

ISSUE: WOMEN IN MANAGEMENT *October 24, 2016*

Women Still Lag in Tech Fields

By Joanne Cleaver

The gap is “an issue that has been simmering”

Executive Summary

Women are under-represented in the STEM fields—science, technology, engineering and math—compared with their presence in other occupations. Here’s a key takeaway:

- Even when women enter high-tech fields, they are more likely to leave than women in other occupations.

Full Article

Cindy Warner has seen the STEM talent gap from all points of view.

Warner ran regional operations for FedEx, gaining expertise in customer relationship management software, which led to senior vice president positions with Salesforce.com and other software companies. In 2016, she left IBM, where she led the cloud technology practice, to found 360ofme, which lets consumers control data about them across all kinds of big databases.

And Warner heads the Michigan Women in Technology Foundation (MWIT), based in Dearborn, Mich., which seeks to build out new networks for women in that engineering-dependent state.

How big is the gender talent gap in STEM (science, technology, engineering and math) industries?

Studies abound, but Warner has her own take: It’s harder than it might seem to count the number of women in these categories because meaningful tallies must include more than college majors and technical skills. Women (and men) use STEM skills and education as a foundation for their careers, and achieve success by merging business and management skills, she says. It’s easy to count how many women graduate each year with certain types of STEM degrees, but once women start to rise in the workforce, other expertise becomes even more important.

Identifying the myriad career paths that can advance women to the top, or C-level, in STEM industries is “an issue that has been simmering,” Warner says, and will only respond to focused pressure. “We have to call it out and do something material,” she says. “It can’t be a stepped [gradual] change path anymore.”

The pressure has been building for years.

Ongoing analysis by the National Center for Women & Information Technology (NCWIT), a research and advocacy organization, indicates that in 2015, women made up 57 percent of all professional occupations, but only 25 percent in computing.¹ That’s down from a peak in 1991, when women made up 36 percent of computing occupations. Women currently are best represented as database

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administrators, holding 38 percent of those jobs, and are most scarce in computer network architecture roles, at 12 percent. ² And the Boulder, Colo.-based center's research found that minority women are significantly under-represented in technical jobs. ³

Tech skills quickly sputter as a career driver: For the high-technology industry overall, women quit jobs more than twice as often as men, 41 percent versus 17 percent. ⁴ According to one study, after 12 years, about half of women in STEM fields have quit. By way of contrast, only about 20 percent of women in non-STEM fields left their professions during the 30-year span of the study, ran through 2008. ⁵

That's an apparent loss for women on technical career tracks. But is it really a loss when women switch to a non-technical job at the same company, as 7 percent of women do, according to the center's analysis, or take a non-technical job at a different company, as 24 percent do? ⁶ That's one of the topics that Warner is taking on through MWIT. In fact, such career moves are exactly how women and men advance to the C-level, as described in college STEM management curricula, such as is offered at Kansas State University's Olathe campus. ⁷ The C-level is where executives set strategic direction for entire companies, oversee the convergence of all departments, and make high-level decisions that drive profit, loss, reputation and the company's future.

Sixty-two percent of women in STEM fields aspire to senior management or C-suite positions. ⁸ Yet, women make up just 11 percent of chief information officer positions in the United States—although one is Megan Smith, a former Google executive appointed chief technology officer for the federal government in 2014. ⁹



Megan Smith was appointed chief technology officer for the federal government in 2014.

The thin ranks of women carry through to the board level. "Gender Diversity in Silicon Valley," an analysis of 150 publicly held Silicon Valley companies, found that in 2014, 42 percent had only one female director and 38 percent had none. That stood in contrast to the S&P 100, where 42 percent of companies had two female directors, 13 percent had one and no company had an all-male board. ¹⁰

The pipeline appears to have a blockage in mid-management, according to Telle Whitney, president and chief executive officer of the California-based Anita Borg Institute for Women in Technology, which advocates for women in the tech industry, especially in Silicon Valley. Part of the disconnect is that once women make it past the first few years and start to get promoted, they usually end up as a project manager; the NCWIT said that title is the No. 1 tech position for women. ¹¹

"Women get put into these jobs because they think that women are good at soft skills, so they'll offer them that instead of the jobs with the hard skills," Whitney says. Women quickly become sidelined in such positions, she says, because they aren't deriving satisfaction from technical accomplishments and are handling the grinding daily housework of meetings, hands-on management and other thankless tasks. They quit, and the pipeline collapses.



Former Amazon executive Michelle Wilson joined Pinterest's board in 2016.

Strategic tech positions, such as leading new-product development teams, require a working knowledge of technical operations, Warner says. Paths to these executive positions are not clear, she believes, and companies rarely outline the precise combination they seek of technical and functional experience, such as blending the ability to design systems with the capacity to profitably run a line of business.

Tech companies are awakening to the market consequences of overlooking women for executive-track roles, thanks to the demands of their corporate customers. Many of them have been striving for years to get more women to the top. "There's nothing worse than going into a customer meeting with no women, when there are women at the meeting," says Whitney.

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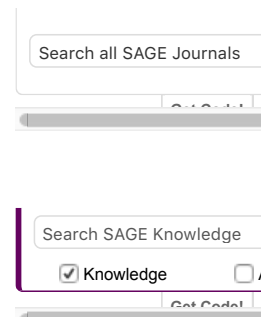
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EXPAND YOUR SEARCH



Pinterest, a social networking site where members create bulletin boards, was founded in 2009 by three men but quickly became wildly popular with women.¹² It wasn't until 2016, by which time it had a valuation of \$11 billion and millions of users, that Pinterest added a woman to its board—Michelle Wilson, a former legal and human resources executive at Amazon.¹³

With media and investors asking tough questions about the lack of women in senior roles, tech companies are scrambling to patch their pipelines.

One fast fix is to poach women at or near the top tier from other industries. “It’s easy to move from a different industry to a C or near C-level,” says Whitney, because the skills are transferable. For instance, in May 2015, Ruth Porat joined Google’s parent company, Alphabet, as chief financial officer.¹⁴ It was a lateral move from Morgan Stanley, where she had been promoted to CFO in 2010.¹⁵

Achieving diversity at the outset, when a tech firm is founded, is another way to ensure that women gain leadership experience. Some economic development programs are adding gender and racial diversity components to initiatives designed to support new companies with funding, developing new ideas and operational help.¹⁶

Whitney and Warner agree that a key to advancing women in STEM is to create more ways to showcase them. The cycle of women being overlooked because they are rarely given opportunities to speak, present and lead discussions will only stop with a deliberate blow, they say. The first landed in January 2013 when a spate of articles and online commentary about a tech conference with only one female speaker became a push to require conference organizers to hold themselves accountable for finding women to speak and present.¹⁷



Ruth Porat became Alphabet's chief financial officer in 2015.

That change can't come soon enough for Warner. She recently organized an executive connections summit at the Michigan Women in Technology Foundation and couldn't find more than a dozen women to participate. “That’s awful,” she says.

For Warner, starting her own company was the way up. She wanted to launch 360ofme quickly to get ahead of shifting consumer privacy regulations, and expected to draw on her experience of bringing new software products to market and tap her extensive network—mainly, of men, she adds—in the industry.

“Tech on its own—wires and servers—solves nothing in business,” says Warner. “You have to solve business problems. Figure out what the business problem is and then how tech can solve it, not the reverse.” Apply that point of view to retaining and advancing women in STEM, she says, and genuine solutions will emerge.

About the Author

Since 1981, Joanne Cleaver has covered businesses and business leaders for numerous publications, including Crain's Chicago Business, Crain's New York Business, Working Mother, Inc., the Chicago Tribune and the Milwaukee Journal Sentinel. She also has written for consumer and trade publications. She previously wrote for SAGE Business Reports on Meetings and Team Management (<http://businessresearcher.sagepub.com/sbr-1775-99376-2723046/20160314/meetings-and-team-management>).

Notes

[1] Catherine Ashcraft, Brad McLain and Elizabeth Eger, “Women in Tech: The Facts, 2016 Update,” National Center for Women & Information Technology, p. 2, <http://tinyurl.com/gm6e72o> (<http://tinyurl.com/gm6e72o>).

[2] Ibid., p. 8.

[3] "Gender Diversity in Silicon Valley," Fenwick & West LLP, 2014, <http://tinyurl.com/jgu3wrs> (<http://tinyurl.com/jgu3wrs>).

[4] "Women in Tech," op. cit., p. 8.

[5] Ibid., p. 9.

[6] Ibid., p. 10.

[7] "Graduate Certificate in Professional Skills for STEM Practitioners," Kansas State University/Olathe, <http://tinyurl.com/jdxxwde> (<http://tinyurl.com/jdxxwde>).

[8] "Women in Tech," op. cit., p. 17.

[9] Ibid.; Megan Smith and Mary Grove, "America's new CTO: What will open doors for women in tech?" Fortune, Sept. 9, 2014, <http://tinyurl.com/hgqrek3> (<http://tinyurl.com/hgqrek3>).

[10] "Gender Diversity," op. cit., p. 9.

[11] "Women in Tech," op. cit., p. 14.

[12] April Fehling, "So Pinterest Is A Woman's World. Does That Matter?" NPR, Feb. 22, 2012, <http://tinyurl.com/j93czdhd> (<http://tinyurl.com/j93czdhd>).

[13] Yoree Koh, "Pinterest Names First Female Director," The Wall Street Journal, May 11, 2016, <http://tinyurl.com/hn4v2lp> (<http://tinyurl.com/hn4v2lp>).

[14] Erin Griffith, "Why investors love Alphabet's new CFO," Fortune, Oct. 23, 2015, <http://tinyurl.com/jaq2pre> (<http://tinyurl.com/jaq2pre>).

[15] Jillian D'Onofro, "The incredible rise of Ruth Porat, CFO at one of the most valuable companies in the world," Business Insider, Aug. 17, 2016, <http://tinyurl.com/jtxgdzs> (<http://tinyurl.com/jtxgdzs>).

[16] Oscar Perry Abello, "Tech's Lack of Diversity Isn't Just a Pipeline Problem," NextCity, June 3, 2016, <http://tinyurl.com/zpkpeun> (<http://tinyurl.com/zpkpeun>); "Galvanize to Debut Tech Inclusion: Austin to Expand Opportunities, Diversity in Tech," Feb. 2, 2016, <http://tinyurl.com/j5f9qa7> (<http://tinyurl.com/j5f9qa7>).

[17] Rebecca J. Rosen, "The Panel Pledge: A Follow-Up," The Atlantic, Jan. 7, 2013, <http://tinyurl.com/hlqxfby> (<http://tinyurl.com/hlqxfby>).

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