Workplace* (Cherniss & Goleman, 2001), Warren Bennis shares his experience as a consultant to the board of a large global corporation evaluating an internal successor to the current CEO. Although the second in command looked perfect as a successor, he lacked integrity – no one trusted him. Bennis shared this concern, but the board ignored his advice when it came time to make the decision. The executive in question was promoted to the top spot and twelve months later the board promptly fired him, at a cost of over $5 million to the company.

*EQ and Organizational Performance*

The business community embraced the concept of emotional intelligence because it gave expression to its scarcity rather than its evidence. The cost of emotional ineptitude was easy to identify in unachieved goals, turnover, and losses of revenue and relationships (Goleman, 1998b). Low EQ was often the explanation for why qualified and experienced individuals and leaders “derailed” (McCall & Lombardo, 1983). Identifying EQ as an essential quality exposed those managers too focused on efficiencies and “out of touch with the heart-level engine that drives human capital” (Cooper & Sawaf, 1998 p. xxvii). In the long run, they were the inefficiency.

The Bennis example shows that incompetence is costliest at the highest levels of an organization in which financial leverage and job complexity make poor performance of higher consequence (Goleman, 1998b). The most cited cause for executive downfall is inadequate personal skills (McCall & Lombardo, 1983). Emotional ineptitude is often tolerated at lower levels because diverse skills and abilities are not as essential, but it still has its cost at any level or scope of an organization.
Hay/McBer, a consulting firm with which Goleman worked very closely in his research, found that emotional competencies are twice as important in contributing to individual effectiveness as intellect and experience (Goleman, 1998b). People having these capabilities are the star performers; in most cases they are the top 10% in any job position. They outperform their average peers in the economic value they bring their organizations by factors ranging from 2 to 300 times their salaries, depending upon the complexity of the job (Spencer, 2001). Average and low performers, individuals with lower EQ levels, represent a significant loss of opportunity for organizations. Spencer’s study also found that teams demonstrating emotional intelligence competencies (EICs) were top performers. Thus, groups lacking in EQ can also cost an organization time and money.

The following examples demonstrate how emotional intelligence can turn into savings and profit documented in a report to the Consortium for Research on Emotional Intelligence by Cary Cherniss (2001).

- The US Air Force used the EQ-i to select recruiters and found that the most successful recruiters scored significantly higher in the emotional intelligence competencies of Assertiveness, Empathy, Happiness, and Emotional Self Awareness. The Air Force also found that by using emotional intelligence to select recruiters, they increased their ability to predict successful recruiters by nearly three-fold. The immediate gain was a saving of $3 million annually.
- Experienced partners in a multinational consulting firm were assessed on the EQ competencies plus three others. Partners who scored above the median on 9 or more of the 20 competencies delivered $1.2 million more profit from their accounts than did other partners – a 139 percent incremental gain.
• At L’Oreal, sales agents selected on the basis of certain emotional competencies significantly outsold salespeople selected using the company’s old selection procedure. On an annual basis, salespeople selected on the basis of emotional competence sold $91,370 more than other salespeople did, for a net revenue increase of $2,558,360. Salespeople selected on the basis of emotional competence also had 63% fewer turnovers during the first year than those selected in the typical way.

• In a national insurance company, insurance sales agents who were weak in emotional competencies, such as self-confidence, initiative, and empathy sold policies with an average premium of $54,000. Those who were very strong in at least 5 of 8 key emotional competencies sold policies worth $114,000.

• In a large beverage firm, using standard methods to hire division presidents, 50% left within two years, mostly because of poor performance. When they started selecting based on emotional competencies such as initiative, self-confidence, and leadership, only 6% left in two years. Furthermore, the executives selected based on emotional competence were far more likely (87%) to perform in the top third based on salary bonuses for performance of the divisions they led. In addition, division leaders with these competencies outperformed their targets by 15 to 20 percent. Those who lacked them under-performed by almost 20%.

• After supervisors in a manufacturing plant received training in emotional competencies, such as how to listen better and help employees resolve problems on their own, lost-time accidents were reduced by 50 percent, formal grievances were reduced from an average of 15 per year to 3 per year, and the plant exceeded productivity goals by $250,000.

• Another emotional competence, the ability to handle stress, was linked to success as a store manager in a retail chain. The most successful store managers were those best able to handle stress. Success was based on net profits, sales per square foot, sales per employee, and per dollar inventory investment.

• Optimism is another emotional competence that leads to increased productivity. New salespeople at Met Life who scored high on a test of “learned optimism” sold 37 percent more life insurance in their first two years than pessimists.
When a theory becomes effective practice, such as these examples illustrate, study of its impacts becomes very compelling. Business-related research and cases studies of the application of emotional intelligence in the workplace continue to unveil the reasons some employees get results where others fall short.

**EQ and Organizational Change**

Accelerating change as the catalyst of organizational strategy has become the way of the modern organization and the focus of a significant amount organizational research and discourse. We constantly hear of change management, change agents, change leaders, and the failures of change laggards. A common assertion is organizations effectively dealing with and embracing change have the competitive edge; those that react merely survive; and those that resist eventually expire. The simple but overlooked reason for difficulty with change is the emotion it creates (Huy, 1999).

Research exploring the interaction between emotion and actions forced by radical change has not been substantial, but there is a need to understand more about this linkage (Huy, 1999). Emotional competence facilitates an individual’s adaptation to change (Cherniss, 2000a, 2000b; Goleman, 2001a). An organization’s capabilities for addressing and handling employee emotions increase its likelihood of making the major strategic shifts necessary to stay competitive (Huy, 1999; Neuhauser, Bender, & Stromberg, 2000). Individual emotions are influenced by and respond to the process of organizational change. Huy (1999) cites three dynamics of organizational change that reflect the emotional process of individual change: receptivity, mobilization, and learning. In both organizational and individual change, receptivity (cognition and emotion) is necessary for mobilization (action) to occur and learning (changing) provides the feedback (changing).
that balances and stabilizes the process. Individuals and organizations flow through similar experiences to effectively traverse change.

Table 3

*Individual and organization change dynamics*

<table>
<thead>
<tr>
<th>Change Dynamic</th>
<th>Individual</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptivity</td>
<td>A person’s willingness to consider change</td>
<td>Organization members’ willingness to consider – individually or collectively – proposed changes and to recognize their legitimacy</td>
</tr>
<tr>
<td>Mobilization</td>
<td>Concrete actions taken by a person in the direction of change</td>
<td>The process of rallying and propelling different segments of the organization to undertake joint action and realize common change goals</td>
</tr>
<tr>
<td>Learning</td>
<td>Thinking and then acting, using the outcome of action to revise the belief system with emotions as the feedback mechanism</td>
<td>The transfer of individual and collective learning to the organization’s belief system</td>
</tr>
</tbody>
</table>

Emotion becomes most apparent in receptivity and in its influence on actions taken (mobilization). Receptivity can be as low as resigned acceptance or it can be a highly enthusiastic endorsement. Resistance to change is the antithesis of receptivity. Resistance can manifest as cynicism, but it can also be as extreme as sabotage. Regardless, receptivity, at any level, determines the nature of action. Action is the “spirit of change” and requires positive emotional energy to achieve the desired outcome. A
resistive interaction between receptivity and mobilization occurs when individuals or organizations base willingness to consider change on the ability to take action. For example, if a proposed change requires skills/resources that are unavailable, an individual/organization may be resistant to that change.

Outcomes of mobility bring on the next emotional stage of the change process. Whether the result is positive or negative, learning occurs and feeds back to receptivity. When the outcome is not as expected, individuals have the opportunity to appraise and learn from the experience, become more receptive to alternatives, and choose a different and more promising action (Huy, 1999). Conversely, they can reject the outcome, become resistant to alternatives, and desire a return to familiar circumstances. When the outcome is successful, there is a positive feedback into receptivity of change. In each case, however, learning requires change in underlying assumptions, which alters behavior and invokes strong emotions.

**EQ and Organizational Citizenship**

Organizational citizenship is voluntary behavior above and beyond role requirements without expectation of reward (Abraham, 1999). The personal effort it takes to mentor new employees, focus on self-development, or sacrifice self-interest for the benefit of the group or company exemplifies organizational citizenship. Such pro-social behavior stems from identification with and commitment to an organization. Abraham (1999) believes that emotionally intelligent employees are committed to their organization and will demonstrate organizational citizenship. An individual’s heightened awareness of personal goals, strengths, and weaknesses, leads to confidence in chosen roles and situations and the willingness to go beyond them. The emotional competencies
of self-management, self-control, trustworthiness, conscientiousness, and adaptability, strengthen an individual’s organizational identification and commitment (Abraham, 1999; Goleman, 1998b).

Commitment is also characterized by optimism and resilience. Instead of finding fault during conflict, emotionally intelligent employees are flexible enough to put difficulties aside and direct their energy to solutions. They hold on to mental models of success, and they are not discouraged by setbacks and frustrations. Self-management competencies minimize impulsive reactions and foster rational responses to the emotional energies that often accompany major change or personal differences. “Over time,” says Abraham (1999, p. 213), “the continuous substitution of positive emotion for negative energy improves satisfaction with the job, and in turn, commitment to the organization.”

Committed, emotionally intelligent employees are sensitive to the emotions of co-workers or customers and use their optimism to offer counsel and change negative moods to positive. Empathy allows them to see workplace events from more perspectives; “This permits them to internalize higher standards of justice and moral reasoning that would be beneficial to the organization as a whole, rather than themselves. Consequently, they are more willing to accept the need for volunteerism and extra effort to promote the organization’s goals “(Abraham, 1999).

Finally, Abraham (1999) found that even contract employees with short-term relationships with organizations could be committed and pro-social in their behaviors if they are emotionally intelligent individuals. Contractors must often deal with feelings of job insecurity, alienation, workplace tensions, and powerlessness. In response, they may become self-serving, refusing to take risks or extra responsibility, pursuing favor with
superiors, or working projects with immediate benefit but long run determent to organizational goals. The emotionally intelligent contractor views job insecurity as motivation to bring more value and increase the likelihood of contract renewal. Removing the emotion of job insecurity contributes to eliminating the feelings of alienation, tension, and powerlessness. Contributing to organizational effectiveness brings the negative feelings under control, and a contractor can become just as committed to the organization as a full-time employee.

**EQ and Group Effectiveness**

Most emotions are responses to social interactions (Saarni, 2000). It follows that emotions play a role in how group members interact and work together. The emotionally intelligent individual can skillfully process the information presented by life tasks. Taking guidance from self-awareness, self-management, and social awareness, they adapt their actions to that information and how others may perceive it (Goleman, 1995a, 1998b, 2001a). A group’s ability to manage emotion plays an equally important role in its interaction and performance (Druskat & Wolff, 2001b). Groups with emotional intelligence out-perform groups with similar technical skills but with fewer social skills because emotional intelligence is directly related to work-group cohesion (Abraham, 1999). Team members with higher levels of emotional intelligence have a propensity to share knowledge, capitalize on creative diversity, and build consensus (Goleman, 1995a).

However, a team with emotionally intelligent members does not guarantee an emotionally intelligent group because, like any social group, workplace teams take on their own character (Druskat & Wolff, 2001a). Group emotional intelligence is the ability to develop a set of norms that manage emotional processes so as to cultivate trust,
group identity, and group efficacy. Trust, group identity, and group efficacy are the three conditions necessary for group effectiveness, and they lead to the development of group member cooperation and collaboration (Druskat & Wolff, 2001b). In a group, trust is reciprocal care and concern and the assumption that that an obligation will be fulfilled and an expectation met. Group identity is a collective belief that facilitates the sense among group members that their goals and futures are positively linked. Group efficacy is defined as the collective belief in a group that it can be effective (Druskat & Wolff, 2001b).

These group norms build emotional capacity and influence emotions at three levels: individual, group, and external to the group (cross-boundary). Similar to individual emotional competence, an emotionally competent group must establish norms that create awareness of and regulate emotions. Complexity arises from having to build these norms for the three levels of group interactions. Druskat and Wolff (2001) outline the dimensions of group emotional intelligence in Figure 2.
A cohesive team must foster an awareness of individual emotions by establishing norms that promote interpersonal understanding and consider the perspectives of all members (Druskat & Wolff, 2001a). This mindset is accomplished by taking time outside of group activities to get to know each other. Informal relationships enhance the openness
of formal meetings, allowing each member to feel free to express thoughts and feelings. As a result, regulating emotions becomes a balance of caring and confronting.

Emotional awareness at the group level requires regular self-evaluation and solicitation of feedback using measurable objectives and regularly examined tasks (Druskat & Wolff, 2001a). Group members discuss and address overall group mood and revisit process, including difficult issues, accepting the emotions that surround them. Norms can also build an affirmative environment using optimism, a focus on the mission and what the group can control, and pride stemming from past accomplishments (Johnson & Johnson, 1997). These are competencies that can be practiced at both the individual and group levels.

Cross-boundary emotional awareness, how a group works with emotions outside of the group, is strengthened by norms that foster organizational understanding (Druskat & Wolff, 2001a; Goleman, 2001a). Effective teams know the concerns, priorities, and needs of others in the organization. They know who has influence on their ability to accomplish goals and are attuned to the workplace climate. Within this context, they seek congruency with team actions and the organization’s culture and politics. Team norms that regulate cross-boundary emotions are those that build external relationships by networking and interacting with other teams, offering support, and opening their meetings to others who might benefit or have a stake in their outcomes.

The importance of groups to social effectiveness goes back to our hunter-gatherer ancestors. Humans are small group beings. Knowledge of group dynamics is central to life, learning, psychological health, and viability (Johnson & Johnson, 1997). The use of small, just-in-time teams to produce significant organizational deliverables is flattening
organizations and improving productivity (Neuhauser et al., 2000). The increased use of
cross-functional and empowered teams as the means to accomplish organizational
objectives has generated a growing interest in what makes them effective in facilitating
their own success (Druskat & Wolff, 2001a). When more teams can experience trust,
embrace an identity, and believe in their efficacy, the organization’s benefits go beyond
team effectiveness. Trust, cooperation, and the authenticity that comes from emotional
intelligence build social capital – the relationships that make entire organizations work
effectively (Prusak & Cohen, 2001).

The Case for Emotional Intelligence in the High-Tech Workplace

When John Naisbitt (1984) presented the formula for living with technology,
which he termed “high-tech/high touch,” he envisioned our society’s increasing need to
counterbalance the introduction of new technology with a human response. Almost two
decades later, many of Naisbitt’s 1984 predictions about high-tech/high touch have been
realized. He warned of the uncertainty of innovation, backlashes against impersonal
technology such as voicemail and telephone banking, and the desire for more human
contact as the workplace became more virtual. Technology is no longer simply a neutral
tool; it is evolving to include interrelationships with life, society, and the environment,
and the consequences this bond entails (Naisbitt et al., 2001).

Individuals who spend the working portions of their lives in high-tech
environments are particularly challenged by the need for a balance between the nature of
their work and the encroachment it makes into their personal lives (English-Lueck, 2002).
The work/personal balance of high-tech workers mirrors the issue at the heart of the high-
tech/high touch phenomenon itself. High-tech workers, like society as a whole, are forced
to keep pace with technology, while the social accommodation of it lags farther and farther behind (Brown & Duguid, 2000; Naisbitt et al., 2001). High-tech organizations have always taken the lead in using technology – computers on every desk, voice mail, telecommuting, teleconferencing, cell phones, two-way pagers, and web meetings are pervasive tools of high-tech productivity. However, high-tech, as a community, is less likely to question the consequences.

“Eating your own dog food” is a high-tech expression used when a company employs its own technology. Organizations that do not adopt the technology they create, support, or espouse have low credibility within the community and an implied a lack of quality. High-tech workers and organizations do not only produce technological products or services; they are the heaviest users. If there are consequences to the gap between innovation and its social acculturation, high-tech workers will suffer them first and most acutely. The consequence is low sensitivity to the human response necessary to counterbalance, mitigate, and leverage the uncertain and unforeseen impacts of technology – a dulling of social imagination.

Proposition 1: The characteristic of high-tech organizational culture that places value on technology and innovation above people and relationships inhibits individual and organizational social imagination – the general consideration of conditions and consequences of a chosen course of action.

Geeks

Geeks exemplify the gap created by the obsession with technology and the lack of concern for the anti-social impacts of that obsession. Geeks are very smart people who have poor social skills. It has long been a negative stereotype often associated with
people in high-tech. However, as technology’s impact on the economy and ubiquity in our society has increased, geeks have become celebrated people. However, no matter how successful and admired they become, the label endures. Bill Gates, founder and CEO of Microsoft, is probably the world’s most famous geek. At the time of this writing, Gates and Microsoft have been in a battle with the United States Justice Department for two years because the company pushed Internet Explorer, the company’s web browser, too hard for the liking of its competitors. Microsoft is an alleged monopoly in the making. Considering some of the gigantic mergers during the same period, one could question whether the issue is the browser or Bill Gates. If Gates had the right relationships with politicians and regulators, he may have avoided this situation entirely (Katz, 2001).

High technology is dependent upon geeks – they are the people that write software and design the hardware that runs it (Mitchell, 1999). Integrated circuit design engineers and mainframe programmers in white shirts with pocket protectors were the first generation of geeks. UNIX evangelists and PC hobbyists and developers emerged next. The new generation geeks are the Internet gurus. New economy geeks are not much different from their elder forerunners. They are affluent, young, smart, predominately male (but increasingly female), grumpy, idiosyncratic, obsessive oddballs who love and understand technology more than anything else (Katz, 2001). During the peak of the Internet boom, they had their pick of high paying jobs and demanded that hefty stock options come with these positions. They were the only people in the office in cut-offs and sneakers, they never arrived earlier than 10:00 AM, and they could “flip the bird” to their bosses without being reprimanded. Dotcom geeks were an arrogant bunch (Colony, 2000; Darrow, 2000).
Contradicting Worldviews

The power relationship geeks have with management is similar to professional sport players; they are free agents that want to make an impact (Castells, 1998; Mitchell, 1999; Slocombe, 2000). Equally important as money and autonomy to these technologists, is the belief in their ideas and the desire to see them realized as accomplishments and products (Castells, 1998; Delbecq & Weiss, 2000; Mitchell, 1999; Slocombe, 2000; Sprague & Ruud, 1988). The fact that markets motivate innovation more than discovery has resulted in tension between the people who create technological innovation and those who make a business of it (Delbecq & Weiss, 2000; Sprague & Ruud, 1988).

Like a traditional community, the three generations of geeks subdivide but join together to stand in defense of technology’s integrity against the “incompetence” of marketing and management (Delbecq & Weiss, 2000; Mitchell, 1999; Slocombe, 2000). *Dilbert*, the central character of the comic strip by the same name, is a bespectacled, pocket-protector wearing engineer. On a daily basis, *Dilbert* lampoons the ineptitude of management, the lack of emotional intelligence in the workplace (Johnson & Indvik, 1999), and the emergence of cynicism as the new paradigm of employer-employee relations (Feldman, 2000). Since its inception in 1989, the popularity of the strip has propelled the character to a status of the “digital age’s Everygeek” (Rosenberg, 1996). Over 150 million disgruntled employees, empathetic to Dilbert’s plights, read the comic strip every day (Soloman, 1997). The majority of these fans are drawn to the comic strip because it expresses the resentment felt by people who understand technology, toward people who do not yet are in positions of authority (Rosenberg, 1996).
The conflicting ideologies of the technologists and businesspeople in high-tech organizations have been a part of the culture since its origins with the commercialization of integrated circuits (Kaplan, 1999; Sprague & Ruud, 1988). The technologists believe in the traditional values of research and testing of alternatives, making conservative claims bound by codes of ethics and sound procedures, and protecting the public interest (Sprague & Ruud, 1988). The businesspeople place priority on flashy public relations to attract venture capital, marketing strategies fixed on accelerating time to market, and aggressive sales aimed at market position and maximum revenue. Along with the product mediocrity the technologists abhor, the differences create tension within teams, turnover, and the cynicism upon which Dilbert’s author, Scott Adams, has capitalized (Delbecq & Weiss, 2000; Feldman, 2000; Soloman, 1997; Sprague & Ruud, 1988).

Intel marketed the Pentium 4 as a processor designed for the Internet with a feature it labeled “Netburst Architecture.” Intel’s marketing decision-makers were convinced that more megahertz, the measure of speed at which a microprocessor runs, meant faster downloads, steaming video, and 3D gaming. Therefore, as the popularity of the Internet grew, the directive to engineering was faster processor speed. In the case of the Pentium 4, speed came at the expense of other areas of the chip’s design. The Pentium 4 was, indeed, great for the Internet, but for other uses, it lost ground, not only to its competition, but to the Pentium III as well. The growing ranks of critics of Intel technology attribute this oversight to marketing strategy prevailing over sound engineering (K. McCarthy, 2001).

Technologists perceive innovation as a Field of Dreams – “build it and they will come”. It refers to pure technology, such as the Internet and MP3 players. They refers to
the people who will recognize the value of the technology. Conversely, the business component of technology takes the view that “they will come if you build what they want.” To the business people, it refers to the “killer app” and they are a market ready to spend money for it, which is all that matters. Thus, the business people, marketing, sales, and operational management, feel as though they know what the market wants, such as Internet-enabled microprocessors and interactive television.

There are issues with both of these perspectives, and the outcomes have not been favorable, as the Intel example demonstrates. Dotcom failures, such as Webvan.com and Pets.com, operated as if they were technology businesses and not low-margin grocery and pet supply businesses. Until the music industry addresses the intellectual property right issues related to songs downloaded from the Internet, the future of MP3 is still uncertain. However, technology companies continue to develop and produce MP3 players for the consumer market.

Recognizing and mitigating the tension between technologists and business people in high-technology organizations has been a challenge that the management of each sub-community has long faced. The increasing use of cross-organizational teams to design, develop, and produce products has brought both perspectives to the table, but compromise between the opposing views is still the exception (Sprague & Ruud, 1988). In startups, the technologists often prevail, while in larger organizations, it is finance, sales, and marketing that dominate research and design decision-making (Delbecq & Weiss, 2000; K. McCarthy, 2001; Munroe, 2002; Sprague & Ruud, 1988). Given the potential costs and consequences of the inability to negotiate the differences, there is a need to improve the communication, trust, and “other” awareness of these two factions.
Proposition 2: The conflicting worldviews of technologists and business people in high-technology organizations divide the community and undermine the emotional competencies that support group trust, identity, and self-efficacy.

The Changing Nature of High-tech Careers

The “Dilbert Syndrome” (Feldman, 2000) is an emerging paradigm of employer-employee relations based upon growing cynicism about the effectiveness of management. Employees and organizations have changed their perspectives about careers. Organizations have come to use downsizing and outsourcing as operational strategies to improve profit. During slumps in the early technology cycles, such tactics were presented to employees as drastic, exceptional measures. As they became a regular occurrence, the old paradigm of long-term commitment and loyalty to an organization in exchange for security and growth opportunities began to fade. As a result, many high-tech workers no longer pursue organizationally based careers and high-tech organizations are decreasing the number of permanent, full-time employees (Feldman, 2000; Handy, 1998a; Jayadev, 2002). In addition, the perceived decline in the quality and integrity of management has turned once loyal and committed employees into disgruntled, cynical individuals seeking to work their way out of organizations instead of up. “Restructuring” and “re-engineering” has created flatter organizations with limited opportunities to advance. The executive ranks “bar the door” through self-promotion, avoiding mistakes, and communicating to obfuscate, rather than clarify (Feldman, 2000). This further explains the growing popularity of *Dilbert* and the perception of managers as buffoons to be avoided if one wishes to be productive.
Employee desire to build a career without an organization is further inspired by changes in perspectives about work and family. Working mothers are becoming the norm and Americans, as a whole, are working 15% more than they did 20 years ago (Feldman, 2000). Their concern about the balance of work and family roles is increasing. As a result, more individuals, not only working mothers, are building livelihoods as consultants and contractors to have more control over their time and careers (McGovern & Russell, 2001).

The dotcom flameout has intensified the Dilbert Syndrome. When there were 250,000 information technology jobs unfilled during the Internet boom, high-tech workers enjoyed and leveraged their job security. Technologists had more control over their roles and contribution levels. As technology’s recent downturn began in the latter half of 2000, this power shifted from the technologists to the business people. Technology workers, wishing to do their jobs while retaining balance in their lives often found themselves replaced by individuals willing to sacrifice more for less pay (Feldman, 2000). As layoffs become more frequent and prevalent as a means of cutting costs, management has become increasingly callous in the way they go about eliminating people and jobs. The following recollections from an engineer laid off from a startup describe the ruthlessness in the approach some high-tech managers take to cutting costs.

It's interesting how, as the days go by, I think about [company] less but when I do I am increasingly bitter and angry. You recall correctly... I did wonder if I'd get axed right after delivering the product. But get this... it is way worse than I would have imagined (please allow me to vent about it... you don't have to read this part, but you might be interested):

On Wednesday, a week before the layoff, the CTO has a meeting where he exhorts everyone to work like crazy, even through the weekend, to "just get this done." As if an extra 80 team-hours will make a significant difference in the overall quality of a project of 7 months.
Thursday afternoon he goes into an investor meeting. I leave at 5:15, he gets out of the meeting at 5:30 and proceeds to work at his desk. My friend Jim leaves work at 5:50. At 6 PM the CTO sends Jim an email asking, "Are you sure you have what it takes?" He also says, "I wish we could have spoken in person," when in fact they were both at their desks for 20 minutes (in sight of each other). At the same time, he emails me that he is disappointed with Jim's performance, which is simply ridiculous – Jim is exactly the type of employee any healthy company should want. The next morning, the CTO gets on a plane at 6 AM for the East Coast, won't be back until Tuesday afternoon.

Jim and I work through the anger and work some over the weekend to get all our items completed successfully. On Monday, the CTO sends email from the East Coast to three of the five contract employees in Walnut Creek saying that Friday would be their last day. Nice, huh? Anyway, also on Monday, I email CTO to say I'm disappointed and confused by his statement that Jim does not meet his expectations – I think Jim's been doing a fine job. CTO leaves me a voice message and I let him know via email that I want to talk to him when he gets back in town, face to face.

Tuesday, CTO gets back into town, has a few meetings. Then he says, "Ok, want to talk now?" Then he fires me. Then he fires Jim. Surprise! He tells me it's because I don't belong in a startup because I can't make the required commitment... as if 55 hours a week is not enough of a commitment. He did indicate that putting my family first is "admirable" but does not fit into the company culture. In this meeting, he says he discussed this with the VP of Engineering, and they made the decision together.

Tuesday afternoon, CTO tells the rest of the team that Jim and I were fired because we missed our deadline. In particular, he said the [East Coast] team was very upset with how late the product was, and they blamed my group. (That of course is bull**** and everyone in the office should know it.) In the next breath, he tells the [East Coast] team that my leaving was a "mutual decision" between me and him.

Wednesday, he hires at least one and possibly two of the three fired contractors on as full-time employees, and puts an ad on Craig's List for another employee with my skills. (P. Dudley, personal communication, October 5, 2001)

Engineers who could once walk away from an employer by choice, for opportunity or integrity, are now being downsized or outsourced out of their jobs. Even the most accomplished and skilled technologists, the first- and second-generation geeks, are
finding their jobs eliminated because their salaries can pay for twice as many new engineering graduates with less experience but fresh ideas (Feldman, 2000; Soloman, 1997). From the organizational perspective, short-term profit motivation conflicts with building long-term employee commitment and loyalty as a result of the need to respond to downturns with downsizing and outsourcing. High-tech companies are increasingly reluctant to build large ranks of permanent employees, not because of their compassion but to avoid litigation and the costs associated with the legalities of layoffs (Feldman, 2000; Jayadev, 2002).

The growing gap between individual and organizational priorities is creating dilemmas for both sides. Today’s workers no longer hold large corporations in high regard, and many prefer to be entrepreneurs. However, workers need the experience working in such environments to be successful free agents. Given such aspirations, corporations are reluctant to hire and invest in individuals with different goals from their own (Feldman, 2000). Those workers who have endured long-term employment and find themselves middle-aged and in middle management know their job security is also in jeopardy. The conflict these individuals face is between their organizational commitment and the concern for their livelihood. If workers, young or mature, chose to be entrepreneurs or free agents, they must be willing to transport their skills across organizations and geographies. This highly uncertain and mobile lifestyle creates additional stress on the life/work balance many have come to value.

High-tech organizational structures create this psychological control on workers and perpetuate the status quo (Douglass, 1991). The commitment high-tech workers place on their contribution to the occupational community stems from the meaning they derive
from their achievements. The centrality of work leads to the melding of work and life, which makes job satisfaction increase with the number of hours worked, and makes work the basis of social activity (Castells, 1998).

“High-tech corporate culture has been designed to take advantage of work’s capacity to provide meaning in individuals’ lives. Professional work offered personal achievement and exile from an impersonal world. But it entailed self-denial, a merger of friendships and business contacts, a withdrawal from families and social life, and a deferral of social responsibility“ (Douglass, 1991, p. 155).

When individuals commit so much of their time to work, finding such meaningfulness in personal contributions to organizational goals is justification for the social sacrifice. The misfortunes of the laid-off engineer above demonstrate how some startup organizations expect that sacrifice.

More mature organizations recognize that longer tenured employees are more knowledgeable, conscientious, and socially skilled than those with shorter periods of employment (Feldman, 2000), especially those individuals in middle and senior management roles (Huy, 2001). Loyalty is a trait organizations want in employees, but they offer few incentives to create and maintain that loyalty. Merit, rather than years of service, is the reward and recognition criteria used by most high-tech organizations. It follows that employees begin to see commitment as a one-way obligation. For high-tech workers, this lack of identity with the organization is satisfied by loyalty to the community and technology itself (Castells, 1998; Delbecq & Weiss, 2000). The organizational response to this nature of identification is to promote teams as a means of motivation and empowerment (Feldman, 2000). People who may be cynical about an organization or its leadership may still be comfortable committing to a collaborative effort within a small group. Organizations can leverage this phenomenon by facilitating
and rewarding team-oriented performance. In spite of the growing advocacy of teams, companies still reward individuals when recognizing team performance (Feldman, 2000). This misdirected recognition contributes to the movement of high-tech workers out of the organization. Conflicting ideologies between technologists and business people, the cynical perception workers have of middle and senior management, and the ineffectiveness of teams makes high-tech careers seem like revolving doors.

Proposition 3: *The conflict between the high-technology community’s loyalty to occupational contribution and its organizational quest for profitable innovation is creating a shift in employee-employer relationships.* Employees and employers are less committed to the others’ goals and values; organizational structures are flatter with too many managers making decisions and fewer people in the ranks to implement them; and cynicism increasingly outweighs trust.

Proposition 4: *High-technology organizations that neglect to address the changing employee-employer relationship perpetuate the status quo by exacerbating the movement of people out of one organization to another.*

Proposition 5: *High-technology organizations and leaders can mitigate the negative impacts of the shift in employee-employer relationships by fostering trust, identification, and self-efficacy within the changing organizational structures.*

**New Criteria for Leadership**

Craigslist.org Business Jobs Digest – Tuesday, 2 Oct 2001

1 – Marketing Associate (South San Francisco)

2 – Business Development Manager (San Francisco)

3 – CEO for a Small Software Company – Grey Hair Required (Petaluma)
4 – Health Data Analyst (San Francisco)

This posting to a popular Northern California online job lists portrays an important lesson learned from the high-tech flameout of 2000-2001. Effective leadership in high-tech requires experience and the maturity necessary to face uncertainty with the flexibility of many lessons learned – in other words, emotional intelligence (Goleman et al., 2001). Creativity, focus, energy, and a new MBA were not enough for many of the startups that sought to leverage the increasing popularity of the Internet and consumer technology. At least 537 publicly traded Internet companies shut down or declared bankruptcy in 2001 (Anonymous, 2002b). Among the top reasons given for the last high-tech shakeout are:

1. A disregard for historical precedent and traditional business and operational processes (2002a; Katz, 2001; Munroe, 2002).
2. A believe that technology can replace relationships (Munroe, 2002).
3. The overestimation of change in the short term and underestimation of it in the long term (Cringely, 2000; Rosenberg, 1995).

These observations make the above request for “grey hair” understandable. Most of these shortcomings are due to a lack of alternative perspectives – social imagination – upon which to base decisions. Older individuals score higher on EQ assessments than younger people; people in their forties and early fifties received the highest mean scores (Bar-On, 2000). Research has also shown that emotional and social competencies account for 90%
of abilities necessary for success in leadership positions. These findings make a strong case for more mature leaders in the high-tech workplace (Goleman, 1998a).

“It’s Different This Time”

Silicon Valley’s innovations have come in waves, four thus far (Henton et al., 2002). The first began in the early 1970s with the introduction of the semiconductor and its application in the defense industry. The second began in the late 1970s with introduction of the integrated circuit and its commercial use. This innovation led to the third wave, as personal computers created new markets for technology in the mid 1980s. The commercialization of the Internet began in the mid 1990s, and marked the beginning of the current wave. In spite of the recent drastic downturn, it is widely held that this fourth wave is still building (Cringely, 2000; Henton et al., 2002; Lewis, 2001; Mandel, 2000; Munroe, 2002), and since the previous waves were also interrupted by similar contractions, this may be the case. The Internet itself was not the weakness of the dotcom bust – the Internet continues to show potential impact comparable to that of the telephone. The problem was how the dotcom bubble conceived its value (Munroe, 2002). One thing is for certain: too many Internet entrepreneurs forgot the past and what it took to make innovations such as the telephone ubiquitous.

The individuals with long-term experience in high technology know that these technology waves are simply the nature of technology cycles. With every rise, there is a downturn. The next major breakthrough stimulates the rise out of that fall and the next cycle begins. The first high-technology downturn came with its first wave of innovation - the commercialization of integrated circuits. Demand fell behind the rate of obsolescence of products resulting in overproduction (Burgelman & Grove, 1996; Mandel, 2000;
Rosenberg, 1995). Simultaneously, while U.S. companies competed with innovation, competitors, led by the Japanese, focused on manufacturing quality and performance (Burgelman & Grove, 1996). As the demand decreased, foreign competition overtook the market. However, Silicon Valley overcame its first growth crisis by accelerating its pace of innovation rather than reinventing manufacturing (Castells, 1998). This approach maintains the competitive edge, but it also raises the bar. Increasing the rate of innovations requires a similar increase in the adoption of technology in the entire economy and society (Naisbitt et al., 2001; Rosenberg, 1995). This proportionate increase was proven in the next wave with the commercialization of the personal computer. Acceptance was rapid, but again, along with this growth spurt came another shakeout. There were too many PC clones for the market to absorb, over 100 by 1980, so consumers flocked to the IBM PC, creating a “standard” that much of the competition believed they could ignore. For this reason, PC makers with shares in the early market, such as Commodore, Radio Shack, Victor, and Amiga failed while Compaq, an exact clone of the IBM PC, grew (Delaney, 1995). The Apple computer survived because it was unique. Its open architecture allowed software designers much more flexibility and its sound and graphics were far ahead of the PC and its clones.

The Internet bubble ran into a similar issue with social and business acceptance. The market had little understanding of what to do with the proliferation of dotcom products and services. As a result, consumers stuck with their tried and true uses, communication and access to information, and businesses found value in the Internet’s ability to facilitate current methodologies, not new ones. Very few of the speculative ventures into the Internet could change those patterns, and these undertakings paid for
that miscalculation. The well-known exception is eBay, the online consumer auction site. On the business side, Wells Fargo has one of the most active online banking services, which was a simple translation of its telephone banking to the Internet. Dell Computer sells most of its computers on the Internet – instead of the telephone (Cringely, 2000). The “dotbomb,” as the most recent high-tech downturn is often labeled, had a capitalized loss of $3 trillion (Munroe, 2002). Many believe that it was arrogance, greed, and a belief that the cycle was “different this time” that allowed high-tech history to repeat itself so ferociously (2002a; Katz, 2001; Mandel, 2000). On the darker side, a study has shown that “industrial psychopaths” thrive in turbulent, unpredictable environments (Maccoby, 2000b). These individuals charm their way into companies and position of power and once established, lie and manipulate their way up the organization, spread disinformation to enhance their image and undermine others, and are ultimately detrimental to the health and survival of the organization. Such was the fate of many Internet companies.

When the bubble began to deflate, some troubled companies (and their venture partners) changed recruitment strategies and made “old economy” experience a priority over “new economy” know how. Some of these changes began at the board level (Swisher, 2001), but senior and operational executives were most affected. High-tech organizations are beginning to place more value on the skills required to develop and maintain positive relationships; lead and inspire a diverse, distributed, and eclectic workforce; and alleviate the cynicism, conflicts, and dilemmas undermining the community’s culture (Goleman et al., 2001; Mitchell, 1999; Neuhauser et al., 2000; Wheatley, 1999).
The most visible examples have been changes at Yahoo! and Priceline.com. Yahoo! replaced Tim Koogle, its initial Chairman and CEO, with Terry Semel, the longtime Warner Bros. executive. Semel was hired at a time when arrogance, infighting, and management mistakes were beginning to derail the hottest portal on the worldwide web (Elgin, 2001). Though earnings remain flat, Semel is gradually transitioning the portal business model away from advertising, the reason many of its competitors failed (Mandel, 2000; Munroe, 2002). Richard Braddock, a former Citicorp executive took over Priceline.com as chairman and CEO after Jay Walker, its founder and original Chairman and CEO, stepped down. Walker, a serial entrepreneur, has been the center of several investigations related to companies he founded (Saliba & Macaluso, 2000). Priceline, a “name your own price” Internet service offering travel and other products, was one of the first dotcoms targeted by shareholder lawsuits when its stock plummeted from $165/share to $1.25/share. As of this writing, it appears that Priceline’s misfortunes are turning around under Braddock’s leadership, with the announcement of several key partnerships and increasing sales (Saliba & Macaluso, 2000). In both of these cases, the new CEOs brought the wisdom of the “old economy” to turn around a failing dotcom.

EBay may have been an exception in the dotcom fallout because Meg Whitman, a seasoned executive with extensive consumer marketing experience, was hired as CEO soon after the company was founded. In addition, it appears that Whitman’s experience has impacted her perspective on leadership. The corporate website gives the following as her opinion of her most valuable contributions to the eBay team.
Most valuable contribution to eBay team: Develop the work ethic and culture of eBay as a fun, open and trusting environment. Keep the organization focused on the big-picture objectives and key priorities.

Contrast Whitman with the typical dotcom CEO that Colony (2000) describes as lacking in depth, experience, and common sense. The commitment levels of many dotcom CEOs was as short term as their own incentives. Equally short-sighted were the “revolving-door” workers, many of whom flocked to startups on the promise of stock options and an IPO and then took their exits post-offering to another pre-IPO company. The cultures these individuals created were shallow and full of rhetoric with a focus on going public and getting liquid, while value, what the customer really wanted, took a back seat (Colony, 2000; Cringely, 2000; Mandel, 2000).

Perhaps the only aspect of the dotcom phenomenon that was “different this time” was the pervasive use of acquisition as a growth strategy (Colony, 2000; Cringely, 2000; Mandel, 2000). Unfortunately this strategy worked against many Internet companies. Management responsible for due diligence and integration often lacked the organizational leadership experience to effectively and strategically assimilate people and technology. Poor decisions were make before and after the acquisition. Critical Path, an Internet email provider, made nine acquisitions during twelve months in 1999-2000. The company’s stock soared to $95/share. During the year that followed, productivity stalled and talented individuals departed, while the ranks of senior management swelled. After missteps by senior management that led to misstated earnings and SEC charges of fraud and insider trading, the stock sank to less than $2/share and the company has divested in all but two of the acquisitions (Francisco, 2001).
The new economy of the Internet created a group of business leaders without the abilities required to rally sales forces, hire strong executives and teams, develop fair and trusting partnerships, build employee morale, and create an organizational culture that is sustainable beyond a two-year period. Instead, they became skilled at designing questionable ad campaigns, bartering for partnerships, negotiating with venture capitalists, and doing investment analyst road shows. Experienced baby-boom managers and astute Generation Y newcomers able to leverage the effectiveness of integrating business, social, and personal competencies are rapidly replacing this group in the surviving dotcoms, new startups, and multi-cycle incumbents. High technology is brushing itself off again and realizing that a certain type of leadership is critical to weathering the cycles.

Proposition 6: The economic and organizational impacts of the technology cycle can distract high-technology leaders and organizations away from strategies that value personal and social competencies. However, such competencies are essential for effective organizational performance throughout the entire cycle.

Summary

Any and every organization can benefit from leadership with a combination of practical, social, and emotion skills – EQ. However, this review supports the case that high-technology organizations are more challenged in honoring and leveraging these abilities within their ranks. The propositions presented here arise from that conclusion and suggest reasons for why the community’s organizational culture plays a role in the problem and the solution.
CHAPTER 3
METHODOLOGY

“You think because you understand one you must also understand two, because one and one makes two. But you must also understand and” (Meadows 1982 quoted in Wheatley 1999, p. 10)

A Systems Approach to Inquiry

E.L. Thorndike, who first proposed the concept of social intelligence in 1920, believed that real people and situations, not lab environments, were its best measure (Goleman, 2001b). Because social intelligence manifests in social interaction, to assess it by any other means would not be genuine or accurate. Subsequent study of the theory arrived at a similar conclusion. Social intelligence is a complex of many abilities, behaviors, and attitudes. Its exploration and measurement must get as close as possible to the actual social situation and reaction.

Over eight decades later, social and emotional intelligence theories have become even more complex. Protagonists of EQ are scholars and practitioners with a range of perspectives that generally fall into two categories. The first category views emotional intelligence as every personal ability not measured by IQ (Bar-On, 2000; Cooper & Sawaf, 1998; Goleman, 1998b). This group contends that it is virtually impossible to separate the various forms of “non-cognitive” intelligence and defends the position that EQ overlaps social intelligence, personality, and even zeitgeist as valid (Hedlund & Sternberg, 2000). The second argues for a limited view of EQ as the ability to perceive
and understand emotional information (Mayer, Salovey et al., 2000). This group, primarily scholars, has a restricted criteria for intelligence that does not include personality or behavioral traits (Gardner, 1999; Mayer, Caruso, & Salovey, 2000).

This study aligns with the view of emotional intelligence in its broadest form. Zeitgeist and Weltanschauung are immeasurable. From that perspective, EQ cannot be understood and measured in the same manner as IQ. Taking a psychometric approach to understand and validate emotional intelligence is an example of the same errors of rational thought the concept seeks to overcome. The scholars arguing the restrictive criteria of emotional intelligence are taking the approach that most social scientists have traditionally utilized to validate their theories (Capra, 1982). If they can successfully apply variations of natural science models, the theory can be validated (Gioia & Pitre, 1990). This nature of inquiry is a mechanistic worldview of reality as a machine – studying the parts is key to understanding the whole (Capra, 1982). Social scientists have doggedly held to this approach as a means of validating social science itself, regarded as the “softest” among the sciences. Adopting the Cartesian paradigm and the methods of Newtonian physics gains respectability (Capra, 1982; Checkland, 1999).

The Cartesian method has resulted in spectacular, exciting progress in certain areas, but its inappropriateness for understanding others has left those problems neglected. The preference for this approach to inquiry has “resulted is a system of academic, political, and economic institutions that are mutually supportive and have become all but blind to the dangerous imbalance of the value system that motivates their activity” (Capra, 1982, p. 39). This imbalance is evidenced in the background of this study. This doctoral program encouraged quantitative over qualitative research. Those
who urge researchers in the social sciences to imitate the natural sciences seem to ignore one basic difference between the subjects of inquiry in the natural sciences and those in the social sciences – the subjects of inquiry in social sciences can talk and think (Seidman, 1998).

The alternative to reductionism is the new science based upon quantum theory that focuses on the systemic nature of life (Wheatley, 1999). In this approach, phenomena are understood as whole systems, and attention is given to relationships within those networks (Bertalanffy, 1969; Checkland, 1999). It is a construct similar to the neurological function of emotions (Damasio, 1994; Zohar & Marshall, 2000). A holistic or systems approach to understanding the social sciences supports the emergence of unpredictable properties of a phenomenon (Wheatley & Kellner-Rogers, 1996). An example of emergence is how the effectiveness of a group can exceed the summative productivity of its individual members. We expect certain levels of behavior, and instead, discover previously unknown abilities.

Description of Methodology

When an inquiry seeks to gain a holistic overview of the context under study, the appropriate research methodology is qualitative (Miles & Huberman, 1994). The relationship between high-technology organizational culture and individual emotional intelligence is too complex for a linear research methodology. There are as many connections between the two variables as there are perceptions and interpretation of them. As such, the research sought to discover the forms the various connections take from the viewpoints of real people in the midst of the situation. The study is ethnographic because it explores the meaning of actions and events to a group of people to develop
theory about their culture (Spradley, 1979). What emerges may confirm the propositions or offer new ones.

There are specific aspects of the study that aligned it with a qualitative, ethnographic approach (Miles & Huberman, 1994; Spradley, 1979):

1. The researcher’s intent was to capture data on the perceptions of local actors “from the inside.”
2. The main task was to explicate the ways people in particular settings come to understand, account for, or take actions, and otherwise manage their day-to-day situations.
3. Many interpretations of the material were possible.
4. Relatively little standardized instrumentation was used at the outset.
5. The analysis was done with words.

This last point is important because language is the primary generator of meaning (Seidman, 1998; Spradley, 1979). Moreover, meaning is relational, not referential (Spradley, 1979). This study explored relationships and meaning, seeking emergent theory. Therefore, the research methodology was ethnographic and sought to build theory. Theory is defined in the broad sense as any coherent description or explanation of observed or experienced phenomenon (Gioia & Pitre, 1990). Huy (1999) makes the following observation about the study of emotional intelligence that supports this approach: “The overt nature of emotion-focused behavioral interactions lends itself more easily to outsider and peer observation and assessment via private interviews, survey methods, and ethnographic research in natural settings” (p. 341).
In the study of organizational phenomena, theory building must begin with the appropriate paradigmatic assumptions (Gioia & Pitre, 1990; Locke, Silverman, & Spirduso, 1998). For example, a study of the efficacy of one operational process over another is better represented by theories grounded in functional assumptions, but an exploration of the social construction of cultural norms is better represented by theories based upon interpretive assumptions. Researchers have a tendency to force-fit functionalist theory building as a universal approach, even for qualitative studies (Gioia & Pitre, 1990; Miles & Huberman, 1994; Seidman, 1998). This project attempted to understand the phenomena from the perspective of the organization/occupational community members experiencing it. The interpretive assumption underlying this study is that data relevant to the informants was collected and preserved in their unique representations. The research built a collection of “thick description” — detailed records about context, people, and the perceptions of people — as the basis for inductive generation of explanatory theory (Locke et al., 1998).

**Study Design**

In this study, a high-tech technology organization is defined as any company whose primary business is:

1. Computer hardware or peripherals
2. Computer software
3. Semiconductors and related products
4. Online/Internet communications, software, or services

The common culture of high-technology organizations is characterized by the culture of the occupational community (Schein, 1992). The study’s secondary research began with
that assertion and suggested several underlying assumptions, values, and artifacts that characterize the community’s culture. There are many theories regarding which individual(s) within an organization have the most interaction with the culture (Neuhauser et al., 2000; Power, 1998; Weick, 1987). Most agree that leaders create, maintain, and/or change culture and new entrants to the environment are the most impacted. However, the individuals in the middle of the organizations with longer tenure experience culture from both perspectives (Huy, 2001; Klagge, 1998; Skrabec Jr., 2001). Most important, individuals that link the upper and lower tiers of organization must possess and practice emotional competencies to be effective (Huy, 2001). The individuals participating in this study were experienced middle managers – leaders with line or staff responsibilities. It was assumed, based upon the secondary research, that middle managers in high-tech organization would be aware of their EQ, how they apply their EQ, and how their environment has impacted its development and their opportunities to effectively apply EQ.

The connections between organizational culture and EQ explored were those perceived by the participants. High-tech culture, as operationalized above, emerges from the perceptions and assumptions of individuals in the occupational community. Individual EQ must also be the perception of the participant to keep the study in context. The study explored how individuals perceive the relationship between their organizational culture and their emotional intelligence. For this reason, an assessment of individual EQ was necessary to inform the participant of the state of his or her personal EQ and enable responses to related inquiries. The research was more an exploration into the practice of EQ than a functional study of individual emotional intelligence. Therefore,
the assessments of participant EQ had no other use in this study other than to confirm assumptions and set context.

Population and Sample

The population of the research consisted of middle managers in high-technology organizations. A sample of nine participants was distributed across the growth stages of high-tech organizations from startups to large Fortune 1000 companies. The geographical area of the study was confined to the San Francisco Bay Area, which is often referred to as Silicon Valley. Silicon Valley provided an optimum setting for the study because it has the largest concentration of high-technology organizations in the United States and is the industry’s historical center.

The researcher broadcasted the need for study participants via e-mail to a personal network, which was developed over the past 25 years as a member of the Silicon Valley occupational community. The message included a project summary, a statement of the criteria and time requirements, explained that the participant must be unknown to the researcher, and asked the recipient to forward the e-mail to people who might be interested. The thirteen people that replied were sent an invitation to participate and a consent agreement. Nine people accepted the invitation.

As primary criteria, participants need to have a minimum of 10 years experience in the high-technology industry, which included related secondary education. This requirement established exposure to the occupational community and its culture as well as to the organizational cultures of individual work environments. It was preferred that participants had been in their current work environment for a minimum of 2 years. Though the median years of job tenure in the United States was 3.5 years in 2000
(Anonymous, 2000), 2 years is the commitment tipping point for new entrants to high-technology organizations (Feldman, 2000).

Instrumentation

The primary instrumentation for this study was interviewing. To facilitate participant responses during the interview process, an EQ assessment tool was used. Interviewing techniques and EQ assessment tools were investigated with the purpose of establishing as much prior instrumentation as possible. Though exploratory studies are not served well by heavy instrumentation and closed-ended devices, use of focused, bounded research questions and other well-structured instrumentation help to tighten the collection of data (Miles & Huberman, 1994).

The primary method for data collection for the study research was based upon what Siedman (1998) defines as in-depth, phenomenologically-based interviewing. In-depth interviewing uses open-ended questions that build upon and explore participant responses. The objective is to divulge the informant’s reconstruction of his or her experience within the area of study. The structure of in-depth, phenomenological interviewing involves conducting a series of three separate interviews with each participant. The first interview puts the informant’s experience in context from a life history perspective. In this interview, the person is asked to talk about their past up to their current situation. In the second interview, the participant reconstructs the details of their present experience in the context of the topic area of the study. For example, the person is asked what they specifically do on the job and to describe the relationships they have with others. The third interview encourages the participant to reflect on the meaning of his or her experience. This interview allows the participant to look at how the factors
in their experiences interacted to bring them to their present situation (Seidman, 1998).

The length of each interview is 1 hour. Interviews are spaced 3 days to a week apart to allow the participant enough time to reflect on the previous interview without losing the connection with the current one.

This study used a variation of the Seidman interviewing structure and process, by conducting two interviews instead of three. The alternative process is described in the discussion of data collection. A different approach, taking into consideration the total time invested by each participant, was desirable because of the study’s requirement to also assess individual EQ.

The three approaches to measurement of emotional intelligence are self-report, informants, and ability (Gowing, 2000; Mayer, Caruso et al., 2000). Self-report measures ask people to indicate to what degree descriptive statements describe themselves. These tools rely on the individual’s self-concept. The informant approach measures a person’s reputation (Mayer, Caruso et al., 2000). Informant tools provide information about how an individual is perceived by others asking questions regarding the level the person has attained for the traits in question. Ability measures test problem solving. Pictures, situations, and problems are presented to the subject to determine their ability to perceive and reason about emotions.

Since this study collected data about the perceptions of individuals, there were some limitations to the informant and ability approaches. Specifically, this research is not concerned with what others think of the participant, which eliminates the informant approach. The ability approach to measurement is too narrow to consider the impacts of environment, personality, and “mood” (Bar-On, 2000; Mayer, Salovey et al., 2000). The
argument against self-reporting is that self-report measures yield information concerning only the person’s self-concept, rather than an actual ability of trait (Mayer, Caruso et al., 2000). This assertion is actually an argument that supported the choice of self-report tool. For this study, self-belief was just as important as the measure of EQ. Self-reported intelligence correlates modestly (below .30) with actual measured intelligence (Mayer, Caruso et al., 2000). The decision to use a self-reporting tool did not completely jeopardize the assessment of EQ.

Two widely used self-report instruments for the assessment of emotional intelligence are the Emotional Quotient Inventory (EQ-i), developed by Bar-On (1997, 2000) and the EQ Map, developed by Orioli and Cooper (2000). Researchers, organizations in all sectors, and consultants use these tools to assess individual development, select new employees, and identify leaders (Bar-On, 2000; Gowing, 2000; Orioli, Jones, & Trocli, 2000). These tools were considered for use in this study.

There are significant differences between the EQ-i and the EQ Map. The EQ-i measures socially and emotionally competent behavior to provide an estimate of emotional and social intelligence, whereas the EQ Map is a multidimensional guide that helps respondents discover the make up of their personal emotional intelligence and its relationship to performance. Respondents using the EQ-i complete an answer sheet that is scored and reported by a third party or computer program. The EQ Map is scored and mapped by the respondent. The EQ-i report calculates and interprets scores for the respondent. The respondent tallies, maps, and interprets the EQ Map, using instruction and interpretation guides. The EQ-i includes respondent data, such as age, gender, and job code. The EQ Map does not. Given these differences, the EQ-i was selected for two
reasons: 1) the consistency and thoroughness of administration and 2) the access to the assessment data by the researcher. Both of these factors provided the researcher with more control of the data collection process.

Data Collection: Gathering Stories

The most commonly used methods of data collection in interpretive research are interviews, observation of the environment or event, and analysis of documents and visual materials (Creswell, 1994; Locke et al., 1998). This study used interviews. A substantial literature review initiated the research because the design required an orientation to frame the subject (Creswell, 1994). However, literature analysis and comparison continued during analysis and theory building.

Interviews allowed participants to tell their stories about the subject and were a rich, holistic means of providing qualitative research data (Miles & Huberman, 1994). The results are a conceptual framework based upon the literature and a collection of experiences from nine individuals and the meaning they make of those experiences from the interviews. Stories shared through interviews are a way of knowing and are essential to the meaning-making process (Seidman, 1998).

The focus of this study was a phenomenon that is widely observed, but narrowly understood. Gaining a better understanding of the phenomenon required the derivation of meaning from the observations of people in the position to know if the assumptions about EQ and high-tech workers are warranted. Interviewing provided access to the context of participant experience and a way to understand the meaning of that experience.

This study used a variation of the Seidman structure and process, conducting two interviews instead of three. This alternative was chosen as a result of consideration for
the participants’ time. The EQ assessment, which requires 30 to 45 minutes to administer, was included when considering the total amount of time asked of the participants. Administration of the assessment tool occurred between the first and second interview. Upon consent, each participant received a remote administration package for the instrument (Bar-On, 1999) that was collected at the first interview. The first interview combined the objectives of the first and second interviews of Seidman’s in-depth, phenomenological approach. A minimum set of descriptive grand-tour and mini-tour questions (Spradley, 1979) encouraged the participant to reconstruct segments of their background and current experience in the high-tech community. Closure of the first interview included collection of the assessment data. Participants received an assessment report, which included their EQ scores and an analysis, for review before participating in the second interview. During the second interview, questioning sought to understand the participants’ perception of the relationship between the experiences shared in the previous interview and his or her reflections on the content of the EQ assessment report. The questions included descriptive and contrasting inquiries. Contrasting questions are opening and follow up inquiries, which seek to determine the meaning and relationships within the informant’s responses (Spradley, 1979). Though there was a minimum set of predetermined questions for both interviews, the inquiry relied on the ability of the interviewer to recognize opportunities for follow up questions (Seidman, 1998; Spradley, 1979). Effective questions flow from an interviewer that listens, is interested in what is being said, and has a purpose in moving forward. The interviewer must also establish a rapport that is close but separate, avoiding a we relationship that turns the interview into a conversation (Seidman, 1998).
The participants were purposefully selected, as described in the section on population, to facilitate informed responses to the research questions (Creswell, 1994). E-mail was the primary means of contact, but meeting confirmations were usually done by telephone. Interviews were conducted in settings chosen by the participants. Interview tapes were forwarded to a transcription service immediately after completion. In some cases, this allowed memo writing and analysis during the data collection process (Maxwell, 1998; Miles & Huberman, 1994). Specifically, analysis during the data collection process identified themes in the first interview that were explored in more depth during the second interview. The researcher used interview notes and a personal journal for this initial memo writing and analysis.

A pilot of this process was conducted to hone the interview questions and techniques, gauge participant interpretation of the EQ assessment report, and determine the actual timeframes. An individual, who met the population criteria but did not qualify for the study because she was known by the researcher, assisted in testing the process from formal invitation to the completion of the second interview. The objective was to create a comfortable process that required less than 4 hours of investment by each participant. The 4 hour estimate for required participant time was fairly accurate. However, the duration of 2 to 3 weeks from consent to completion of the second interview was underestimated due to the demanding schedules of the participants.

Data Analysis: Building Theory

Analysis, theory generation, and further data collection occurred simultaneously, starting with the completion of the first interview through integration of the data into an
explanatory framework. The analytic progression outlined below, based upon Carney’s (1990) “ladder of analytical abstraction,” served as a guide to this iterative process.

Table 4

*Analytical progression of qualitative data (Carney, 1990)*

<table>
<thead>
<tr>
<th>Level of progression</th>
<th>Objective(s)</th>
<th>Task(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: Summarizing and packaging data</td>
<td>1a: Creating a text to work on</td>
<td>Reconstruction of interview tapes and written notes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Synopses of individual interviews.</td>
</tr>
<tr>
<td></td>
<td>1b: Trying out coding categories to find a set that fits</td>
<td>Coding of data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Writing of analytical notes on linkages to various frameworks of interpretation</td>
</tr>
<tr>
<td>Level 2: Repackaging and aggregating the data</td>
<td>Identifying themes and trends in the data overall</td>
<td>Searching for relationships in the data: writing analytical memos</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finding out where the emphases and gaps in the data are</td>
</tr>
<tr>
<td>Level 3: Developing and testing propositions to construct an explanatory framework</td>
<td>3a: Testing hypotheses and reducing the bulk of data for analysis and trends in it</td>
<td>Cross-checking tentative findings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matrix analysis of major themes on data</td>
</tr>
<tr>
<td></td>
<td>3b: Delineating the deep structure</td>
<td>Synthesis: integrating the data into one explanatory framework</td>
</tr>
</tbody>
</table>
Analysis began with a review of the first interview transcripts. This step in the process, congruent with Carney’s Level 1, had several purposes. It gave reason to pause and ponder (Miles & Huberman, 1994) and provided connection between the first and second contact (Seidman, 1998). Review of the first interview also included the initial coding of data using the “bins” approach suggested by Miles and Huberman (1994) and the foray into Level 2 of Carney’s progression. This technique began with identifying discrete events and behaviors that related to those described in the study’s conceptual framework. The bins for coding data were 1) the community’s cultural characteristics, 2) the four domains of emotional intelligence competencies (self-awareness, self-management, social awareness, and relationship management), and 3) the propositions for potential theories. The first interview provided data about the cultural characteristics. The second interview, which completed each case, presented data most related to EQ competencies and the propositions. Carney’s Level 2 required the completion of all data collection and the availability of all transcripts.

Memos and notes were the study’s “sense-making tool,” facilitating thought about the relationships between data bins and other aspects (personal, methodological, or substantive) of the research (Miles & Huberman, 1994). As the progression into Level 2 suggests, memos were the conceptual link between data and theory and were usually written, dated, and coded in notes throughout the transcripts or in a journal when a thought occurred away from home. Condensed, coded data was ordered and structured as matrices. For example, one matrix mapped EQ-i subscales to the four emotional competency domains (Gowing, 2000) and another mapped these domains to the cultural characteristics and propositions. This step reduced the data using terminology made
popular by Goleman (Goleman, 1995b, 1998b, 2001a; Goleman et al., 2002) and
supported the third level of analytical progression.

The third, final step of the analysis cycle is testing the propositions and generating
meaning in a manner that avoids bias and assures the quality of conclusions (Maxwell,
1998; Miles & Huberman, 1994). Miles & Huberman (1994) offer an array of tactics for
generating meaning from data. Those useful for this study were the following: 1) noting
patterns and themes, 2) seeing plausibility, and 3) making contrasts/comparison – all of
which further honed interrelationships and aided the development of constructs. Using
the matrices developed during the previous step, within-case displays were used to
describe conclusions about the phenomena in the bounded context of each individual’s
experience (Miles & Huberman, 1994). Constructs built upon the cultural characteristics,
and propositions bridged the cases to build overarching theories that explained the how
and why of the relationships between high-tech organizational culture and emotional
intelligence.

Validity threats to qualitative studies are as follows: 1) research bias and 2)
reactivity – the effect of the researcher on the setting and individuals studied (Maxwell,
1998). The researcher needed to take special care in mitigating both types of bias because
most of her professional career has been in high-technology organizations. Understanding
and addressing the potential for reactivity was also a means of raising awareness of how
personal values can influence research activity.

The challenge of making sense of this phenomenon was avoiding researcher bias.
During data collection, a researcher can create behavior in others that would not have
ordinarily occurred. During analysis, “the researcher has gone native and stays native”
(Miles & Huberman, 1994, p. 265). Steps to avoid researcher bias effects began with the participant letter and consent. This document was designed to be thorough in describing intentions and the use of data. In addition, the researcher made participants aware of her potential influence and discouraged any perception of personal importance to them. This consideration was also a means of keeping researcher bias in check. The research design included aspects that avoid bias from the effects of the environment on the researcher. Spreading the participants across companies of different sizes and growth stages varied the informants and environments. During data collection, the researcher kept research questions firmly in mind and put aside what she knew about the environment. Finally, field notes were shared with colleagues (committee and cohort members) to identify value-laden, misleading, or co-opted data.

Informants willing to provide feedback on findings, conclusions, and constructs were identified during the data collection/analysis cycle. Getting corroborative feedback from participants is a venerable source of phenomenological validity and assures the confirmability of findings (Miles & Huberman, 1994). The displays developed during analysis, along with memo summaries, provided useful formats for sharing findings. The researcher heeded the advice of Mile and Huberman (1994) to not expect agreement, particularly across participants. Individuals have widely varying perceptions of the same phenomenon, and interpretivists should consider this natural.

The purpose of the study was to explore the relationship between high-technology organizational culture and EQ to further understanding of the phenomena and propose areas of future study or action. The quality of the research conclusions is based upon testing the purpose of the study against practical standards for judging whether emerging
findings are good (Maxwell, 1998; Miles & Huberman, 1994). Standards that corroborate that purpose are as follows:

1. Objectivity/Confirmability: The conclusions are neutral and free from researcher bias.

2. Reliability/Dependability/Auditability: The processes of the study are consistent and reliably stable over time and methods. In other words, similar conclusions would emerge when using the same methods.

3. Internal validity/Credibility/Authenticity: The conclusions have truth value and are credible to the people studied and to readers

4. Utilization/Application/Action Orientation: The conclusions have pragmatic validity. They should enhance levels of understanding and the ability to take action.

During the final stages of analysis, each conclusion was tested against these standards. There is a fifth standard, external validity, to which the purpose of the study did not corroborate. A conclusion has external validity if it is transferable to other contexts. The research results cannot be generalized due to the size and qualifications of the sample.

Theory building in the interpretive paradigm is iterative, cyclical, and nonlinear (Gioia & Pitre, 1990; Locke et al., 1998; Miles & Huberman, 1994). The approach to data analysis and theory building described in this study reflects a systemic approach to exploring a widely observed but misconstrued phenomenon. It is methodology that aligns with the problem and its context: the associative nature of emotional intelligence and the Weltanschauung of the high-technology community.
“Before you impose your theories on the people you study, find out how those people define the world” (Spradley, 1979, p. 11).

The data and findings emerging from this research project support an exploration of relationships between the culture of high-technology organizations and individual emotional intelligence. The insight the study offers increases understanding of the high IQ/low EQ stigma often associated with people in high tech. Learning how the development and application of individual EQ relates to the culture of the high-technology occupational community offers potential theories for why environments that stand to benefit from these competencies have poor reputations for leveraging them. Two questions guided the inquiry.

First, what cultural characteristics set high-technology organizations apart from others as work environments that may benefit from, but fail to nurture emotional intelligence? High-technology organizations have been the subject of organizational, social, and economic study since they took a lead in the global economy three decades ago. The ample amount of literature reviewed supported some common assumptions of what these uniquely paradoxical characteristics might be. While those were the assumptions of scholarly and popular protagonists, this study sought the perceptions of people who have devoted the majority of their working lives to the industry and its organizations – card-carrying members of the occupational community. They were asked
to describe their work, their organizational environments, and what they observed as common characteristics. The second question was how do these characteristics impact the development and application of individual emotional intelligence? The participants completed the EQ-I before the second interview to get a sense of their own emotional intelligence. The second round of questioning sought their opinions about how the components of EQ came into play in the environments they described and characterized during the first interview.

This chapter presents, analyzes, and interprets the information gained from interviews with 9 members of the high-technology occupational community. The presentation begins with a review of the study sample and then introduces each participant. The research questions frame the data analysis and its format. Each of the identified cultural characteristics of high-technology organizational culture is presented from the participant perspectives along with their related experience and observations of the characteristic’s interaction with emotional competencies. Patterns considered as potential, hypothetical relationships between high-technology organizational culture and emotional intelligence are discussed and summarized. The interpretation of the culture/EQ relationships focuses on emerging themes and their significance to individual and organizational performance.

About the Sample

Two semi-structured interviews with 9 participants provided the data for this study. All participants except one met the criteria of having a minimum of 10 years of work experience in technology organizations. The one exception had 7 years in the industry, with 4 as a leader. Seven participants were currently in management positions in
high-technology companies. Two of the informants own their own businesses providing
technology management consulting services and had extensive experience in middle and
senior management roles before starting their companies. All participants reside in the
San Francisco Bay Area, and the majority of the organizations for which they have
worked were located or headquartered in Silicon Valley. Table 5 provides information
about the participants. The names indicated are pseudonyms to protect anonymity.
## Participant information

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Education</th>
<th>Years in High Tech</th>
<th>Current Position</th>
<th>Description Current Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kay</td>
<td>39</td>
<td>MBA</td>
<td>15</td>
<td>Director, Sales Operations</td>
<td>Internet messaging</td>
</tr>
<tr>
<td>Paige</td>
<td>31</td>
<td>BS Accounting Finance</td>
<td>10</td>
<td>Director, Technical Sales Consulting</td>
<td>Web solutions for customer profiling, analytics, and segmentation</td>
</tr>
<tr>
<td>Fred</td>
<td>38</td>
<td>BS Business Administration</td>
<td>16</td>
<td>Consultant and business owner</td>
<td>Design, implementation, and support of IT infrastructure for start-ups, small businesses, and homes.</td>
</tr>
<tr>
<td>Jack</td>
<td>47</td>
<td>BA, Visual Arts</td>
<td>25</td>
<td>Consultant and business owner</td>
<td>Technology management consulting - performance maximization and business/IT alignment</td>
</tr>
<tr>
<td>Dan</td>
<td>41</td>
<td>BS Electronic Engineering</td>
<td>19</td>
<td>Director, Product Management</td>
<td>Provider of platforms that deliver multiple voice and DSL services</td>
</tr>
<tr>
<td>Neil</td>
<td>61</td>
<td>BS, Electronic Engineering MBA</td>
<td>39</td>
<td>Director, Professional Services</td>
<td>Provider of business logic development and management software that automates complex, web-based enterprise applications</td>
</tr>
<tr>
<td>Robert</td>
<td>49</td>
<td>Electronic Engineering</td>
<td>21</td>
<td>Director, Technical Marketing</td>
<td>Provider of platforms that deliver multiple voice and DSL services</td>
</tr>
<tr>
<td>Michael</td>
<td>42</td>
<td>BS Electronic Engineering</td>
<td>20</td>
<td>Director, Product Management</td>
<td>Manufactures and sales of test, measurement and monitoring devices, semiconductor products and chemical analysis tools</td>
</tr>
<tr>
<td>Alyssa</td>
<td>32</td>
<td>BS Finance and Banking</td>
<td>7</td>
<td>Manager, Technical Support</td>
<td>Provider of business logic development and management software automates complex, web-based enterprise applications</td>
</tr>
</tbody>
</table>

Note: Information as of May, 2002.

The demographics of the group were reflective of high-tech management in Silicon Valley. Of the 9 participants, there were 6 men and 3 women. The group
included two African-Americans and one Japanese-American. Though 28% of systems analysts and engineers in the Silicon Valley workforce are of Asian decent, few are recruited or promoted into managerial positions (Douglass, 1991; English-Lueck, 2002). Women comprise about 20% of the technical workforce but face the same glass ceiling to engineering management as ethnic minorities (Douglass, 1991). The 3 female participants were managers of operations or service organizations. Average tenure in high tech for the entire sample was 19 years. All participants had transitioned to management in 3 years or less after their entry into high tech. Average age for the entire sample was 42 years.

As the literature review suggested, these middle managers were emotionally intelligent. The participant average scores for the EQ-i are shown in Table 6.
Table 6

*Average Bar-On EQi scores of study participants*

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<td>Total EQ</td>
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<td>Stress Management EQ</td>
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<td>General Mood EQ</td>
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The methodology used during analysis applied a matrix that mapped Bar-On EQ-I subscales to the four emotional intelligence competency domains (Gowing, 2000). Using this matrix, scores for the emotional competencies of the group were extrapolated.

Table 7

*EQ-i scores grouped as emotional competencies*

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<td>Total EQ</td>
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<td>Self-Awareness</td>
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<td>Social Awareness</td>
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<td>Relationship Management</td>
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A score in the range of 90 to 110 was considered average. As a group, the participants in the study substantiated Huy’s (2001) assertion that organizational leaders in positions that
bridge strategy and implementation must have good personal and social skills to be effective. It follows that, by having a heightened awareness of self and others, these individuals were very capable of describing their experience in high-tech environments from the EQ perspectives. They were equally expressive of their personal feelings, as they were of their interaction with and observation of others.

Participant Profiles

The profiles that follow use pseudonyms to preserve participant anonymity and create confidential portraits of the individuals who contributed to this study. Throughout the remainder of this document, participant pseudonyms are linked to their quotations in the context of the discourse as a means of presenting their individual experiences and thoughts and framing observations they had in common. Citations for in-text quotations were eliminated to maintain the conceptual flow of verbalizations. In the dissertation subsequent to the development of the participant profiles, block quotes are cited individually and always use the informant pseudonym.

Each participant understood that the study was concerned with high-tech organizational culture and emotional intelligence. The initial questions of the first interview sought information about background, career path, and decisions that led to current roles and situations. The profiles below are derived from each participant’s story, using their own words as much as possible.

Kay

When I was going back to business school, I realized that I wanted to get into high-tech and especially since I was going to stay in this [geographical] area that was probably the industry to be in, and I’d rather be in the industry than following it from the outside.
Kay was introduced to high technology in her second job out of college doing research on high-tech stocks at an investment bank. She left that employer and returned to business school to earn an MBA. During the summer, she did an internship in the marketing department of a computer manufacturer headquartered in Silicon Valley. Upon completion of her graduate studies, she got a call from a senior manager starting up a new group within the company.

He said he was looking for someone. “It’s a startup group, but I just need someone to do a bunch of things and I’m not really sure what it is. But [another manager] said you’re smart and essentially you had dealt well with an ambiguous project.” He seemed pretty flexible, so we hit it off and I got the job.

Equivocal roles such as this provided Kay with the opportunities to develop a widely diverse knowledge of high-tech marketing and business operations. This particular opportunity enabled her to establish a professional relationship with the executive she referred to above. When he moved from one high-tech organization to another, he consistently recruited her to join him. After starting up field marketing operations in South Africa for another computer manufacturer, and managing all of marketing for a software startup, Kay is now the Director of Sales Operations for an Internet messaging company and is still working on a team led by this executive. Over the years, a high level of trust developed in this relationship because Kay has been both deliberate and strategic in each of her career moves.

It’s exciting being in an industry that is constantly changing and changing the world. … You feel like you’re in the forefront and you’re in an industry that’s making a significant difference, good or bad, who can argue, in the world. And it’s so exciting to be a part of that - the fact that it’s changing. I couldn’t see myself marketing Kitty-Litter© for Clorox©, being excited about that. I’m very careful about what companies I go to because if I can’t understand the technology, like a semiconductor, it’s hard for me to get excited about it. That’s why [the company] was attractive to me. … I could appreciate what it was, and I could take
pride in that they were producing these computers that enabled ATM networks and stock exchanges.

At the time of the second interview, Kay had been in her current position for only three months. Her friend finally convinced her to join the Internet messaging company after he became VP of Sales 6 months prior. Agreeing to do so ended a nine-month respite away from the fast-paced, high-tech environment. After being laid off from her previous position as VP of Marketing for a software startup that failed to raise a second round of funding, Kay was in no hurry to return to work. She traveled, reconnected with friends, and thought long and hard about what she wanted to do next. However, this recent move was more of a commitment to her trusted associate than the organization. She had yet to feel heart-felt commitment to her new employer.

_Paige_

Paige joined a **big five** consulting firm when she graduated from college with a degree in accounting and finance. She joined the organization with the expectation of being a business consultant, but the need for more programmers on a large technology project immediately redirected her career. Though she did not have the formal training, she took the challenge.

I had no idea about programming. I didn’t know what a directory was. I didn’t know what a disk drive was. All I knew was word processing. And so the way that [the firm] staffs their project is, if you’re a new hire right out of college, they give you a mentor on the project, who is one or two years your senior. And I just happened to fall in with a really fantastic mentor, who coached me and really, you know, taught me how to do programming in various environments. “Here’s a book. Here’s what you need to do. You know, let’s start out, focus on this, and try and get it done. And come check in with me every couple of hours, and let me know how your progress is.” It was a lot of fun. It was a trial by fire; you know, sink or swim type environment.
This type of challenge convinced Paige that the unexpected move to technology was a good one. She claimed, “It’s an environment that’s always rapidly changing, and it’s never the same drudgery day after day after day. It’s always changing and I really like that aspect of the environment.” During the 3 years that Paige worked for the consulting firm, she worked on the same expansive project, which allowed her to work in different areas and learn much about the design, development, and implementation of information technology.

Remaining on the same project for such a long time, Paige began to run out of ways to satisfy her desire for change and new challenges. So she moved on to work as an implementation consultant for a software company providing on-line analytical processing applications. In this role, she led project teams and managed the relationship with customers during the implementation of the software in client environments. This experience motivated Paige to seek more leadership responsibility but in an environment that allowed her to continue to interact with clients. She found that opportunity in her current position as Director of Technical Sales Consulting for a company that provides Web solutions for customer profiling and segmentation.

*Fred*

Fred is one of the two participants who are currently consultants and business owners. His entry into the high-tech work environment was entirely unexpected. After finishing college as a business major, Fred wasn’t having much luck finding work via the traditional means. Through some exposure to technology – a few computer courses, helping out in the college computer lab, and owning a personal computer – Fred
developed comfort with computers. However, he did not anticipate it to be a career path until he walked into a computer retailer one afternoon.

I was walking around in muddy sneakers, because I played golf the day before and just happened into this place and said, “Do you need anybody?” I looked like ‘hell.’ I was not dressed for success! The guy said, “Hold on, I'll get the boss.” So the boss took me into the back room. We talked for 30 minutes and I had a job...as their ‘network specialist.’ [They] trained me, and I began to do network installations of Novell, which was just beginning to take off. Then, I ran the service department and we bid on and won a couple of bids to supply computers to [local colleges and universities].

It was a “great learning experience,” but Fred grew bored, “restless and needed more learning.” He found that opportunity at a computer manufacturer where he established and managed the desktop system support organization. He advanced within that environment to assume responsibility for the company’s human relations systems - knowledge and experience that led to his next role at a telecommunications company implementing such systems on a grander scale. With a growing expertise in HR systems, Fred made the move to work for a provider of enterprise-wide software solutions.

Shortly after Fred joined the enterprise resource planning (ERP) software company, it began a transition from high growth to sustaining market share. Fred survived numerous reorganizations brought about by management changes and declining revenue, a result of the impact of Y2K on most software companies. When offered a role as VP of Operations at a startup with a plan to offering application services to the insurance industry via the Internet, Fred jumped again. Here was another opportunity to learn and be a major contributor to an organization’s success. His experience at the dotcom was disappointing. The relationship between the business people running and funding the company and the technologist responsible for delivering the product was
adversarial. The business model eventually failed, and when Fred got his *pink slip*, he made the decision to start his own business, providing design, implementation, and support of IT infrastructure for start-ups, small businesses, and homes.

*Jack*

Jack’s entry into the high-tech arena was another interesting story. He claimed, “I was an artist, I was a professional artist, and freelance, unknown, starving, the whole bit.” He met an individual at the National Endowment of the Arts responsible for a fellowship program, needing help with improving the jury process. Jack was hired as a consultant to address the issues and found that the problems were related to the program’s information management. When he sought help from the organization’s computer department, he was jokingly told, “Help yourself, be our guest” and given a key. The group was overworked and had no time to assist him with his needs.

And not knowing any better, I said fine. So I wound up staying after hours to learn how to write some simple computer programs to do things like make catalogs and keep an inventory of the artwork that was coming in to be juried. And one thing led to another.

Jack leveraged his experience implementing technology at other government art agencies as both an employee and consultant, “crowding out my life as an artist to the point were I just...all I did was computing related stuff.” After ten years, he changed his focus with a move to San Francisco and joined a *boutique* consulting firm with a financial customer base. Jack came on board as Chief Technology Officer as the firm was growing. He eventually became a part of the executive team that spun off a part of the firm as an independent software company.

We automated customer support and technical support processes for large companies. At first, we did it on a custom basis, and then we decided to
productize the whole thing. We went to market with the product and it was the first of its type and it’s a big success story. That also meant that my responsibilities changed, to the point where I wasn’t actually doing any programming anymore. Programmers were hired and they reported to me.

Jack was Vice President of Products for the software spin-off. This new organization was acquired soon after the successful launch on the product. He returned to consulting for a short time, only to be wooed by a client, another software company, to a full time, executive-level position. That company was sold and these progressions became a cycle for Jack.

…so that company was sold. I began to consult again very briefly. Went into another software company, joined them full-time as head of strategy. Stayed there for two years, and then, that company was sold. And so, now I’m a consultant again. So, the pendulum just goes back and forth.

Jack and two business partners currently provide technology management consulting with an emphasis on aligning an organization’s business and information technology strategies.

Dan

Dan’s dad, an avionics engineer in the Navy, inspired his curiosity of electronics. In addition to earning a B.S. degree in electronic engineering, Dan was also a college athlete and activist. He stated, “When I went through college, I didn't hold a focus on being…just on engineering. I liked to expand myself and did different things.” This pursuit of social balance remained when he began his high-tech career at the research arm of a major telecommunications company. Dan was just as committed to his volunteer leadership of the company’s employee activity group as his role as a design engineer. However, the volunteer role appeared to set his expectation of the professional one. He
claimed, “I asked myself if I wanted to do this engineering thing my whole career. I felt I wanted to get into the management side…So I looked at expanding my skill sets.” Dan accomplished this goal by moving to positions that forced him to develop.

I moved around [a] fair amount. Actually moved out of engineering and went into finance for one year. All the engineers thought I was out of my mind. It turned out it was probably the best thing that ever I did as far as my career goes, because I hadn't gone [for] my masters in business administration, so it was like a mini, high-intensity masters program, the way I looked at it.

With that experience, Dan moved into management of operations for the research and development department. His career with this prominent telecommunications research company lasted 13 years. It gave him the breadth of experience to pursue more personal growth in startup environments.

Dan was the fourth employee in his first startup, another telecommunications company. He applied his “virtual MBA” to establishing the business operations and growing the company to twenty-two people. He soon departed on his own accord due to differences with investors. Dan is now Director of Management at another more seasoned telecommunications startup. He still maintains diverse interests outside of his profession.

Before the first interview officially began, he talked about his participation in a walk for a cure for breast cancer on behalf of a close friend. After the interview, he shared his plans to start a business guiding whitewater-rafting trips.

Neil

Neil was the most tenured of the informants with 40 years logged as a technology professional. He started programming FORTRAN IV in college, not as part of his curriculum, but out of necessity to get a project done for a local telecommunications company. Finishing school with a B.S. and a MBA, Neil turned that interest into
econometric modeling and database analysis, which he taught for 3 years at an engineering college.

“Time share” was just getting started then, so I got involved in actually teaching [computer] timeshare and building databases, data models; it was kind of interesting. Then, I went on to do portfolio management for [telecommunications companies], managed their portfolios and also had many projects as a project sponsor for all their provisioning, maintenance, and billing systems. So, I put in as either a project manager or project director probably over 100 projects over the last 40 years. It's my fortieth year at this.

Neil took an early retirement from the telecommunication company. For a year, he owned his own business as a brain/body performance coach to competitive cyclists, an expertise he personally developed from years of velodrome and road racing. He combined this successful venture (Neil’s protégé’s included champions) with international work as a project manager in Vienna and Beijing. Retirement has impacted Neil’s subsequent choices about work environments.

Fortunately, you can define retirement in two ways. One is you’re not going to work anymore; the other is financial independence. If you plan to work, it gives you a lot of options. So, I’ve been financially independent, retired since 1994, so I was able to pick and choose my own company, go overseas, work for a consulting company, switch, and just not worry. I just don't have any worries about the consequences of the company not making enough. I really enjoy being in situations that are above my capabilities. So it's really been very interesting.

When Neil returned to the United States, he joined a startup developing wireless technology for cable TV providers. When that company failed, Neil went to work for another consulting company but lost interest in the work he was assigned. It appears the demanding requirements of competitive cycling spills over into Neil’s perspective about work, which led him to his current position.

I wanted to get into something that was much more challenging, so a friend of mine worked here and, telling me about it, I joined and it has been very
challenging, above my capabilities in terms of very difficult projects, very difficult customers, enterprise-wide, custom software development.

At the time of the interviews, Neil was the professional services account manager the company to which he refers above, a software startup in survival mode.

*Michael*

Michael grew up interested in electronics. As a child, he enjoyed taking things apart and putting them back together again. After high school, that interest inspired him to complete a B.S. degree in electronic/electrical engineering. While in college, he participated in an intern program at a computer and electronics manufacturer. Upon graduation, he joined the company as an engineer in research and development.

Michael enjoyed the job, but it didn’t satisfy a desire to interact with people. “I love to talk,” he stated. So, after about a year in R&D, he pursued an opportunity to transfer to sales. In the company’s instrumentation division, sales of the products required an engineering degree. He claimed, “I was a nerd selling to nerds.” Most of his customers expected Michael to not only know the product but understand their application of the equipment as well. It was the best of both worlds. He was exposed to the technology he liked without the isolation and details of engineering design and development. Additionally, being in sales satisfied Michael’s need for communication and exposure to a variety of people.

Michael was successful as a salesperson and advanced into sales management and eventually became a regional sales director. His interaction with marketing led to an interest in that area, so he made his second career change with a move to a spin-off of the company he originally joined. Michael is currently Director of Product Management for
resale products. The increased operational responsibility of leading an international program has been both an enjoyable, yet challenging, learning experience. In effect, Michael has been with the same organization for 19 years. He does not see that changing soon, but he admits he misses sales.

Alyssa

Though she has an impressive background, considering all 9 participants, Alyssa is the rookie of the group with only 7 years of experience in high tech. After completing a B.S. degree in banking and finance, she began her career in banking as an auditor in the New York operations of a large bank. When acquisitions and reorganizations began to occur, Alyssa considered her options. She claimed, “One of the things that I saw …was they had an internal training program to transition into information technology and either do programming, project management, or help desk.” Alyssa’s application to the program was accepted, and after 13 weeks of intensive training in programming, databases, networks, and project management, she was assigned to a telemarketing systems project in California.

The bank for which she worked offered Alyssa the opportunity to grow and take advantage of everything she learned. In addition to increasingly challenging programming assignments, she also managed development projects. Alyssa was deliberate in her choice to move to project management because the system involved supported the credit analysis department. “I wanted to stay technical, but at the same time I wanted learn more about finance…derivatives, and futures, and that sort of thing…learn more about finance, as well as keep my fingers in technology,” she stated. The project
increased her interest in working with customers. The experience leading a cross-organizational team made her begin to consider a management position.

Like so many other high-tech workers in internal information systems organizations, Alyssa was lured away into the fast-paced, startup environment of a company providing Web services software. She joined the company in its growth stage as a senior technical support engineer, and in less than a year, she was managing the organization’s 12-person team. Three years later, like many Internet-related startups, Alyssa’s company is in survival mode. At the time of the interviews, she was still Manager of Technical Support, but her group has dwindled to half its peak size. Alyssa was beginning to contemplate her next move.

Robert

Robert was a Navy pilot with a family and decided spending “12 months out of 13” at sea was not good. After earning an MBA from a prestigious business school, he had his choice of jobs, but he found himself attracted to an opportunity he was not expecting.

The interview was not particularly impressive in Massachusetts. The guy they sent up to do the interviewing was just part-time, but he - the next day I got a call from a couple of people in North Carolina and they wanted me to come down and see their operations. I flew down, fell in love with the area and with the little company. It was a little company that was a joint venture started by [two established companies] to do fiber-optic cable. They hadn't made any cables yet, this is [sic] the very early days of fiber optics. The team of people was incredible [and] very, very energetic. It was a very young group of people, [a] smart group of people. I could see a fit there, and they could see a fit. They made me a reasonable offer, and I packed up and moved to North Carolina, and that got me into telecommunications.

That was Robert’s first startup company, and he has worked for startups ever since. In a sense, his startup experience began in the Navy when he was given responsibility to form
a new squadron. He claimed, “It didn't have any helicopters or airplanes and didn't have any pilots or maintenance people.... ‘Okay, you've got that corner of the hangar, now go find the people and get the schedules together and turn this into a squadron so that in 9 months we can deploy it aboard an aircraft carrier.’ It was an incredibly exciting time because everybody was running around doing stuff. Everybody knew what everybody else was doing and it was exciting that way.” Such is the challenge, pace, and environment that Robert seeks.

Robert’s first private sector employer went from $0 revenue and 22 people to 800 people and $400M in sales in 4 years. No longer a startup at that point, Robert chose to go with a spin-off division of the company. When the 18-person division was converted to a separate and private company, he found himself at another growing startup.

We grew it to about 150 - technically it was a remarkable achievement. It was switch digital video, fiber optics, things like that. About three years ahead of its time. They had an IPO, and the venture capitalist made a ton of money. They raised a bunch of money, and I could see that it was getting big enough that I was no longer going to have a lot of fun because once companies get big I don't enjoy the bureaucracy.

Not only did Robert dislike bureaucracy’s impedance to action, he believed it also leveled the learning curve. When contributions begin to get repetitive, the vibrancy of the environment fades and learning ceases. During the 4 years Robert has been with his current startup, another manufacturer of telecommunications equipment, he has avoided that repetitiveness with the assumption of many roles.

I packed shipments out the door out back. I did testing in QA when we didn't have people to test stuff. I set up the procedures to do testing on our first products. I identified the specifications and the check-off list and designed the travel tags that go around the product in the manufacturing operation. I defined the long term 5-year product plans on Web technologies we need to get into. Actually, I architected to the level of detail, the drawings, pictures, identifying pins on the
back planes and things like that on the products. I've identified target customers and gone in and made the first presentations and followed up. I've written the contracts to close [business with top customers], made sales presentations in local telephone company garages so the guy knows the product works and helped them install the product, put stuff in the back of my truck and driven out to some place out in the country, and helped the guy actually install his first product.

Robert was Director of Technical Marketing and still very active in roles beyond the normal responsibilities of the job. He expressed gratefulness for a decrease in the amount of his business travel. As a single parent of two teenage daughters, he needed to spend less time away.

Cultural Characteristics and Emotional Competencies

There were many observations by the study’s informants that reflected the four cultural aspects of the high-technology occupational community suggested by the literature review as ineffectual to emotional intelligence. However, in addition to these four widely-held assumptions, the participants observed other characteristics they believed distinguish high-tech culture. There were two aspects of the environment that were mentioned by most of the nine informants. Most made some reference to the acceptance of organizational “chaos” – the lack of boundaries, process, and experienced leadership. There were also many observations of how the use of technology itself is changing the way people work and communicate in a way that is detrimental to both individuals and organizations.

Therefore, six characteristics of high-tech organizational culture will be presented here because, in the opinions of the study’s informants, they all appear to impact the development and application of EQ. This section presents participant observations that suggest relationships between culture and emotional intelligence. Through their
experience they acknowledged the existence of shared beliefs about the high-tech organizational environment. While doing so, they reveal interactions between aspects of the environment and the emotional competencies.

First Characteristic

*Technical skills and innovation are considered of more value and importance than personal skills and relationships* (Castells, 1998; Cringely, 1996; Delbecq & Weiss, 2000; Goleman, 1998b; Slocombe, 2000).

Most of the participants shared the observation that technologists were hard-working but creative loners, focused on their contributions to the community (sometimes overly so). Their comments conveyed the importance placed upon technical knowledge, but the participants also made observations about how technical ability often outweighed other types of valuable knowledge and skills. As a result, several of the participants believed that many people in high tech, particularly technologists, were imbalanced, insular, and lacked empathy.

[They] are real good on the technical side and not real good on the thinking outside of their little world. [High-tech people that] work 70-80 hour weeks are like zombies; they're not developed culturally. Intellectually, they know what they do, but they're just not whole people; they're not complete. They certainly don't have time for kids; they're probably not involved sports; they're probably not involved with the church activities; they're just working. (Fred, personal communication, April 2002)

They’re very thoroughbred-like, and sometimes they get consumed with perfection of the right technical route to go. I’ll say, “Yeah, but the customer doesn’t want to go that way,” but they don’t want to go do that, [saying] “that’s not the best design, that’s not the way you’re supposed to design that, they’re just stupid.” (Kay, personal communication, April 2002)
Some technology workers choose the occupation because it promotes the development and dedication to a specialty, the hallmark of a knowledge industry (Drucker, 2002). However, in doing so, the industry may also condone the lack of development in other important areas. There are acceptable, often positive aspects of this phenomenon, but the choice may also be a means to eschew social development and interaction.

There are people who don’t necessarily want or pursue gaining knowledge in those areas. For example, engineers don’t particularly want to know the level of expertise in business areas or specific customer areas. They benefit if they do, but they may not have a desire to pursue that. There are general management people, who don’t particularly want to understand the nuances of the technology and the hardware and the software and stuff. They would benefit if they did, but they prefer to distance themselves from that, so that they’re able to make, in their minds, more global decisions, and things like that. (Robert, personal communication, May 2002)

Although I had gone into high tech, it was very much based on my individual skills, which were strong enough for me to just really be a solo gunslinger. I wasn’t so much interested in that as I was in being involved with other people. Whereas, there were other engineers who had equal or better skills than myself in comparison, [and] they were loners. They wanted to be left alone. They didn’t want to interact. That’s not why they were there. (Jack, personal communication, April 2002)

In contrast, this experienced group of middle managers was quite aware of the benefits of applying and the costs of undervaluing social awareness and relationships. Social competence enhances intellectual contribution. Avoiding interaction can be a missed opportunity to develop not only personal and social skills, but intellectual capabilities as well.

Engineers are more introverted, but I get tired of staring at the computer, and it’s hard to come up with ideas when you’re staring at the computer, right? I always believed in talking with other engineers, bouncing ideas off [each other], brainstorming, because I may come up with an idea and he may come up with an idea, and you merge the good aspects of both of those ideas together; you come
up with a better idea and a better solution, or whatever it is you’re working on. I think part of it is just making sure that I don’t mess it up! Engineers love to work on that kind of problem, so in that perspective, they’re not so introverted; sometimes in social perspectives, they can be. (Dan, personal communication, May 2002)

In a technical gathering, I’m usually not the strongest technician in the room, but very often, I’m the one that can actually bridge all the other technicians. (Jack, personal communication, April 2002)

Several of the participants thought the driving mechanism behind the isolating dedication of some technologists was self-actualization, creativity, and the need to maintain focus.

A really good engineer loves to engineer, loves to fix things, loves to make things work, loves to create a capability in a product by designing the hardware and architecting it, and putting the software stuff in, and maybe writing the software, and then seeing the results; that’s what satisfies them. That wouldn’t satisfy somebody else. (Robert, personal communication, May 2002)

I think the loner behavior that a lot of technical people have is coming from maybe a fundamentally artistic sensibility. It’s not that, emotionally, they don’t want to interact with people. I think what they’re doing is shielding themselves from interference. They’re working on something and they don’t want somebody else poking around in it. (Jack, personal communication, April 2002)

The problem with this intense focus and drive is that it not only creates the imbalance suggested earlier, it fortifies the belief that intellect is the best means by which to achieve and succeed in high tech. People who bring relationship skills to high tech quickly find themselves in marketing, sales, or finance, regardless of their backgrounds.

I found that I didn’t want to be like an engineer. I didn’t want to design. I was more interested in marketing and sales, not design. It took a summer out here [in Silicon Valley as a new engineer] to figure out that’s not what I want to do. (Michael, personal communication, May 2002)

Kay was attracted to the environment’s technological innovation, but she did not have the technical credentials to gain the usual entry. She explained, “if you’re not technical, and you’re going to a high-tech company, marketing’s about it, unless you’re
going to HR or something like that.” In effect, she has assumed a similar perspective as her engineering counterparts – technical knowledge is primary, and other skills are secondary. This assumption had a negative impact on her self-confidence, a self-awareness competency. She reported, “Other people valued what I did, but I wasn’t convinced that I was good at what I did, that I was adding value.” This report is an example of how the culture can constrict emotional competencies. Like Kay, Paige did not have a technical background. Even in an environment with regular feedback, she learned to measure her contributions and value with intellectual metrics.

I remember getting my first few evaluations because at [the consulting firm] we had evaluations every three months, and I was always really surprised by the evaluations that I received because I thought, “I don’t know anything. I’m not contributing to the project. I’m weighing people down.” (Paige, personal communication, April 2002)

It takes a strong assumption to make an individual feel that he or she does not fit. According to Schein (1992), basic assumptions of a culture are so taken for granted that someone who does not hold them is viewed as crazy and automatically dismissed. From these observations, it appeared that social competence is not only undervalued, but that it can often be summarily dismissed.

The propensity to value technical over personal and social skills decreased based upon the growth stage of the organization. People in startups value very technical, entrepreneurial skills and assess them based upon the ability to bring innovation to market. People in high-growth and more mature organizations must turn innovation into market-share and sustain it. Proactive relationships with employees, customers, partners, and shareholders are critical to success. The transition from entrepreneurial to sustaining
often comes at the demise of individual creativity and overall innovation. However, when entrepreneurial cultures refuse to make the transition, they jeopardize their existence.

It’s much easier to create new technology, new value in technology, in a startup company, where the number of people are small, the goals are well defined, the communications lines are very short, you know, you’re all working closely together. It’s much easier to create solutions and value, and functionality, in that kind of environment, than it is in a larger environment…Once the product starts making money, you’re no longer in the high-tech world, you’re in the managing of a mature, or approaching mature, business, and the decisions there often don’t revolve around how you can make your products better to solve customer problems. The decisions revolve around how to keep market share and how to maintain profitability of the thing you’ve already done, rather than to create new value with new things. (Robert, personal communication, May 2002)

We functioned in a hero mentality. Unless it was a fire blazing out of control, we don't pay attention to it, and everyone wants to be a hero. We need to make sure the fire never occurs, and so at that point, I saw the company going from the adolescent stage to some level of maturity. Even though it made people miserable, they took pride in the fact that things were chaotic. Eventually, they realized you can't run a $2 billion business on chaos. (Kay, personal communication)

Independent of growth stage, some functions in high tech require a balance of technical and personal skills. Alyssa, the customer support manager, comments, “I enjoy what I’m doing. I like working with the customers, and I like the [technical] trouble shooting.” Alyssa needs to empathize with the customers’ situations while using reason and logic to solve their problems. Empathy and awareness of others is especially important during the low points of the technology cycle when survivors of downsizing are working longer and harder. During such times, intellect is not applicable and everyone needs to draw upon relational skills. Michael talked about his connection with over-worked subordinates, and Alyssa lamented about the poor layoff decisions made by her manager.

It’s feeling pretty challenged, but they’re feeling good about where they are and enjoyment in working for me. Because I’m like, “Whatever you need, I’m going
to support you on it,” so there’s just a lot of personal stuff that’s come up with my group, and I’ve been there for each and every one of them. (Michael, personal communication, June 2002)

He really didn’t know what [my people] were doing. He didn’t know them on an individual basis, to know that Peter’s really good at coding, and Harvey is good at doing customization, and Niko is good at customer interface, and so when it came time for layoffs, he would make these decisions, and it was like, “Well, do you really know what you just did?” At least, I know the people. If [he] comes to me and says, “We’ve got to lay somebody off,” I mean, God, I hope I don’t have to do that, but at least I know what people are doing. I know where our weaknesses are, and if we let this person go, we’re in big trouble; whereas this other person is a real contributor, but…” (Alyssa, personal communication, May 2002)

High tech’s cultural assumption that undervalues personal and social skills presented a real challenge to some of the participants in this study. Those that were successful in overcoming the bias believed their personal growth experiences were key.

Robert thinks it begins early.

I was just raised to have a lot of respect for other people, and to look for their strengths and how they can contribute. I think the validity there comes from dealing with people that do have these skills, and people that don’t have the skills, and learning to differentiate, how to assess the contribution and the progress you’re going to make, in working with people like that, on both sides. (Robert, personal communication, May 2002)

Dan believed his social growth began with his college experience. He said, “I didn’t focus on just engineering. I liked to expand myself and do different things.” Dan enjoyed the arts, sports, and added related courses to his curriculum. The diversity of his college experience inspired him to lead the social organization at his first place of employment. It was a volunteer role that he attributes to development of not only his social skills but also a network of friends and colleagues throughout the organization. Dan’s social awareness and relationship management have continued to be essential to him; “You
have to have people skills, you have to know how to get things and help people get things done.”

Second Characteristic

Commitment to the occupational community (Schein, 1992) and personal contribution to it often exceeds commitment to organizations and relationships (Castells, 1998; Feldman, 2000; Slocombe, 2000).

The participants corroborated this assumption from two perspectives. First, they generally observed that individual desire to achieve and/or identification with achievement is more important than commitment to the organization. Second, there were a number of comments about how organizations no longer foster commitment, thus, they justify a priority on personal goals over company goals.

The rapid change and innovation of high tech attracts people that want to be catalysts to that phenomenon. The community is full of people who want to create the next “killer application” and who believe that they will. They want to have an impact that goes beyond the organization and makes an imprint upon the entire industry.

I’m not interested in doing the next version of some stuff that’s already out there. I have my own idea about something that ought to be there because I think people actually need something that they don’t already have, and feeling that way will prevent me from taking a job at a tech company, which is simply becoming responsible for the stuff that they already made. If they don’t want to make what I want to make, I don’t want to work for them. (Jack, personal communication, April 2002)

It is always a paradigm shift when it is time to leave a company because one of the problems you have is that when you do a start up, it’s yours. I don't care how much stock you have. You've watched it grow from small to big, [and] you've hired probably half of the people in the company, either personally seeking them out or bringing them aboard. The products are yours and they have letters and lights that blink and have your thought in them - thousands, tens of thousands all over the country. (Robert, personal communication, May 2002)
The participants articulated their identification to this characteristic as the desire to add value and make a difference. The impact of personal contribution was an individual barometer for job satisfaction. Kay went further than questioning value-added. She said, “I question how important is that value I’m adding.” Such comments support Castells’ (1998) observations that the high-tech workers have a strong desire to be on the cutting edge, making a historical difference. Castells (1998) also noted that this common desire makes the high-tech community extremely competitive and individualistic. This behavior is acceptable, expected behavior in high-tech environments.

The term “individual contributor” as a differentiator between management and technical professionals has been widely used for over two decades. The phrase was meant to acknowledge the role individuals play in the industry, but over time it may have fostered a pervasive attitude of independence and heroism.

It’s a lot like sports, in my mind. Athletes look at other athletes in a certain way, and the community of athletes is really fascinating to watch how they kind of perceive each other and position themselves amongst each other. Every talented athlete knows that he or she will be more appreciated by other talented athletes, than by any other kind of person, and the gratification and the fulfillment come from that peer recognition. That’s a huge driving force. On the other hand, then you get into the game or the track meet or whatever it is, and there’s an audience, which is not primarily other talented athletes. In that context, winning, certainly, is a big deal. You want to win, and you want to be recognized for being the winner, or the person who caused that win to happen. (Jack, personal communication, April 2002)

I think high tech promotes a lot of independence. I think it rewards independence as much as people talk about teams and things. It wouldn't be high tech if it weren't for the effort of a lot of independent thinking people, independently creative people, who go out and think a little bit different. [The industry] rewards them for thinking different and for following their hunches. I think probably I've got so much independence in me that it would be hard for me to fit in a financial services company or a bank or an insurance company - some place that is not going to reward individual thinking and really wants more of a conformist, group-think, lemming type of mentality. I think high tech breeds a lot of mavericks. (Fred, personal communication, April 2002)
If high-tech professionals are not involved in something they consider innovative, according to Jack, “they’re not creating value, they’re just creating stuff.” Some people benefit, but most are “killing time,” holding on to a job while still trying to make a difference. Jack argues, “I can think of a lot more important things to do with my time.” He tells a story where that is exactly what he did.

There was one project that I was working on where I didn’t want anybody anywhere near me, and, honestly, the reason why was because I was told to make something that, after I started making it, I knew I was not going to deliver what was asked for. Because what I thought was asked for was kind of lame, I wanted to deliver something much better than that, which I thought was going to really solve the problem that our customers had. I also knew that if anybody saw what I was actually making, they were going to stop me, and so I hid it. I hid it from them until I knew that it was too late, you know, for them to do anything except take it…. I was risking my job and a bunch of other stuff, but I felt very strongly that I was right, and that it was important to not have my cover blown before I had a chance to show what I was doing, on my terms. (Jack, personal communication, April 2002)

Bigger than the risk to his job was the risk that what Jack wanted to deliver did not meet a market need. Developing technology for technology’s sake, without engaging with the potential user, lowers the probability of creating the next breakthrough. Jack turned out to be an exception due to his personal standards and concern for mutual interests.

I don’t want anybody to see me the second time in a row, and make a judgment about me based on what I gave them the first time, unless, of course, I gave them something really good, so I see my ability to express myself and to be a social person, you know, at least in our work contexts, very much linked to whether or not I’m actually creating value for people, setting a pattern of interesting, if not conventionally good standards. (Jack, personal communication, April 2002)

To be a successful innovator requires a strong sense of self along with acknowledgement of the need for help from others who know more. Neil believed seeking and mastering challenging situations benefits from emotional competencies. Such
situations “have a high probability of failure” and to be successful, a person must be “able to accept that with a certain degree of self-esteem.” Individuals successful at mastery “find a good coach, grab on to that person, and solicit their help.”

When others aren’t available, learning comes from mistakes, another reason self-confidence is important. Technical problem solving is a constant challenge for Alyssa who, under time pressures, is often on her own to resolve customer issues. She said, “I feel like I’m flying by the seat of my pants most of the time and having to make a lot of decisions. Most of the time, they’re good ones, but sometimes it’s like ‘Whoops! Why did I do that?’ but learning from it.”

The personal vision so many high-tech workers have to be someone that makes a difference has its pros and cons. It increases self-awareness, especially self-confidence, as Neil and Alyssa observed above. It also triggers some of the self-management competencies, such as achievement and initiative, which Jack’s story illustrates. The downside of such an individualistic vision is that awareness of others and relationships begin to seem unrelated.

Most of the participants believed to make a difference in such a broad community, a person must engage with others. Not unlike the rest of their high-tech peers, they expressed a personal desire to have an impact on organizational success. However, they wanted to be both “individual contributor” and part of a team having an impact. Alyssa admitted that although stock options in a startup have their incentive, her reasons for hard work and commitment went beyond that. She said “There’s a monetary aspect to it, but there’s also a pride aspect that, ‘Wow, I helped build this company up to be successful.’”
The economic downturn the industry was facing at the time of this study was fueling the turn away from company loyalty and pride. Hopes for recognition and wealth were dashed by layoffs and bankruptcies. Alyssa qualified the statement quoted above with, “since the layoffs, since the struggles that we’ve been having, that feeling [of pride] isn’t there as much.” Surviving a downturn was no guarantee of commitment either. People continued to feel the need to add value and grow. Fred talked about decisions he made after the technology slump that occurred a decade ago.

Actually I had gotten through the downturn at [my company]. I left in 1994 and the crash was in 1990 and 1991. I left because I just didn't see any more growth for me. I wanted to leave at the right time, for the right reasons. I wasn't angry or anything. I just didn't see where I was supposed to go. (Fred, personal communication, April 2002)

Some of the comments thus far suggest that the participants thought individual contribution and commitment to an organization could differ based upon the company’s growth stage, situation, or even size. However, Neil believed it was a matter of personal reflection. He argued, “If you’re one person of 100, versus one of 120,000, the relative impact is the same. But what’s more important is how you feel at the end of the day, what you’ve done. Are you happy?”

Robert’s commitment to personal contribution was both self- and other-focused. He not only wanted to create “neat things,” he wanted to produce “neat things that solve customer problems.” That desire came from a heightened awareness of the customer environment. Robert reported that he “spent many, many years working with customers.” He said, “[I] climbed down into manholes with them, watched how they do things through the day, and watched how they install stuff, and how they work with stuff.” From
that experience, Robert could speak with confidence about customer needs and the opportunities they present.

I don’t know what the customers are going to want in two years, but I know they’re going to want more. I don’t know if they want more lines, I don’t know if they’re going to want more bandwidth, but if they’re going to give me some space in that [central] office, I’m going to set myself up so I can solve whatever those problems are. (Robert, personal communication, May 2002)

The opportunity to add value and make an impact presents itself more readily when the focus goes beyond self to include an awareness of others, what they contribute, and what they need.

Third Characteristic

The technical people in research and development hold different worldviews than the business people in marketing, sales, and finance (Delbecq & Weiss, 2000; Slocombe, 2000; Sprague & Ruud, 1988).

The third characteristic was not as distinct as it was exacerbated in high-tech organizational culture. The participant tenure and diversity of their experience offered enough perspectives to substantiate the characteristic as a common organizational problem aggravated by high tech’s urgency to bring innovation to market. The comments on this topic also indicate that the stage of organizational growth made little difference. Large or small, viewpoints on an organizational issue or problem differed based upon an individual’s functional role.

The most cited difference was between the technologists and everyone else. Engineers based identity and worth on technical knowledge. Dan told the story about his temporary move from research and development to finance, a conscious decision he made to broaden his knowledge and experience. He said, “From an engineering
perspective, you’re out of engineering for a year or two, you can’t keep up technically, you drop behind. [My peers] thought I was a little bit crazy doing that.” It was a successful move for Dan, and he managed to keep his technical edge. However, most engineers would consider such a move a career killer rather than a career enhancement.

On the opposite end of the spectrum were the people in sales and marketing. They identified with the ability to generate revenue and expected engineers to rapidly produce the technology they needed to do so. Neither side had reasonable empathy for the other.

There are people who don’t necessarily want or pursue gaining knowledge in [other] areas. For example, engineers don’t particularly want to know the level of expertise in business areas or specific customer areas. They benefit if they do, but they may not have a desire to pursue that. There are general management people, who don’t particularly want to understand the nuances of the technology and the hardware and the software and stuff. They would benefit if they did, but they prefer to distance themselves from that, so that they’re able to make, in their minds, more global decisions, and things like that. (Robert, personal communication, May 2002)

To [the business people] it is sales and marketing - to them sales and the flash was the most important thing, and technology absolutely got the smallest regard. Here would be people that would go out and make promises that were absolutely unimplementable in the time frame that they were suggesting, and they were adamant and angry when we simply stated reality. “Here is approximately what this sort of project is going to take,” and we put it all together and that becomes the plan. We don't just pick a date and then say, "Okay, you can have whatever functionality you want by this date.” You can't manage like that. We have to be very specific, but these guys had no idea, no respect. That's the important word; they had no respect for what it takes to development technology. They only wanted to hear what they wanted to hear. (Fred, personal communication, April 2002)

As it is apparent in Fred’s tone, this lack of empathy creates frustration on both sides of the equation. The business people are driven by time to market while the technologists are concerned with the quality of their creations and their identity with their
contributions. The relationship can become a tug-of-war for control of business strategy.

Jack saw stock price as one root cause of the conflict.

Large software companies these days are not friendly businesses and they’re really driven by quarterly results, and, not without a bit of sarcasm, I admit, it seems that those enterprises are pretty much focused on just the stock price and the possibility of cranking out a dividend in our check to the stockholders. (Jack, personal communication, April 2002)

Technologists appeared to have the advantage because they are the producers. The business of high tech begins with their ideas, designs, and end products. When the value that engineers place on their work goes unacknowledged, when what they produce fails to get to market (have an impact), these differences can become detrimental to the business. These important people lose confidence in the organization and leave. Simultaneously, the same differences are often the catalysts that create new innovation, new startups, and fuel the industry. Frustrated engineers can leave with valuable intellectual property and start their own companies.

Engineers will sit with each other and talk about engineering but they no longer get the impulse to talk about customer requirements, sales, needs, or how the product should look and be presented. The only way they get that information is through the very formal process of introducing the products – like introducing product plans and formal product reviews and design reviews, stuff like that, so the interaction has to be forced. It has to be scheduled, and the need is to force and schedule because it won't happen otherwise. You'll get products that look great, and they go out the door. The engineers will be very proud of them, but nobody will buy it. (Robert, personal communication, May 2002)

I think it’s very much a technologist movement. I don’t think it’s revenge, I think it’s just… I think it’s just they’re saying, “Look, you know, we’re taking this back. The business people have had it long enough. You’re distorting what we do and why we do it, and when we did these things for you, we don’t get the credit, so we’re taking it back.” (Jack, personal communication, April 2002)

There was an engineering-driven product management process that was happening. We kept loosing product management people because the engineering people wouldn't let go, so the product management people felt they had all the
responsibilities, all the blame, but none of the authority. It was one of those organizational dynamics where engineering couldn't quite see that. That's why all these people were leaving. (Kay, personal communication, April 2002)

From a position of power, technologists will high-jack product development if they believe quality is being compromised or they lose faith in marketing, as Robert’s scenario above suggested. When engineers take control of strategy, business processes are spurned and the probability of a market success still goes unimproved. Kay observed that the tendency of engineers to have insular personalities was a contributor to differences in views resulting in turnover. The extreme focus on their work (a value from the first cultural assumption) limits opportunities to gain exposure to other ideas and activities related to their efforts. Thus, Robert believed the interaction between technologists and business people must be forced to ensure that product planning succeeds.

It was from experience that the participants could attest to the advantages of sharing multiple perspectives of an organization’s structure and operations. Each of these managers had experience in at least three different functional areas of high-tech business. They all attributed their personal growth and the enjoyment of what they do to the diversity of their past and present experiences. For most of them, it was a way of living.

Michael, the Director of Product Management at the largest technology company represented in this group, was faced with a challenge caused by differences in viewpoints based upon roles. He wanted his technically-focused group to be more accountable to the bottom line. Doing so would serve the entire team, as a group and as individual contributors. They were resisting.
One of the things I’m trying to do with my team right now is that I want to take my product managers and truly turn them into real product managers where they are looking at our inventory on this side, looking at orders on [that] side, and looking to put together strategies of how they can manage their mix of products by business, but they would be held accountable. I want to give them more control, give them more accountability. “You guys are participating, but you’re not committing. The metrics don’t commit you. The guys [in order generation and fulfillment] are committed to metrics. You’re in the middle contributing. But you’re the hen, you aren’t the pig! I want some pigs! Because now, I’m going to give you more control, and you can start calling the shots by your particular product lines. So now you’re truly a product manager, which is what we want because you complain that what you say, people don’t do. The reason they don’t is because those camps are committed. They’ve got committed metrics and you don’t.” (Michael, personal communication, May 2002)

Just as Dan’s engineering colleagues found it difficult to fathom a move to finance, Michael’s product managers were having trouble accepting a quota. Typically, quotas are for sales and marketing people, not product managers. However, working toward a quota aligns departmental goals with those of the company. Michael developed this broader understanding of the business because he was an engineer that also carried a bag. He generated orders as a salesperson. Paige, in her sales support role, also saw opportunities that many technologists miss.

It’s the exposure to the different business models that I really enjoy … having a lot more exposure to different people, different roles. That’s one nice thing about the sales role is that you are really exposed to the technical side and really exposed to the business side. And that’s a nice mix. (Paige, personal communication, April 2002)

Dan found the experience in finance equally rewarding. He claimed, “You get into finance, you can actually expand your skills and understand the underlying basis of why we’re doing certain things in engineering.” In addition to skills, Dan’s network of associates also increased dramatically. He stated, “I was able to network outside of just our site, and networked with England and France and Toronto. So when you get a
different perspective of the company, in general. You raise your whole level of consciousness up to a higher level.”

Conversely, the participants also recognized that some roles were prone to differences. These aspects of the phenomenon were more distinctive to high tech. Certain positions and situations presented more challenges to nurturing positive relationships and required a stronger will to overcome the barriers that often arose. The approach the participants took began with awareness of emotions surrounding the situation and taking sincere steps to be transparent and empathetic.

I was VP of Operations, but I was weak in that I was not, I didn’t have strong relationships with the principles of the company, and I wasn’t in a position to be able to really strengthen those. There wasn’t a natural linkage between me and them that was going to enable me to strengthen the relationships in such that I was going to be able to develop more trust, more understanding, more empathy, anything, because there was two completely different worlds, and I was just busy trying to fight the alligators of my own world. (Fred, personal communication, April 2002)

A lot of general managers really don’t care too much about their widgets. They care about the bottom line, and their relationships, and their egos, and how, you know, where they fall-out in the hierarchy of entrepreneurs or business owners. And they care about growth, numbers, and profitability, and those kinds of things, but they really don’t love their widgets. The guys that are successful in the high-tech environment love their widgets. (Robert, personal communication, May 2002)

From the marketing perspective, Kay empathized with the sense of urgency that drives people in sales. For her, the loss of one deal out of many was not a big issue. For the sales person, that one lost deal was lost income. She relates that his is the “same with finance people. They have a responsibility to the company. They can’t let bad deals go through.” Kay believed sales people needed to apply some empathy and respect their accountability for financial standards. Both Kay and Fred believed this lack of empathy
turned into unnecessary political infighting and created *victims* and *enemies*. Fred thought “it doesn’t make sense to leave enemies because I’m doing my best and they’re doing their best so there has to be some common ground.”

To come to that “common ground,” to achieve a balance between “love for widgets” and the bottom line required an openness often lacking on both sides of the differences. Robert described the problems by stating that “technical people do not often have an affinity for business and business people do not often have an affinity for technology.” It is a paradoxical problem. To resist empathizing with the viewpoints of others conflicts with a desire to grow and learn, a cultural trait apparent across all high-tech roles based upon the participant observations and experience.

The segregation and opposing views can get even more fragmented in technology organizations. The marketing, sales, and finance organizations can find themselves at odds, quick to blame the other when revenue targets are not met. On the technical side of a company, engineering, quality assurance, operations, and production will often resort to finger-pointing when technical problems occur. Alyssa depends on engineering or QA to help her fix customer problems. To be effective, she must empathize with everyone involved.

When I go and talk to QA or engineering it’s like I’m talking to them on behalf of the customer saying, “Look, they’ve got this problem, they need it fixed, you know, this is an urgent issue,” and championing their cause. At the same time understanding that they’ve got limited resources, and they’ve got to prioritize things. (Alyssa, personal communication, May 2002)

What set the emotionally intelligent person apart from others was an awareness of personal limitations and the desire to address them. In other words, the emotionally intelligent person had an accurate sense of the real self and a vision of the ideal self.
Michael had been a successful manager in engineering and sales organizations. His comments about self-awareness and self-management illustrated his willingness to change.

So my thing is, if I don’t understand it; then, I need to tell somebody what my understanding is, and they need to help me with the gap. That’s kind of how I operate. This is what I perceive. So now, you’re the expert. This is my perception. Am I right or wrong? You say, “Well, [Michael], you’re off here or off there.” Okay, knowledge increased. (Michael, personal communication, May 2002)

What each participant sought when addressing the difficulties presented by role conflicts in high-tech organizations was a common ground. That common ground was the desire to add value, produce competitive products, and/or become a more knowledgeable person. The common ground was often a shared vision, mission, or goal. In most cases, the participants were speaking of their experience with cross-organizational teams, a common structure for product design, development, marketing and support in high-technology companies. Organizations are recognizing the importance of such teams and offering training previously made available only to management (Druskat & Wolff, 2001a). Red experienced this style of operation at one of the medium-sized organizations for which he had worked but not at the startup. He stated, “HR thought it was a good idea, but the senior leadership of the company didn’t. I think it made them uncomfortable. They didn’t see any value in it and the whole thing died.” In this case, the decision-makers did not appear to appreciate that all of their people are leaders. The more common reason for lack of support for personal development training in startups was a concern about the financial investment. The results are not as quantifiable as other investments (Abramson, 1999).
The participants in this study managed to be effective in the difficult situations they described. They credited their experience as leaders as providing their abilities to prevail. Their comments and stories went beyond the study’s assumption that middle managers would be emotionally intelligent. They assumed the things they did and valued were essential to their roles.

Fourth Characteristic

The culture of the occupational community underlies the culture within high-technology organizations as a result of the fluid movement of people between companies (Delbecq & Weiss, 2000) and organizational structures that reinforce it (Douglass, 1991; Feldman, 2000).

Data related to the first three characteristics clearly indicated that people in high tech moved to a new environment when certain beliefs and values were compromised. The jeopardized values were directly related to the characteristics.

1. Lack of technical growth and/or participation in pace-setting innovation
2. The loss of opportunities to achieve an individual standard of achievement, contribution, or result, independent of the organizational mission
3. Internal organizational conflict resolves in an unfavorable direction, depending upon the individual viewpoint

When technology cycles peak, it is less complicated for high-tech workers to leave an organization when they become disenchanted with their work environment. However, during downturns, layoffs cause just as much churn and can negatively re-enforce the same values and beliefs (Feldman, 2000; Saccomano, 2002). Whatever the
situation that spurs the change, the participants, most of whom had experienced more than one cycle, believed job movement did not alter individual expectations.

When the personal skill or asset is knowledge, workers value learning (Nonaka & Takeuchi, 1995). Some study participants sought a change when they believed they were no longer learning. Others were motivated to make a career change through an opportunity to achieve something new or to have more responsibility and impact.

I feel like, number one, my learning curve has flattened out, and I’m not really challenged anymore. And then, whatever other factors are playing in, I’m not happy with what I’m doing anymore. At the point that I reach that, that’s when I’m ready to go and do something else. (Paige, personal communication, April 2002)

A buddy of mine, who was actually my boss at the time, got an offer to go to work with this start-up. I looked at him and I said, “You know that looks pretty interesting.” It was ... not moving away from something but moving towards something. I found an opportunity to grow and actually get closer to the success of the company and it just looked like a great experience. I went for it. (Fred, personal communication, April 2002)

An outcome of the second cultural characteristic is disappointment when the work, though challenging and productive, is no longer perceived as valuable or significant. Talented people find it frustrating when they cannot realize the gratification they expect from their efforts. A few of the participants believed organizations could avoid the costly results with more inclusive decision-making. Several of the participants talked about the importance of inclusiveness. Most people wanted to feel a connection to what the company produces and experience direct knowledge of its success. Too often, the structures of organizations inhibited this awareness.

It’s just very expensive to make an unsound decision, and then develop something [only] to find that it isn’t accepted out there, because a lot of engineers become disheartened when that happens. They put their heart and soul into doing exactly what we told them to do, and then, nothing happens. We don’t sell any of them. We don’t end up making any of them. And they were very proud of the work
they’d put into things. So those engineers won’t be around too much longer. You go through a couple of projects like that, and those engineers will go someplace else. (Robert, personal communication, May 2002)

I was a solo practitioner, and the feedback I wanted was directly from the end users. There wasn’t a lot in-between us. So what I remember about going into my first company environment was that there was all this structure that appeared, you know, as an intermediary between me and the end user. And for some time it really escaped me as to what the value of all this, you know, intermediary stuff was. Eventually, I allowed myself to see it, to see all that stuff simply as things that were about controlling time and controlling costs. (Jack, personal communication, April 2002)

Jack identified with the value he added to the community (the second characteristic). As his roles changed, he had to look for other means of evaluating his personal contributions, drawing upon his self-management and social awareness competencies.

A survey of 500 professionals found that 95% of people leave companies because of poor relationships with their manager (Anonymous, 2001b). Mutual respect, trust, and a good relationship with one’s manager have become critical factors of job satisfaction.

Fred left the startup he joined because the company’s top executives considered technology a necessary evil—an example of how the third cultural characteristic can provoke ill will and high job turnover.

I think the lack of respect that I saw from [the startup executives] was an attribute of their ignorance of what it took to build the product. It wasn't that they just didn't respect; it was they didn't know and they didn't want to be bothered. They just wanted what they wanted and to me that just shows an overall lack of respect for knowledge. “You know what, you're in sales, and I respect what you say it’s going to take to get the sale; however, the reality is it's going to take this much time to get [the application] in. So why don't we work together instead of you just standing there like a little Caesar, demanding what you can't have. Why don't we collaborate?” (Fred, personal communication, April 2002)

Upswings of the technology cycle have created more jobs and spurred job movement (Henton et al., 2002). The growth frenzy caused by the Internet boom during
the late 1990s inspired an exodus from the mature, Fortune 1000 companies to the
dotcom startups. “They wanted to go where it was hot” according to Kay, who watched
the flow of people out of her once high-flying computer maker when growth slowed and
the excitement died. Paige talked about how management made an effort to be more
accommodating to workers when the industry had 250,000 unfilled jobs.

Three years ago, there were so many jobs out there on the market, that if an
employer did something like that [cancel a vacation], you could say, “Okay, fine,
I quit.” And turn around and get yourself a job the next day. (Paige, personal
communication, April 2002)

The scenario changed when the tech bubble burst, creating almost as many pink
slips as there were once open jobs. People still working in the surviving Web services
companies, like Alyssa, were considering the inevitable. She stated, “Honestly, I’m trying
to get out of a difficult situation. I’m trying to find employment elsewhere. Yeah, that’s
the bottom line… It would be a real challenge if I got laid-off and didn’t have another job
to go to.”

Though there is caution and concern related to job security, the personal values
and expectations are still there. Many of the people working in high-tech during the
economic downturn that surrounded this research were only holding their positions while
they considered their options. Kay said, “I can either decide to make myself crazy, that
I’m going to lose my job, and we’re going to run out of money, or I can focus on getting
something done, which I know for me, gives me a sense of satisfaction. It’s a personal
coping skill, which sometimes is good and sometimes bad.” This is emotional self-
control, a self-management competency. It was a behavior consistent in the participant
behavior but not as consistent in the behaviors they observed. However, as Robert
reiterated, the “beat goes on.”
Most of those engineers might stay for a while, but when opportunities pop up, they’ll be gone in a flash. These are guys that are smart guys. These were guys that probably led their classes at good schools. These are guys that have done exciting things in the past. And, you know, they’re okay for two or three years in this kind of environment if it slows down, but they’re not going to be okay in the long run. They’re going to go find something else. They may go start their own company. And I’ve seen that happen. Once companies get big, the engineers, they’re not having as much fun, and I’ve seen them split off and start their own startup. Which is okay. We embrace that in the Valley, right? That’s what it’s all about. (Robert, personal communication, May 2002)

There were a few cases in the study wherein participants were successful in finding continuous growth and challenge without leaving the company. Neil worked for several divisions of a communications conglomerate until, after 40 years, he opted to retire. He was always successful in finding roles and responsibilities that challenged his abilities, and maybe for that reason, he has continued to enjoy working. In the same manner, Michael found an environment where he has been able to pursue a choice of the growth opportunities for nineteen years. He claimed, “I tend to be very loyal to a company, identify with it,” Kay explained almost apologetically when talking about the 8 years she spent at one employer. She also had multiple roles within one company. Even Jack, one of the most entrepreneurial of the participants, talked about how a variety of challenging roles can be an incentive to stay put.

I think I probably could say honestly that if none of these companies had gotten sold, I might still be at the first one. That experience was… it was interesting because it was a startup. So I wore a lot of hats. At one point I was VP of this, at another point I was VP of that. These titles were really much more convenience items for people who were not in the company. And in the company, we didn’t need them; everybody knew what was going on. So, if the CEO was gone for a week, I could have been the CEO for a week. (Jack, personal communication, April 2002)

The study participants changed jobs far less frequently than the industry average of 18 months to a year (Benner, Brownstein, & Dean, 1999). This may be attributable to
their level of emotional competency and their positions as middle managers, given the statistic regarding job retention cited above. These people developed and managed their relationships fairly well. However, their observations of the community’s movement across organizations described how emotional competency underlies the reasons and expectations of that flow.

Fifth Characteristic

*Lack of organizational boundaries and structure combined with entrepreneurial but inexperienced leadership creates accepted “chaos” in startup or high-growth environments and is viewed as synonymous with creativity, innovation, and rapid success.*

This characteristic was the first of two additional facets of the high-technology environment that emerged from the research data. The participants all spoke about the differences between new, *adolescent* organizations and those that, over time, matured and stabilized into larger, ongoing concerns. Generally, they preferred the more nimble, high-growth environments to the deliberate, more structured *academy* organizations. However, all except one expressed a desire for the best of both worlds. The new companies offered inclusiveness, more opportunities for growth and creative expression, rampant communication, excitement, and fun. Startup leaders often were less concerned with people and general management than they were with results, and the loose organization structures still presented problems. Mature companies had experienced leaders, clear roles and boundaries, and a more certain future. However, innovation and high-energy was only occasional and often isolated.
Inclusiveness mitigated the chaos, ambiguous roles, and leadership focused only on time to market. Early hires in startups were usually very talented and experienced people and, therefore, needed less direction and motivation. The participants who had startup experience enjoyed the autonomy to make quick decisions and get things done. Self-management skills were critical in the new companies, but the ambiguity of roles and responsibilities made self-assessment a challenge.

It’s much easier to create new technology, new value in technology, in a startup company, where the number of people are small, the goals are well defined, [and] the communications lines are very short; you know, you’re all working closely together. It’s much easier to create solutions and value, and functionality, in that kind of environment, than it is in a larger environment. (Robert, personal communication, May 2002)

It was much more of a “go make things happen kind of culture,” and doing a job [when] there wasn’t anybody else doing it. So I think what you do is much more tangible to you and other people. That gave me a lot more satisfaction. (Kay, personal communication, April 2002)

It was freewheeling, and even though it was what I was looking for, the adaptation part was hard. It was very difficult measuring, evaluating, how good of an employee you are. In some of the other jobs I had, it was much more cut and dry. (Kay, personal communication, April 2002)

The challenges of transition begin when a newly successful company and its leadership outgrow the limited organizational structure and managerial wisdom. Entrepreneurial leaders are not always the best leaders once a business is established and the risks are minimized. Their vision and focus are both strengths and weaknesses when they are at the helm of an organization that must shift its paradigm (Goleman et al., 2002). Most of the participants in the study believed the initial leaders of high-tech companies were only effective to a certain point in the organization’s growth.

It’s pretty true that the guys that are really, really good at taking really small groups and making them successful as startups don’t necessarily have the skill set to do the broader stuff. (Robert, personal communication, May 2002)
[The problem with] companies that have grown too fast, when they hit that growth spurt, [is that] there is a lack of organizational maturity or sophistication. As soon as a company hits its teen-age, adolescent years, it’s fun to a certain extent - it's exciting - it's fresh but a lot of stupid things get done. You get one bad person in there, for instance in a high exec role, that doesn't know how manage…. In a big company, he’s isolated. That division may be horrible to work for. That’s it. But in a smaller company where each person makes such a big difference, the impact is magnified, and that can make a company like hell. (Kay, personal communication, April 2002)

Anybody can manage when the money is coming in. You can throw money at this or that or reward your employees, buy this or buy that. Buy T-shirts for everybody or take everybody out. Raises are good. Anybody can manage when it's like that. [The software company] had never had hardships. Never. Except maybe when there were 10 employees and they didn't have a product yet. And then suddenly in 1999, when they hit the wall, OH MY GOD, you had a bunch of amateur, untested managers that had never been through that. They just didn't know what to do. It was real different. (Fred, personal communication, April 2002)

The leader of the startup would absolutely set the tasks, by hoisting a flag that says, “We’re going to be known for this,” or hoisting a flag that says, “I don’t really care about that.” And there is no in-between. It would flow through the rest of the staff very, very quickly, very immediately, to the point where some people will not be able to get hired because they either subscribed or didn’t subscribe to whatever the banner was that had been hoisted. (Jack, personal communication, April 2002)

Many startup leader-founders are serial entrepreneurs (S. P. McCarthy, 2001; Mieszkowski, 2000). They exit after their companies succeed or fail and immediately find another idea, the people to make it happen, and hoist the same flag, to use Jack’s analogy. However, considering that 19 out of 20 startups fail [Cringeley, 2001 #216], the effectiveness of such leadership is certainly questionable. Serial entrepreneurs are busy but not with the work of being good managers.

The participants spoke of several leaders who would not consider the possibility that their decisions and actions were mistakes. Due to short-term organizational goals being the first priority, they believed many high-tech leaders suffered a similar lack of
personal development as their people. With so much emphasis on quickly producing products and grabbing market share, little time gets devoted to expanding perspectives and knowledge. Rapid success propelled people into leadership roles beyond their capabilities. Too often, those inexperienced leaders believed their prior success was replicable using the same approach, hence their reluctance to acknowledge and correct mistakes. The participants believed making mistakes and learning from them is wrenching but essential to personal development.

I think the biggest thing for me was I really had to… when you know what’s right, you’ve got to stick to your guns. You can’t let somebody drag you down. It’s interesting, there are a lot of rich people that think they’re pretty damned smart; and they’re really not. (Dan, personal communication, May 2002)

There is not this “you've got to work your way up for 15 years” type of thing. That's a good thing. The bad part of that is some people who may not be that qualified make it up the ranks unlike what happens in other companies. They make it up faster… If you’re a VP at a little company, you may have a different skill set than someone who’s a VP at Cisco. (Kay, personal communication, April 2002)

It takes wisdom and time - a lot of making mistakes - before you learn how to use that assertiveness correctly…I've made mistakes, but I do think that I've learned from those mistakes. The fact that I've made those mistakes and I've got these things that I lie in bed and I wince about, “I can't believe I did that.” That is probably what makes me who I am today. (Fred, personal communication, April 2002)

The pervasiveness of “inexperienced”, “arrogant” management in startups and high growth organizations was frustrating to some of the participants for several reasons. They were experienced managers themselves, most having the benchmark of working for exemplary leaders in the past, and the poor leadership they encountered made their jobs difficult. The examples they gave focused on the way these leaders dealt with people.

One of the natures of a startup is the founder or head guy usually is not a particularly good people person. He is really a nice person usually, but he is not
very good at leading and delegating to others. He is also not very good at
nurturing and encouraging others. He just doesn't have the intuition and nature
that a lot of the people have to mentor and nurture. (Robert, personal
communication, May 2002)

I would say there was more immaturity in management than there was in the rest
of the [ranks]. The company was a startup, very fast paced and all that. But there
were a lot of people who had experience. The CEO, in my opinion, was probably
the most dysfunctional executive I've ever encountered. He didn't realize the
impact he was having on the company. It got so bad to the point where he would
say reckless things. The VPs, who also didn't get along, still came to the same
conclusion, which was they would stop having “all hands” [meetings] until this
interim CEO was out of the company, because he was causing confusion and
demoralizing the people. (Kay, personal communication, April 2002)

Based upon experiences like Kay’s, it appeared that a dark side of the self-
oriented emotional competencies could overcome the other-oriented competencies that
foster positive interactions with people. Fred believed that self-awareness becomes self-
absorption and social awareness becomes hierarchical. This structure made it difficult for
him to be himself, get to know others, and develop positive relationships. Fred had to
deal with “this whole level of elitism [at the top]. ‘I’m God and you’re not.’ To me, the
ultimate stress became what I believed should be a strength – being happy and
comfortable with who you are.” As Goleman (2002) contends, such leaders fail to bring
out the best in people by driving negative rather than positive emotions. Their effect is
dissonance and lack of harmony with others, instead of the resonance that moves people
in a positive direction.

Several of the participants had experience that allowed them to observe the
changes high-tech startups and their leaders faced as they began to grow. As fledgling
organizations became successful, more structure was required. People used to the
inclusiveness and autonomy they had in the beginning become impatient with the
management and operational requirements of growth. Initially, they resisted it, believing in the chaos, but the creativity would often turn into reactivity.

I believe a person that is particularly good in this kind of start up environment has a skill set, which doesn't have a priority setting mechanism inside. It is not necessarily conducive to large companies, cultures, and you become very frustrated because you don't want to wait for things to go through. Three different staffs, three different sets of needs because it's the right thing to do. When it is a start up, people are enormously grateful that we have the ability to make decisions and move on and get the work done and make things happen. (Robert, personal communication, May 2002)

I remember one of the mottos was “we thrive on chaos,” and I thought “you want to have this chaotic environment that we're in”? They said, “we thrive on it. We don't try to have process and all that stuff. That's for old stodgy companies.” (Kay, personal communication, April 2002)

There was no process, it was just about putting out fires. You put out a fire with one [customer], and then, there was a fire over here. You’d put that out, and there’s a fire over there. And you’d say, “Forget it, let that fire burn, we’re going to lose that client, that’s okay, it’s fine.” (Paige, personal communication, April 2002)

Startup and high growth technology companies survived the crossing to stability when the founding leaders recognized their inability to usher in the transformation necessary to sustain high growth. The problem was recognizing this failure. Fred thought this particular stage of growth “is just manic about the way it works. It's out of balance and it's very focused on the money. Very focused on the result and not the process.” Kay had a similar insight about the problem. Along with the reluctance to accept process, she believed people disliked the boundaries it imposes.

My theory is the reason why everybody wants to go to every other meeting and invites everybody to every meeting and copies you on everything is that there is a sense of inclusiveness they haven't let go of yet, in realization that you are a big company and you can't go to every meeting. I tell people, "Look, for what the four of you used to do we now have 12 people. You have a defined job. You don't need to pitch in over here any more. And it doesn't mean that your opinion isn't valued. But you’ve got tasks that need to be done. We need to move faster. You're not going to be invited to every single one of these planning meetings.” But I can
tell people were hurt. It's like “well, I used to be asked what my opinion was.” So I think that's what's going on. It's over-inclusiveness. (Kay, personal communication, April 2002)

This concurs with what Robert disliked about larger companies. He argued, “The organization gets bigger and you just don’t get involved in as many different things.”

Individuals who thrive in the startup environment may seek to hold on to the freedom associated with lack of structure beyond its effectiveness. “On one hand, it was good to be in a culture which was ‘there’s a project, let’s go get it done,’ no barriers, round up the people, forget organizational lines, just make it happen,” Kay admitted. At the same time, she observed that courtesy and respect for others was sacrificed and setbacks were blamed on unwanted processes. In the same manner as their leaders who refused to give up their ineffectual styles, people in the ranks also expected that what was enjoyable and always worked in the past would continue to do so. Even in such dynamic environments as those described by the participants, there was a surprising lack of flexibility when it came to personal adaptability.

The lore of technology’s beginnings in Silicon Valley garages, the wealthy, celebrity CEOs, and global impact technical innovation has generated causes many people to believe startups exemplify high-tech culture (Cringely, 1996; Delbecq & Weiss, 2000; Kaplan, 1999). Robert believed that to be the case. However, when innovation and growth began to level out, startups become the same as any other company.

Once that product starts making money, you’re no longer in the high-tech world, you’re in the managing of a mature, or approaching mature, business, and the decisions there often don’t revolve around how you can make your products better to solve customer problems. The decisions revolve around how to keep market share and how to maintain profitability of the thing you’ve already done, rather than to create new value with new things. (Robert, personal communication, May 2002)
The creation of new things and new value has driven this industry for 5 decades. Based upon the comments of the other study participants, few people with tenure in the environment would disagree.

The challenge for high-tech leadership is learning how to continuously tap the exciting, emergent, self-organizing qualities of startup chaos while the organization gingerly crosses the chasm to high growth and maturity. Leadership is critical during this stage. Robert has watched the progression several times. He claimed, “It’s the guy on the top of your organization, who may be a spineless guy, or he might be a strong guy, but the nature of his strengths [and weaknesses] are the things that drive the character of the organization.” A leader resonates his or her emotional competencies throughout the organization. Paige agreed that leaders set the example for behavior, arguing, “People look to the management team for how they should be interacting with other people.”

Along with having leadership that looked beyond the short term, young organizations that successfully made the transformation maintained a focus on technical innovation while being open to and aware of their own need to change. There is irony in how well attuned to external change some organizations could be without having an awareness of their internal turmoil. The participants felt that leaders at all levels had to step back from the escalating chaos and make decisions about overcoming it. Their experience also indicated that organizations that invested in the personal development of their people increased the probability of that happening.

All three had a real fixation on the technology, real young staff, but a growing awareness that they needed to have better project management and project conception and processes in place to make sure that what we spent money on the most important things and when we spent the money that it actually got implemented and became a living thing. (Fred, personal communication, April 2002)
“There’s a lot of fires going on, but we’re not going to be firefighters. We’re going to go after the arsonist. We’ll get to the root of the problem. Instead of some arsonist running around setting 10 fires, we’re going to go kill one arsonist, and that’s going to kill 10 fires.” That was my approach. (Dan, personal communication, May 2002)

What I really enjoyed about [the company] was that they really spent a lot of time and money training the managers and putting people through courses that were going to help develop who they were. Those were my formative days. A lot of people thought that was the pabulum of management. But I thought it was very good awareness. I didn't see it at that time, but it was extremely formative. (Fred, personal communication, April 2002)

Organizationally aware individuals recognized that the *get it done, fast, at any cost* motto of the innovative environment had hidden costs that impact the bottom line later in the cycle. Again, according to Fred, focusing only on results ignored “the finishing work” that turns a rendering into a piece of art.

When I came in to high tech, I was a bit naïve about what really needed to be done to be successful. I think where I am at now is knowing what the needs are and how to get them done. Because the biggest variable is not the technology, it is the people and they either make it or break it. (Fred, personal communication, April 2002)

*Sixth Characteristic*

*Use of technology and the centrality of work is a hyper combination that alters the expectations of work itself and subtly permeates the lives of people in high tech.*

For the sake of productivity, high-tech organizations are the biggest users of the technology they produce. Away from the office, networked home computers and laptops, multi-featured cell phones and pagers, wireless personal digital assistants (PDAs), e-mail, web conferencing, and instant messaging over the Internet keep high-tech workers continuously connected to their work environments. As a result, they work anywhere and
anytime, and the boundary between the workplace and personal space blurs. This convergence is reflected in the thoughts and observations of most of the study participants. Changing employer/employee expectations are numerous and the infringement of the occupational community upon personal social community is pervasive.

The 9 study participants believed that the flexibility technology provided them in their work was good, yet most of them complained about the negative consequences of the tools and what they enabled. Fred thought telecommuting had been most empowering and beneficial to women with small children, but everyone now had the ability to blend “work-work” with “life-work” (English-Lueck, 2002, p. 58).

I think it has enabled everyone to spend time taking care of things that otherwise would get neglected - from hair cuts to dentist appointments to paying bills to, “you know what, I'm just physically spent. We had a hard week, I played too hard, I'm just physically kind of burnt and I just need to sit around in my bunny boots and work at my computer,” and I think that's okay. (Fred, personal communication, April 2002)

However, the study participants expressed more examples of the downside of technology’s productivity tools than upsides. The most consistent complaint was technology’s displacement of personal contact with fellow workers. E-mail has become the most frequent means of communication. Kay said, “it’s frightening how little my phone rings, except for my friends that try to reach me.” Most of her e-mail centered on issues that the senders did not want to confront. “I see e-mails of issues swirling around where it would be just as easy to pick up the phone and clarify it because there is misunderstanding going on.”

People made conscious choices between e-mail, voicemail, and face-to-face conversations based upon preferences, situations, and personal skills (English-Lueck,
There can be no arguments with voice mail left at 1:00AM; on a single matter, an engineer sends e-mail to his peers and leaves voicemail for the marketing manager, who is seldom in front of her computer; and an emotionally intelligent manager senses the anger in a voice mail from a subordinate and immediately requests a face-to-face meeting.

With e-mail, cell phones, and pagers, people felt they were accessible and communicative wherever they were. They failed to differentiate the effectiveness of the medium and only considered the end result – the contact was made. However, Robert comments, “If there were another floor in this building, you might as well be in another state, that’s how often you’d see people. That is just the way people interact.”

Fred complained about never being able to “disconnect” and the problem of maintaining a balanced life, claiming, “You go on vacation, you’ve got your laptop because you can always dial in. Or because you’ve got your cell phone, or your pager, you never truly can release yourself.” Unable to release himself from the technical tether of work, his personal plans always included a contingency or limitation. He stated, “I can go, but I’m sort of going to be on the sidelines because I might be paged. Or my cell phone might ring.”

Michael had people that report to him in Europe and Asia. “We’ve got people working all the time, somewhere. In any given point in time, somebody needs a teleconference.” This new reality had changed the 8:00 a.m.-5:00 p.m. workday to 7:00 a.m.-7:00 p.m. to accommodate more time zones. Two of the managers in this study have people reporting to them that they had never met. Alyssa had five people reporting to her at a remote location, four of which she had never met face-to-face. Michael had several
people in Europe he had never met due to cost-cutting restrictions on travel. He claimed, “I can’t travel, so I haven’t met them, just talked to them on the phone. I hired them on the phone, talk to them all the time, but I haven’t seen them.” Alyssa seemed to find it quite acceptable but Michael missed the nuances of interacting with others face-to-face.

Yeah, I haven’t met them, but they have a Web site and they’ve got each person’s picture up there, so at least you know what they look like. I have “one on one” [meetings], so and I talk to them…[by phone]…And like I said, I think having the instant messenger utility has been really good at making us feel closer than I think we normally would. (Alyssa, personal communication, May 2002)

You’re not going to be able to read body language. You know, so you’ve got to listen to the words. And, unfortunately, most communication is done by body language. It’s not done by what the person says, it’s done by everything else that person is doing. You can tell whether a person’s in or out, or whatever. Their body language tells you what’s really happening. There are very few people that really control that, or want to control that. (Michael, personal communication, May 2002)

Managing people remotely has always been a challenge. Technology has increased the practice by empowering virtual teams, groups of people that come together form different organizations and geographies to accomplish a single objective. However, the issues associated with lack of physical presence do not go away, as Fred observed.

I don't think you can manage big projects remotely. I think you have to have bottom-in-seats and eyeballs-on-paper and everyone needs to be holding the same project document, looking at each other, and having those honest conversations around a conference room table that we just can't have remotely. (Fred, personal communication, April 2002)

The combination of technology’s promise of flexibility and efficiency and the pace in many organizations, particularly startups, make time a scarcity, and the result is working more not less. Technology’s knowledge workers are like expensive capital equipment - idle time is wasted money. Robert described the situation in startups as hard work and extra hours being the indicators of an exciting, high-performing effort.
Engineering time is very scarce, so scarce that engineers in a real startup, where the environment is dynamic and exciting, are working Saturday morning, and sometimes Saturday afternoons, and on Saturday nights. And if you want to find out if a company’s got a startup environment that’s really healthy and exciting, then go down there at 9 o’clock on Saturday, or 10 o’clock on Saturday, and see what the parking lot looks like. And if it doesn't have a pretty good chunk of cars in it, then I wouldn’t buy their stock. (Robert, personal communication, May 2002)

Conversely, there are many people working just as hard as survivors in downsized companies without the same emotional rewards. “That’s the kind of phase we’re in now,” says Michael, “People are getting physically sick...working around the clock...12-, 14-, 16-hour days, all the time.” Though some survivors welcomed the challenge of more responsibility, others did not feel the accomplishments of learning and well being that usually accompany a more positive situation.

We’re really short. And the caseload is increasing. We had our QA department downsized severely recently, and support is taking over some of their functionality to help them out because they’re so small now that they can’t do everything expected of them. So, we’ve got to take on some of those responsibilities. And it’s a real challenge, and I don’t feel like, at least, personally, that I’m doing my job as well as I could be. I feel like I’m spread way too thin. It’s unfortunate...It’s definitely harder to have the same enthusiasm that you used to have when you’re struggling. (Alyssa, personal communication, May 2002)

I’ve been in a couple of situations like this. As you downsize the company, the individuals left over will take an incredible amount of responsibility in work. And what can happen is you can become very stressed and you can get physically disabled. And you’ve got to be careful not to spend that 12, 13, 14, 16-hour day. You can easily get trapped. I’ve seen this; people just fall because you’ve downsized to decrease costs, but everyone’s average workday increases. It’s a bitch. (Neil, personal communication, May 2002)

I think the biggest way that I can impact the company and the feeling around here is to have a little bit of optimism. Not so much that people tell me “get your head out of the clouds,” but to say, “Hey, where this company is going is out of our hands, so let’s just focus on the job that we have to do today. And be thankful that we work for such a great company and are surrounded by really good people.” (Paige, personal communication, April 2002)
Paige had a very realistic view of the situation, and she took a practical approach that would not let her react until she had all of the data. She still found enjoyment in the situation from the opportunity to work with and know interesting people. In Goleman’s (2002) terms, Paige was a resonant leader because she positively engaged with her people, in spite of the circumstances. When one of her employees decided to move on, he was apologetic for leaving and thanked her profusely for being his fan during the time they worked together.

Michael managed his people’s workload by constantly monitoring workflow. It created a workload problem for him. He claimed, “I’m involved in everything they’re involved in.” However, he believed the benefit outweighed the burden he took on, saying, “I’ve got to keep the barriers out of their way. What’s stopping them from doing what they need to do? We’re going through just an incredible amount of change right now, so I am constantly trying to clear their path, watch their workload, maintain a balance between them.” Like Paige, Michael was a big fan of his people, too.

The experiences of the participants appeared to reflect two conflicting organizational expectations for productivity: (1) winning at any cost to the worker, and (2) finishing with minimum cost to the organization. Their comments expressed concern about the cost to the individual and the impact these expectations had on personal balance. Paige was blunt about organizations that viewed individuals purely as resources.

I think that the corporate culture there was not one where you had lots of genuine empathy for people. I mean, people were working extremely long hours, and the expectation for people at my level, when I was there, was to work 12-hour days, to give up your vacation if the project required it. There was not a lot of empathy there for personal agendas. (Paige, personal communication, April 2002)
Paige had bought into that work mode for a while. When she joined her current employer, the Web solutions company mentioned earlier, the long hours and stress began to get to her.

I was running myself so ragged that I just got to a point where I said, “I’m not getting healthier. I can hardly get out of bed on a Saturday morning because I’m just so exhausted.” It’s just not worth it when it starts to affect your health and your personal lifestyle. You’ve just got to say, “This is not worth it.” So, I readjusted to a more balanced lifestyle, and people [began to] realize that I wasn’t this stressed out, grouchy person. And I began to believe that if that sort of lifestyle is not right for me, then it’s not really right for the people working for me or working with me. There are boundaries that I am not willing to cross anymore between work and personal lives…and I would not infringe upon other people’s right to balance that out as well. (Paige, personal communication, April 2002)

Paige applied self-awareness to realize the danger she was in, adapted (self-corrected), and was motivated by empathy to be concerned that others might be experiencing what she overcame. Robert understood where Paige had been and the importance of having that experience. He said, “If you don’t have lows, then you don’t know when to be happy and be optimistic, and there are a lot of people who are able to structure their life so they don’t have those lows. They don’t like to feel that way. Stay away from those people.”

As Neil mentioned above, it is easy to fall into the trap of sacrifice and personal imbalance. All six cultural characteristics can interact to set this trap. Dan wanted more structure, claiming, “I believe in having a life and not just being focused on any one area or aspect. What about getting out doors, playing sports? What about the other aspects of life, the social aspects?” Fred expressed the same thought, saying, “I don’t live to work, I work to pay for things so that I can live.”

It appeared a lack of self-management skills underpinned the imbalance and negative qualities of the sixth characteristic. Transparency, achievement, initiative, emotional self-control, adaptability, and optimism were either missing or overboard in
each scenario; the impact of technology on communication, the expectations of work, and
the sensation of becoming consumed by work were detriments to personal health and
well-being. Neil contended that self-management involves adapting the mind and body
and that managing the stressful aspects of work and personal life “comes about through,
exercise and nutrition, being able to listen, and being able to talk with others about
things.”

Cultural and Emotional Connections

Based upon the number of relevant participant observations, 5 of the 6 cultural
characteristics of the high-technology occupational community appeared to have a
relationship with specific groupings of the emotional competency domains. The fourth
characteristic, the theory that organizations default to the occupational community culture
due to the movement of its workers, was upheld as a cultural trait, but the participants did
not associate it with emotional intelligence as often as they did the other characteristics.
Table 8 summarizes how participant observations linked the cultural characteristics and
the EQ domains. The number in each cell indicates the count of participant comments
that clearly relate the characteristic with the competency.
Table 8

*Participant observations that linked cultural characteristics and emotional competencies*

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Awareness</td>
<td>13</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Self-Management</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Social Awareness</td>
<td>9</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Relationship Management</td>
<td>5</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

The fact that self-awareness was the predominate group of competencies upon which the participants most often reflected is significant, but not unexpected. The self-awareness competencies – emotional self-awareness, accurate self-assessment, and self-confidence – comprise the foundation of the remaining competencies (Goleman, 1995b, 2001a; Goleman et al., 2002). The higher number of associations between self-management and the second, fifth, and sixth cultural characteristics is equally, if not more, pertinent. These three characteristics can be linked to individual identification and connection to a role or situation that triggers the competencies of self-management: emotional self-control, transparency, adaptability, achievement, initiative, and optimism. However, the extremely low association of the second and fourth characteristics with other awareness, social awareness, and relationship management is the relationship that is most consequential to both individuals and organizations.

**Interpretation of Findings**

The participants in this study believed that there are aspects of high-tech organizational culture that have both beneficial and detrimental impact on personal
growth and performance. They were able to associate those effects with specific emotional competencies and imply relationships between cultural characteristics of the high-tech community and the competencies of emotional intelligence. Although multiple relationships between the cultural characteristics and the emotional competencies were identified, higher themes emerged. The discussion that follows is an interpretation of participant perceptions of high-tech organizational culture, how they connected the characteristics with the components of emotional intelligence, and the significance of these relationships to individuals and organizations.

**The Difference in High-tech Organizations**

Table 9 reviews the proposed and emerging cultural characteristics. Three of 4 cultural characteristics suggested for study were upheld by the data as distinctive of high-tech organizational culture. The pace and competitiveness of the environment exacerbated characteristic three, which contended that technologists and business people have conflicting worldviews, but it was not unique to high tech. Several of the participants noted that any environment that brought together scientists of any type in collaboration with business people, e.g. non-scientists, would be subject to similar differences in perspectives. An example is the conflict of interest that might exist between software engineers and marketing managers in high tech and clinical trial project managers and product marketing managers in the pharmaceutical industry. In general, people identify with their functional roles (Hirschhorn & Gilmore, 1992). They will have differences that manifest through the emotional competencies. For example, a systems engineer and a sales executive working together at a software company are both very other aware. Customer relationships are their livelihood. However, the sales executive
has a short-term perspective of the same relationship to which the systems analyst has a longer commitment. The sales executive focuses on selling the product to the customer, but the systems engineer must support the customer’s ongoing use of the product. How they go about establishing and developing those relationships will draw upon incongruent competencies; hence, the potential for conflict increases.
Table 9

Review of cultural characteristic of the high-tech occupational community

<table>
<thead>
<tr>
<th>First Characteristic Proposed</th>
<th>Technical skills and innovation are considered of more value and importance than personal skills and relationships.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Characteristic Proposed</td>
<td>Commitment to the occupational community and personal contribution to it often exceeds commitment to organizations and relationships.</td>
</tr>
<tr>
<td>Third Characteristic Proposed</td>
<td>The technical people in research and development hold different worldviews than the business people in marketing, sales, and finance.</td>
</tr>
<tr>
<td>Fourth Characteristic Proposed</td>
<td>The culture of the occupational community underlies the culture within high-technology organizations as a result of the fluid movement of people between companies and organizational structures that reinforce it.</td>
</tr>
<tr>
<td>Fifth Characteristic Emerged</td>
<td>Lack of organizational boundaries and structure combined with entrepreneurial but inexperienced leadership creates accepted chaos in startup or high-growth environments and is viewed as synonymous with creativity, innovation, and rapid success.</td>
</tr>
<tr>
<td>Sixth Characteristic Emerged</td>
<td>Use of technology and the centrality of work is a hyper combination that alters the expectations of work itself and subtly permeates the lives of people in high tech.</td>
</tr>
</tbody>
</table>

Characteristics one, two, and four, introduced by the study, along with the fifth and sixth that emerged during the research, are predominant assumptions in high tech. In spite of the dichotomy each assumption can create in the lives and environments of high-tech workers, they are accepted aspects of the occupational community’s culture. Acceptance of the assumptions and their associated values and artifacts appeared to be
ascension to the idea that the good outweighs the bad. Considering the first characteristic - high tech values individuals who are intellectually, not emotionally, strong - the cultural inclination is to suffer the social incompetence rather than the failure to innovate. A successful high-tech organization must have smart, creative, and technically-focused people, at any cost. The hidden cost that goes along with high salaries is the resignation that interpersonal skills are not essential to innovation and profit. Like any hidden, intangible cost, sacrificing emotional intelligence creates lost opportunity and eventually becomes very tangible when people sequester, communication fails, and teams falter. If technologists and their counterparts were both intellectually and emotionally competent, their contributions would multiply (Goleman, 2001a).

The second cultural characteristic pits commitment to personal contributions against organizational and social responsibilities. There was rarely a total lack of commitment to an organization or the necessitated relationships cited by the study participants. However, given a choice between personal achievement and shared success, high-tech workers are inclined to seek personal achievement for individual recognition. As a result, the culture is very individualistic and its icons are the mavericks that made their mark on the landscape. The sentiment, “technology for technology’s sake” was a chastisement of this phenomenon claimed by several of the participants. However, they often acknowledged that their own identifications with the industry were a function of their association with a particular innovation, not the organization from which it originated. Organizations need not worry. Though an individual has selfish motivations for performing, the organization still benefits. However, what the individual and the organization risk is the effective alignment of their goals, especially those that are longer
term in nature. This contributes to the lack of social imagination that impacts the other-based emotional competencies, the feelings invoked when considering both the means and the end view of a desired outcome (Ziniewicz, 1999).

The first and second cultural characteristics had the highest number of associations with self-awareness. The participants shared 23 insights about these two cultural aspects that were relevant to self-awareness competencies (See Table 8 in chapter 4). This is understandable given that the two characteristics are self-oriented. The focus on self is important because personal development is motivated by an awareness of the real self and the vision of the ideal self. The first two characteristics are concerned with striving toward the ideal self. However, under these assumptions, as they were observed, the real self is only temporary. High-tech workers are achievers, viewing themselves as continuous learners and changing as constantly as their environment. Though admirable, there is some danger in this outlook because development of emotional intelligence can stall when individuals become too preoccupied with what they want to be rather than who they really are (Boyatzis, 2001). Such focus on the gap may benefit creative tension (Senge, 1990), but there is also the potential for lack of balance. There is so much attention given to reaching the ideal self that the real self gets little reflection.

An accurate assessment of self begins with an exploration of self in context of the environment, using comparative and evaluative judgments (Boyatzis, 2001). Questions representative of this exploration are “How am I doing in this setting? How am I doing in the view of others? Am I part of this group or organization or family?” The first 2 cultural characteristics are clearly concerned about individual performance and
recognition, but they do not encourage reflection on engagement and belonging, the impetus that raises other awareness.

Individuals and leaders who have an accurate assessment of self and manage their emotions well are also empathetic to others (Goleman et al., 2002). In other words, balanced self-awareness increases consciousness, which heightens awareness of what is meaningful to others and resonant in the shared environment. For example, when an engineer is unconscious, she is unsympathetic of the long-term consequence of a sophisticated software design that necessitates an upgrade every time a customer changes their computer configuration. A self- and socially-aware engineer will toil with a team of peers from software engineering, network architecture, marketing, QA, and customer support to understand the full range of issues introduced by the software’s design, address them, and celebrate success as a group.

Empathy is also a factor in the relationship between the third cultural characteristic – the exacerbated differences in the perspectives of technical and non-technical people in high tech – and emotional intelligence. This association is no revelation, given the individualistic qualities of the first two assumptions and how self-interest is first order in the high-tech environment. The viewpoints and perspectives of the disparate disciplines of high-tech organizations (i.e. engineering, marketing, sales, finance, production, and service) are tolerated rather than respected and truly understood. Lines are drawn between functions in boundaryless organizations and identities are tied to job descriptions that are intentionally vague. Software design engineers in Silicon Valley will embrace the multiple ethnicities within their ranks with much more openness
than in their attempts to empathize with the personalities and urgencies of the sales team (English-Lueck, 2002).

The identification with role is reinforced by the focus on self-achievement within that role, adding a strong *us-them* element to an individualistic climate. People who accommodate and respect other individual contributors fairly and equally are the exception in high tech (Douglass, 1991). However, the unfortunate results of the status quo are 1) a lack of appreciation for contributions outside of one’s function, 2) low organizational/political awareness, and 3) limiting relationships. If this cultural characteristic were less pervasive, there might be better balance between self and organizational identity and diverse relationships would rise in value, scope, and meaningfulness. The most beneficial manifestations of heightened levels of empathy would be more effective cross-functional teams in the short term and organizations with genuinely shared visions of the long term.

The individualism that underpins all three of the characteristics discussed surfaces again in the fourth cultural characteristic – the fluidity of worker movement and its contribution to the underlying culture in high-tech organizations. High tech was one of the first occupational communities to embrace the *free agent* approach to employment (Pink, 1997; Saccomano, 2002). The careers of 7 of the 9 participants of this study exemplify how multiple job changes are motivated by the desire for personal growth, achievement, and happiness. Free agency has also impacted Silicon Valley management practice. Labor mobility and limited relationships are expected and accepted (Pfeffer, 2001). Although the region has excelled in generating new technologies at a rapid pace, it has not been as effective in building sustainable organizations or in demonstrating sound
management practices. Individualism cannot take the entire blame for the lack of loyalty to organizations.

The free agent mentality of many knowledge workers indicates that the social contract between employer and employee has evolved from employer commitment to stable careers to employer commitment only to employable skills (Abramson, 1999; Jacques, 1996; Saccomano, 2002). High-tech workers began to feel the effects of that change in the early 1970s, when the end of the Vietnam War reduced defense spending and jobs (Henton et al., 2002). The high-tech occupational community has suffered three more industry downturns since that time, with the same response from employers – the elimination of jobs. So, when high-tech workers are unhappy with their environment, there is no sense of loyalty to make them endure the dissatisfaction. Instead, those workers will take their knowledge assets and move to another company, start their own, or simply take a hiatus until another opportunity is presented. As Robert pointed out, “Isn’t that what the Valley is all about?”

There were very few examples of strong organizational cultures presented in the cases. Paige talked about the culture and expectation of fitting in at the consulting firm. Fred believed that one of the high-growth technology companies for which he worked had a uniquely positive culture that valued and invested in employee development. The majority of observations about organizational culture were categorical. The participants related cultural characteristics to organizational growth stage, leadership or structure, and sometimes to the technology itself. The significance was the consistency in their observations about the characteristics. The most consistent themes follow.

1. High-tech workers have a tendency to be individualistic to a fault.
2. Startup organizations are expected to be chaotic and boundaryless.

3. Leaders in startup organizations are assumed to be visionary, but inexperienced, leaders.

4. Engineers (product managers, marketing directors, account managers, service technicians, etc.) focus on their tasks, identities, and politics, often to the detriment of group effectiveness.

5. The structure and market-protecting strategies of large, high-tech organizations stifle innovation and time to market.

6. Less personal communication (e-mail, teleconferences, webcasts) works, even though it may be less effective.

Considering the diverse and expansive experience of the group of professionals that participated in this study, it can be concluded that the culture of the occupational community epitomized by these themes is at the core of many more high-tech work environments than those they encountered.

_The Leadership Dilemma_

Leadership styles can be matched to emotional competencies (Goleman et al., 2002). The different styles and corresponding emotional skills a leader draws upon are dependent upon the situation. The study data substantiated the common assumption that high-tech innovation is driven by entrepreneurial leaders expected to envision and create breakthrough products and successful businesses. The participants also concurred, that as an organization matured, leaders are expected to identify, nurture, and manage the knowledge resources necessary to sustain success. Table 10 lists a repertoire of leadership styles and their associated emotional competencies (Goleman et al., 2002).
Table 11 maps those styles to the entrepreneurial and sustaining leadership necessary in high-tech environments as described by the study participants.

Table 10

*Leadership styles and corresponding emotional competencies (Goleman et al., 2002)*

<table>
<thead>
<tr>
<th>Style</th>
<th>Emotional Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visionary</td>
<td>Inspirational leadership</td>
</tr>
<tr>
<td>(Resonant)</td>
<td>Emotional self-awareness</td>
</tr>
<tr>
<td></td>
<td>Self-confidence</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
</tr>
<tr>
<td></td>
<td>Change catalyst</td>
</tr>
<tr>
<td></td>
<td>Transparency</td>
</tr>
<tr>
<td>Coaching</td>
<td>Developing others</td>
</tr>
<tr>
<td>(Resonant)</td>
<td>Emotional self-awareness</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
</tr>
<tr>
<td>Affiliative</td>
<td>Teamwork and collaboration</td>
</tr>
<tr>
<td>(Resonant)</td>
<td>Empathy</td>
</tr>
<tr>
<td></td>
<td>Conflict Management</td>
</tr>
<tr>
<td>Democratic</td>
<td>Teamwork and collaboration</td>
</tr>
<tr>
<td>(Resonant)</td>
<td>Conflict management</td>
</tr>
<tr>
<td></td>
<td>Influence</td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
</tr>
<tr>
<td>Pacesetting</td>
<td>Achievement</td>
</tr>
<tr>
<td>(Dissonant)</td>
<td>Initiative</td>
</tr>
<tr>
<td>Commanding</td>
<td>Influence</td>
</tr>
<tr>
<td>(Dissonant)</td>
<td>Achievement</td>
</tr>
<tr>
<td></td>
<td>Initiative</td>
</tr>
</tbody>
</table>
Table 11

*Styles applied by entrepreneurial and sustaining leaders*

<table>
<thead>
<tr>
<th>Entrepreneurial</th>
<th>Sustaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visionary</td>
<td>Coaching</td>
</tr>
<tr>
<td>Pacesetting</td>
<td>Affiliative</td>
</tr>
<tr>
<td>Commanding</td>
<td>Democratic</td>
</tr>
<tr>
<td></td>
<td>Visionary</td>
</tr>
<tr>
<td></td>
<td>Commanding</td>
</tr>
</tbody>
</table>

High-tech startup CEOs are expected to be visionary, pacesetting, and in control of a plan to achieve rapid results. However, the observations of the study participants reflected two cautions from Goleman (2002) about entrepreneurial leadership. Empathy matters most to visionary leadership. A leader who lacks empathy will misread people and fail to inspire them when it matters most. Secondly, entrepreneurial styles can backfire in situations where the leader is working with a team or peers that are more experienced than he or she. In such cases described by the study informants, leaders undermined the spirit of the team, often reverted to the other styles, became overbearing, and turned excitement into cynicism.

Based upon their descriptions of their personal approaches to managing, each of the participants in the study applied the skills and competencies of a sustaining leader. Even Robert, who preferred the startup environment, applied an effective combination of both style groups. The participants with experience in high-growth environments (8 of 9) believed startup executives could get better results when they used a mix of the emotional
competencies, but they seldom saw that happen. Instead, high-tech CEOs and senior managers were fixated on short-term commitments and saw social awareness and relationship management as someone else’s longer-term problem. Entrepreneurial leaders left such issues for the sustaining leaders that followed their exits from the turbulent wake of rapid growth. This is the leadership and climate described by the fifth cultural characteristic – the frequent pairing of loose organizational structure and entrepreneurial, but inexperienced, leadership.

For the sustaining leaders participating in this study, this union was one of the more frustrating aspects of their organizations’ culture. At a time when agile, aware leadership is most important, it was often lacking. Pacesetting, entrepreneurial leaders had little patience for the coaching or team building often needed in emerging, boundaryless organizations. Their obsession with the goal can made them insensitive to knowing when to get out of the way and let others set the course. When leaders paid little attention to followers, they lost their impact on them. As Kay pointed out, they were oblivious to their own dysfunction.

The few success stories of entrepreneurial leadership were about technical founders that “loved their widgets” and related to their team in various ways. They were technical pacesetters, inspirational and empathetic to the engineers while they let the people in the marketing, sales, and finance functions do their respective jobs. These CEOs articulated a vision every team member could champion because they understood the diverse perspectives involved. However, according to the data in this study, such CEOs were rare. Like so many in the community, they were self-oriented and lacked empathy and social imagination. Although Silicon Valley has excelled at the rapid
generation of new technologies, it has been less successful in building sustainable organizations, demonstrating sound management practices, or developing effective leadership (Pfeffer, 2001).

*It Comes with the Territory*

The sixth characteristic may be more of a cultural artifact than an underlying assumption. The saturation of technology throughout the work environment combined with the centrality of work is changing how the high-tech community works and lives. The study showed that this phenomenon is impacting individual self-management and relationship management in two ways. First, technology is expanding organizational territory. The workplace is anywhere within the range of telecommunication. There is no longer a clear delineation to when a person is at work and when he or she is not. Self-awareness and self-management become more complex because an individual must now consider multiple communities when assessing the real and ideal self and balancing stability and change. What has priority on a Sunday afternoon? Taking the kids to a church picnic or touching base with a development partner in India. Second, technology is changing relationship management because the methods – e-mail, voice mail, cell phones, two-way messaging, teleconferences, and/or webcasts – require good social skills to be effective, but do little to develop them. The study participants mourned the loss of transparency and authentic openness to others, as these devices are used in lieu of face-to-face communication. As a result, the high-tech workspace is becoming increasingly anti-social.

This bifurcation of leadership styles and working climate is pervasive in high tech and underlies both the fifth and sixth cultural characteristics. The participants assumed
the opposing leadership styles and emerging environments were appropriate based upon
the stage of organizational growth. Entrepreneurial leadership and fluid boundaries were
expected and effective in startups and some high-growth organizations. Sustaining
leadership and structure were expected and effective in both high-growth and mature
organizations.

A relevant point for this discussion is that several of the participants believed that
entrepreneurial leadership and a chaotic work environment epitomized high technology.
Once an organization reached the Fortune 1000, it was high tech only in SIC
classification. The bureaucracy, structure, and inertia that come with organizational
growth vanquish the cultural artifacts and espoused values of the occupational
community. No more R&D cowboys, marketing mavericks, narcissistic CEOs, and 7x12
work weeks. On the positive side of the transformation to sustainability, balance is
critical and valued. However, the loss of the culture’s dynamism is measured in
creativity, agility, and excitement. Each participant wanted the best of both worlds. Their
ideal work environment would be a high-growth organization with leaders that were both
entrepreneurial and sustaining and individual contributors that were balanced in their
sense of self and social awareness. There is a substantial amount of study and research
that suggest an organization having such people – emotionally intelligent leaders and
individuals – would certainly be high performing (Cherniss, 2001; Goleman, 2000;
Goleman et al., 2001; Spencer, 2001). The challenge for the high-tech community is
raising awareness of the effects of the culture on EQ development and application and
then going about the change of leveraging the beneficial aspects and minimizing those
that are adverse.
Summary: A Basic Assumption

There is a deeper, common assumption underlying each of the six characteristics. All of them give more credence to the fruit of personal, intellectual endeavor than to the meaningfulness of human engagement and social responsibility. This basic assumption is evident in each organizational stage, from founding startup to midlife/high-growth, to full maturity and even decline. The artifacts and values change, but whether the company is a startup or a technology blue chip, innovation and personal achievement, at any bearable cost, is primary and social awareness and engagement are secondary. Emotional intelligence is not completely absent in high-tech culture, but many critical competencies are undervalued, and therefore, its full potential goes unrealized. As Fred observed, people in high tech are “not whole people, they’re not complete.”

Emotional intelligence is alive, but not very well, in high-tech organizations. It is alive in the strong awareness of self so many leaders and workers exhibit. It is ailing for the same reason. The high-tech community is stuck on itself – itself being rapid, breakthrough innovation. The cultural characteristics examined in this study breed narcissism, the concern for personal identity and value. Few high-tech leaders will espouse a fuller set of values beyond those that promote hard work, winning, and economic success. Too often, what is missing is the complementary set of cultural values that promote socially responsible behavior. The unfortunate result is a roaming occupational community that does not care to engage. This dissatisfaction is the malady that saps the effectiveness of high-tech organizations.
CHAPTER 5
RECOMMENDATIONS

“There is no power equal to a community discovering what it cares about.”
(Wheatley, 2002, p. 22)

The myopic tendencies of the high-tech community manifest in its workers as one-sided emotional intelligence. The most significant conclusion drawn from this study is that the high-tech work environment is heavily populated by individuals with strong self-oriented skills but limited in the ability and/or desire to engage others. The closing chapter of this study elaborates on this conclusion and presents recommendations based upon the interpretation of the data and its relevancy to the researcher’s propositions. The opportunity presented by this study is a better understanding of the systemic relationship between personal development and high-tech organizational culture and the impact on individual and organizational performance.

A Community in Discovery

High tech’s basic cultural assumption that values intellectual contribution and undervalues human engagement and social responsibility is the fallout of 4 decades of relentless pursuit of the next breakthrough. It comes at a cost that continues to affect the occupational community as an ongoing debit to the social evolution of the workplace in general. It is a debilitating assumption because it encourages the belief that innovation is the result of the human intellect and gives little credit to the role of human spirit. It is the human spirit that generates creativity, establishes values, and motivates behaviors. Intellect is the tool and emotion is the energy of thought, giving both positive and
negative power to ideas (Burgi-Golub, 1997). Spirit is the broader context from which individuals interpret emotion and thought (Zohar & Marshall, 2000). To leave spirit and emotion at the company door is crazy-making. It is no wonder that U.S. business regularly finds itself on the brink of scandal and crisis, to be saved by government intervention that forces the accountability, ethics, and social responsibility previously ignored (Emert, 2002; Mintzberg, Simons, & Basu, 2002).

Like the majority of organizations, high-tech work environments remain stuck in the mechanistic model that views people as resources (machines) in spite of a growing interest in alternative, more holistic views, of working and living. Because of this disconnect, the social evolution of the workplace is falling out of synch with that of society, creating a gap that is contributing to the phenomena observed in this study. High-tech organizations are on the leading edge of this problem. They permeate the lives of their workers, yet they take little social responsibility for that privilege. Organizations can begin to correct this dichotomy by engaging the richness of the human experience and reviving their roles as both economic and social institutions (Mintzberg et al., 2002).

Proposals for Engagement

The study’s propositions are concerned with the systemic relationships between occupational culture, emotional intelligence, and organizational performance. Because the study has shown that the occupational community’s culture is often the starting point or the foundation of a high-technology company’s specific culture, there is a need to identify particular areas of opportunity for improvement or further investigation. The recommendations that follow are based upon insights from the analysis of both primary and secondary data.
Proposition 1: The characteristic of high-tech organizational culture that places value on technology and innovation above people and relationships inhibits individual and organizational social imagination – the general consideration of conditions and consequences of a chosen course of action.

Recommendation: Without the balance of empathy, the strong individualism pervasive in high-tech culture takes on narcissistic qualities. To get people to work beyond their own roles and self-interests, high-technology organizations must develop, encourage, and value the social competencies of emotional intelligence.

In organizations where the competitive and technological terrain changes so rapidly, it was startling to learn that many people still held on to narrow perspectives of their environments. This is a cultural trait high-tech organizations need to address if they want to adopt structures that accommodate the emergent nature of their innovation processes. In such organizations, one of the most important sets of employee skills is interpersonal (Dessler, 2001). Every member of a team needs to take a lively interest in the roles, challenges, and problems of other members who contribute in different ways to the final product or service because their own performance may depend upon it (Hirschhorn & Gilmore, 1992).

People who balance their conscientiousness between self and the groups of which they are a part are more likely to consider the value and potential impact of their decisions, behaviors, and contributions from both perspectives (Boyatzis, 2001; Cooper & Sawaf, 1998; Goleman et al., 2002). Reflection and foresight regarding a person’s role within a group requires empathy - the process of understanding; being aware of; being sensitive to; and vicariously experiencing the feelings, thoughts, and experience of
another. If empathy was as valued in startup organizations as achievement and initiative, the end-in-view would go beyond being first to market to include the teamwork of getting there and the accountability that follows. Typical startup/high-growth maladies such as employee churn, tenuous partnerships, and customer disappointment might be avoided.

Fred made the comment, “I've learned not to fall in love with an idea and to be flexible to other people coming up with solutions that will get there, maybe not the same way, but they will get to the end result.” This statement was an example of empathy in practice. Mintzberg, et al (2002) believed that engagement – diffusing leadership and trusting teams with ownership and accountability - promotes socially responsible behavior. High-tech organizations realize the potential of empathy when everyone contributes through a team and is prepared with the skills to do so. Such a commitment will also require an investment in the personal development of each employee as a potential leader.

Proposition 2: The conflicting worldviews of technologists and business people in high-technology organizations divides the community and undermines the emotional competencies that support group trust, identity, and self-efficacy.

No recommendation is offered here because the findings did not fully support this proposition. The difference in worldviews is a phenomenon that occurs between scientific and non-scientific groups and is not particularly distinctive of high technology. Another inaccuracy in the statement is the assertion that the differences divide the community, implying technologists vs. non-technologists.

However, the findings do suggest that further study might be beneficial to high-tech organizations. The participants in the study observed that the community has several
factions that tend to segregate themselves with differing perspectives about the business of high tech. Although this reality is not unique to high-tech organizations, the environment’s pace, competitiveness, individualism, and lack of social awareness exacerbate the problem. Cross-functional project teams may not be as effective as they could be if members were less insular and more emotionally intelligent.

Proposition 3: The conflict between the high-technology community’s loyalty to occupational contribution and its organizational quest for profitable innovation is creating a shift in employee-employer relationships. Employees and employers are less committed to the others goals and values; organizational structures are flatter with too many managers making decisions and fewer people in the ranks to implement them; and cynicism increasingly outweighs trust.

A recommendation to address this issue follows, but the research suggests some qualification of the proposition. There is a shift occurring in the employee-employer relationship that is actually aligned in its short-termed, self-serving focus but benefits neither party. High-tech workers want to make a mark and move on to the next opportunity to make an impact. High-tech organizations want to get breakthrough products to market in order to meet shareholder expectations and move on to the next performance milestone. They commit to separate goals that usually have the same outcome, after which they begin the cycle anew. The unfortunate aspect of this shift is the impact of the fourth characteristic – movement to new organizations as a means to start anew. When workers and organizational leaders move on, they often leave bifurcating chaos behind them that has little vision and meaningfulness to keep it going. This kind of preoccupation with personal interests can create selfish, toxic organizations. Mintzberg
(2002) asks “So why not…rush a questionable product to market or offer customer kickbacks to push up sales in a quarter?” The long-term is too often someone else’s issue. Several of the managers participating in the study (Paige, Fred, Jack, and Neil) questioned this approach to and the ethics underlying it. Jack called it “unfriendly business.”

The organizational philosophy responsible for this shift is shareholder value in the short-term, using just-in-time resources. In fledgling companies or organizations in survival mode, the managers accountable for this type of commitment hire people for the recurring skill requirements and establish partnerships and contract for services to accomplish goals on a project-by-project basis. Managers in high-growth and sustaining organizations choose structures that support internal teams having the functions and skills needed to meet an objective. In both organizational structures, teams are configured to meet a common purpose (Dessler, 2001). The jeopardy presented by the trend toward employee-employer selfishness is the commitment of those teams to a common purpose.

The two important assertions of this proposition are 1) the shift in the social contract between employer and employee is mutually agreeable but detrimental and 2) the effect is altering the philosophy, structure, and emotions of the workplace. According to Mintzberg (2002), “A tight little model – we call is a syndrome of selfishness – has taken hold of corporations and our societies, as well as out minds.” Lean and mean organizations are becoming places where people “appear to wear the same jersey, but in reality they’re all playing on different teams” (Saccomano, 2002, p.1).

The issue this creates for high-tech organizations is similar to that facing individuals – balancing the self and other awarenesses. The self aspect is that which
grows and sustains it in the short term – meeting investor and shareholder expectations. The other aspect is that which grows and sustains it in the long term – the relationships it has with the remaining stakeholders, its employees, customers, partners, and communities. When an organization can leverage both aspects, just as with a person, it becomes emotionally intelligent.

Recommendation: To achieve emotional balance, high-technology organizations must nurture a propensity to pursue a common purpose. They must begin with an organizational vision from which all stakeholders can find meaning and follow through with organizational designs that support diverse team structures and diffuses leadership.

As product cycles shrank and market change accelerated, many high-technology organizations began to scoff at visions and strategies. However, the reason visionary leadership and strategic planning has failed in this environment is the mechanical nature of the methodology. If chaos is the organizational metaphor of high tech, then a linear approach of planning, predicting, and analyzing is folly. Traditional strategic planning sought to align people and organizations to common goals. But alignment is impossible within a chaotic system.

The high-technology organizations epitomized by the participants of this study were chaotic, fluid, and unpredictable. During early stages, they were exciting, prolific, and “vibrant,” to use Robert’s description. But these organizations ran into trouble when they reached a point where they believed order was necessary. In the panic of approaching bifurcation, leaders (and followers) became accustomed to throwing in the towel. Process was resisted, blamed, and ultimately implemented using structures that
stifled communication, limited exposure, and pushed leadership and decision-making farther away from the work. Too often, giving up led to moving on.

The mystery of chaos theory is that chaos seeks order and no one knows from where that order comes. Eventually, chaos becomes an orderly system as the result of the pull of a “strange attractor” (Wheatley, 1999). Strange attractors feed back into complexity to create order. Commitment to a vision, mission, or guiding principle may be all that an organization needs to retain the fluidity of chaos, encourage congruent decisions at all levels, and become what it wants to be (Bergquist, 1993). Strategic visions, and the missions and plans they traditionally spawn, are limited, speaking only to the rational, intellectual mind and “bypassing the elements of the heart and passion essential for building commitment” (Goleman et al., 2002, p. 208). Using chaos theory as a metaphorical model, high-tech organizations need a vision that directly connects with the emotional centers of the people, the strange attractors, and flat, loosely-structured organizational designs that allow people to self-organize, i.e. the chaos.

Jack believed that leaders hoist a flag that says, “we’re going to be known for this” and that belief permeates the entire organization. The void of clearly stated visions or philosophies is filled by the actions of leaders. This is risky business. The findings suggest that the combination of entrepreneurial, visionary, and inspirational leader is rare. If a CEO is steering an organization toward a short-term objective and paying little homage to a shared vision, the selfish flag is hoisted. As a result, followers – committed or otherwise - have little else to shape their behavior than short-term self-interest. If a founder or CEO establishes an intended direction that evokes emotional feelings in people and initiates an organizational structure that is conducive to empowered teams and
emergent processes, a different flag is hoisted. This one shapes collective behavior attuned to the vision and others.

Proposition 4: High-technology organizations that neglect to address the changing employee-employer relationship perpetuate the status quo by exacerbating the movement of people out of one organization to another.

This proposition is directly related to the fourth cultural characteristic that associates the frequent job changes of high-tech workers to the proliferation of the community’s culture throughout the majority of high-tech organizations. The proposition asserts that the existing employer-employee relationship discussed in proposition 3 fuels the movement and perpetuates the inability of many high-tech organizations to develop strong cultures of their own.

The recommendation presented for proposition 3 will also address this issue. Organizations centered with a vision create a strong, resonant, emotionally intelligent, and effective culture (Goleman et al., 2002). Organizational designs that support the self-organization and full accountability of teams provide workers with more opportunities from which to choose, grow, and contribute. Such teams develop and refine their configurations, governance, and processes as information, boundaries, and knowledge change (Wheatley, 1999). People in such environments learn to balance their personal, short-term objectives with a long-term vision. This is a balance that can add meaningfulness to work and the desire to stick around.

Proposition 5: High-technology organizations and leaders can mitigate the negative impacts of the shift in employee-employer relationships by fostering trust, identification, and self-efficacy within the changing organizational structures.
Cultural change is slow. Until there is a shared vision that engages everyone in navigating turbulent change and short-term expectations, leaders must mitigate the current reality. The critical piece of that unpleasant reality is a just-in-time, cynical, workforce with few loyalties beyond self.

Recommendation: Promote engagement by 1) delegating decision-making and trusting the decision-makers, 2) diffusing the *us and them* mentality, and 3) using resonance-building leadership styles (Goleman et al., 2002; Mintzberg et al., 2002).

The term empowerment has adverse connotations because it implies that power is external and has to be given as opposed to manifested from within (Jacques, 1996). It is unfortunate because empowerment when accompanied by trust and mutual respect can be a cornerstone of engagement. Delegating leadership and accountability throughout the organization sets the vision in motion.

Identification, the collective behavior through which members express attachment to a group (Huy, 1999), is based upon job description in high-tech organizations. The *we/they* barriers this creates stops identification from reaching the organizational level and does nothing for the development empathy and organizational awareness. Addressing this problem requires creativity of the part of concerned leaders. Following are some successful approaches (Preston, 1999).

1. Cross-group social activities outside of the workplace
2. Breakfast with the CEO to brief cross-functional team members on non-technical business issues
3. *Externships* where staff and managers are assigned to work in groups outside of their own for several weeks a year
The resonance-building leadership styles are summarized in Table 8. These leadership styles promote engagement in a way that focuses on people and builds emotional bonds, as “resonance creates an invisible but powerful bond between people based upon a belief in what they are doing and a belief in one another” (Goleman et al., 2002, p. 211). Resonance of this nature builds both self- and group-efficacy.

**Proposition 6:** *The economic and organizational impacts of the technology cycle can distract high-technology leaders and organizations away from strategies that value personal and social competencies. However, such competencies are essential for effective organizational performance throughout the entire cycle.*

This proposition is essentially a summarization of the previous five, taking into account the role technology cycles play in the chaos and turbulence of high-tech work environments. Therefore, the recommendations offered above are applicable. However, proposition 6 provides the opportunity to synthesize the conclusions and close with a story of how the recommendations have been successfully applied.

The unpredictability of technology cycles has encouraged the short-term, market-driven strategies that have provoked the organizational abdication and lack of social imagination already discussed. Over time and multiple cycles, organizational strategies have become reactive and employer-employee relationships have eroded to the point where the emotional competencies of both are severely out of balance. Self-awareness and self-management outweigh social awareness and relationship management. Without the primal social competencies of empathy, service orientation, building bonds, and teamwork/collaboration, a concern for personal identity and value prevails over a broader set of basic social values that foster trust and commitment. The culture of the
occupational community has embodied this shift in the social contract in characteristics that have a common theme of self-interest. More value is placed upon the fruit of personal, intellectual endeavor than to the meaningfulness of human engagement and social responsibility.

Successful Engagement: The Story of Tandem Computers

The author offers these recommendations to leaders at every level of an organization. They are a means of gaining balance and building a strong, unique, and resonant organizational culture capable of weathering the turbulence that comes with the territory. Hewlett-Packard’s NonStop Enterprise Division, formerly Tandem Computers, epitomizes such an organization.

Vision and culture in a new organization begins with the founder (Schein, 1992). Jim Treybig, fresh out of business school and one of Hewlett-Packard’s (HP) first computer salesmen, believed that it was possible to build a computer that would not fail (Clemson, 2002). With Treybig’s support, an ad hoc team of field engineers built an approximation of the first fault tolerant transaction processing systems in the early 1970s. Treybig and most of this group left HP in 1974 to found Tandem Computers.

Treybig took a lot more than talent with him when he left HP. The HP Way was a belief in people, and he saw that it worked. Therefore, his vision was not only one of building a new technology but also building a unique cultural environment “that encouraged not stifled new ideas; that rewarded individual contributors not just managers; that understood the importance of family, of teamwork, of creativity and getting things done” (Clemson, 2002, p. 1). Treybig created an organizational philosophy
to foster happy customers, happy workers, and happy shareholders and threw in beer
busts every Friday afternoon and six week sabbaticals every four years.

Conversation and communication were paramount and served as the life energy of
the culture. The organizational structure was designed around client industries. Cross-
functional field teams sold, implemented, and supported Tandem products. The field
teams were accountable for the bottom line and the customer relationship and could
augment their configurations with corporate resources, if they made the case. At the
Friday afternoon beer bust, at every location, system engineers and account executives,
hardware engineers and finance managers, would have plenty to talk about over a beer or
glass of wine. However, the discussions were usually balanced between work and outside
interests. Family members were welcomed and were often in attendance. Musicians
brought their instruments to entertain or lead sing-a-longs. People got to know each other.

Tandem was a prolific user of technology as a communications and productivity
tool. An internal e-mail system was developed and implemented in the late 1970s, long
before e-mail became a popular mode of communication. The system connected offices
and people around the world. The design made it a very effective business tool and means
of sharing information. The Tandem Television Network (TTN) was a satellite network
through which training, major announcements, and important meetings were telecast,
live, to every location that permitted a dish on the roof. Employees looked forward to
First Friday, a fun, monthly broadcast with a serious purpose of providing a company
update. But the talk show, a spoof hosted by a regional sales vice president using *Buck
Prophit* as a pseudonym, was full of humor and even allowed Treybig to get into the act.
In fact, TTN was also a team effort. The staff consisted of producers and technicians that
drew upon the rest of the Tandem organization for cast and content, depending upon the project, for every broadcast.

The philosophy and practices described above were new to the industry and brought notoriety to Tandem as a “great place to work” (Clemson, 2002). Commitment, pride, engagement, and enthusiasm were evident throughout the organization. Posters of the Tandem Value System, Figure 3, were proudly displayed in offices and cubicles.
**Core Values**

- Respect for people and their diversity
- Importance of the individual
- Fairness
- Honesty and trust
- Open and effective communication
- Responsible action and ownership

- Hard work
- Flexibility
- Innovation and creativity
- Quality in all we do
- Shared success

**Business Relationships**

- Our value system is composed of an interconnected set of core values and the business relationships in which they are applied.

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*Figure 3. Tandem Values System poster. (H. Levine, personal communication, July 11, 2002)*
Tandem endured two technology cycles but began to struggle when the market moved toward open systems. The operating system running on Tandem servers was, and still is, proprietary – a necessity to accommodate the thousands of processors and tens of thousands of transactions per second required by stock exchanges, online services, and ATM networks. Tandem management became divided between staying with its strengths or jumping on the open bandwagon. The decision was to do both and Treybig’s wheel lost momentum.

While much of the original vision was manifest, Tandem missed some big plays, really big plays. Old friends and confidants moved on. Replacements were left to attend to their own interests. The beer busts fragmented. Coherent excitement became corporate, an oxymoronish concept. (Turner, 2002, p. 2).

In 1994, Treybig proposed a buyout to Compaq, but Compaq was not interested. He left Tandem in 1996, a year before Compaq changed its mind (Shankland, 2002). Now, with the May 2002 merger of Compaq and HP complete, Tandem has returned to its HP roots.

Maybe as a result of this serendipitous return to its origins, the Tandem community that Treybig sparked with a vision almost 3 decades ago is reconvening. The author worked for Tandem between 1984 and 1996. In June 2002, she received notice of the formation of a Tandem Alumni Group and an Internet Web site. Upon joining the group and the subsequent dialogue, she experienced the exciting, heart-felt contagion that underpinned the Tandem culture she remembered. Over 1900 people, including Treybig and many of the original founding team, have returned to share their memories of a company and culture like no other they have known. As would be expected from such a
community, electronic communication is not enough – they all want to see and talk to each other, person-to-person. Plans for a reunion are underway.

Tandem began with a vision and philosophy that stirred emotions. Leadership was diffused, teams were truly empowered, and people respected and took interest in each other. For over 15 years, the organization performed well with a team-oriented structure, tenure was far longer than average, no one consistently worked 70-hour weeks, and technology was a tool and not a replacement for human contact. Tandem faltered when it looked away from its vision and succumbed to the game of what it believed were its competitors.

Nevertheless, a trace of the vision remained. Although Tandem lost ground to the commodity system providers, and it has been assimilated into Compaq, and now HP, what remains of the company looks much as it did in the early days. The technology still prevails as the premier fault tolerant transaction processing system available today. The list of core values still hangs on the walls of employees in HP’s NonStop Enterprise Division. They still “hoist the flag”, as Jack would say.

Tandem’s flag was, and apparently still is, a set of values that placed equal importance on self and others, individual and organization. The core values that underpinned the culture had self-oriented components that were balanced with other-oriented beliefs. Importance of the individual was tempered by respect for people and their diversity. Hard work was balanced by the belief in shared success. The focus on innovation and creativity was given a longer view with the expectation of responsible action and ownership. Open and effective communication was made possible by honesty and trust. Tandem was a success and had such a positive impact on the people who
worked there because it recognized the importance of balanced values. Tandem and its leadership knew that to be effective as an organization, its *self* needed to truly engage with *others* in their desire to do the same.
References


development, assessment, and application at home, school, and in the workplace (pp. 343-362). San Francisco: Jossey-Bass.


*Electronics, 38,* reprint.


Appendix A

Interview Guidelines

Interview I: Life History and Details of Experience in High-Tech

The following questions will serve as a guideline for the first interview. They are descriptive questions meant to develop the setting of the study, in the words of the informant (Seidman, 1998; Spradley, 1979). Follow up questions, descriptive or structural, will explore or categorize responses, respectively. Structural questions are used to help test the domains of this study (Spradley, 1979).

1. Tell me about how you came to be a part of the high-tech industry.

2. What is it that led to your choosing the high-tech arena over other industries?

3. What characteristics of the high tech work environment do you enjoy the most? What, if any, do you dislike?

4. Tell me about the job transitions you’ve made in your high-tech career?

5. If you’ve worked for more than one high-tech company, compare and contrast your experiences working in those companies.
   a. Describe the similarities between the companies. (*How do you feel about them, i.e., the similarities, Why?*)
   b. Tell me about some of the differences between those companies. (*How do you feel about them, i.e., the differences? Why?*)

6. Describe a typical day in your job at ________________.
Interview 2: Reflection on Environment and EQ

Prior to this session, the participant has received the EQ assessment report. The researcher has also reviewed the EQ scores and the transcripts and notes from the first interview. The second interview will initially focus on the relationships between the five composite scales of the EQ-i – intrapersonal EQ, interpersonal EQ, adaptability EQ, stress management EQ, and general mood EQ – and the participant’s work experience in high-tech. Follow up questions may bring up the content subscales of each composite scales, depending upon responses. The questions will be descriptive, structural, and contrast questions. Contrast question are opening and follow up inquiries seeking to discover the meaning and relationships within the informant’s responses (Spradley, 1979). The questions below are the guideline for the second interview.

1. What are your reactions to your EQ scores?

2. How has your experience working in high tech impacted the development and application of your intrapersonal EQ?

3. How has your experience working in high tech impacted the development and application of your interpersonal EQ?
   Interpersonal EQ: Empathy, Social Responsibility, and Interpersonal Relationships

4. How has your experience working in high tech impacted the development and application of your adaptability EQ?
   Adaptability EQ: Reality Testing, Flexibility, and Problem Solving
5. How has your experience working in high tech impacted the development and application of your stress management EQ?

   Stress Management EQ: Stress tolerance and Impulse Control

6. How has your experience working in high tech impacted the development and application of your general mood EQ?

   General Mood EQ: Optimism and Happiness

7. In what ways do you use your EQ related to the aspects of high tech you enjoy?
   (This question will be derived from the previous interview.)

8. In what ways do you apply your EQ to aspects of high tech you dislike? (This question will be derived from the previous interview.)

9. Let’s go back to your typical day at ____________. Describe if and how you used any component of your EQ in each of your activities and encounters.
Appendix B

Request for Participants

Dear _____________________

Thank you for considering taking part in a study of the relationship between high-technology organizational culture and individual emotional intelligence (EQ).

Preliminary research suggests that middle managers develop, apply, and benefit most from EQ. For this reason, individuals with your experience and position are the most capable of describing how high-tech culture and emotional intelligence interact.

Your anonymous participation in this project will consist of two interviews and the completion of an EQ survey over a period of about two weeks. Please be aware that this study is not about your EQ, but your perceptions of how the high-technology environment and EQ interact.

No EQ scores will be reported. Each interview will last about 60 minutes and completion of the EQ assessment requires about 30 minutes. The total time commitment, including your review of the EQ results and an interview is about four hours. Interviews will be conducted at a time and location of your choice. All information you share, as well as your EQ assessment, will be kept confidential.

At the conclusion of the study, I will provide you with a summary of the findings. My plan is to meet with eight to ten middle managers from a variety of high-technology organizations.

Please let me know if you would like to participate by contacting me at 925.930.7137 by phone or via email at olivia@herrifordconsulting.com.

Thank you,

Olivia S. Herriford
Doctor of Management Candidate, University of Phoenix
Appendix C

INFORMED CONSENT AGREEMENT

I agree to participate in a research study by Olivia Herriford, a doctoral candidate in the Doctor of Management in Organizational Leadership Program at the University of Phoenix Online, Phoenix, Arizona.

This research will explore the relationship between high-technology organizational culture and individual emotional intelligence. The findings will be incorporated into a doctoral dissertation and may be published in academic journals.

I understand my voluntary participation in this study will include a survey of my emotional intelligence and two interviews – each lasting no more than ninety minutes. Both interviews will focus on my work experience, my work environment, and my perceptions of how they interact with the development and use of my social and personal skills. I also understand that:

- The interviews will be at my convenience, at a location of my choosing.
- I will take the EQ survey before the first interview.
- The EQ results will be provided before the second interview.
- The researcher will use a minimum set of questions to guide each interviews but I will be encouraged to speak freely.
- Both interviews will be taped and transcribed.
- I will receive a copy of the transcript of both interviews to ensure they accurately reflect my words and thoughts.

I understand the time required for the interviews, EQ test, review of the EQ test results, and review of the transcripts will not exceed five hours and that the information I provide in the interviews, the EQ test results, and any other communication with the researcher is
confidential. Only the researcher and the members of the University of Phoenix Doctoral Project Committee will have authorized access to material related to this study.

I will choose a pseudonym for myself and a fictitious name for my organization.

I have the option to terminate my participation in this study by notifying Olivia Herriford. Should I withdraw from the study, I understand that the data from my interviews will not be incorporated into the dissertation.

I will receive no financial remuneration for participating in this study.

________________________________________
Participant’s name

________________________________________  ________________
Participants signature                  Date
Appendix D
Participant Data Form

PARTICIPANT DATA

Thank you, again for participating in this study. Please complete the EQ-I data sheet following the instructions in the item booklet. In addition, the information below is needed to designate your preferred contact information and the fictitious names you choose for your and your company’s anonymity. Please bring these forms and the item booklet to the first interview.

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If you have any questions, please call or email.

Olivia Herriford
925.930.7137
olivia@heriffordconsulting.com