



ANITA BORG INSTITUTE
FOR WOMEN AND TECHNOLOGY

RETAINING A DIVERSE TECHNICAL PIPELINE DURING AND AFTER A RECESSION



CAROLINE SIMARD, PH.D.

ANITA BORG INSTITUTE FOR WOMEN AND TECHNOLOGY

About the Author

Caroline Simard, Ph.D., is Director of Research and Executive Programs at the Anita Borg Institute for Women and Technology.

About the Anita Borg Institute for Women and Technology

The Anita Borg Institute for Women and Technology (ABI) seeks to increase the impact of women on all aspects of technology and increase the positive impact of technology on the world's women. The Anita Borg Institute provides resources and programs to help industry, academia, and government recruit, retain, and advance women leaders in high-tech fields, resulting in higher levels of technological innovation. ABI programs serve high-tech women by creating a community and providing tools to help them develop their careers. ABI is a not-for-profit 501(c)3 charitable organization. ABI partners include: Google, HP, Microsoft, Cisco, First Republic Bank, IBM, Intel, Lockheed Martin, NSF, NetApp, SAP, Sun Microsystems, Symantec, Thomson Reuters, Amazon, CA, Intuit, Facebook, Genentech and Raytheon. For more information, visit www.anitaborg.org.

TABLE OF CONTENTS



Introduction	1
The human capital equation in technological innovation	5
Countering the flight risk – retaining a diverse set of technical employees	9
Conclusion	17
Endnotes	19

Introduction

Companies understand the value of global diversity in technical positions. However, an unprecedented financial crisis combined with a global recession across most industrial sectors has led to unique pressures for executives when it comes to technical talent. Amid the grim news, a focus on retaining technical human capital can seem like an afterthought.

Technical talent retention is critical to weathering the downturn and responding to upcoming growth. Yet, top talent is more at risk of disengagement now and more at risk of flight when a recovery starts. In this paper, we show that female technical talent is especially at risk and we propose strategies for companies to increase the engagement and retention of technical women. These strategies will help companies weather the economic downturn and gain a competitive advantage when a full recovery occurs.

This paper:

- reviews data about the impact of the recession on employees from high-tech companies and implications for future retention;
- discusses why the retention of diverse talent is a critical issue for successful companies, and
- examines successful strategies that allow companies to retain their female technical workforce.

The impact of the 2007-2009 recession on high-tech employment

Global spending on information and communication technology has grown tremendously since the infamous “tech bubble” of 2000 and is expected to continue growing at least through 2012.¹ However, due to a significant decrease in GDP in the US, a country with the largest market for information and communication technology products², and the ensuing global economic slowdown, high-technology companies have not been immune to the effects of the recession.

2009 is the year where this recession has been most felt by technology companies. As of March 2009, Standard & Poor is forecasting a 3.0% decline in real GDP in 2009 for the US, the world’s largest economy (versus 1.1% growth in 2008). Globally, the forecast for IT spending indicates a significant decline in 2009, with predictions of a return to pre-recession levels in 2010.³

Global technology spending is especially vulnerable to economic downturns: in the past recessions, technology spending dropped significantly more than GDP.⁴ The impact of the current recession has been especially felt on employment in the US. In the 17 months since the start of the recession in December 2007, US employment has fallen by 4.3 percent. During the 2001 and 1990 recessions, employment levels fell by 1.7 percent and 1.4 percent, respectively, over the same length of time.⁵

Global IT Spending Forecast

	2005	2006	2007	F2008	F2009	F2010
SPENDING (Billions \$)						
IT services and outsourcing	390	415	463	502	484	529
Software	280	308	356	388	388	428
Communication equipment	269	300	336	364	353	382
Computer equipment	341	368	418	450	434	465
YEAR-TO-YEAR % CHANGE						
IT services and outsourcing	7.0	6.4	11.6	8.4	(3.0)	9.3
Software	9.0	10.0	15.6	9.0	0.0	10.3
Communication equipment	6.0	11.5	12.0	8.3	(3.0)	8.2
Computer equipment	8.0	7.9	13.0	7.7	(3.6)	7.1

F=Forecast Source: Forrester Research

As a response to the recession, high-tech companies have engaged in the following measures:

- Refinancing and tapping into credit lines.⁴
- Cost-cutting operational expenses, including layoffs.
 - The blog *TechCrunch* estimated the number of layoffs in the high-tech industry between August 2008 and May 2009 to be somewhere around 338,000. These estimates coincide with the aggregate data of the Department of Labor, which shows that the number of employed individuals in the US in computer and mathematical occupations has had a net loss of 338,000 between May 2008 and May 2009.⁵
- Other human capital cost-cutting moves include cuts in training and development, salary freezes,⁶ and cuts to employee benefits.⁷
- Consolidation through merger and acquisitions.⁴
- Divestiture of non-core assets, potentially resulting in layoffs.⁴

Indeed, analysts find that “restructuring” is one of the top CEO concerns of 2009, including reduced headcount, financial restructuring, and divestitures and acquisitions.⁸

While the downturn and the most common corporate strategies to weather it are well publicized, there is a dearth of focus on the impact of these responses on companies’ human capital strategy, and on how the economic downturn is impacting a diverse set of technical employees.



Most technology executives know that diversity along multiple dimensions – gender, race, education, national origin, skill set, and personality type – fuels innovation. Indeed, diversity has been shown to provide the following benefits, when managed effectively:

- Enhanced group task performance.⁹
- Increased creativity and innovation.¹⁰
- Enhanced problem solving ability.¹¹

Diversity is beneficial because it leads to cognitive diversity, whereby a variety of opinions, backgrounds, and thinking styles and their integration into the solution contributes to better outcomes. This diversity is broader than gender diversity and encompasses dimensions such as race, education, and functional experience. Team diversity leads to enhanced performance in an illustration of why team members are “greater than the sum of their parts”. Diversity is more important to tasks requiring innovation (as opposed to routine tasks).¹²

Technical women have been a particular focus of diversity initiatives in high-tech companies. The supply has not kept up with demand for talent in some technical positions, motivating companies to diversify their pipeline of talent. For example, demand for computer software engineers in the US is expected to grow 38 percent from 2006 to 2016.¹³

“The necessary condition for making a contribution is trying something different. And being different, as should be obvious, is not the property of an individual in isolation but a property of an individual relative to others.” – Scott Page¹¹

Making diversity work for organizations is costly, and most large high-tech companies have invested significantly in building and retaining a diverse technical workforce. In an economic downturn, organizations risk jeopardizing their diverse talent investment by implementing widespread cost-cutting and by becoming less concerned about employee engagement.⁶ A 2008 survey found that while 70% of executives were still deeply concerned about attracting and retaining critical-skill talent at the start of the economic downturn, only 20% of them were planning to address workforce issues stemming from layoffs and salary freezes.¹⁴ A similar survey in Asia found that 60% of companies do not have a long-term plan for talent management.¹⁵

The retention of diverse human capital is critical to weathering the downturn and taking advantage of upcoming growth. Yet, talent is more at risk of disengagement and risk of flight when a recovery starts.

“A firm’s postlayoff success is contingent upon the reactions of the people in its surviving workforce.” – Priti Pradhan Shah²²

In addition to significant resource constraints caused by the recession, **senior executives are facing unprecedented scrutiny and cynicism from employees and from the general public** in the wake of the economic meltdown and ongoing corporate scandals. A recent study finds that 76% of the public surveyed said they have less trust in senior management of US companies than they did a year ago.¹⁶

In the wake of widespread layoffs and cost cutting, companies are faced with a double-bind: they are looking for remaining employees to “do more with less,” and engage in applying their skills to leading the organization through the recession, even while employee loyalty and engagement drop as a result of the cost cutting measures. Executives are facing significant decrease in employee morale and trust, combined with increased stress pressures stemming from increased workload and increased perceptions of job insecurity.¹⁷ **These conditions create a perfect storm, putting employee engagement at risk and increasing the likelihood of loss of technical talent in a recovery.**

Why is retention a top priority now?

Research has demonstrated the following effects of downsizing instances on remaining talent, leading to turnover when a recovery occurs:

- Decreased morale and increased stress, anger and angst,¹⁷ combined with an increased sense of job insecurity.¹⁸
- Increased cynicism, anxiety, and resentment toward upper management and decreased trust leading to work disengagement.¹⁹
- Lowering of organizational attachment and loyalty, a key predictor of future turnover.²⁰ The lowering of organizational attachment and loyalty can be long-lasting and especially affects top performers, as those individuals with the higher levels of commitment to the organization experience a more significant decrease in commitment during and after a layoff event.¹⁹ Talent may suffer from a perception that the organization is not committed to them, leading to decreased long-term commitment to the organization.²¹

- A temporary disruption of organizational knowledge networks which generate innovation, resulting in lowered innovative productivity.²²

While companies are experiencing lower voluntary attrition from employees in 2009 as a result of job losses across economic sectors,²³ the above effects puts talent at risk for flight as soon as a recovery in the economy happens.

“In a world driven by the twin forces of technology infrastructure and public policy shifts, the primary source of value creation for companies is moving from accumulating and exploiting “stocks” to participating in “flows” of knowledge. This activity takes place primarily through talented workers, who monetize the intangible assets that now account for the lion’s share of profits at big companies in the developed world. Since passionate workers have a greater propensity to participate in knowledge flows, it makes sense for companies to find ways to increase the amount of passion workers find in and bring to their jobs.” – Hagel, Seely Brown, and Davison²⁷

Even in companies that have not had to resort to downsizing as a response to the recession, the current economic climate fuels increased feelings of insecurity for all employees, leading them to engage in “pre-emptive” job searches and networking. Globally, employees are experiencing increased stress and work-life conflict²³, as they are being asked to accomplish more with fewer resources. In a 2008 global survey of technology managers, Gartner Research found that “unrelenting workload and stress” was viewed as the most significant barrier to achieving key objectives, followed by “blurred roles and responsibilities” and “inadequate supply of technical skills.”²⁴ An August 2009 survey finds that 47% of US companies have formally expanded the job definitions of employees to include more responsibilities as a response to the economic crisis.¹⁵

Therefore, employees are more at risk of being disengaged now. Global surveys show that employee morale and trust in senior management have taken a turn for the worst in 2009.²⁵ A lack of employee engagement was already very costly

for companies before the full impact of the recession was felt – a 2008 report finds that 38% of global employees are disengaged or disenchanted, and that **85% of those disengaged plan to leave their companies**.²⁶ Another study shows that only 18% of firm-employed employees are passionate about their work; those are the employees who bring the most value to a company.²⁷

A loss of employee engagement threatens companies’ ability to return to prosperity. A study of 40 companies over 3 years demonstrates the link between employee engagement and financial returns, with over 5% more operating revenues and 3% more net profits for companies with high employee engagement.²⁶ Disengagement is estimated to cost the US \$350 billion annually.²⁸ Job security is one of the biggest predictors of employee engagement, and widespread layoffs have hurt this engagement. **This is especially problematic in the case of computer scientists and engineers, who have been identified by analysts as part of the talent core that yields the most shareholder return for companies.**²⁷

Longitudinal analyses of voluntary turnover show that quit rates spike immediately after a recession, leading to a “resume tsunami.”²⁹

The real cost of turnover

Most of the literature estimates that the cost of turnover is 1.5 times the annual salary of an employee. However, these estimates do not measure the loss of tacit knowledge inherent in turnover. When technical employees leave after a recession where fewer employees had to do “more with less” and most redundancies have been eliminated, the loss of knowledge and experience from turnover will be more acutely felt by organizations.

Why technical women are especially at risk

- **Regardless of economic conditions, technical women are more at risk of leaving a company.** One recent report found that 56% of women in science and technology positions leave their company at the mid-level of their careers, double the attrition rate of their male colleagues.³⁰ This makes technical women more vulnerable for leaving when a recovery occurs, as widespread layoffs further erode their job satisfaction. Furthermore, technical women who leave now or who have lost their jobs due to the recession are at risk of not coming back to the industry when a recovery occurs.
- Technical women in industry are significantly more likely to value retention and advancement practices such as mentoring, training, and career development, and gave low marks to companies in these areas even before the economic downturn.³¹ **The recession has created further downsizing of existing support programs in many companies, increasing the probability of post-recession retention problems for technical women.**

The job insecurity caused by the economic downturn and layoffs has significantly increased stress and work-life challenges of remaining employees. Recent data shows that work-family conflict has reached new levels in the global recession:

- Globally, employees are currently experiencing increased stress and work-life conflict.²³
- Work culture is the most significant predictor of overload.³² Women in a work culture where family and work are viewed as “either-or” choices, that is, where family is perceived as incompatible with advancement, and where long hours are perceived to be associated with advancement, are more likely to experience work-family conflict.³² Previous research shows that this “either-or” culture is prevalent in most high-tech organizations in industry and particularly affects technical women.^{31,30} This culture of long work hours and either/or perceptions has intensified within the difficult economic recession.

- Employees who experience work-family conflict are three times more likely to consider quitting their organizations.³³ In the technology industry, this conflict is more likely to be experienced by technical women.³¹

Are women in tech more likely to suffer from the economic downturn?

There has been much speculation over whether women in technology are losing their jobs at a greater rate than men. So far, there is no conclusive macroeconomic data to support this claim.

A government report found that the 2001 recession (which initiated in the tech sector but was compounded by the September 11 attacks), hit women harder than men in terms of lost jobs because job losses were heaviest in the service and retail sectors, which traditionally employ more women. The female employment rate has still not recovered to pre-2001 level.³⁴ By contrast, the 2009 recession has affected more men in terms of job losses, because this recession has particularly affected male-dominated fields: finance, automobile manufacturing, and construction.

Industries where women are underrepresented need to pay close attention to whether women are bearing a disproportionate share of layoffs relative to their representation. This wouldn't be evident in macro-economic data, but because women in a minority are more likely to be suffering from a lack of networks, visibility, and mentors, they may be more at risk. In the financial sector, for instance, there are allegations that financial services firms laid off a greater proportion of women relative to their representation before the economic downturn.³⁵



“In the 1990s, companies responded to shifting labor markets by launching a “war for talent.” We challenge this thinking. Even the best recruitment tactics will not suffice in the struggle ahead. Rich compensation packages and “hot skills” bonuses are easily matched by competitors. Instead, a more thoughtful response is required—one that lures critical talent, but more importantly engages them in ways that promote the flexibility and productivity you need to compete.” – Deloitte ²⁸

Strategies for retention of technical women

Giving technical women a reason to stay, especially in the wake of workforce reductions, is critical after widespread cost cutting.³⁶ Retention is paramount now for companies to weather the downturn and reap the rewards of a recovery. Following are critical practices for technical women, as shown by existing research.

Developing and sustaining a culture of employee development

“By focusing on the end points of managing talent (acquisition and retention) rather than on the middle ones (deployment and development), organizations ignore the things that matter most to employees.” – Deloitte ²⁸

A culture of employee development is perhaps the most important component of a sound human capital retention strategy – and is a necessary component to the retention and advancement of a diverse workforce. In a down economy, companies can be tempted to stop focusing on development or cut these programs altogether. Eliminating such programs, however, is likely to contribute to a talent flight when the recovery happens.

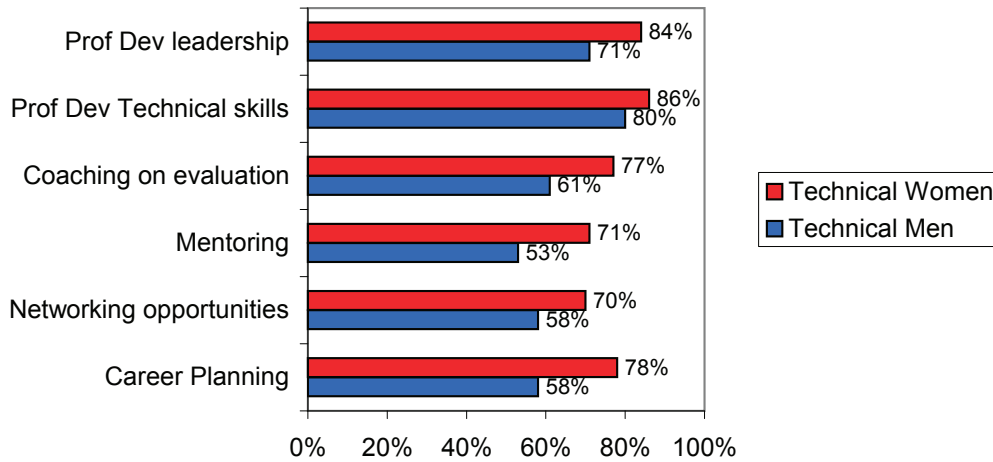
A 2009 global study of executives finds that 6 out of 10 executives say that retention and employee development are top priorities in the recession and expect this trend to continue in the next several months.²⁵

Indeed, the evidence is strong that the most competitive companies over the long-term have a culture of employee development.

- A systematic analysis of successful companies finds that a culture of employee development is one of the markers of visionary companies.³⁷
- An analysis of companies that are most successful in harnessing the benefits of human capital identifies development as one of the top 7 practices of successful organizations: “development is an essential component of high performance work systems because these systems rely on front line employee skill and initiative to identify and resolve problems.”³⁸

Proportion of technical employees who perceive practice as very/extremely important

(Source: Climbing the Technical Ladder dataset, all respondents)



- Promoting from within is a critical quality of organizations who are able to translate knowledge into action.³⁹

The Anita Borg Institute and the Clayman Institute at Stanford’s research on 1,795 technical employees in seven high-technology companies found that **technical women are more likely to put a high value on development and advancement practices** when compared to their male peers, across levels. It should be no surprise that technical women who see the potential for advancement in their companies are more likely to stay. Yet, technical women were largely dissatisfied with the existing practices for development and career advancement at their high-tech companies, even prior to the economic downturn.³¹ Access to development experiences is critical to women’s ability to advance to high-level positions, especially in industries where women are under-represented.⁴⁰

Further cutbacks in those programs in the wake of the recession are likely to further hurt the retention and advancement of female technical talent.

Leadership and technical development

Cost cutting in human capital assets, including cuts in employee development, leads to a downward spiral of organizational performance, where the best talent leaves and the organization is forced to further cut costs: “development is often seen as a frill in many US organizations, something to be reduced to make profit goals in times of economic contingency.” **Extensive development is a central part of high-commitment management practices, which have been demonstrated to significantly increase shareholder return.**³⁸ When a culture of mentoring and development is created, such growth also occurs through peer interaction beyond formal programs. In economic downturns, cutting back on opportunities to update technical skills, learning from peers, and leadership development, can lead to serious consequences for organizations’ abilities to retain diverse technical talent once a recovery occurs.

Mentoring

One effective way for employees to develop is through peer interaction such as through mentoring and coaching relationships, attending technical gatherings, and collaborative work. Since technical women are more likely to suffer from a lack of mentors and influential social networks,⁴¹ mentoring opportunities (whether formal or informal) are especially important for them. Technical women are especially concerned with opportunities for mentoring in their organizations – indeed, 71% of technical women versus 53% of technical men perceived mentoring as important to them.

Mentoring has been demonstrated to be associated with:⁴²

- higher job satisfaction
- higher promotion rates
- higher future income
- increased work success
- higher retention rates

In an analysis of 830 companies over 30 years, researchers found that of several popular diversity practices, mentoring had the strongest effect on the advancement of women and minorities, along with executive diversity task forces.⁴³

A cornerstone of establishing a culture of employee development is making mentoring a part of the organizational values. Indeed, our research shows that mentoring is generally not perceived as a rewarded behavior by technical employees in the high-tech industry, with only 18% of women and 19% of men perceiving mentoring as a rewarded behavior.³¹

Elements of a successful mentoring culture include:

- Leadership engagement.⁴⁴
- Executive accountability in the form of an executive diversity position or taskforces.⁴³
- Broad participation, across gender and race.⁴⁵
- Making mentoring participation part of the evaluation and promotion process.
- Commitment and partnership of Engineering and Human Resources.⁴⁶

- Multiple mentors for multiple skills—one of the key barriers to finding a mentor to women and minorities in technology is finding a single mentor that is of the same gender, in a high level position, and embodying the specific scope of skills and attainment that the mentee seeks to attain. Having several mentors engaged with one employee also increases their network.⁴⁷
- Mentors who actively focus on building a wide network of connections for protégés are most effective: the network should include racial and gender diversity, functional diversity within and outside the organization, and job level diversity (peers and sponsors).⁴⁷

The disconnect between policy and practice

Employee development policies are useful, but more important is their integration into the organization's culture. No amount of mentoring or development can have an impact if it is not perceived as being rewarded by the culture. For example, developing and mentoring women for technical skills that do not translate into new opportunities will fail to increase retention and advancement. Talking about mentoring and implementing a mentoring program will have no impact if executives and managers do not actively participate.

Flexibility and work-family practices

While flexibility and work-family balance practices may feel like a luxury in a recession, they have a significant effect on employee retention and employee engagement. **Employees experiencing work-family conflict are 3 times more likely to consider quitting their companies.**³³

A critical role of the technology leader who wishes to retain top talent is to model workplace sanity,⁴⁸ taking into account diverse needs for work arrangements.

“Unrelenting workloads and stress are often symptomatic of deeper problems — poor project chartering, ineffective prioritization, disengaged leaders, insulated decision making and management inaction. Moreover, the technological capacity to be connected 24/7 cloaks weak management practices, poor work distribution and an inability to adjust demand and supply.” – Diane Morello, Gartner ²⁴

Dual-career technical employees represent the future of the workforce. Work-life programs are erroneously seen as a “gender issue.” While more technical women than men point to flexibility practices, part-time work options, and support for childcare, they do so because they are 4 times more likely to be in a dual-career couple.³¹ Men in dual-career situations are more likely to also require organizational practices around flexibility.

Diversity in family configurations is here to stay. The proportion of men in dual-career couples is rising – in the

US, only 19% of marriages still have the traditional model of a stay-at-home wife and a working husband ⁵ and dual-career families are now the largest group, representing over 40% of all families.⁴⁹ The proportion of single-parent families has also grown significantly at 36% of all families.⁴⁹ **Organizations built around a culture of 24/7 availability and disproportionate periods of face time based on an implicit assumption that high-level technical employees have a stay-at-home spouse will lose critical talent when a recovery happens.**

More than a gender issue, expectations around flexibility represent a generational shift.

- The younger a male executive, the more likely he is to care about work-life issues.³³
- Parents and dual-career couples are especially affected by work-family conflict.^{33,31}
- Both technical men and women expect it from their companies: 78% of technical men and 83% of technical women consider flexibility to be important to them.

Not only is the younger generation of technical employees concerned about flexibility, the older generation is also

The United States is lagging behind other countries in terms of the participation of college-educated women in the workforce. A recent report finds the US behind 20 other industrialized countries (Canada and Western Europe) in terms of the participation of educated women in the workforce.⁵²

Companies and policies in the US are trailing in adapting to the new reality of dual-career families. Dual-career couples are now the norm in the US among the workforce: “In 2008, in the US as a whole, 79% of married/partnered employees lived in dual-earner couples—85% of women and 75% of men.”⁵¹

The discrepancy of dual-career family configurations between technical men and women in the high-technology industry, where 80% of women versus only 38% of technical men are in a dual-career couple,³¹ reflects an antiquated way of organizing work and family and is unlikely to be sustainable. As the number of dual-career couples entering the high-tech industry continues to rise, organizational practices will have to adapt.

Young men entering the workforce (millennial men) are expecting to be in dual-career couples and are significantly involved with family responsibilities – they are also more likely to experience work-family conflict than previous generations of men.⁵¹ Therefore, organizational cultures that have flexible mindsets and practices that support work-family challenges will be at an advantage to attract the next generation of technical men and women while retaining their existing talent.

“Companies cannot assume that traditional attitudes or gender roles prevail. They need to assure that both women and men are helped to succeed at work and that both men and women are helped to succeed at home.”⁵¹

increasing its calls for flexible options. Indeed, the impending retirement of baby-boomers is one of the most pressing talent flight issues of our time. Retaining these workers for as long as possible is critical to companies' ability to meet their need for crucial technical skills and experience. These employees, however, are looking to remain engaged in the workforce if flexible and part-time schedules are made available to them. A survey of over 3,000 employees showed that "Baby Boomers" and "Generation Y" are different than other generations in their expectations – rather than an emphasis on financial rewards alone, they are looking for flexible work options.^{50,51}

The impact of flexibility practices on retention

Our research shows that 78% of technical men and 83% of technical women rate flexibility as very or highly important to them, second only to the basics of healthcare and financial rewards. Companies that take flexibility seriously will thus be able to attract and retain technical talent.³¹

In a global survey of 42,000 employees, IBM found that flexibility is a top contributor to retention. Difficulties around work-life balance were found to be the second top reason for intending to leave the company (again, only second to dissatisfaction around financial rewards).⁵³ One study of flexible work practices found that the introduction of flexible schedules led to higher employee satisfaction and reduced absenteeism.⁵⁴ When the organization removed the flexibility schedules, absenteeism and satisfaction rates went back to what they were before.

Furthermore, globalization is putting increased demands on today's workforce for shifting and unpredictable schedules, and an appropriate implementation of flexible practices is critical to companies' ability to meet these new demands. In The Global Human Capital Study, CEOs defined "adaptability" as a critical feature of the new human capital model.⁵⁵ **Companies that can quickly deploy talent with the right skills to specific problems need workers who are adaptable and flexible – this flexibility mindset needs to be reflected in organizational practices.**

While flexibility practices take many forms, such as shifted schedules, part-time options, compressed work weeks, telecommuting, or the newer on-ramps and off ramps, a company

doesn't necessarily need to implement complex changes to experience the benefits of flexibility. Again, more important is making flexibility a part of the organizational culture. Some critical components of fostering a flexibility mindset include:

- Integrate flexibility with business strategy – consider which projects, times, or tasks are conducive to flexibility.
- Understanding employee needs around flexibility is critical to implementing the right set of solutions.
- Executive buy-in and modeling – in order to send a signal that formal or informal flexibility is an accepted business practice, executives need to engage in it where possible.
- Evaluation and promotion practices need to be aligned with flexibility mindset – ensuring that there is no evaluation penalty associated with flexibility and a clear focus on outcomes rather than time spent in the office.⁵⁶
- Barriers to the implementation of a flexibility culture include excessive workloads, manager attitudes, and perceived cultural consequences (eg in promotion process) and peer repercussion.^{33,31}

The virtual workplace: leveraging technology for retention

As part of a flexibility culture, telecommuting options are important to the retention of technical women. Given the prevalence of dual-career technical couples, the emergence of globally distributed work around incongruous time zones, and the push to cut travel costs in the current recession, telecommuting has become an important cornerstone of companies' retention strategy. Our data show that 53% of technical men and 67% of technical women across levels view telecommuting as very or extremely important to them.

"The virtual workplace is not an option, nor is it a perk. It is the foundation of 21st century work. It will likely supersede face-to-face interactions and reduce both direct control over activities and line of sight into people's time and actions. Enterprises that are skeptical of the virtual workplace must move forward, or they will jeopardize their objectives and weaken their workforce attraction." – Diane Morello, Gartner²⁴

The emergence of cloud computing and social networking within organizations is creating a trend toward “ubiquitous collaboration”, where successful intra and interorganizational communication will be less and less dependent on face to face interactions.⁵⁷

Rather, employees are increasingly expected to successfully leverage technology to collaborate globally, a trend that can meet the needs of technical men and women for flexibility and remote work. Companies’ ability to meet the flexibility and telework demands of a multigenerational, diverse workforce will be a critical source of competitive advantage in the future.⁵⁸

- 37% of executives say that high-potential employee development efforts are critical to their retention initiatives in the economic downturn.
- Even in this economy, 43% of executives are concerned about competitors recruiting their high-potential employees.²⁵

Despite the upfront cost of implementing such practices, their ROI through enhanced human capital engagement and retention are associated with an increase a company’s bottom line over the long term.³³

Don’t ignore the next generation of technical women – returning to recruitment

Job losses in technology, for many companies, has meant letting go of those with less seniority. This can create a generational void in the technical pipeline, as members of the youngest Generation (Generation “Y”, “Millenials”, or “Digital Natives” refer to those individuals who were born around or after 1980) who have been let go from early technical careers explore other alternatives.

Technology leaders’ focus on engaging, retaining and developing this generation of technical women and men is critical to long term growth – **ignoring this generation amidst this time of crisis is likely to compound the technical**

skills shortage in the future, as these youngsters consider other career paths.⁵⁹ The loss of innovative capability and forward-thinking ideas of this generation would also come at a significant cost for companies.

Having an ongoing diversity strategy is critical to an organizations’ ability to recruit and retain this next generation. **Millennials are the most diverse generation in American history. 44% of millennial adults in 2020 will be from minority groups. This generation views gender and race equality as a fact and will seek companies that reflect it.**⁶⁰

The Role of Managers in the 21st Century Organization

Managers who understand the importance and benefits of diverse technical human capital are a significant factor in talent retention. Indeed, one of the most salient predictors of talent turnover is their relationship to their manager: 70% of top talent cites their manager as the primary reason for leaving.⁶¹

Managers’ lines of responsibilities have shifted to more matrix arrangements, and their success is increasingly determined by their ability to work with people outside their direct line of responsibility. Managers are also increasingly directing globally distributed teams.⁶² The reality is that workforce diversity, not only gender but across several dimensions of race and ethnicity, national origin, generational, educational, etc. will continue to increase with ongoing globalization.⁶² **In this landscape, the most valuable managers are those who understand the value of diversity and are prepared to deal with a flexible and distributed diverse workforce.** Managers who rely on traditional command and control methods and are only comfortable with a homogeneous workforce where work is based on face time will face significant challenges.⁶²

Managers’ understanding of diversity and flexible workforce arrangements will be critical to companies’ ability to retain technical talent.

*“From 2009 through 2013, the talent crisis will shift to the managers and leaders of your organization. **Most current managers and their immediate successors are unequipped to manage this new workforce and new organization. Managers who cannot reach this higher level will lose their way and, very likely, their jobs by 2013.**” – Harris, Gammage, and Basso, Gartner⁶²*

The more difficult processes in enhancing the retention and advancement of technical women in both good and hard times have to do with the challenges posed by organizational change, or, as Pfeffer and Sutton of Stanford Business School call it, the “knowing-doing gap.”³⁹

Barriers to transforming knowledge into action include:

- Confusing talk with action.
- Internal competitive dynamics which undermine collaboration and organizational commitment.
- Fear and mistrust fueled by internal competition and lack of reward for risk taking and aversion to failure.
- Lack of modeling by leaders and managers.

Developing and sustaining a culture of collaboration

The management practices that create a culture are a more important predictor of team success than the individual talent of team members.⁶³

Organizational culture is embedded in all aspects of an organization: formal practices, pay scale, reporting structure, behavioral norms, ways of communicating, and other artifacts.⁶⁴ Reaping the rewards of diversity is contingent on organizational culture.⁶⁵ **An organizational culture that encourages sharing different points of views with an emphasis on team members having the best interest of the organization at heart (rather than their own self-interest) is a requirement to reap the financial and innovation performance of gender diversity.**⁶⁶ Team members communicate more cooperatively when the organization emphasizes diversity and collectivism as a cultural value.⁶⁷

Our research has shown that technical women were less likely to perceive their company culture as collaborative.³¹ This is likely to harm the retention of technical women. **Ensuring that organizational behavior and practices are consistent with the desired culture is critical to companies’ profitability.**³⁷

For example, interviewees in our study discussed the disconnect between the professed values of collaboration in their companies and the evaluation/promotion process based on individual contribution and the “stack ranking” of employees within a same team, which they perceived as encouraging competition over collaboration. Corporations’ emphasis on individual performance, reinforced by the notion of a “war for talent,” encourages destructive behavior within teams, whereby “self-interest dictates not being very helpful or forthcoming to those with whom someone competes for those rewards,” and diminishes the potential benefits of diversity.⁶³ A culture of self-interest and individual competition for rewards also limits the success of mentoring initiatives and the ability to establish a culture of organizational learning and innovation.



Most technology executives are now convinced that diversity is beneficial to their organization, and are aware of the unique diversity challenges brought by globalization. Most professionals who have heard the research on the issues for technical women are also now aware of the specific barriers and solutions to their retention.

An unprecedented economic downturn has hurt employee engagement and further jeopardized the focus on practices important to technical women. As a recovery occurs, companies are at risk of further losing female technical talent. We show that an ongoing focus on practices that impact retention and advancement, such as a culture of employee development and flexibility, will give companies a competitive advantage in the recovery by enhancing the retention of a diverse technical workforce as well as position them for renewed recruitment.

Cultural change is critical to the recruitment, retention, and advancement of technical women in academia and industry. **Technical executives are a large part of shifting the culture of technology for a strong pipeline of female technical talent.** There is no panacea in fixing the problem of gender diversity in technical positions. **This economic downturn represents a significant opportunity for executives to engage and retain diverse critical talent and cement their competitive position for the recovery.**

Endnotes

- 1 World Information Technology and Services Alliance (WISTA). (2008). *Digital Planet*. Global Insight.
- 2 OECD. (2009). ICT Outlook 2009; Forrester Research (2009).
- 3 Forrester Research. (2009). *Global IT Spending Forecast*.
- 4 Cheung, A., Kutcher, E. and Wagle, D. (2009). High tech: Finding opportunity in the downturn *McKinsey Quarterly*, March 2009.
- 5 Bureau of Labor Statistics. (2009).
- 6 Mok, L. and Berry, D. (2009). Get the facts and develop your IT workforce action plan for 2009-2010. *Gartner Research*, June 29 2009.
- 7 Pfeffer, J. (2009). *Building Sustainable Organizations: The Human Factor*. Stanford Graduate School of Business Research Paper no 2017.
- 8 Lopez, J. and Raskino, M. (2009). CEO Concerns 2009: Dealing with the Downturn. *Gartner Research*, March 3, 2009.
- 9 Pelled, L.H., Eisenhardt, K.M. and Xin, K.R. (1999). Exploring the Black Box: An Analysis of Work Group Diversity, Conflict, and Performance. *Administrative Science Quarterly*, 44(1): p. 1-28; Hamilton, B., Nickerson, J., and Owan, H. (2003). Team incentives and worker heterogeneity: an empirical analysis of the impact of teams on productivity and participation. *Journal of Political Economy*, 2003. 111: p. 465-497.
- 10 Hambrick, D.C., Cho, T.S., and Chen, M.-J. (1996), The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly*, 41: 659-684; Ashcraft, C. and Breitzman, A. (2007). *Who invents IT? An analysis of women's participation in IT patenting*. NCWIT.
- 11 Page, S.E. (2009). *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*. Princeton University Press.
- 12 Mannix, E.A. and Neale, M.A. (2005). What Difference Makes a Difference? *Psychological Science in the Public Interest*, 6(2): 31-32.
- 13 Bureau of Labor Statistics,(2008). *Occupational Outlook 2008-2009*.
- 14 Watson Wyatt. (2008). *Workforce Planning in an Economic Downturn*. http://www.watsonwyatt.com/news/pdfs/Workforce_Planning_Economic_Downturn.pdf
- 15 Watson Wyatt. (2009). *Business Issues: Managing talent for strategic advantage*.
- 16 Ignatius, A. (2009). Trust Revisited. Harvard Business Review, June 2009.
- 17 Pfeffer, J. (2009). *Building Sustainable Organizations: The Human Factor*. Stanford Graduate School of Business Research Paper no 2017; Cascio, W.F. (2002). Strategies for Responsible Restructuring. *The Academy of Management Executive*, Vol. 16, No. 3 (Aug., 2002), pp. 80-91; Fisher, A. B. 1991. Morale crisis. *Fortune*, June 6: 70-80.
- 18 Petzall, B.J., Parker, G.E., Stoeberl, P.A. (2000). Another Side to Downsizing: Survivors' Behavior and Self-Affirmation. *Journal of Business and Psychology*, Vol. 14, No. 4 (Jun., 2000), pp. 593-603.
- 19 O'Neill, H.M., Lenn, J. (1995). Voices of survivors: words that downsizing CEOs should hear. *Academy of Management Executive*, Vol. 9 No.4, pp.23-33.
- 20 Mitchell, T.R. & Lee, T.W. (2001). The unfolding model of voluntary turnover and job embeddedness: Foundations for a comprehensive theory of attachment. *Research in Organizational Behavior*, Vol 23, 189-246; Spreitzer, G.M. and Mishra, A.K. (2002). To Stay or to Go: Voluntary Survivor Turnover following an Organizational Downsizing. *Journal of Organizational Behavior*, Vol. 23, No. 6 (Sep., 2002), pp. 707-729.
- 21 Niehoff, B.P.; Moorman, R.H., Blakely, G. & Fuller, J. (2001). The Influence of Empowerment and Job Enrichment on Employee Loyalty in a Downsizing Environment. *Group and Organization Management*, Vol. 26, No. 1, 93-113.

- 22 Shah, P.P. (2000). Network Destruction: The Structural Implications of Downsizing. *The Academy of Management Journal*, Vol. 43, No. 1 (Feb., 2000), pp. 101-112; Cascio, W.F. (2003). Strategies for Responsible Restructuring for Responsible Restructuring. *The Academy of Management Executive*, 16(3), 80-91.
- 23 Towers Perrin. (2009). *Employee Stress can add to performance risk*.
- 24 Morello, D. (2009). CIO Advisory: Want to Improve IT Workforce Effectiveness? Focus on Three Areas. *Gartner*, June 22, 2009.
- 25 Deloitte, (2009). *Managing Talent in a Turbulent Economy*.
- 26 Towers Perrin (2008). Closing the Engagement Gap: A road map for driving superior business performance. *Towers Perrin Global Workforce Study 2007-2008*.
- 27 Hagel III, J. Seely Brown, J. and Davison, L. (2009). *Measuring the forces of long-term change: The 2009 Shift Index*. Deloitte Center for the Edge.
- 28 Deloitte. (2004). *It's 2008: Do you know where your talent is? Why retention and acquisition strategies don't work*.
- 29 Chafetz, B., Erickson, R.A., and Ensell, J.P. (2009). Where did our employees go? Examining the rise of voluntary turnover during economic recoveries. *Deloitte Review*, July 2009.
- 30 Hewlett, S.A., Buck Luce, C., Servon, L.J., Sherbin, L.S., Shiller, E., & Sumberg, K. (2008). *The Athena Factor: Reversing the Hidden Brain Drain in Science and Technology*. Harvard Business Report.
- 31 Simard, C., Davies Henderson, A., Gilmartin, S.K., Shiebinger, L., and Whitney, T. (2008). *Climbing the Technical Ladder: Obstacles and solutions for mid-level women in technology*. Anita Borg Institute for Women and Technology and Clayman Institute for Gender Research.
- 32 Duxbury, L. and Higgins, C. (2001). *Who is at risk? Predictors of work-life conflict*. Public Health Agency of Canada.
- 33 Cascio, W.F., and Boudreau, J.W. (2008). *Investing in people*. Pearson.
- 34 Schumer, C.E. and Maloney, C. B. (2008). *Equality in job loss: Women are increasingly vulnerable to layoffs during the recession*. Majority Staff of the Joint Economic Committee.
- 35 Raghavan, A. (2009). Terminated: Why the women of Wall Street are disappearing. *Forbes*, March 2009.
- 36 Cascio, W.F. (2003). Strategies for Responsible Restructuring. *The Academy of Management Executive*, 16(3), 80-91.
- 37 Collin, J. and Porras, J. (2002). *Built to last: Successful habits of visionary companies*. Harper Collins.
- 38 Pfeffer, J. (1998). *The Human Equation: building value by putting people first*. Harvard Business School Press.
- 39 Pfeffer, J. and Sutton, R. (2000). *The knowing-doing gap: How smart companies turn knowledge into action*. Harvard Business School Press.
- 40 Howard, A. and Wellins, R. S. (2008). *Troubling discoveries and best practices for helping female leaders succeed. A Special Report from DDI's Global Leadership Forecast*.
- 41 Igbaria, M., & Chidambaram, L. (1995). Examination of Gender Effects on Intention to Stay Among Information Systems Employees. SIGCPR, Nashville, TN; Hewlett, S.A., Buck Luce, C., Servon, L.J., Sherbin, L.S., Shiller, E., & Sumberg, K. (2008). *The Athena Factor: Reversing the Hidden Brain Drain in Science and Technology*. Harvard Business Report.; Foust-Cummings, H., Sabattini, L., & Carter, N. (2008). *Women in Technology: Maximizing Talent, Minimizing Barriers*. Catalyst.
- 42 Fagenson, E.A. (1989). The Mentor Advantage: Perceived Career/Job Experiences of Protégés versus Non-Protégés. *Journal of Organizational Behavior*, 10 (4); Noe, R.A. (1988). Women and Mentoring: A Review and Research Agenda. *Academy of Management Review*, 13 (1), 65-78; Ragins, B.R., & Cotton, J.L. (1991). Easier Said than Done: Gender Differences in Perceived Barriers to Gaining a Mentor. *Academy of Management Journal*, 34 (4): 939-951; Ibarra, H., Paving an Alternative Route: Gender Differences in Managerial Networks. *Social Psychology Quarterly*, 1997. 60(1): p. 91-102; Burt, R. (1992). The Gender of Social Capital. *Rationality and Society*; Whitely, W., Dougherty, T.W., & Dreher, G.F. (1991). Relationship of Career Mentoring and Socioeconomic Origin to Managers' and Professionals' Early Career Progress. *The Academy of Management Journal*, 34 (2), 331-351.
- 43 Dobbin, F.; Kalex, A., and Kelly, E. (2007). Diversity Management in Corporate America. *Contexts*, Fall, 21-27.
- 44 Barker, L. & Cohoon, J. M. (2008). National Center for Women and IT Promising Practices. *Georgia Tech Mentoring Program for Faculty Advancement*. NCWIT. http://www.ncwit.org/images/practicefiles/GeorgiaTechMentoringProgramFacultyAdvancement_MentoringFacultyWomen.pdf
- 45 Harvard Business Review. (2006). Women and minorities: special mentoring challenges. *Harvard Business Review*.

ENDNOTES

- 46 Dickinson, K. (2006). Five years of mentoring by the numbers. (2006). *Grace Hopper Celebration of Women in Computing*. San Diego, October 2006.
- 47 Thomas, D. (2002). Race matters: The truth about mentoring minorities. *Harvard Business Review*.
- 48 Morello, D. (2009). CIO Advisory: Want to Improve IT Workforce Effectiveness? Focus on Three Areas. Gartner, June 22, 2009.
- 49 Benko, C. and Weisberg, A. (2007). *Mass Career Customization: Aligning the workplace with today's nontraditional workforce*. Harvard Business School Press.
- 50 Hewlett, S.A., Sherbin, L, and Sumberg, P. (2009). How Gen Y and Boomers will reshape your agenda. *Harvard Business Review*, July-August 2009.
- 51 Galinsky, E. Auman, K. and Bond. J.T. (2008). *Times and Changing: gender and generation at work and at home*. Families and Work Institute National Study of the Changing Workforce.
- 52 Hegewisch, A., and J. C. Gornick (2008). *Statutory routes to workplace flexibility in cross-national perspective*. Washington, D. C.: Institute for Women's Policy Research.
- 53 Corporate Voices for Working Families. (2005). *Business Impact of Flexibility: An imperative for expansion*.
- 54 Dalton, D.R., and Mesch, D.J (1990). The Impact of Flexible Scheduling on Employee Attendance and Turnover. *Administrative Science Quarterly*, 35: p. 370-387.
- 55 IBM. (2008). *Unlocking the DNA of the adaptable workforce*. <http://www.ibm.com/services/us/gbs/bus/html/2008ghcs.html>,
- 56 Landry, S., Berry, D., Morello, D., and Malinyerno, P. (2007). Try Creative Solutions to Attract and Retain Application Professionals. *Gartner Research*.
- 57 Mario Smith, D. et al. (2008). Hype Cycle for the High-Performance Workplace, 2008. *Gartner Research*.
- 58 Morello, D. and Burton, B. (2006). Future Worker 2015: Extreme Individualization. *Gartner Research*.
- 59 Walker, A.R., and Bittinger, S. (2009). Findings: Recession is finding Generation Y to find alternatives to IT careers. *Gartner Research*, March 17 2009.
- 60 Madland, D. and Teixeira, R. (2009). *New Progressive America: The Millennial Generation*. Center for American Progress.
- 61 Buckingham, M. and Coffman, C. (1999). *First, break all the rules: What the world's greatest managers do differently*. Simon and Shuster.
- 62 Harris, K., Gammage, B., and Basso, M. (2008). Managing in the 21st century: the emerging manager's platform. Gartner Research.
- 63 Pfeffer, J. (2001). "Fighting the war for talent is hazardous to your organization's health", *Organizational Dynamics*, Vol. 29 No.4, pp.248-59.
- 64 Martin, J. (2004). "Organizational Culture: Pieces of the Puzzle." In J. M. Shafritz, J. S. Ott, Y. S. Jang, (Eds.), *Classics of Organizational Theory*, Sixth edition, Wadsworth Publishing, pp. 393-414.
- 65 Milikien, F, Bartel, C.A. and Kurtzberg, T.R. (2003). Diversity and Creativity in Work Groups: A Dynamic Perspective on the Affective and Cognitive Processes that Link Diversity and Performance. In P.B. Paulus and B.A. Nijstad, Editors. *Group Creativity: Innovation through Collaboration*,. 2003, Oxford University Press.
- 66 Dwyer, S., Richard, O.C. ,and Chadwick, K. (2003). Gender diversity in management and firm performance: the influence of growth orientation and organizational culture, *Journal of Business Research*, 2003. 56(12); Chatman, J.A., et al., (1998). Being Different Yet Feeling Similar: The Influence of Demographic Composition and Organizational Culture on Work Processes and Outcomes. *Administrative Science Quarterly*, 43.
- 67 Chatman, J.A., and Spataro, S. (2005). Using self-categorization theory to understand relational demography-based variations in people's responsiveness to organizational culture. *Academy of Management Journal*. 48(321-331).



ANITA BORG INSTITUTE
FOR WOMEN AND TECHNOLOGY

Anita Borg Institute for Women and Technology

1501 Page Mill Road, MS 1105
Palo Alto, CA 94304

650-236-4756
info@anitaborg.org
www.anitaborg.org

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