*Although there is equal opportunity at the surface level, if you look at the promotions and who is getting the most visibility, you will see things are not equal—especially between men and women.*

—Woman in a high-tech company, non-technical role

As these quotations reveal, women working in technology were acutely aware of the lack of women in corporate leadership positions within their companies. Employers need to continually monitor their workforce statistics to ensure that advancement and promotion systems are not biased, and that women and people of color are represented and promoted at each organizational level.

As strong reinforcement and confirmation of the lack of women in management within their companies, women in technology also sent a clear message to companies about increasing diversity at higher organizational ranks. In the words of women themselves:

*If I look up and all the managers are men, it doesn't feel open to me. If I look up and see a diverse set of leaders, I feel comfortable we can all succeed.*

—Woman in a high-tech company, non-technical role

*The company has virtually no women at the director or VP level except for in HR positions. There are also no women on the board of directors. More women need to fill director and VP spots.*

—Woman in a high-tech company, technical role

*Until women are truly represented in all layers of management, men will continue to be more comfortable working with other men and [will] hire and promote more men.*

—Woman in a high-tech company, non-technical role

In addition to increasing the representative nature of the workforce within their companies, women in technology also wanted their companies to accept a wider range of working styles. Many of them expressed the belief that only a certain personality or working type was viewed as competent and that employees who did not conform to that style were penalized or disregarded. As one respondent said:

*Preferences are given to certain personality types. People have to learn to adopt certain work styles in order to succeed. [I'm] not sure that is really embracing equal opportunity.*

—Woman in a high-tech company, non-technical role

Similarly, another respondent wanted her company to:

> *Understand that talent comes in many forms.*
>
> —Woman in a high-tech company, technical role

One woman said that to enhance equal opportunity, her company's management and employees would have to:

> *Remove our mental image of that successful employee as an aggressive, take-no-prisoners, go-getter type . . . more styles [must be] seen to be valuable.*
>
> —Woman in a high-tech company, technical role

Thus, women in technology indicated that by embracing a wider variety of working styles, companies could allow people to work in the ways that are best suited to them—and in doing so, better meet the needs and goals of the company. As an added benefit of allowing people to be more authentic at work, companies can expect to build trust and perceptions of fairness among their employees.

## SUMMARY

The progress companies have made on behalf of women has resulted in enhanced satisfaction for women in the technology workforce. Indeed, findings presented here indicate that differences between women and men in high-tech companies were not pervasive, nor were differences between women in technical jobs and women in non-technical jobs pervasive. These findings underscore the improvements that have been made by companies for women in technology. However, there remain two critical areas that companies must address if they are to more fully develop, satisfy, and retain women in the field. Companies must take steps to build and improve supervisor-supervisee relationships, as well as address procedural fairness and voice to increase the satisfaction and engagement of women. As the voices of the women surveyed imply, these two areas have tremendous implications for turnover and retention within companies. By attending to these concerns, companies will reduce the cost of losing employees to competitors, deepen levels of organizational commitment among women, and signal to others their willingness to innovate where their employees are concerned.

Intel: *Intercultural Awareness and Training—Part of Life at Intel*

Intel believes that its employees' unique perspectives and experiences enable the company to create innovative, market-driving products. As a company with employees all over the world, Intel has taken a comprehensive approach to cultural integration and awareness training. The company offers specific programs on intercultural training and also weaves lessons on cultural awareness into its general training and learning curriculum.

Intercultural content is featured in Intel's business-skills courses on topics such as decision-making, communication, and team-building. Intel also customizes training products for local use in specific countries and cultures. A "Constructive Confrontation" course, for example, was adapted to meet the unique needs of Asian cultures. Similarly, Intel's "Into Intel" program for new employees includes required classes such as "Performing to Intel Values," which helps employees and managers examine the tension between Intel values and their own cultural values.

Intel's courses on intercultural training include:

- Language courses for employees who have a business need to learn a language such as Mandarin, Spanish, or Japanese.
- English as a Second Language (ESL) courses for employees who want to improve their oral and written English communication skills.
- Country-specific courses that offer training on how to conduct business within a specific country or culture, such as "Working With China" or "Working With Israel."
- Globesmart—a web-based tool developed by Meridian Resources that provides in-depth, country-specific cultural information to users through a single, powerful repository—that helps employees conduct business more effectively around the world. Globesmart provides a "snapshot" of a country, explaining in detail its unique cultural and business practices and giving tips on how to approach conflict resolution and establish working and personal relationships.
- MicroInequities: The Power of Small—a course based on research conducted at the Massachusetts Institute of Technology (MIT)—that is designed to help employees identify the subtle positive and negative micro-messages that occur in daily interactions.

Intel's commitment to diversity and message of global inclusion permeates all facets of its employee training programs. Intel recognizes that workforce diversity is critical to the company's continued success and that to work and communicate effectively, employees need tools and resources to help them quickly understand various cultures and form relationships with colleagues and partners around the world. Because of its intercultural awareness training, Intel's employees are well-prepared to meet the needs of the global marketplace.

### IBM Corporation: *Taking the Stage*

Taking the Stage®, developed by The Humphrey Group, is a program at IBM designed to show women how to achieve a strong leadership presence when speaking in any situation, from board rooms and meeting rooms to conference halls and phone calls. The four-step curriculum strengthens leadership skills of IBM women by using structured discussions and providing an opportunity to network and build relationships. As a result, IBM women can develop a more confident presence and become more persuasive leaders.

1) **Choosing to Take the Stage** focuses on achieving a leadership presence. It discusses the need to adopt a new mindset that helps women stand out and be heard.
2) **Unlocking the Power of Your Voices** shows women how to find their leadership voices. Participants are taught to avoid behavioral patterns that encourage others not to listen or that soften or suppress their voices and are given positive alternatives to practice.
3) **Creating a Leader's Script** teaches women how to "script" themselves as leaders—whether they are giving a speech or making a phone call.
4) **Developing a Powerful Presence** helps women establish confident body language by exploring various aspects of women's physical presence, including eye contact, pace, expression, body language, and gestures.

Taking the Stage® is accessed via IBM's intranet and conducted in a group setting or on an individual basis. It is a global program, so there is no central scheduling coordination or registration process. Rather, women are asked to take ownership of both scheduling and conducting their own discussion groups. Ideally, facilitators or discussion leaders are IBM women role models who can provide a forum for the program and the networking opportunities that will result from the gathering of women.

Designed to run one hour each in length, the four-part program consists of a web-based facilitator-led discussion (using Video JukeBox) and a facilitator guidebook. The facilitator guidebook includes all the information needed to conduct a session, including notes for the speaker, participant journals, class lists, discussion topics, questions to ask, feedback forms, and the link to Video JukeBox.

IBM has leveraged this resource in various venues including departmental meetings, business-unit town hall sessions, diversity network group lunch-and-learns, and mentoring meetings for technical women. Available to IBM women around the world, the four program components of Taking the Stage® have been viewed more than 36,000 times since the program launched in 2003.

Taking the Stage® is a registered trademark of The Humphrey Group Inc.

# CHAPTER 4: FACTORS AFFECTING WOMEN'S PERCEPTIONS OF BARRIERS TO CAREER ADVANCEMENT IN TECHNOLOGY

## Findings at a Glance

- **While barriers to career advancement continue to exist for women within the high-tech sector, the extent to which these barriers were perceived diminished in relation to previous cross-industry analyses.**
- **Women who worked with greater numbers of women in their workgroups or departments were less likely than others to perceive barriers to career advancement.**
- **Among the barriers that continue to exist for women in technology, women most often cited:**
  - A lack of role models similar to themselves.
  - Not having a mentor, sponsor, or champion to make accomplishments known.
  - Being excluded from important networks of decision-makers.
- **The perception of barriers to advancement varied by generational age, with Baby Boomers being more likely than members of Gen Y to perceive barriers to advancement.**
- **Women working in different types of companies differed on a number of individual-level and job-related characteristics, including educational background, nationality, managerial position, and job role. However, these differences did not translate into different perceptions when it came to barriers that had limited women's career advancement.**

By undertaking the online survey to better understand supervisory relationships and fairness, Catalyst had an additional opportunity to assess whether progress had been made in certain areas not reflected in the Towers Perrin-ISR data—namely, barriers to advancement—which Catalyst has been addressing for many years. Catalyst research has consistently shown that women face challenges in the workplace that men do not. Barriers to advancement—including a lack of access to informal networks, gender-based stereotyping, and a lack of role models—can inhibit women's ability to move ahead in their careers.[31]

### BARRIERS TO ADVANCEMENT

Despite a large degree of satisfaction among the women represented in the online survey, results confirmed the presence and persistence of barriers for women working in the high-tech field. On a positive note, however, women in this sample were less likely than women in previous cross-industry Catalyst studies to state that they faced significant barriers to career advancement.

[31] Catalyst, *Women in U.S. Corporate Leadership: 2003* (2003). In this 2003 study, Catalyst found that 46 percent of women in the *Fortune* 1000 named exclusion from informal networks as a barrier to their career advancement; 46 percent named gender-based stereotypes as a barrier; and 43 percent named a lack of role models as a barrier.

Some women working in technology were more likely to perceive barriers to career advancement than others. When we examined a scale measure of the barriers we found that women with graduate degrees—specifically, a Master's degree or higher—were more likely to perceive barriers to career advancement than women without Master's degrees.[32] This finding is not surprising, given that women with more education are more likely to be higher up in corporations and may have experienced a glass ceiling.

Women working in larger corporations were more likely to perceive barriers to career advancement than women working in smaller corporations.[33] In large corporations, it may be harder to "get noticed" since women face competition from greater numbers of coworkers seeking advancement. This finding reinforces the need for women to have influential mentors or champions who can call attention to their quality work and abilities.

Lastly, women who worked with smaller percentages of women in their workgroups or departments were more likely to perceive barriers to career advancement.[34] Since fewer women were, by definition, available to serve as role models or mentors, this finding was expected. Interestingly, however, the relationship held regardless of the sex of a respondent's supervisor. That is, women working for male supervisors and for a department with a lower percentage of women perceived greater barriers than those working for male supervisors and for a department with a higher percentage of women; the same held true for women employees with women supervisors.

This finding reinforces the importance of having more women on teams and in departments. Increasing the number of women in a workgroup or department increases the likelihood that individual women will find similarly situated others who can serve as sounding boards, role models, and mentors. It also creates more opportunities for women to network within departments.

Technical women and non-technical women did not differ in the extent to which they perceived barriers to career advancement, nor were there differences between technical women in high-tech companies and technical women in non-technology companies.

### Individual Barriers: Overall Sample

Overall, women working in technology were most likely to say that lacking similar role models in their companies constituted a barrier for them. As shown in Table 3, 38 percent of women surveyed said that this lack of role models affected their career advancement to a great or very great extent. Similarly, 34 percent of women said that not having an influential mentor, sponsor, or champion who made their accomplishments known posed a significant barrier for them. Just under one-third of women surveyed—32 percent—said that being excluded from the important networks of influential decision-makers hampered their career advancement. The

[32] Result derived through ordinary least squares regression, $p<.05$.
[33] Result derived through ordinary least squares regression, $p<.05$.
[34] Result derived through ordinary least squares regression, $p<.001$.

perception of these barriers reinforces the importance of advancing women within corporations, as well as the importance of attracting and retaining significant numbers of women employees.

More than one-quarter of women surveyed also agreed that having a limited number of important or special job assignments that were highly valued by higher-level managers affected their career advancement to a great or a very great extent. Other barriers to advancement that were named as particularly challenging by about one in five women included not understanding the "unwritten rules" of a department or company (21 percent), not getting sufficient performance-related feedback (20 percent), being seen as not having been in the pipeline long enough to be promoted (20 percent), facing gender-based stereotypes about abilities or commitment (19 percent), and not fitting the company image of how a leader should look and behave (18 percent).

**Table 3: Individual Barriers to Career Advancement: Overall Sample**

| Barrier | Percentage of Women Responding That Barrier Affected Career Advancement to a Great or Very Great Extent |
|---|---|
| Lacking Role Models in the Company Who Are Similar to Me | 38% |
| Not Having a Mentor, Sponsor, or Champion Who Makes My Accomplishments Known to Important People in the Company | 34% |
| Being Excluded From the Important Networks of Key Decision-Makers | 32% |
| Having a Limited Number of Important or Special Job Assignments That Are Highly Valued by Higher-Level Managers | 27% |
| Not Understanding the "Unwritten Rules" or Norms of My Company or Department | 21% |
| Not Getting Sufficient Feedback That Would Allow Me to Improve My Performance | 20% |
| Being Seen As Not Having Been in the Pipeline Long Enough to Be Promoted | 20% |
| Facing Stereotypes About My Commitment or Abilities Based on My Gender | 19% |
| Not Fitting the Company Image of How a Leader Should Look and Behave | 18% |
| Not Having the Necessary Flexibility to Manage Work and Personal Life | 12% |
| Feeling Like an Outsider in the Company Because of My Race, Ethnicity, or Nationality | 7% |

## PROGRESS FOR WHOM? GENERATIONAL COHORTS

To further explore the perception of barriers to career advancement, Catalyst examined subgroups of women. Some variability appeared in the barriers that posed the greatest hurdles to women in technology when we examined subsets of women based on age and organizational type. In Table 4, we focus on how different generations of women—including Baby Boomers, Gen Xers, and Gen Yers—perceived barriers to their own advancement.[35]

**Table 4: Individual Barriers to Career Advancement: Generational Cohorts**

| Barrier | Percentage of Women Responding That Barrier Affected Career Advancement to a Great or Very Great Extent | | |
|---|---|---|---|
| | Boomers | Gen X | Gen Y |
| Not Having a Mentor, Sponsor, or Champion Who Makes My Accomplishments Known to Important People in the Company | 45% | 32% | 18% |
| Lacking Role Models in the Company Who Are Similar to Me | 43% | 38% | 31% |
| Being Excluded From the Important Networks of Key Decision-Makers | 40% | 32% | 20% |
| Having a Limited Number of Important or Special Job Assignments That Are Highly Valued by Higher-Level Managers | 26% | 28% | 27% |
| Not Understanding the "Unwritten Rules" or Norms of My Company or Department | 25% | 20% | 16% |
| Not Fitting the Company Image of How a Leader Should Look and Behave | 23% | 18% | 16% |
| Not Getting Sufficient Feedback That Would Allow Me to Improve My Performance | 22% | 20% | 20% |
| Facing Stereotypes About My Commitment or Abilities Based on My Gender | 21% | 20% | 16% |
| Being Seen As Not Having Been in the Pipeline Long Enough to Be Promoted | 18% | 18% | 33% |
| Not Having the Necessary Flexibility to Manage Work and Personal Life | 14% | 13% | 4% |
| Feeling Like an Outsider in the Company Because of My Race, Ethnicity, or Nationality | 10% | 6% | 2% |

[35] Women aged 47 through 66 (the high end of the age range in the sample) were classified as Baby Boomers and comprised 23 percent of the sample. Women aged 28 through 46 were classified as Gen Xers and comprised 67 percent of the sample. Women aged 21 (the low end of the age range in the sample) through 27 were classified as Gen Yers and comprised 10 percent of the sample. These percentages were consistent with the generational distribution found in the overall workforce at the time of the survey.

As Table 4 indicates, women in the Baby Boom generation were most likely to perceive barriers. This finding is not surprising, given that these women have been in the workforce longer and are more likely to have experienced or witnessed the difficulty that women have faced with regard to advancement. For Boomer women, not having a mentor, sponsor, or champion in the corporation to make their accomplishments known represented the most significant barrier, followed closely by lacking similar role models in the company and being excluded from important networks of decision-makers.

Generation X women shared the top barriers with the women of the Baby Boom generation, though in slightly different order of importance. Lacking role models similar to them was the most-often cited barrier for this group. Because these women are at a critical point in their careers—being at an age where many of them may be breaking into management and beginning to climb the corporate rungs—a lack of role models would be especially salient at this time. However, networks and mentors were also important to them, and a lack of access to or presence of these influential people was named by almost one-third (32 percent) of these women as having limited their career advancement.

Women in Generation Y were least likely among the three generational cohorts to express the belief that their careers had been limited by barriers. Because these women were just embarking on their career paths, this finding is understandable. Indeed, for them, having not been in the pipeline long enough to be promoted was viewed as the most prominent barrier, with one-third (33 percent) of these women citing this barrier. Gen Y women in technology, like Gen Xers and Baby Boomers, also named a lack of similar role models in their companies as an impediment; almost one-third (31 percent) of Gen Yers cited this as a factor that limited their advancement. Finally, more than one-quarter (27 percent) of Gen Y women said that having a limited number of important or special job assignments that were highly valued by higher-level managers constituted a barrier for them.

The findings for the various generational cohorts revealed that perceptions of barriers to career advancement did vary with age. Older women were more likely to perceive barriers to advancement than younger women. However, a lower proportion of women in technology—overall and in each generational cohort—claimed that barriers to their career advancement existed compared to women in previous Catalyst studies.

### PROGRESS WHERE? TYPE OF COMPANY

The culture and climate of high-tech companies varies from one place to the next: some are engineering-driven, and some are marketing-driven; some are very young, and some are a century old; some are "Silicon Valley," and some are not; some are constantly turning out new products, and some rely on established mainstream products; some are explosively high-growth, and some keep pace with the economy; some are global, and some are not.

All of this is to say that companies within the high-tech sector are not monolithic. Therefore, as with generational differences, Catalyst wanted to know if the likelihood of perceiving barriers to career advancement varied

when we considered perceptions of companies' position in the marketplace vis-à-vis the products or services they provided.

To begin to uncover some of these differences, Catalyst asked survey respondents to answer the following three questions about their firms[36]:

- Were the major products or services currently produced by the organization available in the marketplace five years ago?
- Is your organization required to constantly make major technical changes in products or processes to be competitive?
- Is allocating resources to research and development a major priority in the organization's budget decisions?

Respondents who answered "No" to the first question and "Yes" to the second and third questions were classified as working for technology company type A. Respondents who did not answer in this manner were classified as working for technology company type B. We then compared the perception of barriers among respondents from company type A and company type B.

Analyses of the three questions as laid out above revealed that 16 percent of the sample worked for company type A; 84 percent of the sample worked for company type B. Table 5 details differences between the two samples.

**Table 5: Individual and Job Characteristics: Type of Company**

| Individual and Job Characteristics | Company Type A | Company Type B |
|---|---|---|
| Bachelor's Degree in Science, Engineering, Technology** | 80% | 60% |
| Doctoral-Level Degree** | 20% | 6% |
| Different From Majority of Employees in Company Due to Nationality*[37] | 23% | 14% |
| Top-Level Manager** | 15% | 5% |
| Both Line and Staff Responsibilities* | 22% | 13% |
| Supervised by a Male* | 83% | 74% |
| Work for a Global Company** | 82% | 91% |
| Work for a Hardware Company* | 28% | 19% |
| Work for a Services Company** | 43% | 64% |
| Work for a Company That Is Exclusively Internet*** | 15% | 39% |

Chi-square tests were employed to ascertain that differences were statistically significant. A single asterisk denotes $p<.10$, two asterisks denote $p<.05$; three asterisks denote $p<.001$. No statistically significant differences emerged on the following variables: working in a technical role; number of years worked in the high-tech industry; years worked for current employer; percentage of women in workgroup or department; or working for a company that was exclusively software.

[36] Non-technology companies were excluded from the analyses in this section.

[37] No statistically significant differences were reported for other dimensions of identity on which respondents expressed difference from the majority of employees at their companies, including differences based on age, gender, sexual orientation, race/ethnicity, or marital status.

As Table 5 reveals, some interesting trends emerged when we examined these subgroups of women. Women working in companies classified as type A were more likely to have college science, engineering, or technology degrees and were also more likely to hold doctoral-level degrees. Respondents at type A companies also were more likely to indicate that they were different from the majority of their company's employees based on their nationality.

When we examined job characteristics, we noticed that women in type A companies were more likely to be top-level managers. This finding suggests that women may have greater opportunities for advancement and upper-level management when they are in this type of organization.[38] The data also suggested that these companies were less likely than type B companies to be global, or to be Internet or services-focused. Type A companies were more likely to be producing exclusively hardware than type B companies were.

Women in type A companies were more likely than women in type B companies to have both line and staff responsibilities, suggesting that there may be some ambiguity and/or flexibility in the type of work women do in type A companies. Women in type A companies also were more likely to be supervised by men.

Overall, the perception of barriers between women working in type A companies and those working in type B companies was strikingly similar. Only one difference emerged: women in type A companies were slightly less likely than women in type B technology companies to state that a lack of flexibility had hindered their career advancement.[39]

These analyses reveal while the women working in each of these types of companies varied on a number of individual-level and job-related characteristics, these differences did not translate into different perceptions when it came to barriers that had limited their career advancement.

[38] We investigated the possibility that this effect was due to company size, but found no evidence to support this hypothesis.
[39] Chi-square test with $p<.10$.

### SUMMARY: INDIVIDUAL BARRIERS TO CAREER ADVANCEMENT BY SUBGROUP[40]

Women in technology were less likely than women in previous Catalyst studies to perceive barriers to their own career advancement.

#### Barriers Named by Women in the *Fortune* 1000[41]

In a 2003 study, Catalyst found that *Fortune* 1000 women named barriers to their career advancement similar to the ones named by women in technology. However, the *Fortune* 1000 women were more likely than women in technology to perceive barriers.

- 46 percent of *Fortune* 1000 women named exclusion from informal networks as a barrier.
- 46 percent of *Fortune* 1000 women named gender-based stereotypes as a barrier.
- 43 percent of *Fortune* 1000 women named a lack of role models as a barrier.

As was indicated by the Towers Perrin-ISR data, companies appear to have made progress for women in technical roles and in technology companies. Findings of barriers to advancement among different subgroups of women in technology were quite consistent, with small variations among women based on generational age and type of company.

The overall message that emerged from the barriers analyses is that a lack of women colleagues—who serve as mentors and champions, who act as role models, and who provide opportunities for the formation of networks—is a substantial and systemic obstacle to the advancement of women in technology. Increasing the number of women in high-tech companies, especially in highly visible leadership roles, is crucial to building momentum for further growth. Indeed, the lack of women in leadership positions itself appears to be posing a barrier to other women's advancement.[42] Both the high-tech industry as a whole and non-technology companies must be aware that, in failing to recruit, retain, and advance women in sufficient numbers, they put at risk the satisfaction and retention of the women they do employ.

[40] Appendix 2 presents a summary table of rankings of individual barriers to career advancement among the subgroups of women analyzed.
[41] Catalyst, *Women in U.S. Corporate Leadership: 2003* (2003).
[42] Catalyst, *Women in U.S. Corporate Leadership: 2003* (2003). Catalyst, *Women and Men in U.S. Corporate Leadership: Same Workplace, Different Realities?* (2004).

# CHAPTER 5: RECOMMENDATIONS FOR ACTION

High-technology companies across the globe now recognize that "gender diversity is no longer just an HR goal; it has become a business imperative."[43] As companies increasingly compete in a global market, the recruitment, advancement, and retention of women has taken on greater importance. While high-tech companies have made progress in recent years, critical areas of improvement remain to be addressed so that women's talents—especially those of technical women—can be fully leveraged. The findings in this report point to concrete steps companies can take to improve the advancement and talent management of women.

Supervisory relationships and fairness and voice emerged as areas of primary concern for technical women. Given these findings, companies must ensure that managers receive adequate training to enhance their people management, communication, and decision-making skills. In high-tech companies, technical expertise is a core requirement for advancing the business, and as such, it is—and should be—valued and rewarded. However, the data here illustrate that people development and a greater organizational focus on developing managers' people skills must also be valued and rewarded because they are also core to the business.

Technical women surveyed made it clear that they want their supervisors to act on their behalf and in ways that are fair. To achieve this, supervisors need to be trained so that their ability to communicate with women, coach women, and provide career guidance is improved. Supervisors must be given the necessary skills—including how to give feedback, develop and communicate career plans, and identify advancement opportunities—to act effectively on behalf of their employees. Without this training, supervisors have to rely on modeling behavior they have seen in their own careers—which may or may not be a platform for supervising well.

In addition to training, high-tech companies must examine the reward systems they put into place for supervisors and managers. Creating and building effective teams is essential to a company's business and must be recognized and rewarded. By rewarding innovation and excellence not only for product or service achievements, but also for personnel development and team achievements, companies convey the importance of people management to the business.

Additionally, companies must ensure that routine mechanisms are in place to track the representation, retention, and promotion rates of employees by both gender and race/ethnicity. Measurement of workforce trends is critical to building a business case for diversity, and for seeing where gaps and biases in promotion and advancement may exist. More importantly, until companies have a critical mass of women at every level, in every department, and in every functional area, they are undermining the progress they make along other dimensions of inclusion.

[43] "Women Are IT," *HT Mint (Hindustan Times Supplement)*, November 5, 2007, vol. 1, no. 38, p. C1.

Career development and talent management are vitally important issues for both women and men in technology companies, as well as for companies themselves. By taking action on the areas of concern outlined in this report, high-tech companies can continue to build corporate cultures in which women's talent is fully developed and valued. By providing evidence on the talent management challenges that women in the high-tech industry currently face as well as solutions-oriented suggestions for addressing these challenges, we hope that the industry will continue to take notice and take steps to make greater progress possible for women in both technical roles and in technology companies.

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# APPENDIX 1: METHODOLOGY AND SAMPLE CHARACTERISTICS

## PHASE 1

The Towers Perrin-ISR surveys for Phase 1 of the project were fielded at 21 high-tech companies from 2002-2005. While the data represent 21 high-tech companies, there were 23 "survey events," meaning that for two companies, more than one division was surveyed.

### Company-Level Characteristics

- 82 percent of respondents worked for companies with global operations.
- 70 percent of respondents worked for organizations with at least 30,000 employees worldwide.
- 11 percent of respondents worked for organizations with more than 100,000 employees worldwide.
- 77 percent of respondents worked for companies with more than $1 billion in annual sales.
- 17 percent of respondents worked for companies with more than $5 billion in annual sales.

## PHASE 2

The online survey in Phase 2 was fielded from January through February of 2007. Participants were recruited using the "snowball" technique.[44] The survey examined two groups of women: 1) women working for technology companies in any role; and 2) women working for non-technology companies in technical roles. Catalyst received 471 completed responses to the survey.

Respondents provided data for two sets of demographic characteristics: 1) company-level characteristics; and 2) individual-level characteristics.

### Company-Level Characteristics

- 85 percent of respondents worked for companies with global operations.
- 45 percent of respondents worked for companies with fewer than 60,000 employees worldwide; 40 percent of the sample worked for organizations having between 60,000 and 100,000 employees; and 7 percent of the sample worked for companies with more than 200,000 employees worldwide.
- 79 percent of respondents considered their companies high tech.

### Individual-Level Characteristics

- 67 percent of respondents were employed in technical roles.
- 56 percent of respondents held line jobs; 31 percent held staff jobs; and 13 percent had both staff and line responsibilities.
- 52 percent of the sample held non-managerial positions; 18 percent worked in lower management; 25 percent worked in middle management; and 5 percent held positions in upper management.

[44] Because the resultant sample was a "convenient" sample, the findings may or may not generalize to the population.

- 32 percent of the sample had worked for 10 or fewer years; 36 percent of respondents had worked for between 11 and 20 years; and 32 percent had worked 20 or more years.
- 25 percent of women sampled had worked for their employers for between zero and two years; 22 percent had worked for their employers for between three and five years; 32 percent had worked for their employers for between 6 and 10 years; 21 percent had been with their employers for 11 or more years; and 5 percent had been with their employers for more than 20 years.
- Respondents' ages ranged from 21 to 66, with a median age of 38 years.
- 34 percent of the sample held a Bachelor's degree; 38 percent held a Master's degree; 12 percent had completed some graduate work; and 8 percent held a doctoral, law, or medical degree.
- 61 percent of respondents held a college degree in science, engineering, or information technology.
- 69 percent of respondents were married; 21 percent were single; and 10 percent were either divorced or widowed.
- 61 percent of the sample had no children; 34 percent of the sample had one or two children; 5 percent had more than two children.
- 87 percent of respondents worked in the United States; 7 percent worked in Canada; 4 percent worked in Asia; and 3 percent worked in Europe.

# APPENDIX 2: BARRIERS TO CAREER ADVANCEMENT— SUMMARY RANKINGS

**Individual Barriers to Career Advancement: Summary Rankings**

| | Overall | Company Type A | Generations | | |
|---|---|---|---|---|---|
| | | | Boomers | Gen X | Gen Y |
| Lacking Role Models in the Company Who Are Similar to Me | 1 | 1 | 2 | 1 | 2 |
| Not Having a Mentor, Sponsor or Champion Who Makes My Accomplishments Known to Important People in the Company | 2 | 2 | 1 | 2 | |
| Being Excluded From the Important Networks of Key Decision-Makers | 3 | 3 | 3 | 2 | |
| Having a Limited Number of Important or Special Job Assignments That Are Highly Valued by Higher-Level Managers | 4 | | 4 | 3 | 3 |
| Not Understanding the "Unwritten Rules" or Norms of My Company or Department | | | | | |
| Not Getting Sufficient Feedback That Would Allow Me to Improve My Performance | | 4 | | | 4 |
| Being Seen as Not Having Been in the Pipeline Long Enough to Be Promoted | | | | | 1 |
| Facing Stereotypes About My Commitment or Abilities Based on My Gender | | | | | |
| Not Fitting the Company Image of How a Leader Should Look and Behave | | 4 | | | |
| Not Having the Necessary Flexibility to Manage Work and Personal Life | | | | | |
| Feeling Like an Outsider in the Company Because of my Race, Ethnicity or Nationality | | | | | |

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