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Does Culture Matter? A Study of Cultural Influences on the Success of Women in IT

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ABSTRACT

This paper discusses cultural influences on the success of women in Information Technology (IT) careers that emerged from 38 interviews with career women in Southern California. Interviews, conducted in 2008, lasted 60-90 minutes each. The women's career stories reflect on comparable experiences with organizational and workgroup cultures, as well as occupational cultures and subcultures. Except for primarily female organizations, "old-boy" culture prevails at the upper levels of most organizations. Women who have climbed to those levels still feel like outsiders. Women complained about "old-school" occupational cultures, but they valued trust in their workgroup cultures, when and where that exists. "Token" women often experienced the most difficulties.

Keywords (Required)

gender, occupational culture, organizational culture, IT careers, retention and promotion of women in IT, careers of women in IT

INTRODUCTION

The underrepresentation of women in Information Technology (IT) careers continues, despite intense research and educational efforts to address the issue (NSF 2008). The 2008 U.S. Department of Labor Statistics indicate that women comprise 27.8% of "Computer and information systems managers" (earning 85.4% of males). In professional-level occupations, women number between 14.7% (network and computer systems administrators) and 35.9% (database administrators) of the workforce, earning 81% to 87% of males.

Many of the previous studies on this topic reflect the "pipeline" approach, which constructs the world in terms of stages and flows (Soe & Yakura 2008). The cultural approach underlying our study calls attention to assumptions, values and norms that are broader and more systemic (Ridgeway & Correll 2004). We argue that societal, occupational, and organizational cultures, and cultural contexts form layers that are interdependent and to some extent self-reinforcing (Martin 2002). Figure 1 provides a simple schematic of the major layers that form the social system that shapes experiences in the workplace.

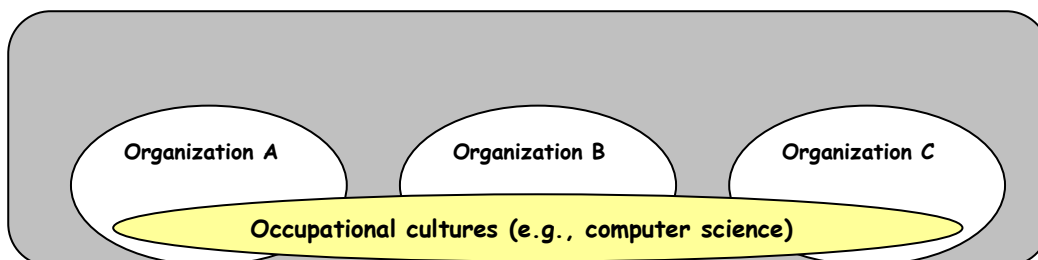


Figure 1: Layers of cultural context

Societal/national cultures

Ridgeway and Correll (2004) argue that gender assumptions are societal and cut across occupations, organizations, and other units (such as the family or geographic regions). These societal and national cultures can operate as “feeder cultures” that create background assumptions and expectations concerning the appropriate role of women (Trauth, Quesenberry, and Yeo 2008).

Valian’s work (1998) shows how perceptions of gender differences, developed since childhood, shape individuals’ perceptions of the competence and success of organization members, as well as the norms existing in an organizational context that determine expectations regarding quantity and quality of work.

Occupational cultures are another important layer for assumptions about the appropriate role of women (Trice & Beyer 1993). One of the primary themes in the diverse literature on gender differences is the level of male domination in cultures of science, technology, engineering and management (Murray 1998). Wright (1996) argues that the “engineering culture” of IT work has an adverse impact on the participation and progress of women, because a culture that develops in a male-dominated environment is necessarily one in which males have the advantage. Male domination fosters the aberrant behaviors attached to obsessive computer usage. Assumptions of different cultures tend to structure which roles are considered appropriate for women.

The importance of critical mass and tipping points

Cultures are inherently resistant to change. Any effective intervention must reshape the values or assumptions of the members or the intervention will be undone. As in a nuclear reaction, a “critical mass” is sufficient to create such change. Kanter (1977) suggests that when the non-dominant members of a particular group reach 35 percent, they become a “minority” rather than “tokens” and can affect the culture of the group. Martin (1998) suggests that with 15-22 percent of women “a different set of emotional norms might emerge.”

When there is a critical mass of women at senior levels, both women and men believed that women affect the organizational culture in a positive manner: by encouraging more collaboration, more participative decision-making and hence more collegial workplaces. There are certainly criticisms of the critical mass approach. For instance, the most senior women might be those most inculcated in the dominant culture, and might reinforce the dominant norms, excluding non-dominant cultural members or assumptions. Does being a “token” in a predominantly male environment that reflects a hostile culture make it difficult to thrive? (Roldan, Soe, Yakura, 2004).

This paper explores cultural issues, both positive and negative, emerging from interviews with 38 women in IT careers. Although these women may be atypical because they have survived and even thrived in IT careers, their candid reflections provide insight into important cultural issues. We discuss occupational and sub-occupational cultures, as well as organizational and workgroup cultures, and the related issues of critical mass. In the interest of brevity, we focus most on organizational and occupational cultural issues.

METHODOLOGY

We employed ethnographic methods to develop grounded descriptions of the context of IT work organizations, the elements that influence perceptions of culture, and outcomes of import to the retention and promotion of women. Open-ended questions covered topics drawn from the literature on culture (see Figure 1), and on proposed strategies for change (e.g., mentoring, networking, worklife balance, workload, gender distributions). The results in this paper involve cultural issues and critical mass.

Subjects

Resources limited our interviews to Southern California. We located 38 women engaged in IT careers through local companies, alumni of local universities, professional organizations, and through LinkedIn social networking “connections-of-connections,” using a snowballing technique (Berg, 2001). In our sampling strategy, we selected women who were “extreme” cases (in career longevity, age, organizational level) as well as “typical cases” to achieve “maximal variation in the sample” (Flick, 1998).

Our sampling yielded relatively successful women who have persisted in their careers for an average of 12.8 years (from 0.5 to 40 years), worked for an average of 3.3 organizations (from 1 to 7), and spent an average of 6.0 years with their current organization (from 0.2 to 35). These women are highly educated (two have Ph.D.s, 14 Masters’, and all but 1 Baccalaureate degrees). Half of the sample works at the managerial or executive level, and three own their own companies. They work in a

variety of industries (Aerospace/Engineering Services, Financial/insurance, Management/Consulting, education, entertainment, health, government, IT products/services). Two interviewees recently became unemployed when their companies failed.

Interview Data

The 60-90 minute interviews followed a protocol of open-ended questions that encouraged women to talk about their careers, how and when they became interested in IT, and workplace comfort levels. Other questions asked the nature of their work and organization, gender distributions at different levels of their current organizations, and workplace accommodations for women. The interviews covered demographic data, education, certifications, participation in mentoring, professional organizations and networking, and sources of career support (parental, educational, spousal). Further questions probed worklife balance, career high and low points, and a self-evaluation of personal qualities that affect success.

Analysis

We transcribed the recorded interviews and coded them in the Atlas-ti 5.0 qualitative data analysis program, using both top-down and bottom-up (in-vivo) coding (Lewins and Silver, 2007). Top-down codes reflected research assumptions covering issues such as cultural references at the societal, occupational, organizational, and workgroup levels, and other recommendations for improving the status of women in IT, such as mentoring and networking. We then switched to a grounded approach (Strauss & Corbin, 1990), using in-vivo coding to identify to identify cultures and sub-cultures that women described, to differentiate between positive and negative quotations about the same topic, and identify other issues that emerged from the data.

RESULTS

Occupational culture

Several IT occupational cultures emerged from the data. Except for a very few female-dominant organizational groups, the proportion of women was low and decreased up organizational levels. Most women talked about their experiences in the female minority. In some environments, token women were very uncomfortable; in others, women coped well, usually because they had a (male) mentor, or were part of a group with whom they had developed trust.

Feminized IT Culture

Women who work in IT enjoy technological work and rapid technology change. They articulated an alternate “feminized” version of IT culture that emphasizes female social and collaborative skills, satisfaction in fulfilling users’ needs, finishing work on time, and high work quality. They did not “burn bridges.” The few who work in predominantly female organizations appreciate female culture:

...very productive, very positive, probably the best working situation that I have ever been in during my entire career...”

“Old-School” Culture

Women dislike the stereotypically masculine nature of what some call “old-school” culture. Although younger women do not use the term, they describe the behavior: technology-obsessed men sitting before computers day and night, focusing on technology, not business. These men are competitive, aggressive, political, and resistant to change. In some organizations, this arrogant mindset backfires when the business side makes technology decisions without consulting IT, and then requires IT to implement them.

Adherents of “old-school” culture are arrogant, and treat users, helpdesks (“helpless desks”) and women as inferiors. Women hear they lack abilities to perform technical work: “you are not the kind of person who could sit for 8 hours and code” and “programming is not for women.” Women feel they have to “fight harder,” although some are skilled fighters.

In this culture, women feel pressured to stay late at work to “make an impression,” even though their work is finished. Reputations suffer and women do not get credit for their accomplishments, if they “closet-work” through lunch and leave on time to pick up children from daycare. One woman regretfully left a higher-paying, higher-status position for a public-sector one to accommodate daycare schedules.

Sub-occupational Cultures

IT sub-occupations also have cultural identities. IT auditing has a strong professional culture, promulgated through professional organizations to which interviewees belong. These organizations have informative monthly meetings that offer networking opportunities. Women earn and maintain professional certifications, and receive mentoring when they participate in running the organization. Participation helps them advance in their careers.

Within IT auditing, internal IT auditing is “boring” and offers limited opportunities for advancement. While external IT auditors in Big-4 firms work long hours and travel, internal IT auditors work regular hours, a good fit for mothers. Internal IT auditing, sometimes integrated with security and risk management, may function outside the IT department, a set-up that women favor. These groups are supposed to review IT projects before they enter production. Problems arise when IT developers stage secret project meetings to avoid oversight, an expression of “old-school” mentality:

...in IT, there is a tendency to just get it done! . . . I don't care, just get it done because the business has to run! And they will do whatever. ”

The predominantly male networking sub-occupation has a macho reputation. A woman who worked with telephony said:

Even though I had the exact same degree as some of the guys in the networking department, and ... everything was equal, I was not equal.

Security in Big-4 firms is a more technical, competitive, and exciting subfield, in which a token woman said, “Some of the men would sort of test me, test my knowledge in security” and then delegate her to the task of documentation. This young woman struggled to get “billable hours” on her home turf and accepted a consulting project away from her security team. The project was so successful that she won a prestigious award from the regional partners. Despite her success, she dreads returning to her “home” security team.

Male Culture

Male cultures seem to straddle occupational and organizational cultures. A successful woman manager is adamant that business is a “man’s world”:

Three women said college-age daughters were reluctant to consider an IT major because “it’s a man’s job,” even though Mother’s “nerdy” job paid for college. One young woman who works in application development holds this viewpoint:

Of all the people I work with, the really good programmers are all men.... Men have brains that function with hands-on stuff ... They’re born with it!

Women find that male coworkers often have problems with pregnant coworkers. Some managers treat pregnant women as invalids and worry about them falling and suing. Coworkers worry that the pager will harm the fetus and resent the fact that women get maternity leave and occasional accommodations such as flextime and telecommuting. New mothers who need to pump breast milk feel uncomfortable.

A woman, who manages an all-male team, learned that men speak a different language. When a man says “yes,” he means he heard the request. When a woman says “yes,” she means she will take care of it. The men in the department were upset when she resolved a problem for a user who had waited for a man on another team--who had given a “man’s yes”-- and not fixed the problem.

Across the board, ... guys are very sensitive to women being too abrasive. I think maybe it’s just a language issue. Maybe guys are so trained to take criticism from women so poorly, like they don’t know how to react?

Generational Cultures

Many women who look young complain that during meetings, male coworkers ignore them and their ideas. One Director of internal IT auditing, said:

I often get the bias... they would ask me literally, “Why are they sending interns to do this?”

Another external IT auditor who worked for a Big-4 firm, discovered a solution:

I would tell them that I was their “friendly auditor,” if they would tell me how things work, how they did things, sometimes I could push some of their causes. ... If they would tell me about things before I discovered them, it was easy because I could say that the person didn’t have enough resources to do something. I could tell the CEO to figure out more budgeting, more staff, to get this implemented. So honestly, that was pretty much the only thing that I had to bring them down to my level and be social with me.

Organizational and Workgroup Cultures

Most organizations had “old-boy” cultures at the top. Other themes that emerged included negative aspects of organizational and workgroup cultures, and the importance of trust within workgroups.

“Old-Boy” Cultures

Many women complain about the “old-boy culture,” which is prevalent at higher levels across most organizations. One highly successful woman, who had advanced to the “C” level, reflects on its subtleties:

It is what you call the intangible aspect of being in a management position. Perhaps they won’t ask me for lunch, like they will another guy. Or maybe I won’t go play golf or whatever they do. I feel like there is a difference, a social circle that I don’t belong to. It is very intangible. It is not in my face kind or anything, but it is there.

In highly-structured, “Big-4” consulting firms, where the culture is “up or out,” everyone learns what it takes to move up the steps of the promotional ladder. Women extrapolate that a lack of female partners in a practice means they have little chance to attain partnership. To become partner, a senior manager needs the support of multiple partners, and has to sell new projects as well as manage her own projects and people.

... I know a lot of senior managers who don’t make it to partner because they don’t see them as a bread winner, “rain makers.”

A few organizations, including the Big-4, initiated worklife and women’s networking programs. One woman noted,

...they did a lot of preaching and talking. The senior managers talked about their families in meetings, etc., how successful they are. You know all of that is talk. The bottom line is that if you travel this much, you cannot do it. You have to face reality.

Big-4 firms invest heavily in training consultants, only to have them leave, usually to work for clients in the “privates.” While departure is expected because of the heavy workload, at least one firm began offering part-time positions to retain trained, productive women consultants who want children. However, one woman told us that the 3-day part-time position actually amounts to a 40-hour workweek, with client meetings scheduled for the woman’s day off. Women who do not work a full year (e.g., because of maternity leave) or fulltime find they do not qualify for full bonuses or promotions for which they are in line.

A woman who spent 13 years at a Big-4, left as a senior manager:

Why is it that more women do not stick around longer? If you have 50 females and 50 males join the company at the same time, the 50 people who stay longer are female. The males tend to leave sooner. But the females who stay longer, 3 years as staff, 3 years as senior, don’t stick around once the manager positions open up. They did a study to try to understand why there is a pattern in this way. They found ... that women have the ability to take in more ... handle stress a lot more. But once we get to the manager level, that’s when we are starting to have family, to have kids ... our goals and priorities change... it is more like work-life balance.

Her statement why women do not make partner, exemplifies “old-boy” culture:

... when you go out to sell [projects], you need to take those people to the golf course, to gentlemen’s club, to all those different things when you talk about business. Females

tend to do other activities....

Inhospitable Organizational Cultures

Interviewees valued their reputations and disliked unfair practices, such as “staffing just up to the point where everyone is run ragged,” dishonesty in under-reporting project hours, or ignoring the rules to get the project up faster. The unemployed interviewees, who lost their jobs because their companies made risky decisions, were visibly shaken by their traumatic experiences.

Women fret as traditional “family-oriented” firms change during mergers, acquisitions, or new management. It was “like going from Nordstrom’s to Wal-Mart overnight,” one woman complained. Long-term employees who expect to end their careers in these family-oriented firms lose their jobs, because “they didn’t fit anymore,” sometimes short of getting a pension, or with a pension in worthless company stock. One woman explained:

... if you are not in an IT company doing IT, then you are not appreciated or seen as a tangible asset. You are always the first place that is going to be cut because you are the overhead. Without us, the company could not run. ... Now, the politics are that they put fear in people: lean, six sigma and “crack tasks” [‘things that we are doing that do not belong to our job descriptions’], ... All of that is mandatory, we have to attend a class on lean six sigma, and they teach you how to get rid of your job.

A woman who worked in a variety of positions and firms in her 25-year IT career, finds working for a non-profit (which has a majority of female workers) the best, because the focus is not on profits and stock prices. Another woman describes this focus:

In private, you are told now this is your job description, stay within that because that is what I am paying you to do. They are focused on the stock price... it’s only good for the customer if it makes us money. It’s only good for the employee if it makes us money.

Organizational politics are difficult, especially for early-career women. One interviewee, whose manager would not stand up for her, said:

Every day I go to work, I don’t feel that I just go to work. I have to deal with some kind of politics in the workplace....so many people that seem to be really nice to you, but if you make a wrong move, you are dead....

Another young woman, who is a risk-taker, learned how to deal with it:

...when you step into a room filled with sharks and you are this tiny little fish that is coming in, if you know your facts, if you know your subject matter, you will be fine. I had to learn that very early on ... That’s when I started to learn that all the guys at that level understand is the bottom dollar.

Difficult Workgroup Cultures

Women sometimes did not recognize the importance of conforming to the workgroup’s culture and its practices. One working mother finally realized she had to “lunch with the boys”:

Whatever the game is, you have to play. Like that person who told me I had to promote myself, and it wasn’t with managers but with my peers. I was sitting there trying to get my work done because I have this compressed life, but I consciously took the time to go to lunch. They went out for a group lunch once a week, which I never attended. So they decided I wasn’t a team player. During those networking opportunities, being part, if there is an option, go to lunch with the boys, show them that you are part of the group.

A young woman manager of a team of competitive engineers, who felt they were better qualified for her job, figured out how to motivate them.

In my management experience... I had a lot of men who were engineers who were very

focused on making a name for themselves, very focused on what I like to call the “silver star” syndrome, like in the military when you get that silver star, you get to flash it and get a lot of attention.

The qualities of the team manager are critical to the team’s functioning as well as the team members’ success. Younger and more ambitious managers are more likely to promote women under them. Managers, who are insecure or unprepared for their jobs, tend to micro- or mis-manage their team’s work, which negatively affects the workgroup culture. Older managers, who feel stuck in place, do not promote women subordinates.

Some managers are more willing to promote than others... I was hired into a program in which there are a lot more managers who are seniors, people who have been there for decades ... since promotions have not been that easy for them after a while, they don’t think that you are that deserving of a promotion that easily.

Trusting Workgroup Cultures

Interestingly, the positive comments about workgroup cultures center on the trusting relationships women experience in workgroups. This trust is evident both from women who manage and work on teams. A woman who works primarily with other women noted:

...that’s an additional benefit from working with people for so long is that they become like your family. Everyone covers for each other.

Another interviewee likens her team to a family:

Our team is very cohesive. The way I describe it is our boss is our mom, and we are the siblings. We work well together. ... We help each other with projects. We have different expertise. ... So I feel comfortable in asking a co-worker about a problem and what I should look for. They are not going to make me feel bad by saying how come I don’t know something. It is a very good working relationship.

Women who manage teams talk about the high levels of trust they foster in their teams, and how that contributes to team success. In these trusting workgroup cultures, managers make accommodations for caring for sick children and husbands. Women take their laptops to the hospital or the sickbed and keep up with their work in the evenings. Women who manage teams nurture them and trust their performance.

When you get good people, you don’t have to tell them much, they just do it, and as long as you give them their wings and let them fly, they will be successful. ... I have no tolerance for slackers and ... for people who make excuses.... Family comes first, company comes second on my team. ... I want my people to be well respected for what they contribute, and I think that stands on its own. It has nothing to do with me other than it’s my job to make other people recognize it. ... Occasionally,... when we are in the middle of a huge implementation, I will add myself into the rotation. ... Again it goes back to I work with them. So if you’re going to walk the talk, you’re going to walk the walk.

In most organizations, telecommuting accommodations for pregnant and working mothers are usually at the manager’s discretion. A trusting manager might allow a pregnant woman or the mother of an infant to telecommute several days a week. Few companies seem to have official telecommuting policies, although some have instituted flexible workweeks, especially during summer. Some also set aside Fridays as a telecommuting day, the Big-4 among them.

A few organizations have switched focus to the work the employee produces, and away from the numbers of hours the employee works, but most organizations insist that the worker be on-site or at the customer site (or occasionally working at home), and working a full workweek. In flextime situations, the manager needs to know what hours the employee is working. Usually women have flexibility, for example, when children are ill, as long as they tell their supervisors where they are and what their work hours will be. Only one workplace in the study requires an 8 AM to 5 PM workday.

SUMMARY AND CONCLUSIONS

Our interviewees are successful and persist in their IT careers, but that does not mean that they have not experienced problems with organizational and occupational cultures. Many have been “tokens” throughout their careers, from college onward. Occupational and sub-occupational cultures may be hostile, especially for the “token” woman. The IT auditing professional organizations help women to advance, through training, networking, professional certifications, and mentoring. However, “old-boy” culture seems to exist at the top levels of most organizations, except those with a majority of women. Women who had advanced to the “C” level still had difficulties with “old-boy” culture. While their ideas are respected, they do not fit in with their male peers.

Older interviewees had experienced overt opposition and trouble finding work, but younger women, who tend to have more self-confidence, also feel like outsiders. Younger women have trouble being taken seriously, and feel they have to prove their worth in ways beyond male counterparts. Many women talked about their first manager (usually male) as someone who guided them throughout their careers. The quality of that relationship and the manager’s career guidance and promotion could determine the woman’s early success in navigating what otherwise could be a hostile culture.

Interviewees demonstrate that they have the ability to transition and adapt as careers and technologies change. These women love the technical or managerial challenge; they find ways to be satisfied with their work. Many hold an idealized vision of a feminized IT culture in which their social skills and work ethic have high value. Women dislike the stereotypically macho nature of the “old-school” view of IT culture.

We have other questions to answer from this data. After that, we need to see whether our findings generalize beyond successful IT women in California. We might investigate women in other regions, women who have dropped out of IT careers, African-American women, and the experiences of male counterparts, among others. At this point, we can conclude that cultural issues are problematical for these women, yet women continue to persevere. However this data tells us that no matter how successful women are, the “cultural” glass ceiling is not shattered.

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