THE FUTURE TECH WORKFORCE:
BREAKING GENDER BARRIERS

ISACA®

AN ISACA GLOBAL SURVEY REPORT

More than half of global executives say they face a shortage of capable tech workers—a shortfall that is preventing businesses from growing as rapidly as they would like.

With women holding only one in four technology jobs, the field lacks an immense amount of brainpower—and potential for innovation. Companies must consider whether they are hiring or promoting the best available talent.

What can businesses do to change this? To gain insight, ISACA conducted a study of women currently working in technology fields around the globe. Several issues emerged in the study as particularly significant concerns:

UNDERREPRESENTATION
Nearly 9 in 10 respondent are somewhat or very concerned about the number of women in the technology sector (87 percent).

BIGGEST BARRIERS
A lack of female mentors (48 percent), a lack of female role models (42 percent) and limited networking opportunities (27 percent) are the top three.

NO SAFE SPACE
Only 8 percent say they have never experienced gender bias in the workplace.

These results, among others in this study, indicate that both entering and navigating a technology career are arduous experiences for many women. By understanding how women perceive their needs—and their employers' abilities to satisfy them—we can begin to see a path forward to correct this imbalance.

HELP WANTED: WOMEN

Women make up 40 percent of the world's workforce, according to the World Bank. In some countries, that number rises to 59 percent. Yet, the tech field is notoriously male-dominated at all levels—considerably worse than in non-tech industries—as reported by Payscale.
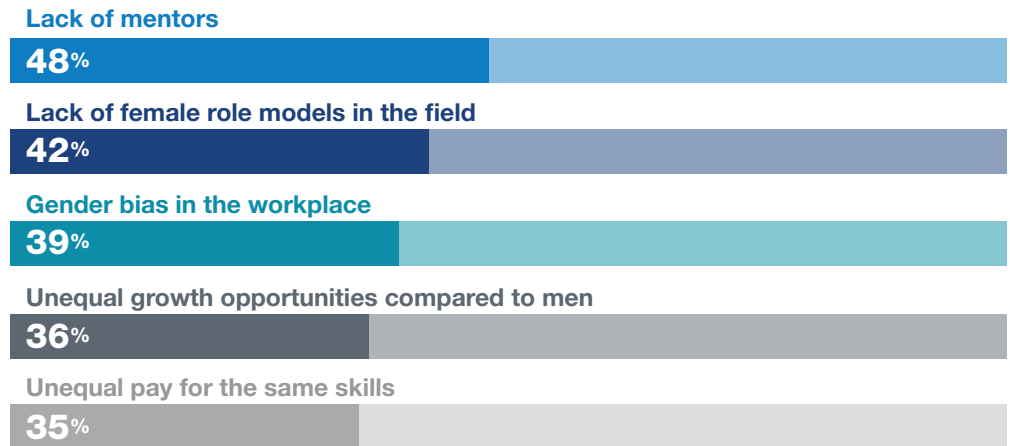
In the tech sector in particular, men outnumber women at every level— but the starkest difference is at the top. Only 21 percent of executives in tech are women—this despite evidence that more women lead to greater innovation and enhanced profitability. In a 2016 Peterson Institute for International Economics working paper, for example, researchers found that having women in leadership positions aligned with a 15 percent increase in profitability, on average.

Moreso, the percentage of women in several of these disciplines is declining, not rising.

When coupled with the results of ISACA's study, they are striking. The two biggest barriers women say they face in the technology workplace are lack of mentors (48 percent) and lack of female role models (42 percent).

It's clear that women hunger to learn and benefit from the presence of other women in technology. But at the top of the list of barriers for women in the ISACA survey are "limited networking opportunities" and "lack of a strong professional network."
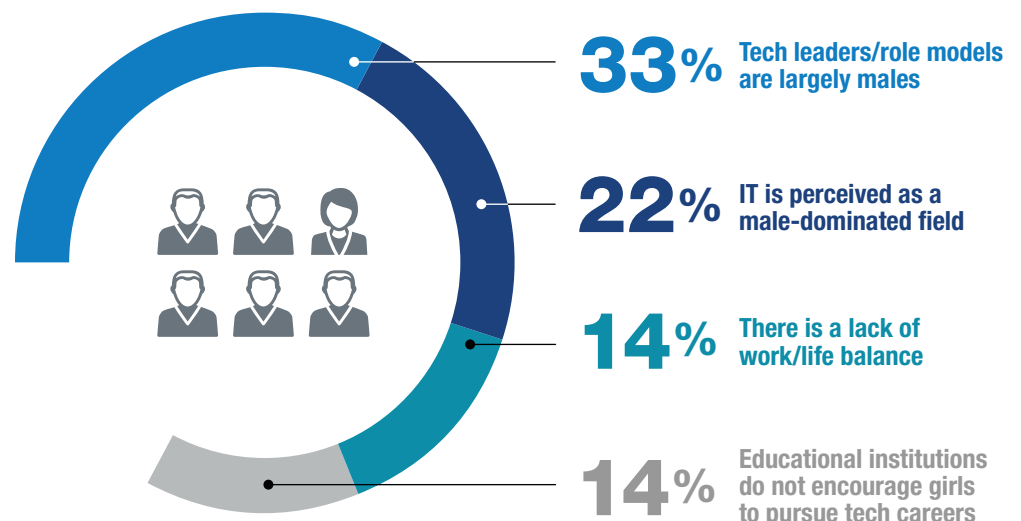
TOP BARRIERS FACED BY WOMEN IN TECH

Lack of mentors
48%

Lack of female role models in the field
42%

Gender bias in the workplace
39%

Unequal growth opportunities compared to men
36%

Unequal pay for the same skills
35%

Before any substantial progress can take place, women must have a more visible presence within tech. They must be hired, and they must be advanced as their education, expertise and skills merit.

When asked why it might be that women are so underrepresented in technology fields, respondents' No. 1 answer is that information technology role models and leaders are predominantly male. Not surprisingly, the No. 2 answer follows logically: women perceive information technology as a male-dominated field.

THE PRIMARY REASONS WOMEN ARE UNDERREPRESENTED IN TECHNOLOGY

33% **Tech leaders/role models are largely males**

22% **IT is perceived as a male-dominated field**

14% **There is a lack of work/life balance**

14% **Educational institutions do not encourage girls to pursue tech careers**

Given these findings and the fact that 79 percent of the women have direct supervisors who were male, this perception is probably accurate.

Accordingly, 87 percent of women in the ISACA survey expressed concern about the number of women in the technology sector overall. More surprising was that given all this—despite all the research that has been done, and the attention paid to this subject—only one quarter of women say their companies have gender leadership programs in place.
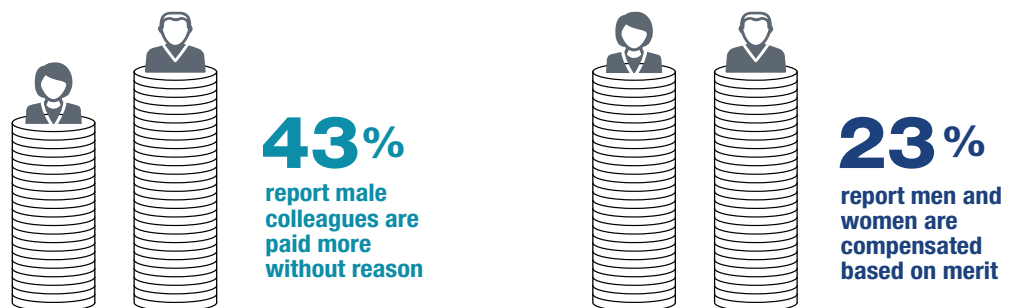
THE PAY'S THE THING

Much has been made of the fact that women still have not reached wage parity with men.

According to the World Economic Forum, women have actually lost ground globally in pay since the 2008 economic crisis. Today, many women earn just 59 percent of what men earn. At the rate things are going, it will take women a whopping 170 years to catch up with men.

It's true that women in technology enjoy higher salaries than women in other fields. But in tech, women workers are paid from 18 to 22 percent less than men, reports Payscale.

Women are well aware of this. Fewer than one in every four women believe they are paid equitably with their male counterparts given equal skills and expertise, according to the ISACA study. Forty-three percent say they are being paid less than those with equal skills and experiences; 0 percent say they are paid more. One in three is not aware of what others are paid.

COMPENSATION OF MEN AND WOMEN IN TECH

43% report male colleagues are paid more without reason

23% report men and women are compensated based on merit

WORKPLACE BIAS AGAINST WOMEN IS REAL— AND ENDEMIC

The definition of bias, according to Dictionary.com is a *particular tendency, trend, inclination, feeling, or opinion, especially one that is preconceived or unreasoned.*

One problem with bias is that it can be felt, but is often difficult to prove. While there is tangible evidence of pay differences or a lack of women serving in upper management, so much of bias is intangible.

Bias against women can be insidious. It can take subtle forms—from being overlooked in meetings, to having ideas dismissed only to be usurped by male colleagues later, to inexplicably being passed over for promotions.

Only 8 percent of women surveyed by ISACA say they've never experienced gender bias in the workplace. Another quarter say they rarely experience it. That leaves the significant majority (66 percent) indicating that bias against women in the workplace is their reality.

Organizations should deliberately train or groom women and assign them responsibility over technically challenging assignments. Organizations should also

EMBRACE A CULTURE THAT DOES NOT MAKE WOMEN FEEL LIKE THEY HAVE TO PROVE THEMSELVES

and work six times harder than a man to get the job."

– Ookeditse Kamau, CISA, MBA ,CIA, CRMA, IT Internal Auditor

HOW OFTEN DO WOMEN IN TECH EXPERIENCE GENDER BIAS IN THE WORKPLACE?

27%
say they often or always experience gender bias

According to the ISACA survey, only 22 percent of women believe their employers are very committed to hiring and advancing women in tech roles.

ACQUIRING THE RIGHT EDUCATION AND TOOLS FOR THE JOB

In 1984, the proportion of computer science degrees awarded to women was 37 percent, according to Girls Who Code. Today it is 18 percent. At the same time, we need more computer scientists than ever. Taking the United States as an example, by 2020, 1.4 million jobs in computer-related fields will exist. But the US will only graduate sufficient talent to fill 29 percent of those jobs. At current enrollment rates, women will fill just three percent of them.

Programs are underway to change this. There is the Girls Who Code organization, which gives internships, fellowships, and generally encourages girls to explore computer science degrees and careers. Additionally, Melinda Gates of the Gates Foundation is on a personal mission to get more women into computer science. One area she is exploring is to revamp university intro computer-science classes to be more inviting to women.

"Addressing the gender gulf is everyone's responsibility," says Jo Stewart-Rattray, ISACA board director and director of information security and IT assurance at BRM Holdich, who last year helped launch ISACA's Connecting Women Leaders in Technology program.

Recruit at universities on an internship basis for roles that clearly are targeting women technologists to apply. If women have successful technology internships during their summer breaks from university, they will come back to campus with

A NEW LEVEL OF CONFIDENCE IN THEIR ABILITIES TO SUCCEED IN THE FIELD."

— Katherine Manuel, SVP, Innovation at Thomson Reuters

Once out of school, women need the same kind of tools, support and training that men do to succeed in tech careers. But according to the ISACA survey, women are fairly divided on whether they are getting the right support they need to advance their careers. Although 57 percent say they are getting those important resources, 43 percent say they are not. Given the previously cited concerns about a lack of mentors, role models and networking opportunities, this is a sizable number of women that should not be ignored.

ACCESS TO RESOURCES NEEDED TO SUSTAIN A CAREER

YES, I have the resources and support that I need

57%

No

43%

The numbers are very similar when women are asked if they are getting appropriate feedback for their work. A margin of just 8 percent separated the women who say they are from those who say they are not.

The same story plays out in training. The net takeaway: too many women feel inadequately supported by their bosses, their environment and their companies.

ACCESS TO SUFFICIENT TRAINING

YES, I am being offered training to sustain and/or advance my career

57%

No

43%

FLEXIBILITY CONTINUES TO BE A HOT BUTTON

Whether workplaces are family-friendly continues to be a point of contention. The good news is that companies seem to be catching on that offering flexible work environments is important for attracting female talent.

In the ISACA survey, 65 percent of women say their employers offer flexible work arrangements such as part time opportunities, the ability to work from home, and extended leave time. A full 60 percent of women say they have taken advantage of these policies.

ACCESS TO FLEXIBLE WORK ARRANGEMENTS

YES, my company offers flexible work arrangements

65%

No

35%

USE OF FLEXIBLE WORK ARRANGEMENTS

YES, I have used flexible work arrangements

60%

No

40%

But having a policy and allowing women to use it without penalty are two different matters. Researchers call this the "flexibility stigma," and it arises because women are effectively "punished" if they take advantage of flexible work options to raise children and work simultaneously, or take a time out from tenure to have children.

The moral here is that it is not enough to simply offer flexible options: the options must be exercisable without consequence.

CONCLUSION

Are there any immediate solutions to these issues? The study suggests that there's a chicken-and-egg problem. The lack of women in tech jobs discourages other women from entering the field. At the same time, currently employed women feel disempowered to engage with female role models, find mentors or participate in networking. Therefore, companies need to address both sides of this issue by doing a better job of recruiting more women to apply for technology roles and a better job of providing suitable training, networking, mentoring, fair compensation and growth opportunities for their current female employees.

It is well past time to address these issues. As an industry, we must

COMMIT TO CHANGING THESE NUMBERS AND BREAKING DOWN THE BARRIERS FOR WOMEN IN TECHNOLOGY."

– Tara Wisniewski, ISACA's managing director of advocacy and public affairs

STUDY METHODOLOGY

The Future Tech Workforce: Breaking Gender Barriers study was conducted via online polling among ISACA's female members world-wide. More than 500 individuals participated in the survey, which was fielded in November 2016. Results, graphics and perspectives from women in tech are available at www.isaca.org/women-in-tech-study.

ABOUT ISACA

ISACA® (isaca.org) helps professionals around the globe realize the positive potential of technology in an evolving digital world. By offering industry-leading knowledge, standards, credentialing and education, ISACA enables professionals to apply technology in ways that instill confidence, address threats, drive innovation and create positive momentum for their organizations. Established in 1969, ISACA is a global association with more than 140,000 members and certification holders in 187 countries. ISACA is the creator of the COBIT framework, which helps organizations effectively govern and manage their information and technology. Through its Cybersecurity Nexus (CSX), ISACA helps organizations develop skilled cyber work-forces and enables individuals to grow and advance their cyber careers.

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