Lack of Gender Diversity in Tech Industry - Why It Matters

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http://graphics.wsj.com/diversity-in-tech-companies/
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**Education:**
- BS: EE, Stanford University, 1984
- MS: EE, Stanford University, 1986
- PhD: EE, Stanford University, 1994

**Career:**
- *Member of Research Staff*, Xerox Palo Alto Research Center, 1992-1996
- Joined UC Berkeley EECS faculty, 1996
- *Senior Director of Engineering*, Synopsys, 2004-2006
- *Associate Dean for Research*, College of Engineering, 2008-2012
- *Chair*, EE Division, EECS Department, 2012-2016
- *Chair*, EECS Department, 2014-2016
- 2016-present: Vice Provost, Academic & Space Planning

- Married 1991
- 1st son 1995
- 2nd son 1998
Why diversity?

- Airbags were tested exclusively with crash-test dummies based on the male body.
- Voice recognition systems at first only recognized male voices.

Diverse teams or organizations comprise a wider range of viewpoints and skill sets, i.e. greater collective intelligence.

“Diversity is less about how you look and more about how you think.”

– Rich Lyons, Dean of the Haas School of Business
- diversity improves company culture
- diverse teams have greater collective intelligence
- teams that are reflective of the user base develop better products

*Forbes 2013 Study

courtesy of Virginia Smith, https://people.eecs.berkeley.edu/~vsmith/
Diversity adds value

• Diverse perspectives are critical for addressing the multi-disciplinary, global problems we face. Furthermore, research shows that diverse teams are more creative and more effective.

• Quality of engineering is affected by diversity.

courtesy of Gary May (Chancellor, University of California at Davis)
Return on Equity (ROE) by Women’s Representation on the Board

- Companies with more WBD outperform those with the least by 53%.
- Bottom Quartile WBD: 9.1%, Top Quartile WBD: 13.9%

Return on Sales (ROS) by Women’s Representation on the Board

- Companies with more WBD outperform those with the least by 42%.
- Bottom Quartile WBD: 9.7%, Top Quartile WBD: 13.7%

Return on Invested Capital (ROIC) by Women’s Representation on the Board

- Companies with more WBD outperform those with the least by 66%.
- Bottom Quartile WBD: 4.7%, Top Quartile WBD: 7.7%

* Catalyst 2007

Diversity improves the bottom line

gender-diverse companies

15% more likely to outperform non-gender-diverse companies

* McKinsey 2015

courtesy of Virginia Smith, https://people.eecs.berkeley.edu/~vsmith/
The Situation Today

- High attrition rate of female engineers in the IT industry
  - 41% vs. 17% for male engineers [S.A. Hewlett et al., 2008, HBS No. 10094]
- Women are more likely to exit STEM careers than non-STEM careers
  - 50% in STEM occupations vs. ~20% in non-STEM occupations exited
  - >30% of the attrition in STEM occupations occurred in the first 4 years [J.L. Glass et al., Soc. Forces 2013, 92(2), 723-756]

**Root cause:**
- Workplace experience is the most significant reason for women leaving engineering careers
  - Self-confidence & work-life balance are not significant contributing factors [N.A. Fouad and R. Singh, 2011, WEPAN National Conference]
Women are underrepresented at all levels of the corporate pipeline

The statistics are even worse for women in technology

[1] Hardware, software, and IT services

The challenge starts early

Promotion rates for women lag behind those for men

Women consistently get put into support and administrative roles.
Root Causes for Lack of Diversity

- **external**: bias, discrimination, harassment
- **internal**: imposter syndrome, self-confidence
- **competitive**: networks, work-life balance, role models, mentorship

Gender bias remains in the workplace

Company commitment does not always translate to visible action

Companies should ensure that hiring, promotions, and reviews are fair.

Collecting metrics can help companies track and make progress toward diversity goals.

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<tr>
<th>Metrics to benchmark progress</th>
<th>Metrics to inform company policy</th>
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<td>• Gender representation at selected levels of management</td>
<td>• Gender representation on interview / review panels</td>
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<td>• Gender representation in selected functions / departments</td>
<td>• Gender representation in assignment of high visibility projects</td>
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<td>• Gender representation by role</td>
<td>• Gender representation throughout recruitment funnel (e.g., Applicants, Interviews, Offers, and Acceptances)</td>
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<td>• Attrition by gender</td>
<td>• Salary and bonus difference at comparable job positions by gender</td>
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<td>• Gender representation of external hires</td>
<td>• Employee perception of work/life balance</td>
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<td>• Gender representation of internal promotions</td>
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Companies should also focus on accountability and results

40% of companies say they hold leaders accountable for performance against gender diversity metrics.

32% of employees see senior leaders regularly held accountable for improving gender diversity.

9% see managers regularly being recognized for progress.

Women in Technology Initiative at the University of California (WITI@UC)

Mission:
Increase the persistence and success of women in technical fields in industry, academia, and the public sector
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<th>WITI@UC Programs</th>
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<td><strong>Advocate for Women</strong></td>
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<td>Leadership Round Table</td>
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<td>Promotion of Metrics &amp; Tracking</td>
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<td><strong>Cultivate Leadership</strong></td>
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<td>PD Training Module Deployment</td>
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<td>Entrepreneurship Training Module Development</td>
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<td><strong>Highlight Achievements</strong></td>
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<td>Athena Awards Program</td>
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<td>Women in Tech Role Models Initiative Launch</td>
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<td><strong>Increase Awareness</strong></td>
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<td>WIT Conference</td>
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<td>Implicit Bias Awareness Training Module Development</td>
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<tr>
<td><strong>Pave New Pathways</strong></td>
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