San Jose State University
SJSU ScholarWorks

2001

Recruiting in Silicon Valley

Faye J. Hickman
San Jose State University

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_theses

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI®

NOTE TO USERS

Page(s) not included in the original manuscript and are unavailable from the author or university. The manuscript was microfilmed as received.

100

This reproduction is the best copy available.

UMI

RECRUITING IN SILICON VALLEY

A Thesis

Presented to

The Faculty of the Interdisciplinary Studies Program

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Masters of Arts

by

Faye J. Hickman

December 2000

UMI Number: 1402515

Copyright 2000 by

Hickman, Faye J.

All rights reserved.

UMI®
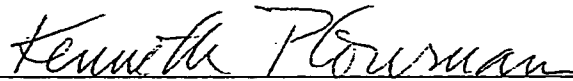
Approved for the Interdisciplinary Studies Program
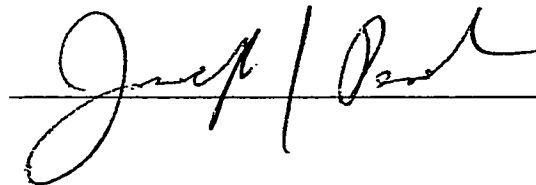
_____
Dr. Willam Briggs

_____
Dr. Nancie Fimbel

_____
Dr. Ken Plowman

APPROVED FOR THE UNIVERSITY

_____

ABSTRACT

RECRUITING IN SILICON VALLEY

by

Faye J. Hickman

This thesis addresses the topic of recruitment techniques that integrate diversity (i.e., women, African-Americans and Hispanics/Latinos) into the framework of Silicon Valley high-tech organizations, because even as we enter a new millennium these groups are still underrepresented in the workforce. The research will study how the selected companies manage recruitment techniques when communicating the needs (positions) of the organization to the specified groups. Are all qualified minorities being utilized already? Or are companies overlooking qualified minorities in their efforts to fill the gap?

Research on the subject reveals that Silicon Valley high-tech organizations are clearly more receptive to diversity as a vital strategic business tool, but these organizations continue their reliance on foreign workers to cope with the scarcity of potential employees; therefore, they are not searching all possible avenues of recruitment for the specified groups.

Since Silicon Valley high-tech organizations are synonymous with leading in "technology;" let the Valley also be recognized as leading in "diversity." Let's make sure our local high-tech organizations are not attempting to win the competitive race using only a fraction of their human resources.

ACKNOWLEDGMENTS

This study is dedicated to Edward "Toppy" Harry, my cousin who died before the study was completed. He was the youngest and "best" of the maternal grandchildren.

To my children and their father for their patience and to <u>all</u> of my advisors who showed me both patience and perseverance.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

This thesis is a qualitative research study that addresses the recruitment techniques that integrate diversity into the framework of Silicon Valley high-tech organizations. The term "diversity" is broad and can include a number of groups, but for the purpose of this study it will be limited to women, African-Americans and Hispanics/Latinos; because even as we enter a new millennium women, African-Americans and Hispanics/Latinos are still underrepresented in the workforce. Although Silicon Valley encompasses most of Santa Clara County, the southern end of San Mateo County, and has even expanded north into Alameda County, Santa Clara County (SCC) will be the primary geographic location for this study. The thesis is based on the findings of Joint Venture's Workforce Initiative Study. The study analyzed the supply of skilled high-tech workers within Silicon Valley and the demand created by the area high-tech employers. According to this study, currently there is a "gap" between demand and supply of local labor for some skilled positions in Silicon Valley. (Joint Venture: Silicon Valley, 1999).

This study will presuppose that the findings of the Joint Venture's study are accurate; that is, it will assume there is a shortage of qualified candidates in the Valley's high-tech organizations. According to the SCC March 1998 Labor Force and Industry Employment statistics, the total civilian labor force was 959,800, civilian employment was 933,200 and civilian unemployment 26,600. The SCC civilian unemployment rate was 2.8 percent which was lower than both the California rate of 6.1 percent and the U.S. unemployment rate of 5.0 percent. With an unemployment rate this low, with few people

1

available, it is easy to envision a labor shortage in the Valley for some skilled positions in the high-tech industry.

The primary reason for the labor shortage is the pace of job creation. Silicon Valley high-tech organizations are creating jobs faster than they can fill these positions. For example, in 1998, Silicon Valley high-tech organizations added an estimated 19,400 new jobs, growing 1.6 percent in overall employment. This parallels an estimated 1.4 percent increase in the labor force. A more recent example is Cisco Systems, which will be seeking an additional 20,000 employees upon completion of its new location in south San Jose. The current SCC labor force cannot meet this demand.

Approximately 70 percent of Silicon Valley's high-tech industry cluster jobs are filled by local residents or people who chose to move to the area. Therefore, approximately 30 percent of the vacancies must be filled from outside the area. This creation of new jobs in the Valley's high-tech organizations far exceeds the numbers of all available qualified talent, especially in minority groups. In 1998, SCC had the highest Bay Area college attendance rate statewide and San Jose, the capital of Silicon Valley, ranked third for the most college graduates in the nation. Although the ethnic composition in the SCC student population is 50 percent white, 23 percent Hispanic/Latino and 4 percent African-American, and women comprise approximately 50 percent of the workforce, neither women nor members of certain ethnic groups have yet reached the upper echelons of the Valley's technology-based business in proportion to their participation in the workforce.

Even though ethnic groups have gained ground in education, overall these groups (i.e., African-Americans and Hispanics/Latinos) still have a lower educational attainment rate, especially in the high-tech arena. In 1990, African-Americans in SCC earned 24.4 percent of Bachelor's Degrees, or higher, awarded and Hispanics/Latinos earned 9.3

2

percent of Bachelor's, or higher, degrees. Today, women hold approximately 50 percent of all degrees. Santa Clara County has a number of higher learning institutions producing locally qualified minorities. For example, San Jose, has one four-year institution, San Jose State University. Likewise, there is Santa Clara University in Santa Clara, and the world-renowned Stanford University located in neighboring Palto Alto. For a complete listing of other higher learning institutions from which the Valley's high-tech companies can recruit see, Appendix B.

The workforce shortage is an increasingly critical impediment to the growth of high-tech companies in Silicon Valley and threatens the economic vitality of the region. As stated previously, this study will not dispute the fact there is clearly a shortage of qualified applicants to meet the demands of Silicon Valley's high-tech industry; instead, this research will study how the selected companies manage recruitment techniques when communicating the needs (positions) of the organizations to women, African-Americans and Hispanics/Latinos. Are all qualified minorities being utilized already? Or are companies overlooking qualified minorities in their efforts to fill the gap? Or better stated, have Silicon Valley high-tech organizations searched all possible avenues for recruiting women, African-Americans and Hispanics/Latino in the area, rather than adopting a growing reliance on foreign workers. (Joint Venture: Silicon Valley Network, 1999).

Silicon Valley is home of some of the world's major high-tech companies. But, high-tech is not one industry; it is many. High-tech brings us e-mail, Internet browsers, PC boards, hard-disk drives and laptop computers. High-tech is also responsible for everything from ultrasound equipment and contact lenses to video games and global positioning systems. These products, all born in the diverse, innovative, and world-famous Silicon Valley, have changed and enhanced business, medicine,

transportation, the arts, banking, commerce, home entertainment and literally all aspects of life today.

According to the <u>San Jose Silicon Valley Chamber of Commerce's 1999 Guide to San Jose</u> publication, today Silicon Valley, so named for the principal material used in producing semiconductors, has more than 5,497 high-tech companies, employing more than 281,500 people. High-tech jobs in SCC are projected to increase from 195,300 in 1990 to 245,000 by the year 2020. The forecast of total employment in SCC predicts an increase from 702,922 in 1980 to 1,230,760 in the year 2020.

In March, 1999, the SCC Labor Force and Industry Employment statistics indicated the total civilian unemployment rate was 2.8% compared to the nation's unemployment rate of 5%. The latest, SCC Social and Labor Force Characteristics, indicated the total African-American unemployment rate was 7.9%, the total Hispanic/Latino unemployment rate was 8.4%, while the total white unemployment rate was 3.4%. This clearly indicates some people have not been getting jobs even in this market. (http://www.calmis.cahwnet.gov).

In Santa Clara County the number of high-tech firms in all categories, manufacturing, services (R&D, computers) and distribution, increased from a total of 1,069 in 1978 to 5,497 in 1997. The number of employees also increased in all categories of high-tech firms from a total of 149,500 in 1978 to 281,189 in 1997.

On January 1, 1998, the population of SCC alone was 25.2 percent of the Bay Area total of 6,693,600 people. Additionally, the demographics of the county are changing. The most noticeable change is the increase in the Hispanic population. This group is increasing from 17.5 percent in 1980 to 26.2 percent of the population by 2010 . Anglo-whites will see a dramatic shift in the other direction, with a decrease from 3.2 percent in 1980, to 2.7 percent in 2010.

California

As is often true, the future is already here for the state of California, which employs more than 10 percent of U.S. workers. California is one of the most ethnically diverse states, and companies located here are quickly learning that yesterday's mode of operating has become outdated. Changing demographics are one obvious indicator of how different the workforce of the 21st century will be. Many Americans are accustomed to thinking about "majority" and "minority" ethnic groups. In 1992, Jackson estimated that such thinking would be outdated in California by the year 2000 because of the rapid growth in the Asian and Hispanic populations. At that time he envisioned a population with no clear "majority" group. To survive in this new environment, he suggested, organizations would quickly develop their expertise in recruiting and developing members of ethnic groups who in the very recent past were a relatively small minority. (Jackson,1992).

Purpose of Study

The purpose of this study is to see if organizations are fully utilizing all qualified minorities. This study could be used as a mechanism or tool for the selected organizations to be aware of the potential benefits that can be reaped from the broad and deep pool of diverse talents, perspectives and life experiences of women, African-Americans, and Hispanics/Latinos in the area. Although the Joint Venture's study has established that there is a "gap" between demand and supply of qualified candidates, high-tech organizations in Silicon Valley could, perhaps, be using only a fraction of the available talent, which could prove detrimental to the economic growth of not only Silicon Valley but of the entire nation.

Importance of Study

In previous studies supporters of affirmative action insisted that their objective was not to establish rigid quotas. Instead, they argued, their goal was to make companies pay more attention to employees who faced unnecessary barriers to promotion. Since talented women and minorities tend to be neglected, they argued efforts to help them advance are not only fair, but profitable. (Griggs & Lowu, 1995).

This study does not address issues of quotas or creating a level playing ground for employment opportunities but seeks to appreciate and utilize the talents and perspectives that women, African-Americans and Hispanics/Latinos can offer Silicon Valley high-tech organizations. Of primary importance, the study will focus on whether or not organizations in the Valley are effectively communicating recruitment of jobs to women, African-Americans and Hispanics/Latinos. It is intended to discover whether Silicon Valley organizations are using only a fraction of the talent, experience, and creativity that exists within the area.

Contribution to the Field

The researcher wants to learn what is being done and broadly distribute this information so high-tech corporations can learn from each other regarding the recruitment techniques that implement diversity (i.e,. women, African-Americans and Hispanics/Latinos) into the framework of their organizations.

Methods

The thesis will be a qualitative study of whether or not Silicon Valley high-tech organizations are effectively communicating their recruitment efforts among the diverse workforce of women, African-Americans and Hispanics/Latinos.

Many observation methods are designed to produce data appropriate for quantitative (statistical) analysis. Thus, surveys provide data from which to calculate the percentage unemployed in a population, mean incomes, and so forth. This particular study is not easily reduced to numbers; therefore, the researcher will use qualitative analysis, the nonnumerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships.

CHAPTER 2

THEORY

The major theoretical concepts that framed this study included the following:

Lawrence Fuch, The Civic Cultural Model; James E. Grunig, The Concept of the

Dominant Coalition; and Deborah Tannen, Different Styles of Communication for

Women.

The Concept of the Dominant Coalition: The phrase "dominant coalition" comes

from management science and organizational theory, identifying that group of people

with the power to set directions and affect structure in organizations. The dominant

coalition is the group of individuals within an organization with the power to affect the

structure of the organization, define its mission, and set its course through strategic

choices the coalition makes.

The phrase senior managers can be used as a substitute for dominant coalitions.

This is the group of powerful elites who represent their organizations. Is this group of

powerful people fully utilizing all qualified minorities? Or are the representatives of

these organizations overlooking qualified minorities in their efforts to fill the gap? In a

sense, communicators act as advocates for publics, articulating those external points of

view as they counsel dominant coalitions. When decisions are made, excellent

communicators design programs and craft messages to effectively communicate in a

fashion that achieves the dominant coalition's desired outcome among targeted publics.

Do top communicators and CEOs of the selected organizations hold a common or shared

understanding in managing recruitment techniques when communicating the needs of

their company to SCC women, African-Americans and Hispanics/Latinos? (Dozier,

L.Grunig, & J.Grunig, 1995).

The Civic Cultural Model: The Civic Cultural Model, as expounded by Lawrence Fuchs, holds that the civic culture is the unifying characteristic of American society and is what protects individual rights, including the right to diversity. In other words, the American experience is one where diversity is recognized and protected by the civic culture, and the civic culture is the one that provides commonality. This model postulates that there is a common culture which forms the cement of our national life which then, in turn, enables a culture to function in ways suitable to protect its own diversity. (Carnevale & Stone 1995).

It is undeniable that the dominant civic culture established initially by this country's founding fathers was essentially Anglo-Saxon. This was true in the organizational context too. According to the model this culture is to evolve and change each generation, in the process naturally integrating diversity. As people from all over the world came to America, attitudes evolved. Meanwhile, a host of changes took place in society; women and minorities began making strides in the workplace. As all of those societal changes took place, America learned to take pride in its identity at home as a rich mixture of a variety of ethnic groups and cultures. And by the 1990s, with the continual influx of new immigrants, second-and third-generation Americans, along with some minorities, have come to take more outward pride in their very own cultural distinctions. Evolution is indeed taking place but with marginal integration of women and other cultures. The natural integration of diversity as perceived is not proceeding as a natural part of the process. To speed this process along, it will require extensive education and redefinition of goals in the workplace.

Are the selected Silicon Valley high-tech organizations ensuring the natural evolution of diversity in the workplace in managing recruitment techniques when communicating the needs of the organization to women, African-Americans and

Hispanics/Latinos? The idea of diversity in business in the 1990s and as we enter the new millennium, unlike that of a century earlier, respects the strengths and advantages of individual cultures, rather than seeking to homogenize all cultures into one generic American model.

Deborah Tannen: Tannen states women often have very different styles of communication than their male colleagues. Conversational rituals common to men often involve using opposition such as banter, joking, teasing, and playful put-downs, and expending effort to avoid the one-down position in the interaction. Conversational rituals common among women are often ways of maintaining an appearance of equality, taking into account the effect of the exchange on the other person, and expending effort to downplay the speaker's authority so they can get the job done without flexing their muscles in an obvious way. (Tannen, 1994).

Men and women frequently miscommunicate with each other because they have learned different ways of using language. For example, men emphasize and reinforce their status when they talk, whereas women downplay their confidence. Additionally, people in powerful positions tend to reward people whose linguistic styles match their own. As a result, in most organizations where men tend to be in charge, the contributions of women are often downplayed because the things they say tend to be misinterpreted.

Communication barriers cause situations in which organizations are not only breeding conflict, but they are not taking advantage of the skills and abilities of their female employees. The solution, although not easy, lies in appreciating and accepting the different styles that people have. As Tannen puts it, "talk is the lifeblood of managerial work, and understanding that different people have different ways of saying what they mean will make it possible to take advantage of the talents of people with a broad range of linguistic styles." (Tannen, 1994, p. 97). Are the dominant coalitions of

10

the selected Silicon Valley high-tech organizations naturally integrating diversity in the workplace by valuing the differences and taking advantage of the skills of qualified women, African-Americans and Hispanics/Latinos? Or are these organizations overlooking qualified minorities in their effort to fill the workforce gap? (Tannen, 1994).

Procedures

Published sources (documents) information will be gathered to study how the selected Silicon Valley high-tech organizations manage recruitment techniques when communicating the needs (positions) of the organizations to women, African-Americans and Hispanics/Latinos.

Review of documentation will be the primary instrument in this study. The researcher will obviously have some dialogue/interviewing regarding management of recruitment techniques but will primarily review documentation per established criteria list.

Conclusion

This study will attempt to demonstrate whether or not Silicon Valley high-tech organizations are effectively managing recruitment techniques when communicating the needs (positions) of the organization to qualified women, African-Americans and Hispanics/Latinos. Due to the limited supply of qualified candidates, the workforce shortage is an increasingly critical impediment to the growth of high-tech companies in Silicon Valley and threatens the economic vitality of the region.

CHAPTER 3

Literature Review

Silicon Valley is now home to a geographic concentration of more than 5,000 technology-based companies. Its geography extends across 30 cities, including San Jose, the third-largest city in California, and parts of four counties; Santa Clara, San Mateo, Alameda and Santa Cruz. This economic region includes more than 1.2 million jobs; with a population of more than 2.3 million people and more residents than 18 of the U.S. states. Our economy is connected with other regional economies in California, the nation and the world. (Silicon Valley 2010, 1998).

Our society is changing rapidly. Over the next 10 years, the demographics within the American workplace will continue to undergo dramatic shifts, away from the European-American, male majority of the past towards a far more diverse and segmented populace. Today's organizational realities are very different from those of the not-too-distant past. In the late 1960s and early '70s, most institutions employed women, African-Americans and Hispanics/Latinos, but they seldom appreciated or utilized the talents and perspectives that these groups offered.

Joint Venture Study

In 1998, to assess how well Silicon Valley was meeting the demand for a diverse and skilled talent pool, Joint Venture: Silicon Valley Network joined with management consulting firm A.T. Kearney to produce the Workforce Study. The study analyzed the supply of skilled high-tech workers within Silicon Valley and the demand created by area high-tech employers. The study is the latest in a series of reports and documents dealing with issues affecting the Valley's common goals of promoting an innovative economy,

sustaining a livable environment, and creating an inclusive society through regional cooperation.

The researcher(s) conducted interviews, surveyed businesses and students, completed secondary research and performed analyses to develop insights into key workforce issues. There were 50 interviews with human resource executives, recruiters, job placement agency executives, and academic workforce leaders. Also, there were 12 interviews with leaders of community colleges, other educational providers, and other community organizations. The interviews were conducted to develop an assessment tool to determine the size and characteristics of the workforce gap.

Regarding surveys, 65 Silicon Valley technology-oriented companies, representing 35,700 employees (7.5 percent of target workforce); and 1,160 Silicon Valley eighth and 11th grade students were surveyed to assess how well education and other community resources are addressing the workforce gap and to understand student awareness of and interest in careers in high-tech. Secondary research was completed on workforce gap issues, education, non-profit organizations and industry associations and placement firms. Additionally, analyses were performed on total cost of employment and the financial impact of workforce gap on Silicon Valley businesses to recommend specific actions that can be undertaken to address the workforce shortage.

The workforce shortage is an increasingly critical impediment to the growth of high-tech companies in Silicon Valley and threatens the economic vitality of the region. The Workforce Study found that the current workforce gap is 31 to 37 percent of the high-tech industry demand in Silicon Valley. Employers identified three key drivers of the shortage:

- Limited supply of qualified candidates

- High housing costs in the Valley which affect attraction and retention of talent, and
- High wages which hinder small and mid-size companies' ability to hire

The study identified within the workforce shortage six skill clusters which are in particularly high demand:

- PC/LAN Network Administration,
- Enterprise Information Technology Support,
- Late Generation Software Programming,
- Design Engineering,
- Manufacturing Technician and
- Technical Marketing

The study determined that the incremental cost of the workforce gap to the high-tech industry in the Valley is approximately $3-4 billion annually. The study results also demonstrated that Silicon Valley students, the future pipeline of skilled labor, lack a familiarity and interest in high-tech careers and are, therefore, not building the skills required for these job opportunities.

The Gap

A gap exists between demand and supply of local labor for some skilled positions in Silicon Valley. During the recession of the early 1990s, local employment and labor supply were growing at nearly the same rate. The gap between local supply and demand for labor has been increasing since 1995. Job creation, due to job growth and new job categories in Silicon Valley, has outpaced local labor supply growth over the last four years.

Santa Clara County (SSC) employment has exceeded Santa Clara County employed labor supply since February 1995. SCC is currently a net importer of 24,200

jobs annually. Between August 1997-98, SCC added 36,600 new jobs, but local SCC employed labor supply increased only 25,700. This is a net job surplus increase of 10,900 between August of 1997 and 1998. Joint Venture: Silicon Valley Network, Inc., 1999).

In 1998, Silicon Valley added an estimated 19,400 jobs, growing 1.6 percent in overall employment. This parallels an estimated 1.4 percent increase in the labor force. The 1998 job gains compare to 62,000 jobs added in 1997 (5.3 percent growth rate) and to 54,000 jobs added in 1996 (4.9 percent growth). Since 1992, Silicon Valley has added more than 230,000 jobs, a 23 percent increase. The total number of jobs in the region is more than 1.25 million. (Joint Venture: Silicon Valley Network, Inc., 1999).

The Cluster

A cluster is a concentration of complementary industries that generates wealth by exporting from the region. The seven clusters, (Software, Semiconductors, Computers/Communications, Bioscience, Professional Services, Defense/Aerospace, and Innovation Service) account for 40 percent of all non-governmental employment in the region. In cluster industries, the biggest job gains were in software, which added 6,970 jobs between the second quarter of 1997 and the second quarter of 1998. The second-largest growth was in semiconductors/semiconductor equipment with 6,710 jobs, followed by computers/communications with 6,210. Innovation services, the third fastest-growing industry last year, was the only cluster industry to show year over net job losses (-640). Combined, the cluster industries provided 62 percent of the region's job gains during the period.

Based on the Joint Venture's Workforce Initiative survey, 87 percent of survey respondents believe there is either a large gap (31 percent) or medium gap (56 percent) in

Silicon Valley. The key drivers of the workforce gap include: limited supply of qualified candidates (77 percent), high housing costs (68 percent) and high wages (35 percent). Approximately 11 percent of the total current Silicon Valley workforce was specifically recruited from outside the Silicon Valley. The most common skill clusters that are specifically recruited from outside Silicon Valley include software programmers and electronic engineers. Only 63 to 69 percent of Silicon Valley's high-tech cluster jobs are filled by local residents or people who chose to move to the area.

Labor Shortage

The workforce gap is approximately one third of the high tech industry demand in Silicon Valley and is projected to grow to approximately 200,000 jobs by 2010. The primary perceived gap driver is the limited supply of qualified candidates.

In the recent past, the labor market could be characterized as a buyer's market. Labor was in abundant supply and, therefore, relatively cheap and easy to acquire. When "traditional" employees (white males) were abundant, employers did not need to recruit from the "nontraditional" workers whose differences may have required organizations to make adaptive changes. However, in the near future the labor market will become more and more of a seller's market. The shortage of appropriately skilled labor will force employers to compete to attract, retain, and effectively manage all available employees.

Organizations are scrambling for the best talent they can find and searching for ways to get the best from the employees they now have. That is at the core of the business rationale for thinking about diversity. Managers must be clear about this; to thrive in an increasingly unfriendly marketplace, companies must make it a priority to

create the kind of environment that will attract the best new talent and make it possible for employees to make their fullest contribution.

Human resource management professionals are the ones who are best able to educate business leaders about the strategic importance of working through diverse issues and to mobilize them to take immediate actions. And they are the ones with the knowledge and skills needed to analyze what their organizations need to do to respond to the simultaneous changes in the nature of competition in the labor market. Human resource professionals have available to them a wide range of tools for changing the attitudes and behaviors of their organizations' employees. These tools include recruiting and selection methods, performance evaluation and appraisal, compensation and reward systems, training and development techniques, and models for redesigning both jobs and the organization within which jobs are performed. (Dozier, et al., 1995).

To organizations that succeed in meeting the diverse needs of women, African-Americans and Hispanics/Latinos will go the rewards of greater workforce productivity and improved organizational health. At the same time, this group of employees in successful organizations will reap the benefits of employment conditions that are congruent with their individual needs and aspirations.

Educational Attainment

Regions that are well-served by engineering programs have a strong workforce advantage. For this study, engineering programs serving Silicon Valley include programs at San Jose State University, Santa Clara University, and Stanford University. But overall there are fewer engineering graduates from local universities than are needed. Between 1994 and 1997, the total number of engineering degrees awarded annually from local universities has decreased 11.7 percent, from 4,312 in 1994 to 3,807 in 1997.

Within these years engineering Bachelor's Degrees have dropped from 1,957 to 1,792. Master's Degrees dropped from 1,936 to 1,621 and Doctoral Degrees have remained constant, around 400 annually.

Although the number of engineering degrees has decreased, does this mean all qualified minorities are being utilized already? Or are companies overlooking qualified minorities in their efforts to fill the gap? The increased levels of educational attainment of African-Americans, Hispanics/Latinos and women could be vital to the workforce shortage.

In the late 1950s, when many of today's CEOs were entering the labor force as young professionals, they were being joined almost exclusively by other men. Then, men received 95 percent of the MBA Degrees awarded and 90 percent of the Bachelor's Degrees in business. As these men are finishing their careers, 30 years later, the picture is dramatically different. In 1990, women received approximately 31 percent of the MBA degrees awarded, as well as 39 percent of the law degrees, 13 percent of engineering degrees and half of all undergraduate degrees (Bhatnagar, 1988). Today, females are better educated than ever before, and more are choosing to be in the active labor force. As we enter the new millennium, the workforce is almost completely balanced with respect to gender.

Young women surpassed young men in educational attainment, the Census Bureau reported in June, 1998 . In 1997, the educational attainment levels of women ages 25 to 29 exceeded those of men in the same age group, according to a report released on June 29, 1998 by the Commerce Department's Census Bureau. Furthermore, young women led at the college completion level, 29 percent to 26 percent. "The educational attainment of these young adults indicates a dramatic improvement by women, who historically have been less educated," said Jennifer Day, author of the

report. (http://www.census.gov/Press-Release/cb98-105 html). Compared with a decade ago, the Hispanic population has experienced gains in educational attainment, according to a report also released on June 29, 1998, by the Commerce Department's Census Bureau. The number of Hispanic young adults completing a Bachelor's Degree or higher rose from 9 percent in 1987 to 11 percent in 1997. (U.S. Census Bureau, 1998).

In 1998 San Jose, California, the capital of Silicon Valley, was listed third in the top 10 cities in the country with the most college graduates, with 32.6 percent of Bachelor's Degrees or higher. Additionally, San Jose State University is part of the California State University (CSU) Alliances for Minority Participation, which seeks to increase the quantity and quality of minority students receiving degrees in science, engineering and mathematics. This is a National Science Foundation supported project that endeavors to increase the number of minority students graduating with a B.S. Degree in the science fields.

Although regions that are well-served by engineering programs have a strong workforce advantage, research indicates that in the Valley it is not likely there will be more engineering majors in the near future. A case in point, a significant portion of the Workforce Study was devoted to learning about how Silicon Valley students perceive high-technology as a career path, if at all. The development of "home grown" students as new members of Silicon Valley's workforce is of enormous importance, but many of the Valley's students have only limited awareness of high-tech as a career opportunity or of the requirements such a career will demand of them academically.

A survey of 1,160 eighth graders and high-school juniors, indicated that local students are not well-informed about Silicon Valley careers and, consequently, are not building the skills required for these opportunities. Thirteen percent of eighth graders and 12 percent of high-school juniors included computer science/engineering at the top

of their "coolest" jobs in Silicon Valley. However, 51 percent of the students answered "don't know." Furthermore, students do not perceive math and science as relevant as computer-related courses for success in a high-tech career. (Workforce Initiative Study, 1998, p. 4).

Local Universities

In 1998 Santa Clara County had the highest college attendance for the entire Bay Area, with an estimated attendance of 1,034,218 students. From this attendance record Silicon Valley employers also have the opportunity to recruit from the world-renowned Stanford University located in neighboring Palo Alto. Enrollment is approximately 14,000, with students recruited from among the brightest applicants in the country. According to the 1998 publication of Bay Area Market Fact Guide, in 1993 Stanford ranked eighth in university programs among the Top 10 in the country for "Scholarly Quality of Program Faculty;" excellence in graduate education in math, science and engineering. (Business Journal, 1998).

In the 1999-2000 academic year, undergraduate student body full-time enrollment for Stanford was 6,395 students. There were 751 part-time students; total men were 3,489 and there were 3,657 women. African-Americans made up eight percent of the student body, Hispanics/Latinos made up 11 percent and whites made up 51 percent of the student body.

The School of Engineering was founded in 1925 and is comprised of nine academic departments. Approximately one quarter of all Stanford students are enrolled in the School of Engineering. The School of Engineering had an enrollment of 1,210 undergraduate students for the 1997-98 academic year. Of those, 333 were women and 877 were men. The school provides the fundamental scientific and technical education

necessary for a satisfying and productive engineering career and/or graduate school experience. (http://www.stanford.edu).

Additionally, the county possesses San Jose State University (SJSU), located in downtown San Jose, the largest university in Santa Clara County and one of the largest in the Bay Area with more than 26,000 students enrolled. SJSU's student population reflects the changing demographics of California and the Santa Clara Valley. Over the past five fall semesters as a percentage of the student body, white students decreased by 11 percent, while minority students grew by ten percent. In Fall Semester 1996, minority students comprised 70 percent of first-time freshmen. By comparison, in Fall Semester 1992, 66 percent of entering freshmen were from ethnic minorities. The SJSU campus is reflective of what this nation will look like in the decades ahead.

Located in the heart of Silicon Valley, SJSU is the largest source of engineering, science and business graduates for the world's most exciting technology center. Software executives call SJSU "an extremely valuable resource" to the area. (http:/www.sjsu.edu). The College of Engineering offers opportunities to qualified students for postgraduate education and research leading to the M.S. degree in nine programs. The campus enrollment is about 26,000 students, approximately 14 percent of whom are in the College of Engineering. There were 3,200 undergraduate students among the various engineering departments and the graduate program had 830 students, making it the largest in the CSU system. It is estimated that ten percent of CSU engineering graduates come from San Jose State University.

San Jose State University is located at the hub of one of the most vigorous and vibrant areas in the world, Silicon Valley. Founded in 1857, SJSU is California's oldest institution of public higher education. In 1972, SJSU achieved university status and

21

became a part of the twenty-campus California State University System, the largest senior higher education system in the U.S. (http://www.sjsu.edu).

Since 1980, more female than male students have enrolled. The student body of SJSU from Fall 1992 to Fall 1994 contained approximately 52% female students and 48% male students. (Statistical Abstract, September 1997). Today, females are better educated than ever before and more are choosing to be in the active labor force. Today's CEOs are no longer being joined exclusively by other men. Most important, are the selected Silicon Valley high-tech organizations effectively managing recruitment techniques when communicating the needs of their organizations to females

Likewise, the county has Santa Clara University (SCU), the oldest private college in the state. The university is located in the city of Santa Clara and has an enrollment of approximately 7,900. Located in the heart of California's Silicon Valley, technology is a critical component of life on the Santa Clara campus. For the second year in a row, SCU was named one the nation's most wired colleges by Yahoo.

Santa Clara University is committed to educational excellence in the Jesuit tradition of educating the whole person in preparation for leadership in a modern world. Founded in 1912, the School of Engineering reflects this tradition in its implementation of selected, high-quality undergraduate and graduate programs. The school's location in the heart of Silicon Valley, engaged and accessible faculty and state-of-the-art equipment combine to create a powerful learning environment for engineering students.

Santa Clara University offers Bachelor of Science in Engineering programs in five areas. The undergraduate programs, leading to Bachelor of Science in Civil, Electrical and Mechanical Engineering, were first offered at SCU in 1912. The programs were accredited by the Accreditation Board for Engineering and Technology (ABET) in

1937. Since that time, Bachelor of Science Degree programs in Computer Engineering and Engineering were added.

Engineering students at SCU are bright and motivated. They post an average of 3.45 GPAs as well as competitive SAT scores when they are admitted. There is no ethnic majority in the school's student body, reflecting a true commitment to diversity in education. Total undergraduate enrollment is 603 students, women represent nearly 20 percent of the school's undergraduate students. (http://www.scu.edu).

Communication Efforts

To cope with the scarcity of potential employees, employers are developing new communication efforts for recruiting strategies designed to find new sources of labor. They are devising new benefit packages that better fit the needs of the new workforce, hoping to make their organizations more attractive to job applicants, and they are becoming more flexible regarding employment conditions, for example, allowing employees more input in the determination of the length and scheduling of their work weeks, offering opportunities for extended leaves of absence, and arranging for job sharing. Such initiatives help companies attract talent from a broader and larger labor pool, buffering the company from the tightening labor market. (Kossek & Lobel, 1996).

Faced with a tight labor market, employers need to recruit and retain talented workers. And employees, especially the growing number of women in the workforce, are demanding more flexibility. A snapshot of how some employers are communicating their efforts to recruit from the non-traditional labor force provides a glimpse of how many of us will be working in the future. Part-time work is by far the most common flexible scheduling arrangement. Long used to reduce labor costs and to staff for peak periods, it is increasingly seen as a way to keep valued professionals in the loop until they

can return full time. The Bureau of Labor Statistics counts 3.2 million professional-level part-timers, of whom fewer than a million are managers.

In New York, Janet McLaughlin, Corning Inc.'s manager of Strategic Corporate Education, is one of those rarities. Hired eight-years ago as a part-timer, she asked to keep that status after she was named supervisor. "I told them that if it didn't work, I'd gladly step down," she says. No one complained, and today, after four promotions, she is responsible for Corning's management training, supervising a staff of five. (Graham, 1990, p. R34).

The success of trailblazers like Ms. McLaughlin led Corning to formally offer a medley of flexible scheduling options to its workforce two years later. Some 40 salaried employees now work part-time; over 1,000 work full-time but have flexible hours.

"We see the biggest value in our retention figures," says Thomas Blumer, Corning's Director of Quality Management and, until recently, Director of Human Resources. Prior to 1988, Corning's annual attrition costs for women and minorities were running nearly $4 million ahead of those for men. Since the introduction of flexible scheduling as part of a broad work and family initiative, those attrition costs have been halved, saving $2 million a year. "I don't know whether being more flexible was the whole answer," Mr. Blumer says, "but it's a part of it." (Graham, 1990 p. R35).

Many companies now allow full-time employees to adjust their starting and quitting times, usually around a set of core hours when everyone is expected to be on the job. Because it doesn't involve a reduction in hours, flextime is popular with men as well as women. Nor does it usually require the complicated redesign of jobs or benefits plans, and thus it can be a low-cost morale builder. Giving employees more control of their time appears to yield payoffs in productivity and retention. "Companies have begun to realize these options are all strategic tools, not just new goodies," says Barney

Olmstead, Co-director of New Ways to Work, a San Francisco research group. Hewlett-Packard Co. was the first U.S. company to offer flextime, initiating it in 1973. Unlike many "inflexible" flextime plans, Hewlett-Packard allows employees to readjust their hours on short notice. (Graham, 1990, p. R36).

Un-paid Leave

Employee child-care and elder-care responsibilities are prompting many corporations to loosen unpaid-leave policies. When Aetna followed up on employees who had taken maternity disability in 1987, it found that 23 percent had left the company after their babies were born. "And those who left were the higher performers," says Sherry Herchenroether, Manager of Family Services. A year later, after Aetna introduced a six-month unpaid family leave, such attrition was cut in half. Elder care is cited by many employers as a growing problem for both male and female employees. At Northeast Utilities, nearly 30 percent of employees surveyed in 1987 had responsibility for caring for an elderly relative. And the utility's workforce is 80 percent male. This would also prove to be a very valuable benefit that could be communicated to the Hispanics/Latinos, who value extended or close family ties. (Graham,1990, p. R37).

In 1990 Graham found that in a handful of companies extended leaves are granted purely for self-renewal. Before Compaq acquired Tandem Computers, Inc., based in Cupertino, California, all employees were eligible for a six-week sabbatical after four years on the job. Sabbaticals reduce job burnout and serve as an effective recruiting and retention tool in the competitive Silicon Valley job market, said Dee DiPietro, Tandem's Manager of Health and Welfare.

Of all the work-family programs that companies have introduced over the past 15 years, resource-and-referral programs are among the most common. Some 40 percent

percent of large employers offer child-care R&R programs, and 77 percent provide information on elderly care, (as mentioned previously, this is extremely important to Hispanic/Latino workers) according to a 1995 survey by Hewlett Associates the Lincolnshire, Illinois, benefits-consulting firm. Compared with programs like on-site child care, resource-and-referral is also relatively cheap, costing anywhere from $8 to $30 per employee per year, depending on the range of services provided. The idea is that helping workers find suitable child care and assisting them with elder care and other family concerns can reduce absenteeism and improve productivity, because workers will spend less time on the phone during work hours dealing with these personal issues. (On Work-Family Program, 1996).

The July 19 issue of Fortune magazine lists three Silicon Valley companies among the 50 best in the country for minority employees. The companies are Knight Ridder, which ranked 22nd, Applied Materials (No. 29) and Sun Microsystems (No. 30). Fortune based its rankings on research conducted with the aid of the Council on Economic Priorities, a non-profit research firm. A total of 1,200 companies were surveyed; 137 responded. (3 Valley Firms Make Diversity List, 1999, p. 3C).

Fortune assessed such factors as the effectiveness of company diversity programs, incentives for seeking diversity, and recruitment practices. For instance, Fortune said that Sun, which currently hires 6,000 people annually, is developing Internet links to schools with which it has strong recruiting ties, including three historically black colleges. (3 Valley Firms Make Diversity List, 1999, p. 3C).

Changing Society

Many organizations with excellent communication programs are actively tackling issues important to employees who are women and/or from ethnically diverse

backgrounds. Organizations that value gender and ethnic diversity among their employees hold values that foster communication excellence as well. Communicators play a critical role in strategic planning, precisely because they know what's going on outside the organization and in relationships with key publics. Communicators cannot play this role if they suffer from the same blind spots as do other members of senior management. Communicators from culturally diverse backgrounds can play roles as go-betweens, the boundary spanner who can translate what management says to publics and what publics say to management. (Dozier,et al.,1995).

Historically, America has been dominated by white males, and women have been relegated to the status of second class. Unfortunately, this dominance has spilled over into the workplace, and competent women entering into corporations have also been relegated to this second-class status. Today, although approximately 50 percent of the workforce is female, top executive positions are still dominated by white males. White men are 47 percent of the workforce (41 percent of the population), own 64 percent of the nation's businesses and have most of America's high-paying jobs.

Professional women in the workplace face unique problems/challenges like discrimination, sex-role stereotyping, social isolation, difficulty in finding mentors, and problems arising out of their token status. An understanding of the major issues arising from these challenges faced by professional women in the workplace could be vital for the future success for the rest of the business community. (Bhatnagar, 1988).

27

According to Tannen (1994), women prefer democratic leadership, whereas men prefer directive leadership. Specifically, women are more likely than men to encourage other group members to participate in making decisions before them. And when they do, they attempt to make the others feel good about their contributions. When people are respected and comfortable, they are empowered, and when they are empowered, they give of themselves more freely. And when this happens, productivity increases. Women tend to influence others by relying on their interpersonal skills. As organizations have become more oriented toward requiring the interpersonal skills required to make team work effective, a high premium is placed on recruiting the particular leadership style that females bring to the job.

Silicon Valley Women

America's computer industry will be one of the central engines driving this country's economic growth as we enter the 21st century; it will also be the source of thousands of new businesses, millions of high-paying jobs and vast creative opportunities. Yet women remain starkly underrepresented in top management posts and in key technical jobs within the industry.

Women make up about 35 percent of the high-tech workforce, but only one of the 50 biggest computer companies traded on the high-tech stock market has a female chief executive. Only 10.6 percent of the top-tier executives at computer companies in the Fortune 500 are women, compared to 11.1 percent at non-computer companies in that group, according to data compiled by the Sacramento Bee. (DeBare, 1996).

The percentage of unfilled positions in Silicon Valley is about 6 percent. Electronics engineers and software programmers have most job openings in the Valley. Based on Joint Venture's interviews, the Late Generation Software programming skills, a

cluster of skills required for specification, design, development and customization of software applications based on late generation programming languages, (C, C++, Java, Visual Basic, etc.) are in the highest demand. For electronic engineers, component design engineers were also in high demand. Electronic engineers and software programmers are the most difficult people to recruit in Silicon Valley.

The workforce gap represents the mismatch between local labor supply and demand. Approximately one third of the positions (i.e., demand) go unfilled in the high-tech industry as a result of not being able to find local workers. Companies often underestimate opportunity costs and productivity loss associated with the workforce gap. A major cost driver is the time to fill an open position, particularly in the higher-demand areas. For one illustrative scenario, the workforce gap leads to an 86 percent cost increment. On average, the workforce gap represents an incremental $6,000 to $8,000 per Silicon Valley high tech-employee.

Glass-Ceiling

Even though the incremental cost of the workforce shortage to the high tech industry in the Valley is approximately $3-4 billion annually, qualified Silicon Valley women face obstacles. Coming out of one of the nation's top business schools, women with a Master's Degree in Business Administration from Stanford University are considered among the best and the brightest. Yet, women armed with an MBA from Stanford, quickly find themselves earning less, getting fewer promotions and enjoying their jobs less than their male colleagues, according to two reports that raise questions about the progress of women in the workplace. "The fact that women are not moving to the top means that the experiences and perspectives of women are not being represented at the top echelons of corporations," said Myra Strober, a professor in Stanford's School

of Education who has studied the glass-ceiling phenomenon. (A Sanford MBA does not assure equal pay, 1993, p.1A).). Nearly 80 percent of these CEOs said there were barriers that kept women from reaching the top. And of those who admitted that barriers existed, 81 percent identified stereotypes and preconceptions as problems women face. (Bhatnagar, 1988).

Like their counterparts in other industries, many women in the computing industry say they face a glass-ceiling, an unofficial, invisible limit on their efforts to advance. Ellen Isaacs, 34, a Silicon Valley engineer, says it's taken her longer to get promoted than male peers with similar track records. "I had to work very hard to get a promotion I felt I should have gotten a year earlier," Isaacs said. "Meanwhile, some men got promotions and were they surprised by it." (DeBare, 1996, p. A3).

Skill Matching

The gap is exacerbated by employers demanding candidates with exact skill fits, requiring no additional training, for the open positions. The workforce shortages are further exacerbated by employers' human resources policies. Companies are "poaching" each other's trained workforce and taking a short-term view to recruitment. When employers do not fully understand their total cost of employment, the benefits of training, retention and workforce development are not fully appreciated.

Employers are not aware of the total cost of employment, especially opportunity costs and productivity loss associated with recruitment. Companies often underestimate opportunity costs and productivity loss associated with the workforce gap. Hiring costs make up only approximately eight percent of the Silicon Valley's incremental total employment costs caused by the gap. The gap costs approximately $3-4 billion annually to Silicon Valley high-tech employers.

The recruiting practices of the computer industry are so stringent that they do not effectively contribute to the bottom-line of the organization. "A company that focuses its recruiting on recent college graduates will end up getting more hours of work for fewer dollars," Chairman of the Board and Co-founder of Microsoft, Bill Gates, has pointed out that the habit of skill-matching tends to be at the expense of general programming ability. "We're not looking for any specific knowledge," Gates said, "because things change so fast and it's easy to learn stuff." (Lardner, 1998, p. 42).

Another reason for the serious shortage of skilled technologists, in part, it is because women are not represented in the pool of applicants. "It's a damn shame," says Nathan Myhrvold, Chief Technology Officer at Microsoft. "There are breakthrough ideas we're waiting for someone to have. The smaller the number of people in the industry, the fewer of those ideas we'll get. That's more in focus in our industry because growth is directly related to human talent." (Maney,1996, p. 01A). Industry leaders insist that they are quick to reward brains and skills in both men and women. "Because of the shortage of engineering talent, anyone who is qualified is a valuable commodity, any race, any gender," said Chuck Mulloy, a spokesman for Advanced Micro Devices, a leading semiconductor firm. (DeBare, 1996, p.A2).

The implementation of non-traditional recruiting techniques to attract recent college graduates and women will increase the propensity in filling computer scientists and systems analysts positions. These jobs will account for two of the top four fastest-growing categories of jobs between now and 2005, according to the U.S. Department of Labor. In 1996, the computer industry offered an average salary of $61,000 at Silicon Valley software companies

Culture

The technology industry wants everyone to know that women are not being discriminated against, although Hewlett Packard is the only Fortune 500 technology company run by a woman. In the second tier of technology, one company, Autodesk, has a woman CEO. She is Carol Bartz, an industry celebrity because of her unique position. If discrimination is not the problem, then what is keeping women out of technology at this critical time? And what can be done about it?

The major reason is that culture is a drawback. Senior managers in organizations tend to become isolated from outside changes. They are surrounded by people just like themselves (i.e., white males). Such dominant coalitions develop their own systems of codes to make sense of the world outside, a private language that further insulates them from reality. That is, dominant coalitions make up their own reality, consistent with the perceptions of senior managers who construct it.

Culture is our way of knowing and doing. The culture (or cultures) we come from greatly affects the lens through which we see the world. For every group, there is real cultural information, and there are norms. For example, in female culture, the purpose of communication is to make connections; it places one in a position of power. And Hispanic/Latino cultures place great value on extended family. Often, we miss cultural differences because our own cultural way of doing things is so deeply embedded that we can't imagine anyone really thinking of doing something another way. (Griggs & Lowu, 1995).

Dominant Coalition

"It's very important to have a diverse workforce, because the population out of which you hire the best and brightest people is diverse," a vice president at a large

chemical manufacturing company said. "If we don't have a diverse work force, then we are only going to effectively hire out some fraction of the population and, gradually, the quality of our work force, relative to our competitors, is going to diminish." (Dozier, et al., 1995, p. 149). The vice president had summarized for us the most pragmatic reason for gender and ethnic diversity among employees, and that is, diversity is simply smart business. "This (chemical company) has been a male-dominated corporation," he continued. "It still is. There is no diversity in senior management; it's all white males." (Dozier, et al., 1995, p. 149). Despite his logic of gender and ethnic diversity, he has also described a situation that prevails in many Silicon Valley organizations, dominant coalitions made up exclusively of white males. For example, an organization that provides services to the disabled posted overall excellent scores in the top five percent of participating organizations. The majority of departments in that organization are headed by women. The most senior positions, however, are held by men. An invisible glass-ceiling in that organization prevented women from advancing to most senior positions. (Dozier, et al., 1995).

Many organizations with excellent communication programs are actively tackling issues important to employees who are women and/or from ethnically diverse backgrounds. Organizations that value gender and ethnic diversity among their employees hold values that foster communication excellence as well. Cultural diversity among all employees, and especially among boundary spanners in communication departments, helps organizations to stay in touch with what is going on outside the organization.

The concept of requisite variety suggests that an organization needs to have as much diversity inside the organization as exists beyond the boundaries of the organization. The variety within provides a basis for building mutually beneficial

relationships with diverse people and groups outside the organization. Without such requisite variety, senior management of organizations interacts awkwardly with constituents different from themselves. Communication is difficult; misunderstandings are common. Misunderstandings become downright dangerous when they lead to boycotts, lawsuits, and labor disputes.

Communicators play a critical role in strategic planning, precisely because they know what's going on outside the organization and in relationships in key publics. Communicators cannot play this role if they suffer from the same blind spots as do other members of senior management. Communicators from culturally diverse backgrounds can play critical roles as go-betweens, the boundary spanners who can translate what management says to publics and what publics say to management.

There is a wide range of policies and practices that organizations can communicate to this diverse workforce to hire, support, and encourage the advancement of female employees including communicators. These include steps that help women become employees, such as flex-time, opportunities for women who must relocate, child-care services and multiple employment centers.

When values provide support to women employees and those from culturally diverse backgrounds, communication is more likely to be excellent.

Communication Styles

Another reason keeping women out of technology at this critical time, as writers like Deborah Tannen have noted, is women have very different styles of communication than their male colleagues. But some women engineers say their quandary is heightened by the in-your-face style of communication in parts of the computer industry. In a carry-over from the days of college-like brainstorming sessions, many companies place a

premium on confrontation and blunt criticism. That means they may end up ignoring some who are more comfortable speaking softly or politely. (Tannen, 1994).

"People do a lot of shouting to get their point across," said Robin Jeffries, 47, a senior staff engineer at Sun Microsystems. "After eight or nine months here I felt incredibly strongly about something, and they weren't getting it. I ended up pounding my fists on the table. That was a breakthrough," she said. "I realized nobody looked upset; they even listened better. I happen to have adapted well to the culture, but I see a number of other women around here for whom pounding fists on the table would be practically impossible." (DeBare, 1996, p.A4).

"Things are getting better, but they're not as much better as we all expected it would be," said Carolyn Leighton, who heads a group called the International Network of Women in Technology. "Men in top positions still tend to hire in their own image, and the companies are not committed to changing that." This is another example of the concept of dominant coalition in the workplace. (DeBare, 1996, p.A7).

"It's one thing to get people here, but it's another to keep them here and develop them," said Trish Millines, 38, a former Microsoft engineer who now works in that company's human resources division. "It's a human issue, and this industry is not used to dealing with human issues. They don't deal with it. They deal with technology because it's safe." (DeBare, 1996, p.A7).

Human Resource Strategies

Some HR managers said their firms had not acted yet, because their top-level managers were insulted by the fact that the world that surrounded them was changing. The diversity everyone was talking about was "out there, not in here." The people they were managing (mid-level employees) were still mostly from traditional American

families, mostly white, and most often male. Although the corporations they worked in operated internationally, foreign activities were viewed as peripheral, and most managers were not drawn into any international exchanges. As one person explained, the line managers considered their firm to be among the best in its industry, which meant it would be able to keep hiring the cream of the crop. These managers were right about their ability to hire the best, but they were blind to the fact that the crops they would now be harvesting were grown from a new variety of seed. (Carnevale & Stone, 1995).

In many organizations, workplace diversity is evolving gradually as a natural (i.e., civic culture) consequence of doing business in a changing environment, but in some organizations diversity exists partly because it has been intentionally engineered through aggressive equal opportunity (EEO) and affirmative action (AA) programs. Xerox and Pacific Bell are examples of companies where this is true. At Digital Equipment Corporation, the initial impetus for action was a desire to address the debilitating stereotypes white males had about women, African-Americans and Puerto Ricans, but over the years the Valuing Differences Philosophy has developed to recognize that there are personal differences from many other aspects of individual experiences as well.

One hundred years ago, as the 19th century drew to a close, Americans in every major urban center were experiencing the industrial revolution, which dramatically altered the nature of their work. Now, as we approach the beginning of a new millennium, another revolution is transforming our work lives. The economic forces shaping this new revolution are many and varied, but two are particularly relevant to the topic of workforce diversity: the shift from a manufacturing-based economy to a service economy and the globalization of the marketplace. These changes are bringing more and more people from diverse backgrounds into contact with one another, and, at the same time, mean that businesses are becoming more reliant on person-to-person contact as a

way to get things done. Add to these trends the changing demographics of both consumers and the workforce, and the stage is set for diversity to emerge as a strategic business issue.

As service activities gain importance, so do issues of diversity. In a service economy, interactions between people are pervasive, and effective communications are essential to business success. Similarities between people help smooth these basic processes; whereas, differences between people can interfere. Ironically, having discovered they can communicate more effectively with their customers by hiring employees who are similar to those customers, employers soon realize they have increased their internal diversity and must find ways to counter the resulting internal communication difficulties among employees plus the challenge of effectively managing and retaining their new, diverse workforce.

Incorporating heterogeneity into the organization and creating a more diverse workforce are desirable for at least two reasons. First, having a diverse pool of employees is inherently "good" on moral and ethical grounds. Organizations in this posture will make a concerted effort to search out diversity class individuals to expand their applicant pool. Businesses are finding that diversity improves their competitive advantage. A diverse culture has varied tastes and can make diverse contributions. From a marketing and customer service point of view, employees with a background similar to those of consumers can help a company understand and provide better to the marketplace. If managed well, organizations can reap the benefits of creating an environment that enables all employees to work optimally together to achieve organizational goals.

Research suggests that the presence of minority viewpoints differing from the majority of members may stimulate creative thought processes. In a series of laboratory

experiments, groups that included minority viewpoints generated more alternative strategies for solving the tasks they were given and generated more solutions as well. The most recent support for the idea that culturally diverse workteams may be more innovative and creative comes from a study by Kossek, el al. (1996). The performance of homogeneous groups of Anglo college students was compared with that of diverse groups of Asian, Black, Anglo and Hispanic students on a brainstorming task. The diverse groups produced ideas that were higher in both feasibility and overall effectiveness.

African-Americans & Workplace

Meanwhile, middle-class black workers are exploring bringing their blackness into the workplace and other predominantly white environments with the conviction that their black and white cultural values can, or at least should, coexist with some semi-balance of harmony. These people, relatively young, are justifiably proud of their racial and ethnic heritage; they want to hold on to their identification with their blackness while simultaneously not diminishing their middle-class values. They do not oppose assimilation; indeed, for many who were raised with these values, dropping their middle-class values is not a realistic possibility, but they do resist dissimulation from their blackness, according to Kochman. (Carnevale & Stone, 1995).

Right to Diversity

It is undeniable that the dominant civic culture established initially by the country's founding fathers was essentially Anglo-Saxon. This was true in the organizational context too. According to the model, this culture is to evolve and be changed by each generation in the process naturally integrating diversity. Evolution is, indeed, taking place but with marginal integration of women and other cultures. The

38

natural integration of diversity as perceived is not proceeding as a natural part of the process. To speed this process along will require extensive communication efforts toward education and redefinition of goals in the workplace.

In the civic culture, Fuchs' (as cited in Greenberg & Baron) unifying characteristic of American society is that which protects individual rights, including the right to diversity. According to Fuchs, it is the civic culture that unites Americans and protects their freedom, including their right to be ethnic. The model suggests that there is a common culture which forms the cement of our national life and then defines the manner in which that culture functions or protects diversity.

African-Americans & Hispanics/Latinos

The San Francisco Chronicle article on May 6, 1998, about the lack of African-Americans and Latinos in the high-tech industry was not surprising. (About Race, 1998, p. A22). After all, the concept of affirmative actions does not fit easily into the culture of Silicon Valley. Even though research indicated the high-tech industry views itself as an entrepreneurial mecca that prospers when it is allowed to operate on its own terms, without the regulatory and social burdens that are accepted in less competitive industries; but not all are enjoying the prosperity of this Valley. African-Americans and Hispanics/Latinos continue to be underrepresented in the high-tech industry.

According to some Silicon Valley high-tech industries, it is not fair to lay the entire blame for the lack of diversity on them, since shortcomings in the nation's educational system are an enormous factor in the dearth of African-American and Latinos in the high-tech labor pool.

For some in Silicon Valley it is not enough to have invented the new economy. They claim to have invented a new society, too, one that has abolished class and racial prejudice, and that judges people purely on the basis of merit. But, for the region's fastest growing ethnic group (i.e., Hispanic/Latino) the picture is very different. Latinos make up 23 percent of the region's population, but when the San Francisco Chronicle investigated 33 high-tech firms in 1998, it found that only seven percent of the workforce were Latinos, and hardly any of these held managerial jobs.

But, only 56 percent of Latino students graduate from high school, a smaller proportion than a few years ago; only 19 percent complete the basic courses needed to get into college, and only 11 percent are enrolled in an advanced math class. A survey of the area's fastest-growing companies found that 84 percent of their jobs required education beyond high school.

Manuel Pastor, an academic at the University of California, Santa Cruz, points to two other things that limit social mobility. "One is that, in this highly fluid economy, it is now more natural to draft in a friend from the other side of the world than to wonder whether your gardener carries the high-tech equivalent of a general's baton in his knapsack. The second is the fact that people who rely on public transportation find it all but impossible to turn up for the night-time and weekend shifts that many high-tech manufacturers demand." (The Digital Divide, 1999, p. 33).

Silicon Valley has moral, political and very pragmatic reasons to ensure that their communication efforts focus efficiently on recruiting a diverse workforce. As much as the Valley regards itself as a near-sovereign success story, the fact of the matter is that many of the companies are getting fat government contracts, which come with a pledge to make an effort to hire more minorities.

Silicon Valley executives also have been pushing Congress to lift visa limits so they can fill openings with foreign workers, citing a shortage of candidates in the United States. But, Normab Matloff, a computer scientist on the faculty of the University of California, Davis, has made himself the scourge of Silicon Valley by depicting the labor shortage as a piece of flimflam that diverts attention from the potentially unattractive software-industry practices, that of a growing reliance on foreign workers. He argues that what the high-tech industries mainly want is the ability to fill their personnel needs with noncitizens, the category of workers predisposed to work the longest hours for the least money (i.e., cheap labor). In June, 1998, the Coalition for Fair Employment in the Silicon Valley firms, a group of African-American leaders, asked the U.S. Department of Labor to consider tying Silicon Valley firms' request for temporary foreign workers to their record on hiring minorities. (Lardner, 1998).

Foreign vs. Domestic

As cited by McDonnel & Pitta, despite the white flag on Capitol Hill, the debate about allowing in so many foreign workers rages on. It is an especially volatile issue at a time when corporations are shedding tens of thousands of technically skilled U.S. citizens, whose presence among the unemployed and underemployed, many say, belies the high-tech industry's cries of a shortfall of skilled workers. "They're not bringing in the best and brightest," says Joel Synder, who chairs the Institute of Electronics and Electronics Engineers-USA, a Washington-based trade association that links the influx of foreign talent to stagnant earnings for its members, "They're bringing in the cheapest." (McDonnell, & Pitta, 1996).

Norman Matloff, a professor of computer science at the University of California, Davis, who wrote the critical study of industry hiring, says that using census data, he

found that the average annual salaries for foreign-born computer professionals in Silicon Valley were nearly $7,000 lower than for U.S.-born personnel of comparable age and educational levels. Industry representatives say the high proportion of immigrant professionals simply reflects the large number of foreign-born scientists and engineers doing post-graduate work at U.S. universities; this is long the principle for recruiting for Silicon Valley. (McDonnell, & Pitta, 1996, p. F7).

Perhaps one-third of engineers, programmers and other professionals in Silicon Valley are foreign-born; many of them are Asians sponsored for visas and green cards by area employers and U.S. universities. In an era of near-record immigration, the pronounced presence of these highly educated workers underscores how immigrants, often perceived as mired in menial service and labor jobs, also are a force in the upper reaches of the economy. The large number of foreign-born employees in high-tech jobs has alarmed critics in Congress and elsewhere. Some worry that high-tech companies thrive at the expense of native U.S. talent.

According to critics, including domestic engineering associations and groups favoring immigration restrictions, industry employment policies are far from a high-minded quest for the world's technological brain trust. Rather, these critics see a "strategy to exploit expanded quotas for skilled foreign help and hire a relatively cheap, readily available and easily discarded workforce, one garlanded with advanced degrees sometime subsidized by tax dollars. Many graduate programs in science and engineering are supported with taxes. The end result, detractors say, is the de facto exclusion of a vast pool of Americans, from inner-city minorities to laid-off workers buffeted by downsizing in defense, aerospace and other fields." (McDonnell, & Pitta, 1996, p. F6).

Silicon Valley has a long-term stake in incorporating diversity as a core value. African-Americans and Latinos earning Bachelor's Degrees in math, engineering and

computer sciences increased sharply between 1985 and 1995. (p. D3). Mario Obeldo, a longtime Latino activist and president of the California Coalition of Hispanic Organizations, was particularly harsh on Intel, which The San Francisco Chronicle series showed had only three percent of African-American employees and nine percent Latino out of a workforce of more than 30,000. (Evangelista, 1998).

John Templeton, founder of the Coalition for Fair Employment, authored a report that said that the vast majority of Silicon Valley technology firms were not filing required diversity reports with the U.S. Labor Department and that African-American and Latino workers stood to lose millions of dollars in wages if those firms did not change their recruiting, hiring and marketing practices within minority communities. (Evangelista, 1999).

Take Over in USA

Since the 1970s, a lot of immigrants coming to the United States have arrived with Ph.D's in their possession. America has incorporated this influx of talent so well that top the ranks of its scientific establishment are now replete with foreign-born workers.

Sharon Levin of the University of Missouri and Paula Stephan of Georgia State University looked at more than 45,000 top rate scientists and engineers who practice their occupation in the United States. After checking how many of these had been born or educated abroad, they concluded that the most accomplished scientists in America are disproportionately foreign. The two economists began by consulting the membership rolls of the National Academy of Sciences and the National Academy of Engineering, America's top scientific and technology clubs. (Alien Scientists Take Over USA, 1999).

According to the Levin and Stephan study, the 2000 census is expected to show a sharp increase in the supply of immigrant scientists from China and India. Skilled Asian immigrants are grabbing visas as fast as America can give them out. In California's high-tech industries, Asians already hold over 50,000 jobs and produce $17 billion worth of revenue.

But, if foreign scientists are so successful in America, it follows that at least some native researchers are losing out in the competition for senior positions. Opposition to immigration has classically come from the bottom rungs of American society. (Alien Scientists Take Over USA, 1999).

Valley Open for Indians

Indian businessmen are networking in Silicon Valley. These businessmen have developed a networking club, called The IndUS Entrepreneurs (TIE's), the name signifies that the members are of two lands, India and the United States, tied together in mission. Over the past seven years, the Santa Clara non-profit organization has opened chapters nationwide and gained an international reputation for its annual conference.

When asked the question, which is easier to assimilate into: Silicon Valley's business community or the community at large? Silicon Valley pioneer Kanwal Rekhi, one of TIE's founders said, "the business community. In Silicon Valley, especially, it's all merit-driven. It's how smart you are. In Silicon Valley, it has been very easy to participate fully. As a matter of fact, there was a recent Business Week story that said 40 percent of the valley's start-ups have some Indian connection, either a founder, a co-founder or one of the principals." (Valley Open for Indians, Pakistanis, 1999, p. 2C).

He further stated, "Jesse Jackson is blowing smoke. This is a very open community. At least for Indians and Pakistanis it has been open. We have had the

education. We had the training. We all started as engineers and programmers." He continued, " Indians shine very quickly because of their knowledge of math and science." Mr. Rekhi said, "Indians are in senior management at Sun, Microsoft, Cisco, anywhere." (Valley Open for Indians, Pakistanis, 1999, p. 2C).

High-tech Degrees

Thousands of new, high-paying tech jobs are created every month, and Silicon Valley is filled with stories of programmers turned stock options' millionaires, but American students apparently are not impressed. A report released on April 26, 1999, by the American Electronics Association showed that American students seem to be losing interest in studying computer science, engineering and other tech-related fields, as fewer students have been graduating with high-tech degrees. It warns that the nation's future growth could be hampered by a shortage of trained professionals, and that already many high-tech companies can find qualified personnel only by hiring from abroad or providing extensive in-house training. (High-tech Degrees Out of Favor, 1999, p. 12E).

At U.S. universities, colleges, community colleges and technical schools, the number of degrees awarded in high-tech fields fell by five percent, or about 11,000 from 218,820 in 1990 to 207,5684 in 1996. At the same time, when all fields from English to biology are counted, the schools issued a total of about 2.2 million degrees, a 16 percent increase, or a gain of about 300,000 from 1990.

Of the six areas that the report considered high-tech, only one, business information systems, showed a gain, with degrees up about 3,000 or 24 percent. Computer science dropped one percent, about 300 degrees; engineering dropped three percent, or about 2,500; engineering technology dropped 16 percent, about 9,000; math dropped five percent, about 1,900; physics dropped five percent, about 300 degrees.

The report counts Associate, Bachelor's, Master's and Ph.D. Degrees and records a drop across all degree levels. It used numbers from the U.S. Education Department that covers the nation's entire accredited post-secondary education system. California dropped a few percentage points more than the national average but still granted more high-tech degrees than any other state in 1996, according to the study. And the top 50 schools by high-tech degrees included tenth-ranked Stanford, 13th-ranked University of California-Berkeley and 46th-ranked San Jose State University.

SJSU

Donald Kirk, Dean of San Jose State's College of Engineering, noted that in the last two years the number of degrees granted by his engineering school increased, while most of the other Cal State schools saw a decline. Industry leaders and education officials are still at something of a loss to explain why more young people in this country do not want to major in the technology fields. (Rabinovitz, 1999).

The growing unpopularity of engineering degrees comes against a backdrop of tremendous job growth in the high-tech sector, with about 288,000 more positions in 1996 than in 1990, a seven-percent increase. The Commerce Department has projected that the economy will need about 95,000 more information technology workers each year through 2005. (Rabinovitz, 1999).

Conclusion

The literature review indicated Silicon Valley high-tech organizations are clearly more receptive to diversity as a vital strategic business tool, but organizations are overlooking qualified minorities in the effort to fill the workforce gap, or better stated to

deal with the current workforce shortage. To cope with the scarcity of potential employees, employers are now developing new communication efforts for recruiting strategies designed to find new sources of labor. Most important, the literature review indicated Silicon Valley high-tech organizations are still operating (recruiting) from the traditional mode. Key to these concepts of recruiting are the concept of dominant coalitions and that of hiring foreign workers as cheap labor.

To illustrate, historically America has been dominated by white males. Today, although approximately 50 percent of the workforce is female, top executives' positions are still dominated by white males. While white men are 47 percent of the workforce, they have most of America's high paying jobs and 95 percent are senior managers. Yet, women with MBAs from Stanford University are found earning less and receiving fewer promotions. Senior managers are surrounded by people like themselves (i.e., white males). There is no diversity in senior management; it is all white males.

Additionally, Silicon Valley executives also have been pushing Congress to lift visa limits so they can fill openings with foreign workers, citing the shortage of qualified candidates in the United States. But, the research indicated that there is a traditional mode or a growing reliance on foreign workers. The rationale behind this model is that high-tech industries mainly want the ability to fill their personnel needs with noncitizens, the category of workers predisposed to work the longest hours at the least amount of money (i.e., cheap labor). Research further indicated that recent college graduates could also provide the same function, long hours for less pay.

Although women are better educated today, this does not account for the different styles of communication between men and women. Likewise, the civic culture, according to Fuchs, is in reality a very gradual process, and Silicon Valley high-tech firms have begun to realize that diversity is the way to have the competitive advantage.

To sum up, Silicon Valley high-tech firms are overlooking qualified minorities in their effort to fill the gap.

Criteria List

Based on the research and literature review, the following is a list of the criteria that will be reviewed for the study on Recruiting in Silicon Valley:

1. What is the size and amount of space dedicated to each specified group in print documentation?

2. Does the print documentation graphically display the specified group(s)?

3. Does each organization have a Mission and/or Diversity Statement?

4. Employment Statistics: how many specified group members are in the total company workforce?

5. Special/General Communications: Do material address issues of diversity for a special audience?

> Ex: women's issues, such as scheduling flexibility or bilingual material for Hispanics/Latinos or the ability to maintain ethnic identity for African-Americans?

6. Where and how does the company disseminate diversity material, such as college job fairs, minority academic organizations, Internet links, etc.?

CHAPTER 4

Methology

Yin (1994) wrote about traditional prejudices against the case-study method. This included the view that case studies are a less desirable form of inquiry, as compared to experiments or surveys (p. 9). It has been argued that investigators in case studies have been sloppy and have allowed their biases to enter and influence their findings and conclusions. Yet another criticism of case studies was that they take too long and often result in hugh amounts of unreadable documents.

Every type of empirical research has a research design which provides a logical sequence that connects the initial research questions to the data and evidence and leads to the subsequent conclusions (Yin, 1994).

Yin (1994) discussed six sources of evidence. They were as follows: documentation, archival records, interviews, direct observation, participant-observation, and physical artifacts (p. 79). For the purpose of this study, the researcher used three of these sources of evidence. They include: documentation, interviews, and, if applicable, archival records.

Data collection and evidence

In gathering evidence for this study of whether or not Silicon Valley high-tech organizations are efficiently managing recruitment techniques when communicating the needs (positions) of the organization to women, African-Americans and Hispanics/Latinos, the main principles of data collection were employed, that of using multiple sources of evidence, creating a database and maintaining a chain of evidence (Yin, 1994).

Documentation

Information can take many forms, such as newspaper clippings and other articles which have appeared in the mass media. Also, specific documentation regarding recruitment techniques provided by the selected Silicon Valley high-tech organizations will be used. This information details the diversity efforts for recruiting women, African-Americans and Hispanics/Latinos in the Valley. The information from the selected high-tech organizations can also be used to provide other specific details to corroborate information from other sources.

Participant-Observation

Yin (1994) describes this as follows: "Participant-observation is a special mode of observation in which you are not merely a passive observer. Instead, you may assume a variety of roles within a case study situation and may actually participate in the event being studied." (p. 87). Although, this is an excellent source of evidence in a case study, due to time restraints in this type of observation and the nature of recruiting, it would not be appropriate for this case study/thesis.

Archival Records

Yin (1994) listed several types of archival records. They were as follows: service records, organizational records, maps and charts, lists, survey data, and personal records. Silicon Valley firms have a vast amount of archival records; many are significant to this particular case study (recruiting). Therefore, this case study will include archival records.

Physical Artifacts

A physical artifact is a technological device, a tool or instrument, a work of art, or some other physical evidence. Physical artifacts have less potential relevance in the most typical kind of case study. However, when relevant, the artifacts can be an important component in the overall case. Even though artifacts are an interesting concept in gathering evidence, time constraints would not allow for this type of evidence. Therefore, they will not be included in this study.

Interviews

Yin (1994) describes several types of interviews, including case study interviews which were open-ended. In an open-ended interview, "You can ask respondents for the facts of a matter as well as for the respondent's opinion about events. In some situations, you may even ask respondents to propose his/her own insights into certain occurrences and may use such propositions as the basis for further inquiry." (p. 84).

The interview(s) will be the most essential part of this paper as this study involves human interactions and decisions. The researcher has chosen the focused interview(s), in which a respondent is interviewed for a short period of time, an hour for example. In such cases, the interview(s) may still remain open-ended and assume a conversational manner, but you are more likely to be following a certain set of questions (i.e., criteria list) derived from the case protocol.

Direct Observation

If applicable, in order to fully understand the issues and comments provided by the respondents, direct observation of recruiting techniques will be made. Another purpose of the direct observation will be to gather evidence to support the statements

made by respondent(s) regarding the management of recruitment techniques when communicating the needs (positions) of the organization to women, African-Americans and Hispanics/Latinos. The relevant behaviors and the environmental conditions during the direct observation will give the study added documentation of the style and effects of management. Observational evidence is often useful in providing additional information about the issue/topic being studied.

Analysis

The analysis of the data and evidence gathered will be based on the general analytic strategy of theoretical propositions. This strategy involves using the initial propositions to guide the analysis and the data-collection process and is especially suited to answer "how" and "why" research questions and the established criteria list to review documentation regarding recruiting.

Unit of Analysis

The unit of analysis or framework for the study was the top ten organizations in Silicon Valley. The list was selected from the 25 largest employers ranked by employee size (employees in Santa Clara County); compliments of San Jose Silicon Valley Chamber of Commerce. The top ten firms were as follows:

Company	# of Employees
1. Hewlett-Packard Co., Palo Alto	16,000
2. County of Santa Clara, San Jose	12,426
3. Lockheed Martin Missiles & Space, Sunnyvale	9,700
4. Cisco Systems, Inc., San Jose	9,000
5. Stanford University, Stanford	8,512
6. IBM Corporation, San Jose	7,800
7. Kaiser Permanente Medical Center, SSC	6,646

8.	Applied Materials, Santa Clara	6,100
9.	Intel Corporation, Santa Clara	6,000
10.	Sun Microsystems, Inc., Mountain View	5,714

The purpose of the thesis is to study how the major high-tech firms in the Valley manage recruitment techniques when communicating the needs (positions) of the organization to women, African-Americans and Hispanics/Latinos. Therefore, The County of Santa Clara, Stanford University and Kaiser Permanente Medical Center were excluded from the study; these three organizations are not high-tech firms.

Protocol

The researcher initially contacted the secretary of the vice-president of each of the selected high-tech firms to request a direct interview. The purpose of direct interviews was to review the various communications tools and documentation used when recruiting for women, African Americans and Hispanics/Latinos.

By reviewing communications tools and documentation, rather than traditional interviewing, one hopes to achieve a form of validity. This will both eliminate bias on the part of the researcher and the pressure from a direct interview to be politically or socially correct to open-ended questions. A case study for each of the high-tech organizations will be done; each case study will be presented according to its ranking order.

Triangulation

Case studies will be utilized as discussed in Yin (1994). A major strength of case study data collection is the opportunity to use many different sources of evidence. The need to use multiple sources of evidence far exceeds that in other research strategies. The most important advantage presented by using multiple sources of evidence is the

development of converging line of inquiry, a process of triangulation. Thus any findings or conclusions in a case study are likely to be much more convincing and accurate if they are based on several different sources of information.

After using the initial propositions to guide the analysis, the process of explanation-building will be used to analyze the data.

Bias, Strengths and Weakness of Study

It is important to mention a major problem which has affected the survey review portion of the study. Hewlett-Packard Co., (HP) chose not to participate in this study, due to the division of the company. The study was further hindered by Intel. After numerous calls regarding diversity recruiting techniques, the researcher was directed to call Judith Ashley in Arizona, manager of recruiting for all Intel locations. Ms. Ashely was very adamant about not participating in the study. She indicated the only information available for the study would be from the company's website.

Another major weakness was CiscoSystems. Upon completion of the study, Tiona K. Smith, HR Representative, Corporate Diversity chose not to participate in the study due to miscommunication in agreement for the research. Therefore, the company's case study was limited to public documentation, all interview material was extracted. Most important, the primary purpose of the study was for high-tech organizations to learn from each other what can be done to address the region's labor force shortage.

However, upon completion of the study, Cisco System requested "prior" review of each organization within the study in order for the researcher to obtain necessary graduation documentation. Nevertheless, the researcher felt this request was unfair to the other organizations within the study. Not only would it be unfair to the other participates but unethical as well. The researcher would not be a part of such an agreement.

Although astonished and disappointed by these responses, the researcher did not allow it to deter the integrity and reliability of this study.

The major strength of the study, was the HP Director of Corporate Philanthropy, Roy Verley and staff (i.e., R. Dawkins/M. Jones) and Intel Director of Corporate Affairs, Tracy Koon and staff (i.e., Pam Pollace). Without the assistance of these members from HP and Intel, the study would not have been completed. Another major strength of the study was the willingness of members of the other specified organizations in the study to review documentation. These members of the organizations were open and friendly. Although this openness could be considered an asset, it could also be influential in the resultant findings, which could be biased on the researcher's part.

Limitations

The results of the review of documentation of the selected high-tech organizations in Silicon Valley regarding management of recruitment techniques when communicating the needs (positions) of their organizations to women, African-Americans and Hispanics/Latinos proved to be intriguing. It is important to mention a limitation which has affected the survey review portion of the study. The researcher found it impossible to discuss recruiting techniques without presenting internal recruiting techniques. Many may view internal communications efforts as retention techniques, but, in reality, internal communication efforts are the most "powerful" recruiting mechanism an organization can have. Therefore, internal communication efforts will be included in the study.

CHAPTER 5

Results

The following are the results of the review of documentation for the specified organizations in the study regarding recruitment efforts as they apply to women, African-Americans and Hispanics/Latinos in Silicon Valley.

Each organization's case study will be presented according to ranking order as follows:

- Hewlett-Packard Co.,
- Lockheed Martin Missiles & Space
- Cisco Systems, Inc.
- IBM Corporation
- Applied Materials
- Intel Corporation
- Sun Microsystems, Inc.

Hewlett Packard

Background

Hewlett-Packard (HP) was founded in 1939 by Bill Hewlett and Dave Packard. The company's first product, built in a Palo Alto garage, was an audio oscillator, an electronic test instrument used by sound engineers. One of HP's first customers was Walt Disney Studios, which purchased eight oscillators to develop and test an innovative sound system for the classic movie *Fantasia*. In the early 1960s HP extended its electronics technology to the fields of medicine and analytical chemistry.

Today, most of HP's revenue comes from computers, ranging in size from palmtops to super-computers, plus peripherals and services. HP is one of the fastest growing and largest personal-computer manufacturers in the world. The company is a leading global provider of computing and imaging solutions and services for business and home. One of HP's major strategies focuses on capitalizing on the opportunities of the internet and the proliferation of electronic services (e-services).

In March, 1999, HP announced that it would separate into two companies, effective in mid-2000. The computing and imaging business, roughly $40 million of the company's fiscal 1998 revenue, will retain the HP name and corporate offices in Palo Alto, California. The new company, Agilent Technologies, will consist of HP's industry-leading test-and-measurement, semiconductor products, chemical-analysis and medical businesses. These businesses represented $7.6 billion of HP's total revenue in fiscal 1998. Agilent also will be based in Palo Alto, on Page Mill Road, the historic site of the first HP-owned building. Agilent's initial focus will be on communications and life sciences industries.

Since July 1999, Mrs. Carleton (Carly) S. Fiorina has been president and CEO of Hewlett-Packard. Lewis E. Platt remained HP's chairman until his retirement at the end of the 1999 year.

Employment Statistics

Hewlett-Packard Co. employs 16,000 persons locally. Overall HP employs more than 120,000 people, of whom some 67,500 work in the United States. HP has major sites in 28 U.S. cities and in Europe, Asia Pacific, Latin America and Canada. The company sells its products and services through about 600 sales and support offices and distributorships in more than 130 countries and through resellers and retailers.

Business Strategy

At HP diversity is a sound business practice. Lewis E. Platt, Chairman of Hewlett-Packard Company , said, "At HP, we don't just value diversity because it's the right thing to do, but also because it's the smart thing to do." (http://www.hp.com/abouthp/diversity/business.html). The company's business strategy states why diversity is important to HP:

- Our customers, suppliers, and strategic partners are increasingly global and multicultural. We must be positioned to relate to them.
- Our customers are changing; their needs and expectations for products and services are diverse. We must be able to understand, interface and respond.
- Our competitive advantage is to become the leader in innovation, creativity, problem-solving and organizational flexibility. We must have diverse perspectives, talents and teams to meet this global challenge.
- The workforce's demographics are changing in most countries. The labor pool is shrinking, and labor shortages are projected. The competition to attract and retain top talent is increasing. To ensure our business success, we must be the best place to work for everyone.

Hewlett-Packard has a diversity statement as well as a mission statement. Additionally, the company has Diversity Company Policies used in recruiting to a more diverse workforce (i.e., women, African-Americans and Hispanics/Latinos).

Diversity Statement

HP's diversity statement reads as follows:

Diversity is Our Competitive Advantage

Hewlett-Packard is blessed with a rich diversity of human talent. HP's diversity is a competitive advantage for our customers, our employees and our company.

Diversity creates an organization rich with men and women from different cultures and with a range of experiences, lifestyles, backgrounds, perspectives and skills.

One of our basic organizational values is trust and respect for individuals. Every day, at all levels of HP's business organizations, we strive to create an environment where each individual is included and valued. This environment enables all HP people to develop and contribute to their full potential.

Diversity Company Policies

To cope with the scarcity of potential employees or, better stated, the projected shortage of qualified labor, HP has written company policies designed to find new sources of labor. The company's diversity policies are stated as follows:

As we have continued to grow and change as a company, we have responded by ensuring that our policies and practices support our core beliefs and values, our guiding principles and our goals to make HP the best place to work for every employee. Below is a list of some of the policies and practices that support our diversity success.

Polices

- Electronic job posting
- Harassment-free work environment
- Domestic partner benefits
- Non-discrimination policy
- Employee network group guidelines
- Open Door Policy
- Education Assistance Program
- Employee Assistance Program (EAP)

Shared Practices

- Open communications
- Management by objective
- Share in company opportunities
- Value diversity
- Pay among leaders
- Flexible work hours
- Safe and pleasant work environment

History

HP's diversity history is noted as follows:

- (Global) 2000 and beyond - Global Workplace. Actualizing cross-cultural understanding, acceptance and strengths of diverse teams.
- (Global) 1990s - Work Force Diversity. Creating an inclusive work environment that values all employees.
- (US) 1980s - Affirmative Action. Initiating proactive behaviors and actions to make Equal Employment Opportunity a reality for everyone.
- (US) 1960s/1970s - Equal Employment Opportunity. Establishing a workplace free of discrimination.

<u>Dissemination of Diversity Material</u>

HP disseminates diversity material for recruiting in a number of ways, both externally and internally. Again, internal communications can be utilized as informal mechanisms for recruiting. The key external strategy for recruiting is HP's Outreach and Recruitment Program. This program is designed to expand the candidate pool and increase access to opportunities.

The following is a description of the Outreach and Recruitment Program:

- Targeted college recruiting programs, including SEED (Student Employment and Development Program), were expanded to facilitate early identification of top candidates and strengthen their relationships with diverse hiring resources.
- External search firms were identified and relationships were established to assist them in increasing diverse hiring resources.
- Diversity-focused ad campaign was developed to enhance their ability to communicate and attract diverse candidates to HP.
- Opportunities were increased by expanding access to higher-level job openings.
- Education Program invests in the future work force. Its goals are: 1) to ensure early learning readiness, 2) to improve proficiency in science and math, 3) to increase the number of women and minorities in science/math disciplines for future candidate pools.

HP has hired an ad agency, Bernard Hodes Agency, specifically for print photographs of underrepresented groups. Of primary importance, HP has established a relationship with Cornell University, appropriately named the Cornell Program. It is a four-year program, which has historically been geared toward African-American students, but now has been extended to Hispanic/Latino students at Cornell. The focus of the program is to increase representation in engineering positions (Master's of Engineering Degrees). Furthermore, the program offers summer internships and paid tuition.

Recruiting Strategies

HP recruits from 80 universities throughout the country and has established partnerships with historically Black colleges/universities. To assist further with the projected labor shortage in this region, the company also recruits from diversity conferences.

The following are the HBCU where HP recruits:

- Tuskegee University
- Prairie View A&M University
- Hampton University
- Morgan State University
- Tennessee State University
- Southern University
- Howard University
- Florida A&M
- North Carolina A&T

The following are diversity conferences that HP recruits at. They send teams of between 20-60 people, depending on the conference.

- The Consortium for Graduate Study in Management (CGSM)
- Society of Women Engineers (SWE)
- National Black MBA Association (NBMBAA)
- National Society of Hispanic MBA's (NSHMBA)
- American Indian Science & Engineering Society (AISES)
- Society of Hispanic Professional Engineers (SHPE)
- National Society of Black Engineers (NSBE)

Appendix A, will show ads that HP uses in periodicals, newspapers, etc. The ads graphically display the specified groups in the study. The size and amount of each ad depends on the type of print documentation (i.e., billboard, booth display, etc.).

Additionally, HP has postings and links to career web sites such as msbet.com, netnoir.com, minorities-job.com and shpe.sgi.com/alianza.

Education Incentives

To further assist with the projected labor shortage in the Valley, HP has a Diversity In Education Initiative, which provides cash to university and school-district partnerships that will work together to better prepare females and minorities for college-level math and science courses and to pursue engineering or computer-science majors.

Diversity in Action

HP puts diversity in action with a number of diversity resources to increase awareness and inspire action.

The following are mechanisms for informal recruiting:

- Diversity education and training strategy establishes a consistent delivery of diversity education at HP. It describes the array of educational options that are available to HP organizations to meet their diversity training needs.
- Diversity best practices forums provide opportunities for HP organizations to learn from others. Best practices sharing has been a highlighted feature of their management and diversity specialist forums, newsletters and other communications.
- Diversity internal Web site supports HP organizations throughout the world. It includes online tools, such as HP diversity presentation materials, diversity education resources, and the diversity resource information.
- Diversity resource center is a reference library that includes books, periodicals, videos and other diversity education and training materials. This material is available to HP organizations to support diversity initiatives.

Marketplace Recognition

HP has been named the second most-admired company within the "Computer" category in <u>Fortune</u> magazine's 1999 annual global ranking. For ten consecutive years, HP has been voted one of the "100 Best Companies in America for Working Mothers" by <u>Working Women</u> magazine. HP ranks No. 10 in <u>Fortune</u> magazine's 1999 list of "Most Admired Companies in America" and ranked fourth in the 1997 <u>Business Week</u> survey of S&P 500 companies that offer "family-friendly" policies. Additionally HP communicates in recruiting a competitive compensation and benefits package.

Lockheed Martin Missiles & Space

The heritage companies that are now Lockheed Martin Missiles & Space form one of the world's leading diversified technology companies. They research, design, develop, manufacture and integrate advanced technology systems, products, and services for government and commercial customers around the world. Business areas span aeronautics, space, systems integration and technology services. The company's vision is as follows:

> Our vision is simple: To be the world's leading technology and systems enterprise. We aim to provide the best value to our customers, growth opportunities to our employees, and superior returns to our stockholders. Our mission is success, and we'll continue to set the global tone for technological advances well into the next century.

Employment Data

Lockheed Martin Missiles & Space employs 9,700 people locally. Further research indicated the company has nearly 160,000 employees in the United States, and over 5,500 employees working internationally at 939 facilities in 457 cities and 45 states throughout the U.S.; internationally, business locations are in 56 nations and territories.

Print Documentation

The company developed a brochure to provide employees and prospective employees an overview of diversity at work at Lockheed Martin Missiles & Space. The brochure and online recruiting information graphically displays the specified groups in the study. Regarding size and amount of space, each is graphically displayed on each page of the brochure and on the Careers/Recruiting web pages online.

Lockheed Martin's president, Vance Coffman, wrote the following statement regarding diversity:

> Diversity is one of the issues that will make or break companies as we count down the nineties and approach "Workforce 2000." Hiring for diversity, leveraging differences, selling to an increasingly diverse customer base, and selling in a global marketplace, these are the key differentiating factors in the competitive playing field.

> The ability to attract, hire, and retain the "best" will depend on whether the company's environment is conducive to and supportive of workforce diversity. The diversity vision for Lockheed Martin Missiles & Space is to create an inclusive environment where diversity is valued and leveraged so that individuals and teams are inspired to contribute fully to mission success.

Diversity Statement

The company has a diversity statement, LMMS Diversity Vision, reads as follows:

> LMMS is committed to the Lockheed Martin Corporation's vision of creating an inclusive environment where diversity is valued, managed and leveraged so that individuals and teams are inspired to contribute fully to mission success. We strive to be recognized by our employees and the public as a premier employer. Or ...Full utilization of our workforce.

In 1990, a formal focus was placed on the company's diversity initiatives by former LMMS president John N. McMahon. Since that time, LMMS has made significant progress in leveraging diversity through fair employment practices, diversity training programs, and cultural celebrations. In its quest toward the 21st Century, the company has postured itself with an increasingly diverse workforce prepared to meet the challenges of the global business market.

To promote LMMS' diversity initiative, special individuals have paved the way for change, opened new lines of thought, and exemplified standards of excellence.

Formal recognition began in 1994 with the establishment of the President's Diversity Award. Each year, this award is presented to one managerial employee and one individual contributor. The annual celebration dinner is the company's expression of appreciation to all nominees and winners of the award.

Workforce 2000

A 1987 report called Workforce 2000, revealed the possible impact of the changing demographics on the American labor force. The report indicated that by the end of this decade these changes will produce an America unrecognizable from the one that existed only a few years ago. Consequently, American business will be compelled to address diversity issues with the workplace and view it in the context of the globalization of the United States.

To address the possible impact of the changing demographics on the American labor force, LMMS has developed both internal and external recruiting strategies for attracting women, African-Americans and Hispanics/Latinos. Much of the external recruiting is accomplished through the Lockheed Martin Outreach Activities program. Note that several of the programs are designed to focus on future development for recruiting minorities and women. The following is a list of relevant organizations :

- Engineering Careers Council (ECC)
  A group of LMMS employees who take time out of their busy schedules to teach children at local elementary schools that engineering is important and fun. The specific goal is to introduce these children to existing and upcoming engineering and related work careers and, most important, foster the realization that women and men work well together in these fields.

- Women in Aerospace (WIA)
  Dedicated to expanding career opportunities for women within the aerospace environment, WIA recognizes the achievements of outstanding women, as

well as creates an environment in which women and men in aerospace can network with peers and key policymakers.

- Stanford University Institute for Research on Women and Gender
The Institute sponsors annual speakers who address important topics such as: the increasing role of women in the workforce, expanding career options, and redefined family responsibilities.

- Mathematics, Engineering, Science Achievement (MESA)
Through participation on the local San Jose State University MESA-Industry Advisory Board, volunteers help MESA foster minority students' interest in math, engineering and science.

- Society of Women Engineers (SWE)
Offering annual scholarships and supporting educational programs, Lockheed Martin helps SWE to encourage young women to achieve their full potential in engineering careers. In fact, the Santa Clara Chapter of SWE was founded in 1970 by Lockheed Martin Engineer, Esther Williams.

Campus Recruiting

In addition to the above-mentioned external recruiting techniques, the company has developed an online campus recruiting web page called Life@Lockheed Martin. The following is a brief description of the company's commitment to attracting the new labor force:

We believe that it takes people with different backgrounds and views to fully round out a team. Diversity of culture, styles, education, experience, and geography all add value to our teams and their decisions, and make a positive impact on our business.

We recognize the need for work/life balance and flexibility. Many of our locations offer flexible work schedules and dress practices tailored to the individual needs of their specific work and customers.

We are also committed to listening to new ideas. Our work environment supports empowerment and technical creativity.

Other ways in which we are accommodating employees' needs are the availability of professional and personal development programs and a flexible benefits package. Employees can tailor their benefits' options as they see fit.

Furthermore, Coming to a Campus Near You, is the company's online college recruiting calendar. The calendar identifies the school, date, and type of event (i.e., career fair, information session, campus interviews, etc.).

To increase the number of Silicon Valley African-American employees, the calendar indicated that LMMS recruits at the following historically black colleges and universities:

- Hampton
- Florida A&M
- Morgan State
- North Carolina A&T
- Prairie View A&M
- Howard

Internal Recruiting

In addition to its work/life balance, flexible work hours and employee tailored benefits options, Lockheed Martin uses a number of internal communication strategies to recruit women, African-Americans and Hispanics/Latinos to their organization. For example, the Employee Network/Diversity Roundtable was established to foster career development and upward mobility through education, training and mentoring programs in minority groups. Employee networks serve to promote multicultural understanding and awareness within Lockheed Martin and the larger community.

These networks participate in the Diversity Roundtable, which is associated with the LMMS Bay Area Chapter of the National Management Association. Current employee networks relevant to this study include the African-American Mentoring &

Information Network (AAMIN) and the Lockheed Martin Latino Mentoring Network (LMLMN). In the last five years, the AAMIN has evolved from an internal organization that represented the needs and concerns of the Hispanic population at LMMS into a networking organization of professional Hispanic organizations. Today's vision reaches beyond the realm of its membership to include other diversity organizations inside and outside LMMS. These strategic partnerships and coalitions with other Hispanic organizations will promote professional growth and increase the visibility of Hispanics in Silicon Valley.

Diversity Leadership Council

Another internal recruiting strategy is the Diversity Leadership Council (DLC). It was established in 1992 to serve as a clearinghouse for diversity activities throughout LMMS. The DLC is comprised of Business Unit Representatives, chairs of Diversity Roundtable, and representatives from Communications, and the Management Association. The DLC provides a critical two-way communication link between the Workforce Diversity Organization and LMMS Business Units. They also provide assistance to the following major projects:

- Young Minds at Work
  The program offers an opportunity for students to learn about Lockheed Martin, its products, career opportunities, and the importance of education in the future.
- America on Parade
  Over a course of two days, the dynamics of Lockheed Martin Missiles & Space's diversity is witnessed annually by more than 2,300 employees.
- Cultural Events
  - National Black History Month
  - Cinco de Mayo
  - National Hispanic Heritage Month
  - National Women's History Month

Awards

In 1998, Lockheed Martin coordinated nominations for the following local/national awards:

- Hispanic Engineer of the Year - June
- Women in Aerospace Award - July
- Black Engineer of the Year - August
- Women of Achievement Award - September
- Tribute to Women and Industry - October
- Society of Women Engineers Award - December

Diversity Milestones

The following are LMSC milestones in diversity management:

- 1995
  LMSC begins "Critical Skills for Managing Diversity" training for managers

- 1994
  America on Parade brought the LMSC community together to share differences, experiences and friendship in an educational forum. The week-long celebration included multicultural displays, ethnic foods fairs, entertainment and art.

  Martin Luther King III was keynote speaker at LMSC during month-long Black History Month activities.

  Take our Daughter to Work Program, more than 1,460 girls and boys participated in this nationwide event to promote self-esteem, foster career aspirations and raise awareness about issues of gender equity.

- 1993
  Executive Development and Growth Enhancement (EDGE) Program developed to assist the professional development of women and minorities who are candidates for management positions over a two-year period.

  Graduate Engineer Rotation Program (GERP) established to overcome the under-utilization of women and minorities in entry-level engineering and scientific positions by establishing a 12-month rotation of job assignments for selected individuals.

LMSC began contributing to the support of the Stanford University Institute for Research on Women and Gender.

- 1992/93
  The Lockheed Hispanic Network and the African-American Mentoring and Information Network were formed as an outgrowth of the focus groups.

- 1991
  Flexible Benefits Plan initiated to allow employees to customize their benefits according to personal needs.

  Subsidized Child Care for Sick Children. Employees may take a moderately ill child to the "Feeling Better" child care facility, adjacent to LMSC facility, at a minimal cost.

- 1988
  EEO/AA Awareness training for management was initiated.

- 1983/95
  LMSC coordinated a Youth Motivation Task Force. Minorities and women's role models gave motivational presentations to Eastside Union High School District.

- 1982
  LMSC began celebrating Black History Month.

- 1978
  Lockheed's Management Association initiated an ongoing series of all-day seminars beginning with the Working Women's Seminars. Workshops covered topics such as leadership, mentoring, networking, financial planning, and career paths at the company.

The research did not indicate any other LMSC milestones in diversity management since 1995.

Cisco Systems, Inc.

Background

More than 200 years ago, the Industrial Revolution had a profound impact on the global economy. Today's Internet Revolution will have a worldwide impact of even greater magnitude and will alter the fortunes of companies, countries, and people. The Internet is changing the way we work, live, play, and learn in ways we are just beginning to explore. These changes are creating an Internet Economy where technology connects everyone to everything and where open communications, open standards, and open markets prevail.

Today, Cisco Systems, Inc., is the worldwide leader in networking for the Internet. The company was founded in 1984 by a small group of scientists from Stanford University seeking an easier way to connect different types of computer systems. Currently, Cisco's hardware and software solutions are used to link computers and computer networks so people have easy access to information, regardless of differences in time, place, or type of computer system. Cisco solutions are the networking foundation for companies, universities, utilities, and government agencies worldwide.

Employment Data

Cisco Systems shipped its first product in 1986. Since then, Cisco has grown into a multinational corporation with more than 20,000 employees in more than 200 offices in 55 countries. According to Tiona K. Smith, HR Representative/Corporate Diversity, the company could not disclose local employee statistics, but further research indicated the company has 9,000 local employees.

<u>Print Ads</u>

Cisco Systems primarily uses web-based advertising; therefore, it was somewhat difficult to address number one and number two on the criteria list regarding documentation for graphically displayed specified groups, size and amount of space for each specified group. In several of the company's brochures, however, the groups were graphically displayed to some degree.

Cisco Systems does have a diversity statement, which reads as follows:

Creative, enthusiastic employees are Cisco Systems' most important resource and the basis for our success. We encourage a creative, diverse and enthusiastic work environment that is characterized by respect for each individual, where cultural and ethnic diversity are blended by teamwork into a harmonious and heterogeneous work force. Building such a workforce supports and represents the values of cultures worldwide as well as creates an environment which is open to all employees.

Cisco's commitment to diversity takes place in several forms. We realize that being committed means we must continue to:

- Have a strong tie to establishing and supporting relationships with women and minority organizations.
- Market our involvement by sponsoring minority-run national conferences.
- Advertise in minority publications and attend minority job fairs.
- Develop and abide by policies which promote cultural/ethnic diversity hiring.
- Make available promotional opportunities for all employees.
- Build and maintain a unified, open, and diverse work force.

<u>Recruiting Strategies</u>

To cope with the scarcity of qualified candidates, Cisco Systems has devised benefit packages to better fit the needs of the new labor force. The company's benefits statement reads as follows:

When it comes to benefits, Cisco knows that the best way to recruit and retain top performers is to offer them great salaries, a fun work environment, and quality benefits. Stock options. Bonuses. Educational assistance. Training. Complete medical and dental. The list goes on. Cisco's benefits are exceptional. But then again, so are our employees.

In addition to the basic benefits communicated to the new labor force, of particular interest to this study, the company offers:

- Flexible Spending Accounts: Employees may use pretax dollars to pay for expenses not covered by the health plans or expenses related to dependent day care, by setting aside funds in one or both accounts.

- Dependent Day Care Account: Employees may set aside up to $5,000 annually to pay for eligible expenses related to child care, care of a disabled spouse and/or disabled or aged parent. Eligible expenses include nurseries, day care centers and individuals who provide dependent care in or outside the home.

- Paid Time Off: The company provides employees with 20 days (160 hours) of paid time off (PTO) for vacations, illness, and personal business. PTO is earned on a daily basis and accrued at 20 days per year beginning from date of hire.

- Short-Term Disability: Voluntary Disability Insurance plan (for California employees) and insured plan (for employees outside California) replaces up to 66-2/3 percent of salary for up to 90 days if an employee is disabled and unable to work.

- Long-Term Disability: Provides continuing income for long-term disabilities. After 90 days, this coverage (in combination with the Voluntary Disability Insurance plan for California employees) pays a monthly income up to 66-2/3 percent of predisability earnings to a maximum of $12,000 per month.

Recruiting Events

There are a number of opportunities to connect with Cisco Systems. The company organizes and attends job fairs, conferences, seminars, trade shows and career invitation events. In addition to these recruiting events, the company has an online calendar to see when the company is coming to cities or locations of potential candidates.

Furthermore, Cisco recruits through Black Voices, an online advertising agency. As mentioned previously, most advertising is web-based, with banners on websites and with different organizations.

Diversity Organizations

Cisco Systems has partnered with diversity organizations on a local and national level wherever possible. Creating these relationships could prove to be a successful business opportunity, considering many members of these organizations are decision makers at companies which could be potential customers, or members could serve as potential employees.

The following is a list of the company's partnerships that is relevant to this study:

- Society of Hispanic Professional Engineers (SHPE)

  SHPE is a non-profit association that promotes the development of Hispanics in engineering, science, and other technical professions to achieve educational excellence, economic opportunity, and social equity. SHPE achieves these developments by increasing educational opportunities, promoting professional and personal growth, carrying out their social responsibility to be involved in education, business, and government issues, enhancing pride within their organization, and reinforcing their reputation as a vital Hispanic organization.

- National Society of Black Engineers (NSBE)

  NSBE is a non-profit association that develops intensive programs to recruit African-Americans into engineering and the sciences, while promoting academic excellence and professional development.

- Society of Women Engineers (SWE)

  A non-profit organization that stimulates women to achieve full potential in careers as engineers and leaders expands the image of the engineering profession as a positive force in improving the quality of life and demonstrates the value of diversity.

- Women in Technology International (WITI)

  WITI is dedicated to: increasing the number of women in executive roles, helping women become more financially independent and technology-literate, and encouraging young women to choose careers in science and technology.

IBM

Background

IBM was incorporated in the state of New York on June 15, 1911 as the Computing-Tabulating-Recording (C-T-R) Company. But its origins can be traced back to 1890, during the height of the Industrial Revolution, when the United States was experiencing waves of immigration. The US Census Bureau knew its traditional methods of counting would not be adequate for measuring the population, so it sponsored a contest to find more efficient means of tabulating census data.

In 1914, when the diversified businesses of C-T-R proved difficult to manage, Thomas J. Watson joined the company as general manager. The son of Scottish immigrants, Watson had been a top salesman at NCR, but left after clashing with its autocratic leader, John Henry Patterson. However, Watson did adopt some of Patterson's more effective business tactics: generous salesmen and an evangelical fervor for instilling company pride and loyalty in every worker. Watson boosted company spirit with employee sports teams, family outings and a company band. He preached a positive outlook, and his favorite slogan, "THINK," became a mantra for C-T-R's employees.

Within 11 months of joining C-T-R, Watson became its president. The company focused on providing large-scale, custom-built tabulating solutions for businesses, leaving the market for small office products to others. During Watson's first four years, revenues doubled to $2 million. He also expanded the company's operations to Europe, South America, Asia and Australia. In 1924, to reflect C-T-R's growing worldwide presence, its name was changed to International Business Machines Corp., or IBM.

<u>Criteria List</u>

The company has a 53-page brochure to communicate to the community of employees, customers, shareholders, vendors, suppliers, business partners and employment applicants the strong importance that IBM places on the issue of diversity. The brochure graphically displays women, African-Americans and Hispanics/Latinos. The size of the brochure is 8 1/2 x 11 inches. Regarding the amount of space utilized, the specified groups are included throughout the brochure.

The brochure has a special section featuring IBM executives; here the company presents evidence of the organization's commitment to diversity. The brochure states, "a commitment that precedes government regulation or group pressure."

The company has a diversity statement as well as a company mission statement.

IBM's diversity statement: In our diversity, we find a central thread that connects the marketplace to the IBM workplace. To know our markets and serve them will require that we understand them. And understanding comes from employing people who represent those markets. Our customers can clearly see that they are people like us. They can relate to the fact that we are people like them. Diversity is our source of innovation, opportunity and competitive advantage. It is key to our continuing success.

According to the IBM diversity brochure, business owners, consumers, clients, communities, shareholders and corporate boards now demand diversity. Diversity can be a determing factor in whether a customer purchases their products or an investor invests in their company. Prospective clients compare themselves and their commitment to diversity to theirs. They look at IBM's track record. They look at the employees. It is important they are able to see themselves.

According to IBM's diversity brochure, Asians, Blacks, Hispanics and Native Americans constitute a 72.3 million-person market with gross buying power of more than

$1 trillion. A nation with this level of buying power would rank seventh in the world's markets. By comparison, the buying power of China is $827 billion; Canada, $601 billion, and Russia, $440 billion. Clearly, the North American minority market is an important one for IBM. The brochure further stated, "by looking at demographics, business shifts and consumer trends, we are building foundations in new communities and cementing already existing relationships." At conferences, through membership associations, sponsorships, community outreach programs and other activities, IBM is clearly signaling its policy of inclusion. They are showing that they care about all of their constituencies. And that they respect their ideas, value their business and offer products that meet their unique needs.

Workforce Diversity

IBM has a long history of supporting the advancement of women. Its founder, Thomas J. Watson, Sr., stated in 1935 that "Men and women will do the same kind of work for equal pay." (Meeting the Challenges: One Example, 1998, p. 14). In that era, when women were primarily employed in clerical positions, IBM moved them into professional positions. In 1943, the corporation named its first female vice president. The payoff for this forward-thinking position continues today. In 1996, three of ten women inducted into the Women in Technology International Hall of Fame were IBMers: Ruth Leach Amonette, Dr. Barbara D. Grant and Linda Sanford. In 1997, IBM fellow Frances E. Allen joined them.

IBM was one sponsor of the 1998 "World of Women Leaders" Conference. This annual event is a collaboration between members of Asian Women in Business, the New York Coalition of 100 Black Women and 100 Hispanic Women. IBM is aware of the fact that the total U.S. business investment in computer equipment in 1998 was nearly

$333.1 billion, $106.1 billion from women-owned businesses and $27.8 billion from minority-owned businesses.

IBM's workforce diversity initiatives have historically preceded Federal mandates. An example, more than a decade before the U.S. Civil Rights Act of 1964, IBM reinforced the company's tradition of hiring regardless of race, color or creed. The policy today has been broadened to cover nondiscrimination and nonharassement. Throughout every level at IBM, you'll find a broad mix of people. That's because there is no company policy, practice or institutional attitude at IBM that supports discrimination at any level. To do anything else-to limit opportunity based on gender, race, age, ability, experience or lifestyle- would limit potential achievements.

Life Work Balance

Targeted recruiting programs are enabling IBM to attract and hire a highly skilled and diverse workforce. For example, IBM was the first company to institute a dedicated series of work/life surveys as an ongoing, critical tool in the corporate human resources strategy. From these analyses, a number of industry-leading programs were developed. A case in point, IBM LifeWorks is a combination of Child/Elder Care Referral Services that offers telephone consultations and referrals and consumer information through networks of local community-based specialists.

When families were larger and lived closer together geographically, members could more easily share responsibilities in caring for aging parents. Today, without this support structure, parental care is a major concern for many. Specially this is true since the timing often coincides with demanding periods in an individual's own life when he or she may have small children or be experiencing increasing career pressures, or encountering special spousal needs.

In December 1998, 62 percent of IBM employees were part of a dual-income couple, 32 percent of the employees had children under age 14 who required care and supervision, four percent of employees were single-parents, and 32 percent of the employees had some responsibility for the care of adults. For this reason, LifeWorks has yielded a direct payback in human terms and in financial terms. Employees report that they save, on average, between 15 and 17 hours for every instance they call LifeWorks. Based on 1996 usage, taking into account the average salary of IBM employees and the fact that employees would be making calls to find care on work time, IBM saved more than $6 million in productivity. These services have not only helped them attract (and retain) valuable employees, but they have reduced stress, improved performance and decreased time away from the job.

IBM's commitment to invest $75 million on dependent-care initiatives in the 1990s was the largest commitment of any U.S. corporation. Established in 1989, the Funds for Dependent Care Initiatives (FDCI) respond to work- and personal-balance needs. From 1990 through 1994, IBM funded more than 500 projects under this program. In 1995, funding was allocated to cover needs to the Year 2000. Since 1990, nearly 30,000 dependents of IBM employees have participated in FDCI-funded projects.

Maria P. Meneses, 14 years at IBM as Consultant, Global Consulting and Services Global Industries said, "At my college reunion, when I said I'm at IBM, all I heard was, 'IBM is in the top one hundred companies for women to work for.' And I felt great." (IBM Work/Life Programs, 1998, p.22).

Recruiting Strategies

To cope with the scarcity of potential employees, IBM has developed communication efforts for recruiting strategies designed to find new sources of labor.

They have devised benefits packages that better fit the needs of the new labor force. In addition to LifeWorks programs, IBM offers adoption assistance, leave of absences, up to 12 weeks of unpaid job-protected time for certain family and medical reasons, and as much as three years personal leave when employees need to be away from work for personal reasons. Also, there is retirement transitioning, one year leave of absence to plan for retirement and a personal financial planning.

Faced with a tight labor market, employers need to recruit (and retain) talented workers. And employees, especially the growing number of women in the workforce, are demanding more flexibility. In this regard, IBM offers flexible working arrangements. The company offers an adjustable work day, two hours before/two hours after normal location start-stop time. The employees' total hours worked can be adjusted from 30 minutes (minimum) to two hours (maximum) for personal choice activities. Additionally, employees can request a reduction of workweek to accommodate personal needs, such as dependent-care responsibilities. There is also remote access working arrangements, a flexible workweek offering employees the ability to arrange their weekly schedule in less than five full days. With the flexible working arrangements, there is in-home/off-site working arrangements, personal choice holidays, flexible vacation scheduling, and regular part-time work schedules to allow an employee to work 20 to 32 hours per week.

Dissemination of Diversity Material

On February 11, 1998, Louis V. Gerstner, Jr., IBM Chairman and Chief Executive Officer, accepted from President Clinton, on behalf of all the employees and shareholders of IBM, the first annual Ron Brown Award for Corporate Leadership, Employee Initiatives. Acknowledgment for IBM's commitment and accomplishments in

supporting diversity has come from a broad spectrum of organizations and publications.

The following is a list of organizations, publications and awards (informal recruiting) used for attracting the specified groups (i.e., women, African-Americans and Hispanics/Latinos) in this study.

African-Americans

National Eagle Leadership Institute Award (NELI) (1994-1998)
NAACP Corporate Award (1998)
Golden Torch Award , Black Society of Engineers for CHQ Diversity Leadership (1997)
Black Engineer of the Year Award (1994-1997)
Black Collegian magazine "Best Places to Work" survey (1982-1995)
National Society of Black Engineers Employer of Choice (1989-1994, 1997, 1998)
Black Professional magazine - Fabulous 50 in Reader Survey (1993)
Black Enterprise magazine - 3 of 40 Top Executives (1993)

Hispanics/Latinos

LATINA Style magazine - 50 Best Companies for Latinas to work for in America (1998)
Vista magazine, Vista Award (1997)
iSi Se Puede! Award, National Puerto Rican Forum (1997)
National Eagle Leadership Institute Award (1996)
Hispanic Business magazine - Corporate Elite and Top Campus Recruiter Wise List (1997)
National Hispanic Institute President's Award (1997)
HISPANIC magazine Top 75 (1997)
National Puerto Rican Forum Corporate Friendship Award (1996)

Women

Working Woman Magazine Top 25 Public Companies for Executive Women (1998)
National Women's Economic Alliance Foundation, Global Corporate Leadership Award (1996)
Women in Technology International Hall of Fame inductees (1996, 1997)
Women Engineer magazine - Top 10 (1992, 1996)
The U.S. Dept. of Labor Women's Bureau Honor Roll (1995)
National Foundation for Women Business Owners - Distinguished Patron (1995)
National Council of Women - Corporate Advancement of Women Award (1994)

Catalyst Award/American Business Collaboration for Quality Dependent Care (1993)
National Council of Jewish Women Founders Award (1992)

Work/Life

Working Mother Magazine 100 Best Companies - Top 10 (1988-1998)
Working Mother Magazine - Prestigious Top 10 (1998)
Department of Education Golden Apple Award (1996)
Families & Work Institute/Family Friendly Index (1991, 1996)
Kathleen McDonald Award/Family Resource Coalition (1994)
ABC Creative Excellence in Benefits Award (1994)
HR Executive Magazine - Benchmarking the Best (1992)
Labor Investing for Tomorrow (1990)

In addition to the above-mentioned marketplace recognition sources for disseminating information for diversity recruiting, IBM has project review, a recruiting program which targets minority organizations at universities. Of primary significance, for recruiting minorities IBM participates in the INROADS program. The mission of INROADS is to develop and place talented minority youth in business and industry and prepare them for corporate and community leadership. Preference goes to African-Americans, Hispanic and Native American high school and college students with 3.0 or better grade point averages. INROADS has received the U.S. Department of Labor LIFT Award in recognition of initiatives to enhance the quality of the American workforce and has been selected as one of "America's Top 100 Internships" by the Princeton Review annually since 1994.

Diversity Milestones

The following is a list of IBM diversity milestones for the specified groups in the study:

- 1998
  hosted its first Multicultural Women's Symposium to facilitate and enhance the leadership skills of women of color to become future executives

85

for the first time, IBM was recognized in <u>Working Woman</u> magazine as a Top 25 Public Company for Executive Women

the only company named to <u>Working Mother</u> magazine's "Best Companies" for 13 consecutive years and the prestigious "Top 10" for 11 consecutive years

first time IBM recognized as one of <u>LATINA Style</u> magazine's 50 Best Companies for Latinas to work for in America

- 1997
hosted its first Global Women's Leadership Meeting to address barriers to women's advancement

the largest employer of INROADS students, for African-American and Hispanic interns

introduced regular part-time employment

- 1995
Gerstner, IBM CEO, named <u>Working Mother</u> magazine's 1995 Family Champion

co-sponsored a diversity practices survey with peer companies in the industry. As a result, the Technology Consortium, an ongoing diversity roundtable, was established

combined its Child and Elder Care Resources and Referral Services into a single program called LifeWorks

- 1991
pledged $10 million payable over 10 years to the United Negro College Fund

- 1990
created the IBM Funds for Dependent Care Initiatives (FDCI)

- 1988
established the Elder Care Consultation and referral service, the first national corporate program to address elder care issues

- 1986
began to conduct the first of a series of work/life surveys

- 1984

established the IBM Child Care Referral Service, the first national child care resource and referral service

- 1975
  helped launch the National Hispanic Scholarship Fund

- 1968
  created an equal opportunity department to establish guidelines for fulfilling company policy

  established the Minority Supplier Program. Since 1997, minority-, women, and disabled-owned companies have provided more than $4 billion of purchasing and contract services.

  in support of minority-owned banks, IBM made its first deposit

- 1962
  among the first companies to join the President's Plans for Progress program to promote and carry out employment opportunity

- 1956
  announced its three-month leave of absence policy and Watson addressed senior management on the importance of a workplace free of racial and religious bias

- 1953
  Thomas J. Watson, Jr. published IBM's first written equal opportunity policy letter, one year before the 1954 Supreme Court Decision, Brown vs. Board of Education, and 11 years before the Civil Rights Act of 1964

- 1950
  began recruiting at black colleges

- 1946
  hired first Black salesman, 18 years before the Civil Rights Act of 1964

- 1944
  is the first company to support the United Negro College Fund

- 1943
  appointed first woman vice-president, Ruth Leach Amonett.

- 1935
  women hired as Systems Service Professionals and with "equal pay" 29 years before the Equal Pay Act of 1963 was signed into law.

Employment Data

IBM has 7,800 local employees. The statistics regarding all regular and complementary U.S. employees (temporary, part-time and limited terms) were available in the IBM diversity brochure. The following is a list of all jobs by category for each of the specified groups for the years 1995 to 1997.

	1995	1996	1997
Officials and Manager			
Women	3,594	4,125	4,562
African-American	1,017	1,149	1,253
Hispanic/Latino	403	452	491
Professionals			
Women	14,418	15,681	14,891
African-American	3,200	3,641	3,244
Hispanic/Latino	1,486	1,667	1,626
Technicians			
Women	1,324	1,286	1,501
African-American	873	834	983
Hispanic/Latino	663	649	690
Marketing			
Women	3,746	4,354	9,486
African-American	1,051	1,248	2,921
Hispanic/Latino	394	477	1,088
Office and Clerical			
Women	6,345	5,849	6,191
African-American	1,904	1,905	1,977
Hispanic/Latino	500	480	547
Craft Workers			
Women	148	206	1,275
African-American	128	161	496
Hispanic/Latino	57	62	165

Employement Data (con't)

	1995	1996	1997
Operatives			
Women	7,338	6,802	4,817
African-American	4,126	3,474	1,984
Hispanic/Latino	1,077	1,271	977
Totals			
Women	36,913	38,303	42,723
African-American	12,299	12,412	12,858
Hispanic/Latino	4,580	5,5058	5,584

Applied Materials

Background

Applied Materials is a Fortune 500 global growth company providing core capabilities that enable the emerging Information Age. The company is the largest producer of wafer fabrication systems and services for the worldwide semiconductor industry, a position it has earned through more than 30 years of continuous technical innovation, product improvement and enhancement of customer productivity.

Recruiting Techniques

Applied Materials does not have a diversity statement. The company employs more than 12,000 people worldwide in more than 95 locations in 14 countries. According to Kristin Jackson, HR Manager/AA and Employee Communications, local employee statistics could not be given to the researcher but, further research indicated the company has 6,100 local employees. Applied Materials does have a mission statement that reads as follows:

Our Mission

To be the leading supplier of semiconductor fabrication solutions worldwide-through innovation and enhancement of customer productivity with systems, process modules and service solutions.

The company's Job Opportunities online posting does make a brief mention of diversity of the company. The posting reads as follows:

Job Opportunities

Delivering total solutions to the semiconductor industry is a big job. Our success requires the vision, dedication, and teamwork of a talented and diverse group of

people: the 12,000 employees of Applied Materials. And you can join us. Applied Materials offers an enriching work environment where your talents will be appreciated and rewarded through competitive compensation and benefits plans.

Print Documentation

The print documentation that was presented to the researcher did not graphically display any of the specified groups in the study. Therefore, it was impossible to address Number one on the criteria list regarding size and amount of space dedicated to each group in the study.

Recruiting Strategies

Applied Materials uses the following benefits package to attract potential employees.

Applied Materials, Partners In Benefits...At a Glance, reads as follows:

Applied Materials attracts, develops, and retains top talent by creating a challenging and rewarding atmosphere, offering a comprehensive and competitive benefits package. Through Partners In Benefits, Applied Materials provides a host of benefit opportunities and contributes significantly to the cost. Following is an "At a Glance" overview of some of the features of the Partners In Benefits program that is relevant to this study.

Spending Accounts: If you pay for day care or have out-of-pocket health care expenses, the Spending Accounts can save you money. Using either or both of the Spending Accounts can lower your taxes (thus increasing your "spendable" income) by allowing you to reimburse yourself with tax-free money for eligible expenses.

Time Off Benefits - Leave of Absence: Applied Materials understands the importance of taking time off to attend to personal needs.

Additional Benefits:
- Company Wellness Program
- LifeWorks Resources and Referral Program
- Tuition Reimbursement Plan

92

Additional Benefits: (con't)
- Credit Union Membership
- Employee Referral Bonus
- Employee Assistance Program (EAP)
- Adoption Benefit
- Services Awards

Additionally, Applied Materials has an online recruiting calendar, that identifies recruiting events, locations and dates. Review of the recruiting calendar does not indicate anything specific to encourage or attract the specified groups in the study.

Corporate Citizenship
- Joint Venture: Silicon Valley
- CHARITech
  Nonprofit Tradeshow (Austin)
  Training Classes with Boston College
  Civic Venture Fund with local United Ways
- National Kindness & Justice Challenges/Do Something
  Dr. Martin Luther King Day (2 weeks)
  N. America employee participation

Marketplace Recognition

- Fortune magazine, ranked Applied Materials No. 10 for performance, April 26, 1999.
- Fortune magazine, "The Best 100 Companies to Work For," January 11, 1999.
- Industry Week magazine, "The World's 100 Best-Managed Companies," August 17, 1998.
- Fortune magazine, "The 50 Best Companies for Asians, Blacks & Hispanics," August 3, 1998.
- Rolling Stone magazine, "Taking Care of Business," May 14, 1998.
- Fortune magazine, "America's Most Admired Companies," March 2, 1998 and March 1, 1999.

According to the Rolling Stone publication, Applied Materials celebrated its 30th anniversary in Silicon Valley. For the event, the company rented the San Jose Arena,

93

distributed 12,000 tickets to its employees and hired both Bob Dylan and his son's band to perform.

Recruiting/Hiring/Orientation

Applied Materials provided the following type-written paper to question number five on the criteria list (recruiting/hiring/orientation) but, did not provide adequate company documentation to support the following recruiting strategies and communication techniques:

- Applied Material believes that one of our most important resources and competitive advantages as a company is our strategic programs for recruiting and retaining the best employees in the world. Applied Materials is noted for its global culture that includes a diverse management team made up of individuals with broad and varied ethnic and cultural backgrounds. From a board of directors that includes both men and women, as well as members from North America, Europe, Asia and the Middle East, to a senior management team that includes African-American, Hispanic and Asian, male and female officers at the highest levels of the company, Applied Materials has been called a "United Nations" of management. With this wealth of diverse talent, individual executives make time in their schedules to recruit key individuals, counsel rising managers and employees throughout the company, and provide minorities and women with role models and mentors.

- As part of its recruiting program, Applied Materials targets schools and programs that serve traditionally underrepresented groups such as women and minorities. The company makes special recruiting visits to schools such as the National Hispanic University and Howard University. The company participates with various on-campus job fairs that support recruitment opportunities for women and minorities, such as the Society of Women Engineers, National Society of Black Engineers, and the Society of Hispanic Professional Engineers. Applied Materials also provides direct support to a number of such programs through its corporate philanthropy efforts. The company is an active participant in a number of high school programs that encourage minorities and women to become involved with math and science and potentially seek-out careers in high technology. The results of Applied Materials' effort to attract women can be seen in the increasing percentages of women participating in the company's new college graduate programs. Currently, women

comprise 22 percent of employees recruited as new college hires, the national average is only about 13 percent.

- Company executives and managers are involved in a number of programs designed to boost the representation of women and minorities in the high-tech industry. For example, Applied Materials is represented on the Minority Engineering Program/Industry Advisory Board at Santa Clara University, whose purpose is to design a partnership between the university and industry to promote professional opportunities for women and minorities in engineering.

- Another strategic program focuses on college hiring to provide the company with access to new generations of talent that will lead Applied Materials well into the next century. The program includes everything from an internship and co-op program designed for real-life work experience and employee education, to training and development programs for every new college hire. The relationships we establish and grow with targeted colleges and universities have enabled us to attract and retain the very best talent from around the world.

Intel Corporation

Intel was founded in 1968 to build semiconductor memory products. It has been more than 25 years since Intel made technological history with the introduction of the world's first microprocessor. The computer and Internet revolution that this technology enabled has changed the world. Intel's mission is to be the preeminent building block supplier to the connected computing industry worldwide. Today, Intel supplies the computing industry's members with the chips, boards, systems and software that are the ingredients of computer architecture, which are used to create advanced computing systems.

The Santa Clara site is home to Intel's corporate headquarters. More than 6,000 employees work at the site and contribute to the Silicon Valley economy and community.

Diversity Statement

Intel has a combined nondiscrimination and diversity statement, which reads as follows:

> Intel respects, values and welcomes diversity in its work force, as well as in its customers, its suppliers and the global marketplace. Intel's policy is to comply with all applicable laws and to provide equal employment opportunity for all applicants and employees without regard to non-job-related factors, such as race, color, religion, sex, national origin, ancestry, age, disability, veteran status, martial status or sexual orientation. This policy applies to all areas of employment, including recruitment, hiring, training, promotion, compensation, benefits, transfer, and social and recreational programs.

Additionally, Intel states the following regarding workforce diversity:

> Intel respects, values and welcomes diversity in its workforce, as well as in its customers, its suppliers and the global marketplace. Our workforce today includes more than 65,000 employees worldwide and spans over 40 nations, representing a rich assortment of countries and cultures. We believe that the wide-ranging experiences and perspectives of Intel's varied populations are

crucial to the success of the corporation as we continue to expand as a global company.

We recognize that to remain competitive in a rapidly changing global marketplace, we must continue to attract and retain the most talented individuals around the world. While natural subtle differences exit among the ways Intel's culture is practiced in the company's worldwide locations and by different individuals, our emphasis on common corporate values and practices makes it possible to work together toward shared goals.

The workplace

In recent years Intel has grown to include thousands of diverse people at sites around the world with a unique culture. The company has a highly motivating "can do" atmosphere that prevails at every site. Intel's emphasis on open communication, commitment to developing a diverse workforce, and philosophy of shared awards has made Intel an appealing place to work. This was demonstrated graphically throughout several of the company's brochures.

Recruiting Strategies

Intel has developed a number of recruiting strategies to recruit from the new labor force (i.e., women, African-Americans and Hispanics/Latinos). For example, each year Intel provides undergraduate fellowships to outstanding engineering and computer science students at colleges and universities around the world.

In the United States, the scholarship and fellowship programs are funded by the Intel Foundation. The undergraduate scholarship programs are the Minority Engineering Scholarship Program and the Women of Science and Engineering Scholarships. These scholarships are available only at selected colleges and universities, but of particular interest to this study is historically black, Cornell University.

In addition to the scholarship grants, Intel Corporation provides scholarship recipients with summer internships and mentors. The mentors are Intel employees who offer advice on career planning and academic coursework. They also help students make connections between their academic work and real-world problems.

Carver Scholars Program

Most importantly, Intel has concentrated its recruiting efforts closer to home to address the dire workforce shortage in Silicon Valley. The Intel Carver Scholars Program was launched as a local outreach program to encourage African-American youth in Santa Clara County, California, to pursue careers in math, science and technology. The program has gained national and local acclaim. Five months after its inception, the program was being replicated for use in Northern California and nationally.

The 100 Black Men of Silicon Valley, Inc., presented the company its 1999 Corporate Leadership Award in recognition of Intel's educational outreach efforts, and in particular, the Intel Carver Scholars Program. The program is named after Dr. George Washington Carver, renowned for developing over 500 consumer and industrial products from peanuts, sweet potatoes and soybeans.

College Recruiting

In 1998, approximately 15.4 percent of Intel's worldwide hires (45 percent in the U.S.) were part of their Recent College Graduate program. Through this program they partner with selected schools and universities to promote Intel as a career choice. In the United States there is an additional focus on the recruitment of women and people of color. In the United States between 1989 and 1998, they almost doubled their hiring of technical females and underrepresented minorities in technical fields. Globally, Intel

maintains a comprehensive college intern program that works as a feeder for recent college graduate recruitment. In the United States, they hired approximately 1,200 college interns in 1998. Of those, over 25 percent were technical females and almost 20 percent were underrepresented minorities in technical fields, which is well above the national availability in each category.

Diversity Organizations

In addition to the total compensation and benefits package, which includes stock, bonuses, and profit sharing as recruiting strategies, Intel works with many organizations at the national and/or local level. Creating these relationships could prove beneficial, considering the increasingly limited supply of qualified candidates in the region. Sometimes working with the following organizations is done at a corporate or site level, and sometimes the outreach is through the employee groups such as those specified in the study.

The external focus organizations pertinent to this study include (but are not limited to) the following:

- NSBE - National Society of Black Engineers
- SHPE - Society of Hispanic Engineers
- SWE - Society of Women Engineers
- GEM - Graduate Education Engineers
- NAMEPA - National Administrators Minority Engineering Program Administrators
- NACME - National Action Council of Minority Engineers
- WITI - Women in Technology International
- MESA - (Mathematics, Engineering & Science Academy) Program (all sites)
  Provides support to graduating high school seniors with an emphasis on women and underrepresented minorities.
  To facilitate minority student preparation for involvement in high school job fairs in the local Santa Clara community.

NOTE TO USERS

Page(s) not included in the original manuscript and are unavailable from the author or university. The manuscript was microfilmed as received.

100

This reproduction is the best copy available.

UMI®

Women and Minorities

Intel believes strongly that its commitment to equal employment opportunity does not end at the doors of their site. They feel they must reach out to the community where they operate and invest in educational opportunities for women and underrepresented minorities. In this regard, Intel has extended its recruiting efforts to focus on the future employment of women and underrepresented minorities. More specifically, Intel makes grants to promote the entrance of women and underrepresented minorities in science, engineering and technical careers primarily through three channels:

- Corporate Contributions coordinates the corporate giving program and directs the involvement with higher education and K-12 programs worldwide.
- The Intel Foundation makes cash grants in the United States that support math and science education, and promotes the entrance of women and underrepresented minorities into technical fields.
- Intel Public Affairs, worldwide coordinates donations, cash, equipment and volunteers to projects important to communities.

Overall, Intel Corporation and the Intel Foundation contributed more than $93 million to K-12 and higher education in 1997.

Also, Intel funds programs that encourage women and underrepresented minorities to enter technical fields. Such programs include the following: (1) MentorNet, a project that uses the Internet and email to connect female students majoring in engineering and related fields with mentors employed in industry; (2) MIT Mites program is a resident summer course designed to introduce promising underrepresented minority high school juniors to careers in engineering and science; (3) the University of California of Berkeley Summer Undergraduate Program in Engineering Research (SUPERB) brings undergraduate minority students to campus for the summer to join ongoing research projects in the Engineering Department.

Each of the major U.S. sites also makes substantial efforts to become involved in local community activities. The Santa Clara site, for example, is engaging in several outreach activities, including the following:

- Get Science Engineering and Technology (Get SET): Intel Santa Clara provides a grant to the Society of Women Engineers for the Get SET program. The program is targeted to provide young women in the Santa Clara Unified School District, grades 8-12, with mentoring, workshop experience, and summer camps throughout their middle and high school years in the field of science, engineering and technology.
- American Computer Experience Science Camp: Intel Santa Clara provides grants in the form of scholarships for students ages 7-17 to participate in a summer camp at Stanford University focused on technology and science. The program is targeted to women and minority students.
- Speak Up! Leadership for Girls: Intel Santa Clara and the Intel Foundation support this community program in the form of grants to provide mentoring to encourage pre-adolescent girls to be more confident in working with computers and technology and to explore career opportunities in math, science and technology.
- In-School Scouting Science Foundation Program: Intel Santa Clara provides grants, $25,000 in 1997, to the Girl Scouts of Santa Clara County to help students in grades 2 through 6 at local elementary schools learn more about science and technology through weekly classroom presentations.
- Applying Computers in Education (ACE): Intel Santa Clara and the Intel Foundation are providing grants to teach training on how to use technology in the classroom.
- Teach for America: teachers teach in low income and/or inner city schools.
- MESA (Math, Engineering, Science Achievement): Intel Santa Clara provides 2-year grants to a math, engineering and science outreach program directed toward facilitating minority students' preparation for and involvement in high school science fairs in the local Santa Clara community.

Marketplace Recognition (Legal Information, 1999 Intel Corporation)

- Fortune
  Intel ranked fourth on the list of the world's most admired companies.
- Fortune
  Intel ranked eighth on the list of America's most admired companies.
- Money Magazine

Intel ranked fourth on the list of America's best company benefits. Intel ranked third for first profit sharing and was listed as one of 12 firms that offer stock options at all levels.

- HISPANIC Magazine
  Intel named on the list of top 100 companies providing the most opportunities for Hispanics.
- Forbes
  Feature article on Craig Barrett.
- Business Week
  Craig Barrett named as a top executive.
- Wall Street Journal
  Intel ranked fourth on the list of "The Best Corporate Reputation in America." This includes rankings for Product and Services, Workplace Environment, Vision and Leadership Performance. (Sept. 23, 1999)
- U.S. Hispanic Chamber of Commerce
  Intel in New Mexico was recognized as the Corporate Advocate of the Year.

Sun Microsystems

Background

Incorporated in 1982, with four employees, Sun has had a history marked by great ideas, breakthrough thinking, and market-shattering achievements. After only four years in business, Sun reached $1billion in revenues, the fastest rise ever for a computer company with a direct sales force. Sun Microsystems, Inc., has long been synonymous with leading-edge technology.

Now, after almost 20 years of telling the world "The Network is the Computer," Sun is poised to become the leader in the emerging network-driven economy. Forward-thinking organizations are looking to Sun to lead them into the dot com future. Since its inception in 1982, a singular vision, "The Network Is The Computer," has propelled Sun Microsystems, Inc. (NASDAQ: SUNW), to its position as a leading provider of high quality hardware, software and services for establishing enterprise-wide intranets and expanding the power of the Internet. With more than $11.5 billion in annual revenues, Sun can be found in more than 150 countries.

Recruiting Techniques

Sun does not use print ads/documentation to attract potential candidates to their company. Therefore, it was impossible to address number one and number two on the criteria list regarding review of documentation for recruiting women, African-Americans and Hispanics/Latinos candidates in Silicon Valley.

Diversity Statement

The following is Sun's Corporate Diversity statement:

Our Mission

Corporate Diversity is a highly leveraged organization of committed partners whose mission is to provide expertise, tools and resources to build and support diversity efforts throughout Sun. The services we provide are:

- Affirmative Action plans and EE0/AA compliance-monitoring activities
- Diversity consulting and training
- Sponsorship of Sun's affinity groups and events

Our Vision

Corporate Diversity envisions an empowered workforce where the unique skills and talents of all employees are appreciated and maximized to increase Sun's success in the global marketplace.

Policies
- EEO/AA
- Sexual Harassment
- ADA/Reasonable Accommodations
- Issue Resolution

Employment Statistics:

During the review of documentation the representative for the company intimated that Sun has 20,000 U.S. employees; of that approximately 30 percent of workforce is minority representation. Further research indicated the company employs 5,714 people locally.

Workplace

Sun enjoys a reputation for maintaining the highest standards of business conduct. The environment is characterized by respect for each individual as he or she blends cultural and ethnic diversity into a harmonious workforce. Their policies represent more than good business, they constitute a critical element in the fabric of the

105

business at Sun. On diversity, all decisions are free of harassment or discrimination on the grounds of race, religious creed, color, national origin, citizenship status, ancestry, physical or mental disability, marital status, sex, age, sexual orientation or veteran status.

Equal employment opportunity ensures that all personnel actions, including recruitment, selection, training, compensation, corrective counseling, promotions, transfer and recreation shall be based upon individual initiative, interest, ability and performance results.

Recruitment Strategies

Sun has developed a benefits package that encourages and attracts a more diverse workforce. The following is a description of Sun's benefits to recruit from the specified groups in the study:

> Sun's benefits are among the most comprehensive in the industry. We've worked hard to create a dynamic benefits package to support the growing and changing needs of you and your family. Some programs are designed to help you achieve a healthy, active and secure life. Others help you manage your time more effectively, which, in turn, we hope enhance the quality of your life.

The following are a few highlights of the company's benefits package significant to this study.

- Managing Work and Family Needs - When employees spend a significant amount of time at work, it can be hard to manage the rest of their priorities. Sun offers a variety of programs to help. Like work and family consultation. Childcare assistance. Dependent care spending accounts. And flexible work hours.
- Staying Fit and Healthy - In addition to their comprehensive medical and dental programs, Sun sponsors other programs to promote employees' health, fitness and well-being. Like their employee assistance program. And a healthcare spending account.
- Expanding Your Horizons - Sun has always believed that there's an essential link between company success and the personal and professional growth of

individual employees. That's why they sponsor Career Management and Tuition Reimbursement programs, as well as on-site training facilities that encourage the development of their personal skills.

There is no better time than the present to plan for a secure tomorrow. And Sun helps prepare for the expected, and the unexpected, with profit sharing, a long- and short-term disability programs, life insurance, stock purchases and retirement programs.

- Additional Programs - Some items in the benefits package defy categorization yet contribute to the quality of employee experience at Sun. The company recognizes employment milestones. They offer special discounts on Sun products. Employees get discounts on a variety of services, recreational and entertainment attractions. And Sun community involvement programs make it easy to share employee personal time and skills with a worthy cause. The company also has a gift-matching program to help employee personal contributions go farther.

Diversity Material

Sun has community outreach, corporate sponsorship and diversity web links to attract potential women, African-Americans and Hispanic/Latino employees. The following is a list of events that Sun has participated in or plans to participate in for recruiting purposes:

- NAACP - National Association for The Advancement of Colored People
- NABA - National Association for Black Accountants
- National Council of La Raza Annual Conference
- NBMBAA - National Black MBA Association
- NSBE - National Society of Black Engineers
- AAWOT - African-American Women on Tour
- WITI - Women in Technology International
- Women of Color in Technology
- SWE - Society of Women Engineers Conference
- TWIN - Tribute to Women In Industry
- PBWC - Professional Business Women's Conference
- NSHMBA - National Society of Hispanic MBA
- SHPE - Society of Hispanic Professional Engineers

- NHEA - National Hispanic Employees Association

Programs and Services

The following is a list of programs and services that may encourage potential candidates to join Sun:

- Child/Dependent Care Accounts that allow employees to deduct for each paycheck pretax dollars to pay for dependent care needs.
- Employee Assistance Program - Counseling
- Fitness Centers
- Fun@Sun for discount on services, recreation and entertainment includes amusement parks, beauty and child care services, gift ideas, hotels, personal services, restaurants, etc.
- Dry Cleaning Services - bring clothing to work and come back in a day or two for pick-up
- Post Office on site
- Oil changes for car on site

In regards to work, depending on the demands of the position, there are possibilities of having flexible hours and to work from home on occasions.

Informal Recruiting

Sun has a number of Employee Affinity Groups. These groups can be utilized as informal mechanisms for recruiting. An affinity organization is a group of employees joined by a common interest and a vision of a workspace where employee differences are accepted and valued. Each affinity group stays connected through the use of an online alias. The alias provides members with the opportunity to exchange information and ideas, network with other members, and plan sponsored activities.

There are currently four employee affinity groups that are recognized by top management that are relevant to this study. They are as follows:

- SunNet - sunnet@Sun: A very active focus group for African-Americans. Through education and awareness, its members acknowledge their cultural identity, while contributing to the quality of life at Sun and the community. A perfect example is their annual celebration of Black History Month. This month of speakers, art and music conveys a sense of group pride in a rich heritage, in addition to building greater diversity awareness among all Sun employees.
- SOL@Sun: This group has taken a leadership role in exchange of information and insights with regional and national Hispanic focus groups. In fact, they are delivering the diversity message to neighboring corporations and the community at large in addition to all employees at Sun. The group will host an annual Hispanic Heritage Month and extends an open invitation to learn more about the Hispanic culture.
- SWING: Dedicated to the professional development of women at Sun. The group has taken a leadership role in promoting better communications among women in industries throughout the San Francisco Bay Area. Lunchtime and after-hours forums are just a few of the active ways which the focus group provides for delivering an important diversity message.
- Another group of technical women - information was not available.

CHAPTER 6

Conclusion

Results of the analysis of how the selected high-tech organizations manage their recruitment techniques when communicating the needs of the company to women, African-Americans and Hispanics/Latinos matched the major theoretical concepts that framed this study; however, some of these results were both intriguing and surprising.

The July 19,1999, issue of Fortune magazine listed three Silicon Valley companies among the 50 best in the country for minority employment. The companies were Knight Ridder, which ranked 22nd, Applied Materials ranked No. 29, and Sun Microsystems, ranked No. 30. Two of those companies were included in this study, Applied Materials]and Sun Microsystems. The issue further stated that Sun, which currently hires 6,000 people annually, was developing Internet links to schools with which it has strong recruiting ties, including three historically black colleges.

After reviewing documentation for these companies, it was surprising, especially in the case of Applied Materials, that these companies did not meet the requirements of the established criteria list. Although Applied Materials supplied information consistent with the other documentation reviewed at other companies in the study, the company did not actually provide documentation regarding the criteria list. Furthermore, Applied Materials was adamant regarding non-disclosure of employment statistics. Other companies were also reluctant to disclose employment data, but those companies had not been acknowledged in a national publication for their diversity efforts. In all fairness to the company, the lack of adequate documentation could have been due to time constraints or their desire to be politically correct.

Similarly, Sun Microsystems has a number of positive recruiting strategies, but documentation regarding the development of Internet recruiting for historically black universities was not found. In fact, Sun's primary mechanism for recruiting focused on the company's affinity groups. Even more surprising, Sun did not have any graphic displays of women, African-Americans or Hispanics/Latinos in its recruiting efforts.

Even with the advancement of technology, which has become synonymous with Silicon Valley, the old saying, "a picture is worth a thousand words," should not be forgotten. This is particularly relevant to Cisco Systems Inc., the worldwide leader in networking for the Internet. Organizations who mirror-image potential applicants, reap the benefits of attracting the cream of the crop. As Lockheed Martin's president, Vance Coffman, stated, "the ability to attract, hire, and retain the 'best' will depend on whether the company's environment is conducive to and supportive of workforce diversity." (From the Office of the President, 1997, p. 2). What easier way to demonstrate this than with a "picture?"

Different Styles of Communication

In contrast, Hewlett- Packard (HP) has far exceeded any other company in the study. Regarding Deborah Tannen's different styles in communication for women, the company visually demonstrates this with new president and CEO, Carlton (Carly) S. Firorina. Mrs. Fiorina has held this position since July 1999. HP is the only major high-tech firm in the Valley headed by a female. To further assist the Valley in attracting qualified African-Americans, HP has the most extensive college recruitment at historically black colleges and universities, although Lockheed Martin recruits from some historically black universities and colleges as well.

111

Additionally, HP is actively practicing the Fuch's civil cultural model. This is exhibited in the following organizational values:

- As a practical matter, ethical conduct cannot be assured by written HP policies and codes; it must be an integral part of the organization, a deeply ingrained tradition that is passed from one generation of employees to another.
- We create an inclusive work environment which supports the diversity of our people and stimulates innovation. We strive for overall objectives which are clearly stated and agreed upon, and allow people flexibility in working toward goals in ways that they help determine are best for the organization.
- To help HP people share in the company's success which they make possible, to provide them employment security based on performance, to create with them an injury-free, pleasant and inclusive work environment that values their diversity and recognizes individual contributions, and to help them gain a sense of satisfaction and accomplishment from their work.

Similarly, IBM, though not headed by a female, has a long history of diversity recruitment efforts regarding women, African-Americans and Hispanics/Latinos in the area. IBM's diversity recruitment efforts regarding women and African-Americans pre-date most government mandates. Also, IBM has developed extensive communication strategies to recruit Hispanics, one of the fastest-growing minorities populations. However, it seems IBM's recruitment strategies are ones that are what is convenient for the time. For example, during the '70s and the '80s, the company recruited many African-Americans and Hispanics. Currently, the company's personnel area is filled with foreigner workers, therefore, fulfilling the myth in Corporate America that says that we have a labor shortage, a shortage of qualified talent, particularly among minorities.

Although Intel has received some negative publicity in the recent past, according to the review of documentation it was one of the companies high on the list for

recruiting efforts geared towards women, African-Americans and Hispanics/Latinos. Not only did the company far exceed the requirements of the criteria list, Tracy Koon, Director, Corporate Affairs, displayed a genuine interest in the company further building relationships with historically black universities and colleges. In the United States, Intel has an additional recruiting focus of women and people of color in the company's college recruiting efforts. If the dominant coalitions of Intel Corporation exhibit the same "genuine" interest that Ms. Koon demonstrated, the company could far exceed any diversity efforts of any company in the Valley.

Although Lockheed Martin is downsizing, the company exhibited tremendous efforts in diversity initiatives. They have significant internal diversity recruitment efforts. In addition to HP, Lockheed Martin also recruits from historically black universities and colleges. Also, Janet Rather, Vice President of Communications, ensures that when company scholarships are available, half of the scholarships go to underrepresented youth. Though the company is not currently hiring, it continues its Youth Transition Program, which hires/recruits minority freshmen to work at the company during college, with a chance of employment upon graduation. Lockheed Martin also has relevant weekly diversity issues published in the internal news publication.

Dominant Coalitions

On the whole, dominant coalitions (i.e., white males) still are prominent in Silicon Valley high-tech organizations. According to Carolyn Leighton, who heads a group called the Internation Network of Women in Technology, "Men in top positions still tend to hire in their own image, and the companies are not commited to changing that." (High-Tech Industry Zipping Along, 1996, p. A7). But, as Lawrence Fuch

indicated, with each generation, diversity will gradually evolve. And though it is gradual, nevertheless, dominant coalitions are beginning to value the differences in communications styles of women and men. They are realizing that different lifestyles and background bring more creativity and excellence to the workplace. Most important, companies, especially high-tech organizations, should realize accepting people's differences contributes to the bottom-line of their organizations.

High-Tech Firms

Although the Valley is making significant strides toward an inclusive workforce, few of the Silicon Valley organizations are recruiting from historically black universities and colleges, including the renowned Fisk University which boasts the NASA - Fisk University Center for Photonic Material and Devices (CPMD) and contributes more alumni to the ranks of doctorally prepared African-American scholars than any institution, black or white, in the United States.

Furthermore, the Silicon Valley high-tech organizations in this study seem to focus or target the same women's, African-American and Hispanic/Latino external professional organizations. This leads one to question if whether these organizations are serious about recruiting from the specified groups in the study, or are companies doing what is "politically" correct by continuing the same traditional model of scrambling for the same scarce resources rather than establishing their own pipeline of talent, ensuring the right people in the right place at the right time while creating a competitive advantage?

Yet another interesting fact/pattern emerged during the study. Although all of the companies in the study provided documentation of various ways their organization disseminated diversity material (i.e., job fairs, conferences, seminars, etc.) to the

114

specified groups in the study, none of the organizations provided documentation indicating they recruit from historically African-American sororities and fraternities. Creating relationships with these Greek Letter Organizations could prove to be a successful business opportunity. (A complete listing of the historically African-American Greek Letter Organizations is provided in Appendix C.) Many members of these organizations will be the future face of the American workforce; therefore, members from Alpha Kappa Alpha Sorority, Inc. or Omega Psi Phi Fraternity, Inc. could serve as potential employees. Above all, this gives further credibility to the myth in corporate America that states "We have a labor shortage, a shortage of qualified talent, particularly among minorities." (Diversity, 1999, p. 2). Targeting diversity recruitment efforts toward these organizations in our institutions of higher learning could, perhaps, tap a deep rich pool of talent that we never knew existed, therefore, fully utilizing all existing talent that exists in our own region.

Furthermore, if the specified high-tech organizations have not yet searched all possible recruitment avenues of the specified minority groups in the study, can they accurately state the number of local qualified minorities are greater or lesser than the number of vacancies. Additionally, if these organizations do not search the historically African-American Greek Letter Organizations, they cannot accurately state or assume there are no potential qualified applicants present in these sororities and fraternities.

Expand Horizons

Although beyond the scope of this study, since it is Silicon Valley specific, there is another available option (alternative) for consideration for all recruitment in the high-tech industry. Ideally, local high-tech organizations should expand their horizons to other regions of the country because, increasingly, US-based corporations, especially

high-tech companies, are seeking employees outside the country to meet their demands for talent. To counter this growing reliance on foreign workers, Silicon Valley high-tech organizations could demonstrate their commitment to a diverse workforce by expanding their horizons (i.e., recruiting) to other regions of the country. It is essential that our high-tech organizations move away from our traditional model or, better stated, a growing reliance on foreign workers to fill positions. Our Silicon Valley high-tech organizations must fully utilize the talent that exists right here in our own country.

As we move away from the European-American, male majority of the past towards a far more diverse and segmented populace, our high-tech organizations must realize the rationale behind this model of recruiting. High-tech industries mainly want the ability to fill their personnel needs with noncitizens, the category of workers predisposed to work the longest hours for the least amount of money (i.e., cheap labor). But, research further indicated that recent college graduates could also provide the same function, long hours for less pay. Furthermore, if cheap labor is truly the rationale for hiring foreigner workers, this task can also be accomplished by recruiting from other regions of the nation, therefore, sustaining not only the economic vitality of the region but, the nation as well.

Traditional Mode

The focus of this study is the management of high-tech recruitment techniques as they apply to the specified groups in the study; furthermore, the United States is facing a tight and competitive labor pool with the lowest unemployment rate in 20 years. Increasingly, U.S.-based corporations, especially high-tech companies, are seeking employees outside the country to meet their demands for talent, and in fact, some jobs are going unfilled.

116

Of utmost concern to the high-tech firms in the Valley is the workforce shortage in the region; therefore, our companies, along with most U.S.-based corporations, seek employees outside the country to meet their demands for talent. This traditional mode, the reliance on foreign workers to fill these positions, is only a short-term solution. Most companies underestimate the total cost of employment and, therefore, under-invest to gain the benefits of training, retention and workforce development; therefore, it is necessay to invest in the Valley's current workforce by increasing awareness of the high-tech industry's needs. Silicon Valley high-tech organizations have the option of filling their vacant positions by hiring from abroad or by providing extensive in-house training.

Future Workforce

Of equal importance, it is essential that our local high-tech organizations invest in the future of their companies and in the future of the young, diverse talent coming their way. For example, Pre-College Programs' (PCP) is a federally funded program at San Jose State University. Under the PCP umbrella lie four distinct subdivisions, Upward Bound, San Jose California Student Opportunity Access Program (SJ Cal SOAP), Collaborative Training Institute (CTI) and the 21st Century Learning Centers. These are four distinct, but closely intertwined, divisions which could prove to be of vital importance to our local high-tech organization regarding the future local workforce, the leaders of tomorrow. The subject matter focuses on literacy, math or science as a starting point or catalyst for post-secondary education. PCP students learn coursework in a way that also fosters valuable workplace skills, such as teamwork, communications, planning and problem-solving.

The recognition of these programs by our local high-tech organizations could increase awareness and support to enhance the growth of our own skilled workforce and to address the dire workforce shortage. Our local high-tech firms should take actions that will ensure the full utilization of its homegrown talent. Silicon Valley high-tech organizations could emerge with programs, such as Pre-College Programs, to gain greater visibility and awareness within the community, leading to increased funding and most importantly, expansion of these programs to other school sites throughout SCC. Programs such as these can help facilitate cultural change from workforce development to recruitment.

Reliance on Foreign Workers

Of vital importance to corporate America, especially high-tech organizations, if they continue the reliance on foreigner workers filling positions, eventually as the traditional workforce (i.e., white males) diminishes, it increases the propensity of a future corporate America run by foreigners, especially if these firms do not re-invest in the current labor force and contribute to the future development of the region's youth.

Although the Founding Fathers of this country did not include women and minorities into the framework of this country, nevertheless, they have become an intricate part of this society; therefore, it is about time for corporate America to take advantage of these groups of people. Consequently, why not invest in the development of the Valley's current workforce and development of future corporate America?

Silicon Valley high-tech organizations are synonymous with leading in "technology;" let the Valley also be recognized as leading in "diversity." Let's make sure our local high-tech organizations are not attempting to win the competitive race using only a fraction of their human resources.

Sample Billboard / Display Ad

The HP Way

We're Hiring!

- E-Commerce Engineers/Internet Developers
- Software Design
  Engineers/Architects/Project Managers/Developers
- Technical Support Engineer
- Distributed Applications/Frameworks Engineers
- Development Engineers
- Networking Software
  Technical Marketing Support Engineer

www.jobs.hp.com

It's the way
we celebrate
our success.

HEWLETT
PACKARD
Expanding Possibilities

HEWLETT°
PACKARD

Sample Ad

It's the way we bring
the whole world
together.

HEWLETT·
PACKARD

Sample HP Booth Display

Table top display

THE HP WAY

HEWLETT
PACKARD
Expanding Possibilities

It's the way we
encourage different
ideas, opinions
and perspectives.

HEWLETT
PACKARD

Sample Diversity Ad

De Anza College
21250 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 864-5678

Evergreen College
4750 San Felipe Road
San Jose, CA 95135-1599
(408) 274-6700

Foothill College
12345 S. El Monte Road
Los Altos, CA 94002
(650) 949-7777

Gavilan College
5055 Santa Teresa Blvd.
Gilroy, CA 95020
(408) 847-1400

Mission College
3000 Mission College Blvd.
Santa Clara, CA 95054
(408) 298-2181

West Valley Community College
14000 Fruitvale Ave.
Saratoga, CA 95070
(408) 741-2652

City University
675 N. First St.
San Jose, CA 95112
(408) 289-1270

Golden Gate University
5050 El Camino Real, #101
Los Altos, CA 94022
(650) 961-3000

Heald College
341 Mall Parkway
Milpitas, CA 95035
(408) 934-4900

ITT Technical Institute
5104 Old Ironsides Dr., #113
Santa Clara, CA 95054
(496-0655

John F. Kennedy Univesity
1W. Campbell Ave., #110
Campbell, CA 95008
(408) 379-9840

Master's Institute
50 Airport Parkway #8
San Jose, CA 95110
(408) 441-1800

National University
5300 Stevens Creek Blvd., #250
San Jose, CA 95129
(408) 236-1100

St. Mary's College
4320 Stevens Creek Blvd.
Suite 216
San Jose, CA 95129
(800) 538-9999

San Jose State University
One Washington Square
San Jose, CA 95129-0002
(408) 924-1000

Santa Clara University
Santa Clara, CA 95053
(408) 554-4100

Stanford Univeristy
Stanford, CA 94305
(650) 723-2300

University of CA-Extension
Santa Cruz
10420 Bubb Rd
Cupertino, CA 95014-4150
(408) 342-0303

University of Phoenix
3590 N. First St.
San Jose, CA 95134
(408) 435-8500

University of San Francisco
20085 Stevens Creek Blvd.
Cupertino, CA 95104-2307
(408) 255-1701

National Hispanic University
14271 Story Rd
San Jose, CA 95127
(408) 254-6900

APPENDIX C
African-American Greek Letter Organizations

Sororities

Alpha Kappa Alpha Sorority,
Inc.

Delta Sigma Theta Sorority,
Inc.

Sigma Gamma Rho Sorority,
Inc.

Zeta Phi Beta Sorority, Inc.

Fraternities

Alpha Phi Alpha Fraternity,
Inc.

Omega Psi Phi Fraternity,
Inc.

Kappa Alpha Psi
Fraternity, Inc.

Phi Beta Sigma Fraternity,
Inc.

Bibliography

About Race / Valley Can't Ignore "The Digital Divide." (1998, May 06). San Francisco Chronicle. p. A22.

Alien Scientists take over USA. (1999, August, 21). The Economist. p. 24.

Bay Area College Attendance 1998. (1998). Business Journal. p. 22.

Bhatnagar, D. (1988). Professional Women in Organizations: New Paradigms for Research and Action. Ahmedabad, India: Indian Institute of Management

Carnevale, A.P., & Stone, S.C. (1995). The American Mosaic. San Francisco, CA: McGraw-Hill.

DeBare, I. (1996, January 01). High-Tech Industry Zipping Along, But Women Are Often Left Behind. Sacramento Bee. Metro Final, p. A1.

Diversity Can Benefit Business, Says Technology Industry Trainer. (1999, March 03). KRTBN/San Jose Mercury News.

Dozier, D., Grunig, L.A., & Grunig, J.E. (1995). Manager's guide to excellence in public relations and communication management. Hillsdale, NJ: Lawrence Erlbaum.

Evangelista, B. (1998, August 06). Protesting the "Digital Divide." San Francisco Chronicle. p. D1.

Evangelista, B. (1999, February 03). Jackson Joins Digital Divide Job Groups. San Francisco Chronicle. Final, D1.

Excellence in Graduate Education. (1998). Business Journal. p. 24.

From the Office of the President. (1997). Strength in Differences: Brilliance in Unity. Sunnvale, CA. Lockheed Martin Missiles & Space.

Graham, E. (1990, June 06). Workplace (A special Report): Managing Change. Wall Street Journal. p. R34.

Greenberg, J., & Baron, R. (1993). Behaviors in Organizations. Needham Heights, MA: Allyn and Bacon.

Griggs, L.B., & Lowu, L.L. (1995). Valuing Diversity. San Francisco, CA: McGraw-Hill.

Hewlett-Packard. (URL)
http://www.hp.com/aboutp/diversity/business.html -- (accessed 4/00).

IBM Work/Life Programs. (1998). Valuing Diversity: An Ongoing Commitment. Armonk, NY: International Business Machines Corporation. p.22.

Jackson, S.E., & Associates. (1992). Diversity in the Workplace. New York: The Guilford Press.

Joint Venture's 1999 Index of Silicon Valley-measuring progress toward Silicon Valley 2010. (1999). San Jose, CA: Joint Venture: Silicon Valley Network, Inc.

Kearney, A.T. (1998, November 5). Workforce Inititative Study Findings and Recommendations. Unpublished manuscript.

Kossek, E.E. & Lobel, S.A. (1996). Managing Diversity: Human Resource Strategies for Transforming the Workplace. Cambridge, MA: Blackwell Business.

Lacy, S., A.B., & Wicks, J.L. (1993). Media management: A casebook approach. Hillsdale, NJ: Lawrence Erlbaum.

Lardner, J. (1998, March 03). Too old to write code? U.S. News & World Report. pp. 39-40, 42, 45.

Latinos in Silicon Valley The digital divide. (1999, April 17). The Economist. pp. 33-34.

Loden, M. & Rosener, J.B. (1991). Workforce America. Homewood, IL.: Business One Irwin.

McDonnell, P.J. & Pitta, J. (1996, July 21). Foreigners Flourishing At High-Tech Companies. Seattle Times. Final, p. F6.

Maney, K. (1996, June 26). Technowomen. USA Today. P.01A.

Meeting the Challenges. One Example. (1998). Valuing Diversity: An ongoing Commitment. Armonk, NY: International Business Machines Corporation. p.14.

On Work-Family Programs. (1996, July/August). Working Women. p. 56.

Rabinovitz, J. (1999, April 26). High-tech degrees out of favor. San Jose Mercury News, p. 12E.

San Jose State University. (URL)
http://www.sjsu.edu -- (accessed 3/00).

Sanchez, R. (1996, December 28). Colleges Compete for Minority Students by Helping Them Achieve. Washington Post. Final, p. A01.

Santa Clara University. (URL)
http://www.scu.edu -- (accessed 3/00).

Skipitares, C. (1993). A Stanford MBA Does Not Assure Equal Pay. San Jose Mercury News, p. 1A.

Stanford University. (URL)
http://www.stanford.edu -- (accessed 3/00).

Statistical Abstract San Jose State University 1992/93 through 1996/7. (1997). San Jose, CA: Educational Planning and Resources.

Tannen, D. (1994). Talking From 9 to 5. New York: William Morrow.

Tumulty, K. (1990, October 28). The Dead-End Kids. Los Angeles Times, Section Home, p. 10.

U.S. Census Bureau. (URL)
http://www.census.gov/Press-Release/cb98-105 html. (accessed 10/99).

Valley 'open' for Indians, Pakistanis. (1999, May 21). San Jose Mercury News, pp. C1-C2.

Wheeler, M. (1999, December 20). Diversity-Developing Tomorrow's Leadership Today. Business Week. p. 2.

Yin, R.K. (1994). Case study research: Design and Methods (2nd ed.). Thousand Oaks, CA: Sage.

3 valley firms make diversity list. (1999, July 20). San Jose Mercury News, p. 3C.

1999 Guide to San Jose Chamber of Commerce San Jose Silicon Valley. (1998). San Jose, CA: