



# Smashing IT's glass ceiling

Perspectives from leading women CIOs

## Smashing IT's glass ceiling

CIOs lead unique and complex lives—operating at the intersection of business and IT to deliver value to their organizations. To help CIOs manage these challenges and issues, Deloitte has created the CIO Program. The program provides distinctive offerings to support the CIO career life cycle through leadership development programs, immersive lab experiences, insight on provocative topics, and career transition support to complement the technology services and solutions we provide to our clients.

# CONTENTS

**Introduction** | 2

**Building the business case** | 3

Perspectives from leading women CIOs

**Scoping the challenge** | 4

Alone in a crowded room

**Who runs the world?** | 6

Essential leadership traits of women CIOs

**Looking forward** | 8

The journey to gender parity in IT

**Endnotes** | 10

# Introduction

**N**O shortage of ink has been spilled on the challenges faced by women in today's IT workforce. Many business leaders and corporate boards are taking steps to improve C-suite diversity; yet, too often, women continue to be underrepresented in technology leadership positions and the technology workforce in general.

Despite numerous challenges, many highly competent and qualified women have risen through the ranks and smashed IT's glass ceiling. In fact, the percentage of women technology chiefs is far higher than that of female CEOs and CFOs, according to multiple analyses<sup>1</sup>—perhaps because technology teams can benefit from women's unique combination of leadership skills, such as empathy, flexibility, persuasiveness, assertiveness, and risk-taking.<sup>2</sup>

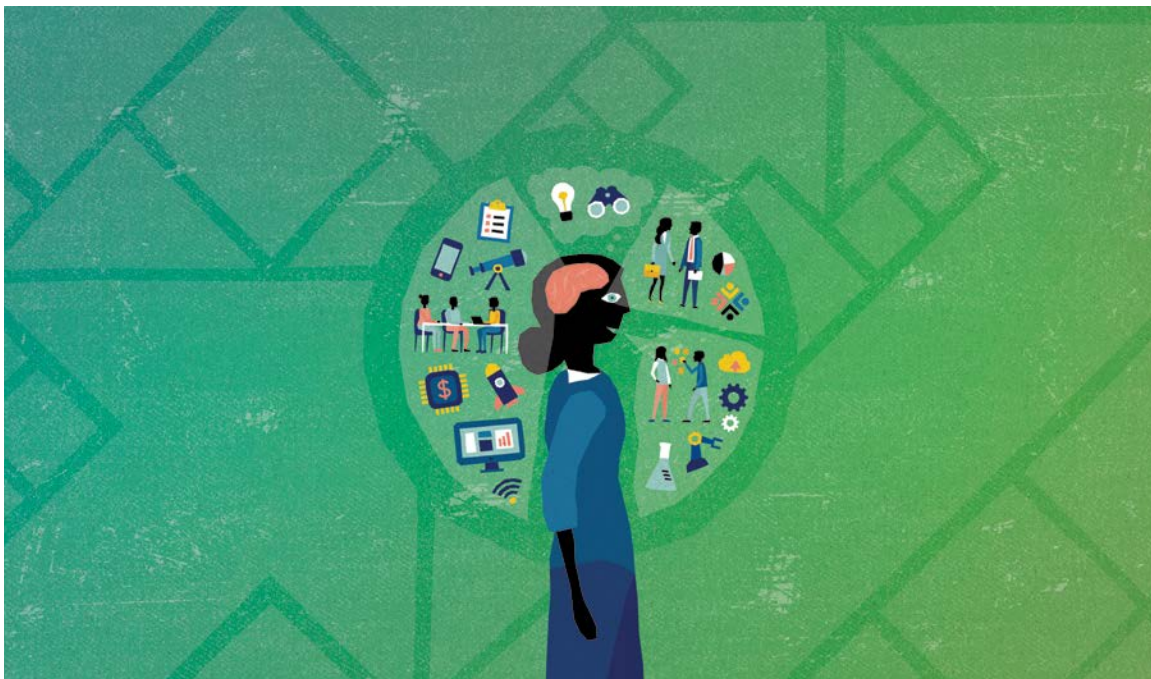
This special edition of the CIO Program's *CIO Insider*, the first in a series focused on gender diversity and inclusion in IT, shares insights from women

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The percentage of women technology chiefs is far higher than that of female CEOs and CFOs, according to multiple analyses.

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who have risen to the top of the IT profession, including their perspectives on essential leadership qualities and guidelines for cultivating diverse and inclusive IT cultures.



# Building the business case

## Perspectives from leading women CIOs

**G**ENDER parity in IT is about more than being fair; many research studies suggest a business case for more gender-diverse technology teams and leadership. For example, the presence of women in leadership positions is correlated with higher financial performance, better team dynamics, and higher productivity.<sup>3</sup> More gender-diverse technology teams also demonstrate a number of business benefits.<sup>4</sup> (See figures 1 and 2.)

Fumbi Chima, CIO of Fox Networks Group, combines many leadership skills and capabilities to excel as a technology leader. For example, she says, “I’ve always taken difficult roles and tough projects, such as transformations, that no one wants to do. People may think you’re going to fail, and many times you do fail. But I’ve always been very resilient. You have to have the leadership and the tenacity to help solve very complex business problems.”<sup>5</sup>

Cultivating gender-diverse teams and creating more women technology leaders can help companies combat the ongoing shortage of technical talent—

**Figure 1. Correlations with women in leadership positions**

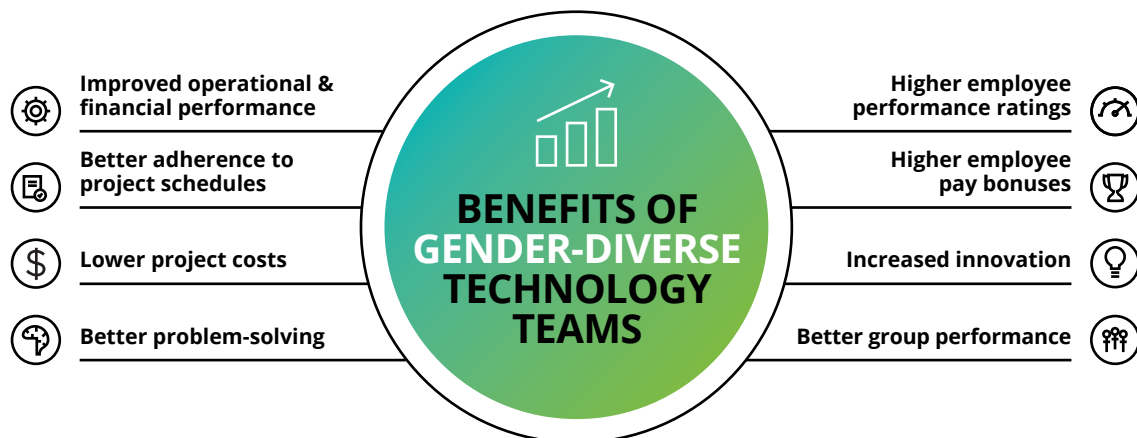


Source: National Center for Women & Information Technology.

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because high-performing teams with inspirational leaders, regardless of gender, can help attract and retain IT staff. Capitalizing on this vast untapped resource could give companies a performance boost, deliver significant positive impact to the bottom line, and improve competitive advantage.

**Figure 2. The business case for gender diversity in IT**



Source: National Center for Women & Information Technology; Anita Borg Institute.

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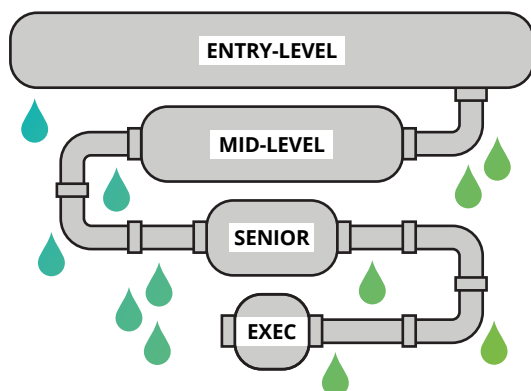
# Scoping the challenge

Alone in a crowded room

**E**XECUTING on the business case appears to be easier said than done. In the United States, multiple analyses peg the percentage of female CIOs in larger companies at between 17 percent and 22 percent.<sup>6</sup> These low numbers may be due in part to a leaky pipeline that begins in the education system—where few women earn technology-related degrees<sup>7</sup>—and continues to the C-suite. (See figure 3.) A 2016 benchmark study of more than 540,000 technical workers found that women's representation declined at successive levels, from about 27 percent of the entry-level workforce to 23 percent of mid-level managers, 18 percent of senior-level managers, and just 14 percent of executives.<sup>8</sup>

The pipeline to the CIO's office starts in a shallow pool: In 2017, for example, women comprised only 19 percent of applications and systems software developers, 24 percent of network and systems administrators, and 26 percent of employees in all computer and mathematical occupations in US companies.<sup>9</sup> Research has shown that hiring biases—both conscious and unconscious—can prevent newly degreed women technologists from being hired in IT.<sup>10</sup>

**Figure 3. Women in IT: Leaky pipeline on the way to the C-suite**



Source: Deloitte analysis.

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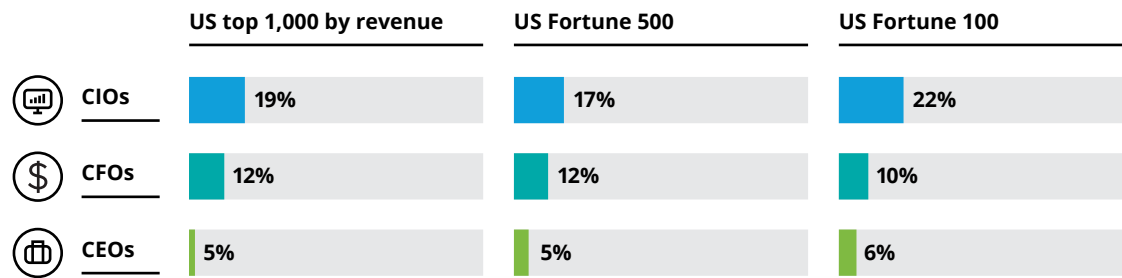
The pipeline fills slowly. Women that do get hired in IT may feel isolated and sidelined by all-male networking events, inflexible work environments, and widespread pay disparities.<sup>11</sup> Discouragement with the IT culture can lead to a high turnover. Twenty-seven percent of women cite discomfort with the work environment as a factor in leaving their IT job.<sup>12</sup>

**It will take 100 years for women in technical and nontechnical roles combined to reach parity with men at the C-level.**

For many women, an IT career is incompatible with starting or growing a family. Many companies provide free meals, alcohol, caffeine, games, and other perks to encourage hard work, high energy, and loyalty; staff are rewarded for long hours and marathon overnight coding sessions. And even in organizations with supportive parental leave policies—critical for keeping women in the workforce—maternity leave is often seen as a career setback.<sup>13</sup> Many women technologists must start their careers afresh each time they return from maternity leave.

Women that tough it out often struggle to advance. Female technologists say their top two barriers are the lack of female mentors and role models,<sup>14</sup> which can result in exclusion from critical informal networks that could help them further their careers. In US companies, women held only 27 percent of IT managerial roles.<sup>15</sup> According to one study, at

**Figure 4. Percentage of women executives**



Source: Deloitte analysis.

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current advancement rates, it will take 100 years for women in technical and nontechnical roles combined to reach parity with men at the C-level.<sup>16</sup>

In spite of these challenges, many highly competent and qualified women executives have risen through the ranks to become CIOs. In fact, the C-suite may be slightly more welcoming to women technology leaders than women leaders from other business functions. A review of data from a num-

ber of analyses of technology leadership at top US companies shows the percentage of female CIOs is much higher than that of female CEOs and CFOs. (See figure 4.)<sup>17</sup>

Women’s leadership capabilities may be aligned with those required to lead and manage evolving IT teams. We asked four veteran technology executives to weigh in on the personal traits that helped them succeed.

# Who runs the world?

## Essential leadership traits of women CIOs

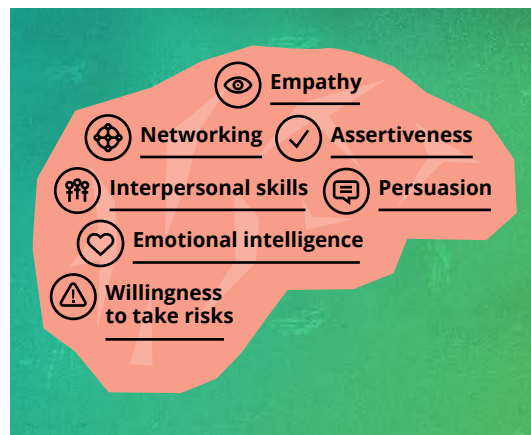
**W**OMEN aiming for executive leadership positions may find that societal expectations of leaders—such as assertiveness and self-reliance<sup>18</sup>—are misaligned with expectations of gender behavior.<sup>19</sup> One study revealed a classic catch-22: Women with more stereotypically masculine management styles were perceived as less warm, and their subordinates were less willing to comply with their requests.<sup>20</sup> Other researchers found that women needed to demonstrate both sensitivity and strength to be seen as effective leaders while men needed only to exhibit strength.<sup>21</sup>

These expectations may be changing. For example, the majority of participants in a recent survey saw no significant gender differences in the essential leadership traits of intelligence, innovation, ambition, honesty, and decisiveness, and gave women the advantage in compassion and organization.<sup>22</sup>

Another study combining personality assessment tests, in-depth interviews, and demographic analysis concluded that compared to male leaders, women were more persuasive, assertive, and willing to take risks. They also outperformed their male colleagues in areas of emotional intelligence and interpersonal skills, including empathy, flexibility, and sociability.<sup>23</sup> (See figure 5.)

In general, the executives we interviewed regard success as the result of working hard and developing deep expertise in the absence of traditional “old boy” networks, recognizing and learning from mistakes, and persisting after a failure. By fine-tuning technology, project management, and problem-solving skills, they were able to gain respect by talking to programmers, technologists, and project managers in their own “language” and offering advice on strategy and direction. They also had to learn how technology can help solve business challenges and to speak in terms of both business and IT.

**Figure 5. Where female leaders outperform their male colleagues**



Source: Caliper.

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“When I was pursuing my master’s degree in nuclear physics, there weren’t a lot of female role models, professors, or students,” explains Suma Nalapati, secretary of technology and CIO for the state of Colorado. “I learned early on that I had to stand up and speak up, hone in on my knowledge, and keep on top of my game. That experience shaped my future career in IT.”<sup>24</sup>

Technology skills were secondary to business background for Julie Lagacy, CIO and vice president of Global Information Services at Caterpillar Inc. Because of her pre-CIO background in finance and HR, technology expertise has not been as vital to her success as have business acumen and communication skills. “Having a business background has been very beneficial as CIO, because my role is to help connect IT to business,” she notes. “And as CIO, the power of persuasion is important because people have a perception of how technology should work. They have to buy into your journey and strategy more than for many other C-suite roles.”<sup>25</sup>



Nallapati agreed that women bring a unique set of communication skills to the C-suite. She suggests that the ability to communicate and be empathic is needed to bring warmth to the often cold and mechanical world of IT. “Women are equipped with the natural skills to be great translators between IT and the rest of the world,” she says. “We also have an innate ability to translate IT into real-life scenarios and real-world solutions.”

These communication skills can help women build successful relationships across the organization. “Early in my career, I learned how important it is to build strong peer relationships,” says Monique Shivanandan, group CIO of the Chubb Group of Insurance Companies. “I really work hard to build strong, trust-based relationships—not just vertically, but horizontally as well.”<sup>26</sup>

Confidence and assertiveness, balanced with empathy and compassion, are other attributes that these leaders found invaluable on the path to CIO. “However, most women are not socialized to be unapologetically competitive,” notes Shivanandan. “They tend to be less comfortable with self-promotion, and more likely to be criticized when they do grab the spotlight. I’ve often given advice to women to be careful to not ‘fly too close to the sun,’ which is really not good advice—but necessary.”

At the same time, women are often more empathic and compassionate. “Most women are people-oriented, and some of us focus more on people

## Women bring a unique set of communication skills to the C-suite.

than we do on the details of technology,” Chima says. “We have genuine empathy for others that many of our male counterparts lack. I don’t think that’s acceptable—there has to be compassion.”

Lagacy had to tap into a reservoir of self-confidence as she moved among various non-IT functional areas before becoming a CIO. “Women often don’t raise their hand as high—or at all. We’re more likely to self-select out of a challenge or opportunity than men,” she notes. “The attitude is, ‘if I haven’t done this before or I’m not a real expert, then I’m not good enough to do it.’”

The antidote is for women to surround themselves with people who have the skills and knowledge that they lack and not be afraid to ask questions. “When I mentor people, one piece of advice I share is to stop apologizing for not knowing everything,” says Lagacy. “Not only does it appear you’re not confident, it’s also okay to not know. What is important is continuous learning and taking the initiative to find the answer.”

### BUILD AN AUTHENTIC PERSONAL BRAND

Well-known business executives reap many benefits from clearly defining and cultivating their personal brands through networking, social media, speaking engagements, and media opportunities. A strong personal brand is valuable because it can be used to drive change in IT and business cultures, open career doors, improve relationships with key business stakeholders, and inspire teams.

The CIOs we interviewed all emphasized the importance of building an authentic personal brand that conveys real values, beliefs, behaviors, and sense of purpose. “A big part of my brand is about diversity in STEM,” says Chima. “I speak and write about it because I believe in it and I’m passionate about it.”

“For me, brand building has to be natural,” says Nallapati. “It’s about doing the hard work, not being afraid to get your hands dirty, and being a real leader to your team and in your organization. The brand can be the icing on the cake, but it can’t be the only thing. You still need to deliver.”

# Looking forward

## The journey to gender parity in IT

**G**LEANED from our interviews, these guidelines can help IT organizations turn aspirations for a diverse and inclusive IT culture into reality. The goal is to plug the leaks in the C-suite pipeline by creating a more diverse and inclusive organization, while simultaneously increasing the percentages of women technologists in the pipeline.

**Create more gender-diverse IT organizations.** Companies can attract, hire, and retain female technology talent by removing gender biases from the hiring process through steps such as instituting blind resume reviews, eliminating gender-based wage gaps, creating gender-based hiring goals, and updating IT and HR policies that exclude or alienate women. Examples include more family leave for both genders, childcare options, and more flexible work arrangements.

“We want to have a merit-based hiring system without being exclusionary to any gender, race, or group,” says Nallapati. “So for example, if I’m looking at two candidates who are both very good programmers, I would then look to see if they also have empathy or servant leadership—traits that go beyond technical chops. We have gone after female leaders who have exhibited high levels of empathy and a collaborative mind-set and I’m proud to say they’ve brought great skills and attitude to the table.”

A common practice for many IT organizations is to partner externally to engage the next generation of female technologists to study STEM in schools, improve their access to technologies and tools, create safe spaces where they can experiment with technologies and connect with others, and provide them with women role models and mentors. For example, Girls Who Code conducts intensive coding courses and many other programs for middle- and high-school girls.<sup>27</sup>

The CIOs we interviewed also emphasized that commitment to a diverse IT organization extended beyond gender to race, ethnicity, disability, and other protected statuses.

**Build more inclusive IT cultures.** Today’s CIOs are often expected to create IT organizations that are not only more diverse, but also more inclusive. In inclusive cultures, all employees are able to be authentic and thrive, regardless of gender, race, age, sexual orientation, disability, or other characteristics. In IT, this sometimes requires taming infamous “brogrammer” cultures, a task that can often be difficult because of resistance to change.

CIOs can create more hospitable environments by establishing ground rules that support equality and having zero tolerance for rule-breakers. This requires IT and HR leaders to commit to taking bias or harassment complaints seriously and fairly investigating and mitigating them. They can also take steps to recognize and eliminate biases that limit women’s advancement opportunities.

Managers and leaders may need to be retrained to evaluate staff that communicate, collaborate, and work in different ways. Shivanandan remembers observing talent reviews where women and men were treated differently for how they express emotion. “Some of the women were getting coached for being too angry or emotional, while men known for the same traits were looked upon as strong leaders,” she says. “Showing emotion isn’t a sign of weakness—it’s a sign of passion and caring, and it can inspire people to want to work with you.”

Lagacy is proud of the steps that Caterpillar is taking at the corporate level to create a more inclusive culture. For example, a women’s leadership organization meets regularly to address opportunities for growing the pipeline of female leaders. The company has recently introduced a course to educate male leaders, promote a more gender-inclusive

culture, and specifically discuss the actions and behaviors that disadvantage and disengage a minority population of the workforce. Caterpillar also instituted a flexible work environment that has received positive employee feedback. “It’s important as a woman leader to be a role model and send a message with your behavior,” Lagacy notes. “If I’m late to a meeting because of a school commitment, I’ll explain why. By role modeling the behavior, you’re letting others know that the company is really walking the talk.”

Chima agrees. “It has to be more than just lip service,” she says. “You have to talk to people and connect with them, but it has to be authentic. If a team has an MLK walk and their leader doesn’t show up, that sends African-American team members a message. Authentic leadership is the hardest thing to do, but being an authentic leader is also the best thing you can be. People stay with a company when they feel connected, and they’ll leave if they see that that leaders are insincere.”

**Fill the management and leadership pipeline with high-performing women.** A clear path for advancing and developing female talent can increase the opportunities for female representation in management, and eventually, in leadership.

According to one study, women are promoted based on performance; men are promoted based on potential.<sup>28</sup> CIOs can alleviate this bias by proactively identifying potential high-performing women early in their careers. This favorable identification can help ensure employees with high potential have the resources needed to advance, such as a formal leadership development program that includes career road maps, learning and development plans, formal and informal mentoring and sponsorship opportunities, and if applicable, rotating assignments for global and/or functional experience.

Mentoring can be critical. “Throughout my career, I’ve had mentors that helped increase my confidence and developed me as an employee,” says Lagacy. “I’ve also personally mentored both males and females. I strive to create fulfilling mentoring relationships so I limit what I take on—I don’t want the relationship to turn into a checkbox activity.”

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**According to one study, women are promoted based on performance; men are promoted based on potential.**

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Recent research indicates that women can benefit from both mentors, whose role is to listen and advise, and sponsors, who have direct management experience and are willing to advocate for development and growth.<sup>29</sup> One study found that compared to women without sponsors, women in STEM careers who have sponsors are 37 percent more likely to ask for a raise, 22 percent more likely to be satisfied with their rate of promotion, 70 percent more likely to have their ideas endorsed, 119 percent more likely to have their ideas developed, and 200 percent more likely to see their ideas implemented.<sup>30</sup>

Sponsors and mentors can help inspire, protect, and advance women technologists, giving them access to networks that many women lack. As more women rise to leadership levels, they can in turn serve the next generation as mentors and sponsors.

## ENDNOTES

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