Women CIO's

By Judy Armstrong in conjunction with Harris Kern's Enterprise Computing Institute

Within an overall workforce comprising over 50 percent women, only 20 percent of the IT workforce are women, and far fewer are CIOs. Something definitely appears to be wrong with this picture.

It has been clearly demonstrated that many women bring valuable skills to IT organizations. Moving into the new millennium, companies that can learn to recruit, develop, and retain women CIOs and managers will be far ahead of the others. How can we better tap this vast resource? I explore this issue in detail, based on my real-life experiences as a CIO as well as the experiences of others. I provide an interesting discussion of issues such as:

- Why IT is unfriendly to women.
- What IT is really losing by limiting women in the workforce.
- How IT can change to attract and retain more women.
- Why some women have been successful despite the constraints and limitations.
- How can we learn from the experiences of other women CIOs.

While women appear to face some unique issues, many of these issues arise from common problems that all CIOs face—man or women, young or old. This article highlights the importance of looking at common issues from different perspectives. Successful CIOs do this every day.

Why Single Out a Particular Group of CIOs?
According to a study by the Department of Labor Women's Bureau, women receive only 9 percent of engineering-related bachelor's degrees and fewer than 28 percent of computer science bachelor's degrees. This represents a decline of 37 percent over the past 20 years. Several other recent surveys indicate that few women become CIOs because the lifestyle and the work environment are unfriendly to women.

Women CIOs have success stories, but the truth is that most people—including those in our own profession—don't hear about them or seem to care.

My belief is that it is important to take a closer look at why IT is unfriendly to women, what IT is losing by remaining unfriendly, what we can do about it, and most importantly, to highlight the attributes of those women who, in spite of all this, have been successful.

Why Is IT Unfriendly to Women?
In many ways, IT is unfriendly because of the nature of the job. IT is a 24/7 job. Achieving any significant position in IT often means putting your career before many other aspects of your life. You will find yourself putting in 70- or 80-hour weeks, becoming deeply committed to both the short-term and long-term needs of your career, and this will result in the loss of time spent with family or in personal activities.

When asked in a recent survey if their IT jobs were meeting expectations, 52 percent of women said they worked more hours than expected. The same survey stated that 40 percent of the men felt the same way. It is hard work, and most people, especially those who want to participate in a significant family life, are not willing to make the sacrifice. In *The Feminine Mystique,* Betty Friedan asked the question that caused millions of women to examine the role of housewife, mother, and caretaker: Is this all? Many women trying to balance a full-time career and a family are asking the same question today. There is no good answer.

What Is IT Losing When Women Leave the IT Workforce?
Many studies show that women excel at collaboration, juggling multiple tasks, and prioritization. Women have a very different way of looking at problems. Research suggests that women see more nuances and have a more holistic approach than men, who are more linear thinkers. Without both kinds of thinking, you lose the breadth of perspective that can approach a problem from multiple directions, resulting in creative solutions otherwise unavailable.

Women managers who possess the inherent skills required of a good manager often add compassion, nurturance, and sensitivity to the role. While this is not vital to success, it does help to build teams that work well together.

Women look to maximize, not necessarily to win, in competitive situations. Often, it is not as important to win as it is to achieve the maximum gain.

Another loss is that of sheer talent. The more people you have in the talent pool, the better your chances of success. Getting and keeping good talent is expensive; replacing a valued worker can cost a company two to three times her annual salary.

Diversity also adds to the overall health of a profession. Individuals and organizations need to work on creative ways to attract this diversity, not only in gender but in all other ways as well. We would be no healthier if current balances were reversed.

What Do We Need to Change to Attract More Women into the IT Profession?
A critical area of focus is on adolescent girls.

- A suggests girls must be attracted to technology at an early age.
- Educators should focus on what is wrong with the computing culture and how to change it rather than on why girls don't like technology. Educators must also focus on teaching girls complex technology skills beyond the traditional word processing and presentation tools
- Girls are influenced against technology at an early age by computer games that are designed and marketed toward boys. These games are violent and often boring. They are not attractive to girls, who want games that are more interactive, engaging, and creative.

Once we do engage women and attract them to the profession, we need to keep them. The hiring organizations have a responsibility, as do the women themselves.

- As women, we need to take personal responsibility for making change. We need to take the best practices that men have developed and learn to make them work for us in our own way. Take networking as an example. Men spend more time networking to further their careers. Women network too, but we tend to network with people whom we like and who share our value systems. We need to retain those aspects of our networking but incorporate this style into the business world.
- Women must mentor other women. We must help them learn early what it took us years to learn, and we must find as many ways as possible to share what we know.
- Organizations can contribute by putting reasonable work and family programs in place. Practices such as telecommuting and flextime help everyone achieve balance.
- Women often do carry extra family burdens, and managers can help by supporting creative scheduling. Several years ago, when I was programming and raising children, my manager let me leave early to care for my children and then return to work after the children were in bed and finish my hours. This was very innovative at the time.
- Work/life balance will always be a challenge, and it is up to us to keep working on better ways to achieve it.

Why Do Some Women Prevail and Others Do Not?
When I speak with other women CIOs and technology leaders, the most prominent common trait is that they never knew they couldn't be a leader or a CIO. I have never had a boring day. You have to relish that part and the stress that comes with it to love this work. The most important things a woman can bring into this profession are willingness to ask tough—and sometimes obvious—questions, belief in her own abilities, and a tendency to find great humor in painful circumstances."

Women who aspire to be CIOs, more often then men, must find unique ways to balance family and job or in many cases forgo having a family. Okay, I hear a lot of mumbling from some of you women saying, "But men don't have to give up having a family." That is only partially true. Many successful men have been divorced several times or are estranged from their families, and many have remained bachelors until they have reached a certain level of success. True, others have wives who stay home and raise the children, but remember that those women chose to be stay-at-home moms. There is nothing to stop you from finding and marrying a stay-at-home dad or a man who wants to share your success by taking on extra work at home. Often, it is your own views on how you should act as a wife and mother that limit your opportunities.

Finally, the successful women are willing to take on projects and tasks that no one else wants or is willing to do. Tackling projects that your boss does not want to do will challenge your skills and stretch your abilities, leading to growth and exposure. Visibility is absolutely essential to your growth and can be enhanced by taking on those unpopular tasks. This may be the very key to your success.

WHAT IS DIFFERENT FOR WOMEN CIOS IN THEIR FIRST 90 DAYS?

Women executives face a few unique challenges when starting in a new position. One of the biggest challenges is that they can't use the men's room. You think that's funny, and it is, but it's also true! Any man reading this article will know there are many issues discussed and

potentially resolved in the men's room. How do I know? Because a few places I have worked have had the walls of the ladies room back-to-back with the men's room and enough air ducts to allow conversation to flow freely between facilities. I have no easy answer for this one. The best I personally have been able to do is to ask the men whom I have influence with and with whom I have built relationships to tell me when a critical conversation or decision has been made when I am not present. Making it funny by mentioning the proverbial "men's room" always helps.

On a more serious note, we will not automatically be accepted into the club. We need to spend time building the relationships, trust, and support that may come automatically to a man in the same position. However, men can't keep those inherited gifts without doing the same work. The difference is that we have to earn it up front. So, focus on finding key influencers and building those relationships first. And remember that these influencers are not necessarily your fellow executive staff members.

Your staff will most definitely test your mettle. We may not like it, but some of the staff will view you as "a woman" and test you to see if you have backbone. It is not necessary to overcompensate; you need to be yourself and rely on all the terrific skills that got you where you are. But be careful to recognize when you are being tested, consider the source of the test, and respond to achieve the result you want. Show respect for the existing staff, give everyone a chance, and don't take anyone else's word for another's behavior—learn for yourself.

Your first 90 days are your time to assess. You should be gathering and understanding the most critical business needs, validating them, assessing how your staff is prepared (or not) to handle them and whether you are staffed and organized correctly to achieve the expected results. This establishes the expectations against which you want to be assessed and reviewed; in the end, will appreciate your strategy but reward your execution.

WHO ARE SOME OF THE SUCCESSFUL WOMEN CIOS, AND WHY?

I have known many successful women in the IT profession and it was hard to chose three from this terrific group of friends and business associates. I have chosen the individuals who represent three different industries: biomedical, high tech, and aerospace. All of these women have had very successful careers and have been active in supporting diversity in their respective companies. All three—Pat Anderson, CIO of Lockheed Martin's Space Systems Company; Polly Moore, former CIO of Genentech and currently attending a seminary; and Tama Olver, formerly CIO at Amdahl, Informix, and Quantum, and currently CIO of Applera—have been recognized as being among the top 100 women in the IT profession, and all continue to represent the best that women bring to the business.

I asked each of these esteemed ladies to answer six questions regarding their experiences as CIOs.

Pat Anderson, CIO of Lockheed Martin's Space Systems

How long have you been a CIO?
I have been a CIO for about a year, but was also one for three years several years ago.

What was your educational background and career path?

I have a bachelor's degree in psychology. I began my career as a human factors engineer working on the Trident I missile system. For the next 20 years I worked on that program in supervision and management in a variety of disciplines—product assurance, reliability engineering, field operations and support, factory operations, and program management. I then spent the next three years as a CIO/executive vice president to the CIO (of a 4,000-person organization), then three years as the program manager of a very large corporate project, and now CIO again.

What are the three most important factors contributing to your success?

A real desire to learn, the willingness to take risks, and the ability to work very, very hard. I also think having an easy personality with strong interpersonal skills in a culture that is hard on people helped a lot.

What were your biggest success and your most memorable failure? What was the impact of each?

My biggest success was the very large, complex corporate project I managed. The complexities and diversity of the corporation, the magnitude of the change, the complexities of the organizations that matrix personnel to work the project, and the mix of functions working the project all led to an enormous amount of risk. Yet, the project has been phenomenally successful—nearly flawless in its implementations and enthusiastically received by the companies in the corporation, which has enabled the seeding of a corporate culture for the first time and a software product that has reduced cost and improved service.

My biggest failure was a CIO position that was deputy to the corporate CIO. The organization was virtual and just coming into place, I worked remote from the CIO and rarely saw him, and I did not have distinct responsibility and authority. All these ingredients, coupled with a trauma in my personal life, left me somewhat less than effective. The impact was a truncation of my career.

What advice do you have for young women considering entering the IT field and women aspiring to become CIOs?

The IT field is extremely interesting and challenging and very hospitable to women (unlike some of the more engineering-centric disciplines.) That means it is possible to have a career of constant growth and opportunity, and one where the emerging technologies mean you will never need to be bored.

Being an effective CIO means adopting a strong sense of the business. Therefore, to be a CIO, I think incumbents should also have direct experience in the business itself. The job is exceptionally challenging and requires extraordinary interpersonal skills, with a heavy dose of diplomacy, as well as strong management and leadership skills. It is a wonderful career objective for someone with those interests and attributes.

What were the most serious glass-ceiling barriers you encountered in making your way up the corporate ladder?

In the early and middle parts of the corporate ladder climb, I didn't have a perception of a glass ceiling. I was rising quickly, there were other women at my level, and everyone was working so hard there wasn't much time to complain. But then I reached the level where there were no women ahead of me, and things all of a sudden looked different. When I was promoted to VP, and especially when I was made a member of the Operations Committee (the company's senior management team), it began to feel

as if my gender had been part of the reason I had made it that far. While I was happy to be at the table (and boy, did they need a fresh voice, even if they didn't listen very often!), in retrospect I had been promoted beyond what they were comfortable with, and it turned out to be the beginning of the end of my CIO career. The good news is that once the company had made the leap and promoted a woman to VP, the next such promotion was much easier. Within a few years, the senior management team was well balanced and has remained so.

Polly Moore, Former CIO of Genentech

How long have you been a CIO?

I spent 18 years at Genentech, building its computing organization. Four of those years I was a VP, which is as close as they had at the time to a CIO. I retired two and a half years ago.

What was your educational background and career path?

I have a Ph.D. in math and always intended to teach. Teaching jobs were scarce when I graduated, so I went into industrial applied mathematics and worked for several years as an applied mathematician (which I loved). The opportunity came to get into biotech when it was still a very young field, and it seemed like too much fun to be on the sidelines. So I took a job managing scientific computing and doing statistical consulting at Genentech. I didn't really have the background to be managing a computing group, but I learned fast! In retrospect, one of the reasons our computing activity was successful over the years is that we evolved it to fit the company's needs rather than knowing how it was "supposed" to be done. When the company finally got big enough that it really needed the more formal MIS-style approach, it was time for me to move on anyway.

What are the three most important factors contributing to your success?

Above average intelligence, a willingness to respond to opportunity, and having a mentor. It's always useful to be smart, especially when very intelligent people surround you. And while it's wonderful to be able to plan a career, sometimes you just have to jump at an unplanned opportunity. (I gave a career-planning talk on this once and titled it "Plan When You Can, But Dance If There's a Chance.") Much has been written about the value of having a mentor, and it's all true. If someone in the organization looks out for you and wants you to succeed, it vastly increases your chances. When that support evaporates, watch out.

What were your biggest success and your most memorable failure? What was the impact of each?

The biggest success was melding a freewheeling scientific computing group and a strait-laced MIS group into a single department. It took a while, but each group learned from the other, and the company benefited.

The biggest failure came from taking over the leadership of a manufacturing systems project that had not been well thought out. It was too late to save it, and in the end it had to be killed. Fortunately, there was a clause in the contract that allowed us to recoup some our investment in hardware, so the biggest impact was lost time. The company went on to do a much larger (and successful) manufacturing systems project years later when it was really ready for it.

What advice do you have for young women considering entering the IT field and women aspiring to become CIOs?

IT is a great field for women. The glass ceiling is still there, but it has a lot more holes in it than in some other fields. Find a way to stay current with technology (which is a lifelong challenge) and find a mentor. As you rise in management, the job becomes less and less about technology (at least, about your being able to do it yourself) and more and more about people.

At the CIO level, it's really a business position, not a technical one. Keep a focus on the people aspects—I'm convinced that the key to successful computing in an organization is to understand how people use technology in their jobs, which is a much more people-centric view than most computer executives have. Keep your eye on the politics (there is always politics) because even if you don't play hardball yourself, you can lose out if you don't understand what's happening around you.

What were the most serious glass-ceiling barriers you encountered in making your way up the corporate ladder?

For the first 20 years of my career, I had as much, if not more, opportunity as my peer group, since all of my promotions occurred with far less tenure than normal for my peer group, which fundamentally was white male. I broke through the glass ceiling several times, being the first female to achieve three of the top four levels of senior management in my company. In this regard, I also believe I was the first female in the corporation to achieve these levels. I was the first female vice president of a functional organization. The first female vice president managed a staff function. So, I can't say that I personally encountered any glass ceilings in this regard. However, I believe the people here before me did. I was just the one who got to break them!

Tama Olver-CIO of Applelera

How long have you been a CIO?

I have over 30 years in technology and have been a CIO since 1994.

What was your educational background and career path?

I knew I wanted to be a computer programmer when I entered college. I took a degree in mathematics at Michigan State University and included computer science courses as electives. My other education has taken the form of university short courses and training programs in management and technology.

What are the three most important factors contributing to your success?

Commitment to lifelong learning. I am especially careful to recognize when I start to think I have "the answers" in an organizational setting; I try to refocus on asking the right questions. As I moved to more responsible positions, my commitment to learning helped with the transition from mastering technology to mastering leadership skills.

Commitment to add value in everything I do. When I focus on adding value, I am able to eliminate work and reapply the resources to higher value tasks. Focus on this commitment requires that I be present and listening consistently.

Commitment to the success of everyone and every effort in which I am involved. For me, this final commitment is an aspiration. It is not easy to stay committed to the

success of people who have, from my point of view, let me down or are competing with me for scarce resources. To the extent I can stay totally accountable for everything, including everyone's success, I am able to make far more extraordinary contributions to an organization.

What were your biggest success and your most memorable failure? What was the impact of each?

The biggest successes have related to implementing change where everyone said, "It will never happen here." An example that comes to mind is a work request process in an IT organization that truly believed it could not be done "here." The consequence was not only a positive result for the organization, but also the opportunity to tackle other tough changes with support from the team as a whole, rather than skepticism.

The biggest failures have related to inability to get the right team in place to meet business needs. The consequence has generally been that I lost the opportunity to do the job.

What advice do you have for young women considering entering the IT field and women aspiring to become CIOs?

For young women: IT is at an inflection point where basic infrastructure will be in place and the challenge is in integration and exploitation of the tools to innovate in business. If you are a systems thinker with interest in technology and business innovation, IT is a good field to explore. Although the pendulum swings back and forth, I believe that pure IT roles over time will be in centralized infrastructure companies where there will be careers in systems management and technology adoption for operational effectiveness. Most roles outside the infrastructure arena will be in business units where knowledge of both technology and business disciplines will be needed.

For women aspiring to be a CIO: Focus on relationship and influencing skills, as well as work habits that keep you current with technology. Develop understanding of processes, how to introduce them, and how to keep them healthy in the organization. Understand the importance of vision and organizational culture, and develop related skills. Finally, build a plan and skills for balancing your life across work, personal, and health issues. Any executive role is a huge commitment and will be fun only if it fits into a life you have designed to meet your needs overall.

What were the most serious-glass ceiling barriers you encountered in making your way up the corporate ladder?

The very first one was my interview with a large computer manufacturer when I graduated from college. I met with a recruiter new to the firm. When I told him my interest in being a computer programmer, he said "I don't think we hire women for those jobs. The job requires lifting boxes of line printer paper." I told him that I believed he was mistaken. Our university had equipment made by his firm, and I had met women among the team who installed the equipment. I asked him to check with the company, and he said he would. In a few days I got a registered letter asking me to come to their headquarters for job interviews. The interviews led to an offer and over seven years of great technical and leadership work to launch my career. This may not sound like a "glass ceiling" problem on the surface; however, it was motivated by the recruiter's view that women in his industry held manufacturing, finance, and

administrative jobs—not technical ones. I knew better and was assertive enough to say so. Other women may not have fared as well.

A more serious problem occurred later in my career when my advancement in management stalled. I was being passed over for promotions to director, and neither my manager nor I could figure out why. He wanted to promote my career very badly and tried hard to understand what I needed to do to be seriously considered for a more senior role. Over time, I received coaching about personal behavior, all of which I was able to address. For example, I was told I was not "tough" enough to be given more responsibility. I took on some visible assignments that demonstrated the ability to drive for results and overcome resistance, especially where I needed to influence senior management. At the end of a year my manager asked decision makers their current opinion of my "toughness." He was told that I was now viewed as "plenty tough enough." One senior vice president said "Tough? She's downright persistent!" Still, openings for positions at the director level came and went, and I was not considered. I thought about leaving the company, [but] decided to stay. I was being compensated at the director level without the responsibility. My view was that the problem was more likely than not to follow me into another company rather than being solved by moving.

Finally, an organizational crisis occurred that led to heart-to-heart conversations with senior management who viewed me as not promotable. For all the "right" reasons, I had been doing many counterproductive things with respect to earning a promotion. I was oblivious to the formal power structure in the organization, preferring the informal network I had developed over a decade. I had been stepping up to responsibilities outside my formal role for altruistic reasons in my own mind, out of dedication to overall business success. My actions were perceived as political, motivated by ambition to show my boss and peers to be weaker than I, and outside acceptable norms of behavior for the executive team. I was abashed by the negative interpretation of my actions, especially since, in my heart, I knew my motives really were pure. At the same time, my ability to see my actions through another perspective gave me the freedom to learn a lot of political sophistication very quickly. I did not, in fact, need to change my actions much. I did need to learn how to position what I was doing properly with the right influencers and to clear the air quickly of any perception that I was intent on using the bodies of failed colleagues as stepping stones to my success. Within three years I was promoted twice and became part of the executive team.

I learned from the experience that having the right mentors and sources of candid information about how you are viewed as an executive, or as executive material, is key. I had been trapped in a version of the myth about heads-down hard work and results being the key to advancement. To be invited into the executive team, they must trust you. Marketing your performance in an authentic context that builds trust and alignment with other executives is as important as the performance itself. Once again, this may not seem like a glass-ceiling problem on the surface. I believe there was a component of gender, however, in the lack of early schooling I got about "the ropes" in an organization. During the years when the young men were building relationships and getting advice about how to climb the ladder, I was in a much more transactional relationship with my employer. Executives liked my work; however, they did not view me as one of them. At first, this was because "women work for three years, then get

married and leave the work force." I was hired out of college a grade level lower than the men based on that reasoning. (The fact that I got an extra promotion in the first three years and more than caught up with peers in salary was unexpected, since it was not planned that I would be there in the fourth year.) Later, I had missed early political development steps and did not know how to ask for mentoring and support from the right people. I do now.

THE VALUE OF WOMEN IN IT

With women in top IT spots, we can continue to help build diversity into the IT profession. Women bring many invaluable skills to IT organizations, skills that are equally useful to men. Relationship management, flexibility, and diplomacy are just some of the skills CIOs need to bring to and foster in today's business climate. Many IT organizations are learning, to their benefit, that women executives do extremely well in these areas.