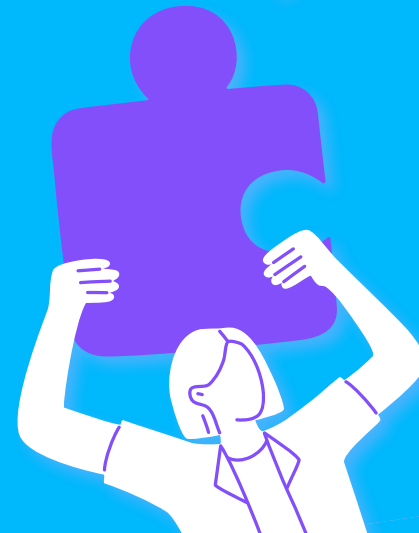# What (and Who) is Holding Women Back in Tech?

girls who CODE | logitech®

Is Tech *Actually* Agile?

In the tech industry, many companies turn to the Agile manifesto as a guide to software development. It's so prevalent that over **70% of tech companies** use it. Anchored in principles like teamwork, kindness, and open communication, Agile is designed to keep teams moving forward and evolving as the needs of customers and dynamics of a marketplace change. But when it comes to making needed changes as an industry, is tech actually Agile?

For decades, tech and IT industries have been known for gender inequality. Even as women advance in other science-related career areas, they remain shockingly underrepresented in the computer sciences.
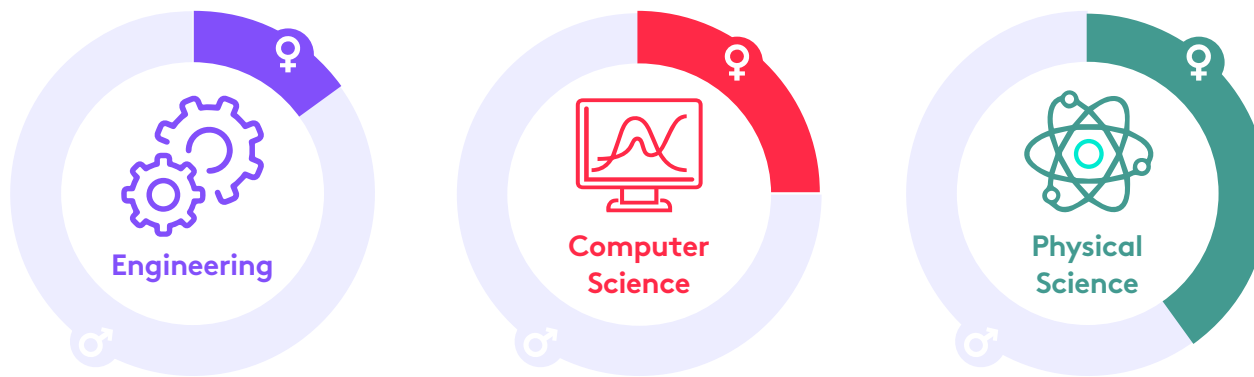
Over the past forty years, women have made great strides in fields like the life sciences, but their **participation rates** in engineering and computer sciences stay **unchanged or have even declined**.

Changing the environment for women in tech is possible, but first, the industry needs to make a deep systemic commitment to Agile principles, including openness to change, being people-centric, and collaboration.

These shifts will facilitate more breakthrough moments and address gender inequality. In turn, tech leaders will inspire more girls to choose computer science as a career and help more women thrive in the industry.

Engineering

Computer Science

Physical Science

Women remain underrepresented in Engineering (15%), Computer Science (25%), and Physical Science (40%) occupations.*

> "There are a lot of accomplished women in the industry, but we still need to remove the barriers that prevent even more from entering and progressing. At Logitech, we're always looking for ways to adapt our tools for women, now it's time to adapt the way we work to create more equal work environments. When we do that, we'll truly unleash the power of the industry."

Delphine Donné
General Manager,
Creativity & Productivity at **logitech**
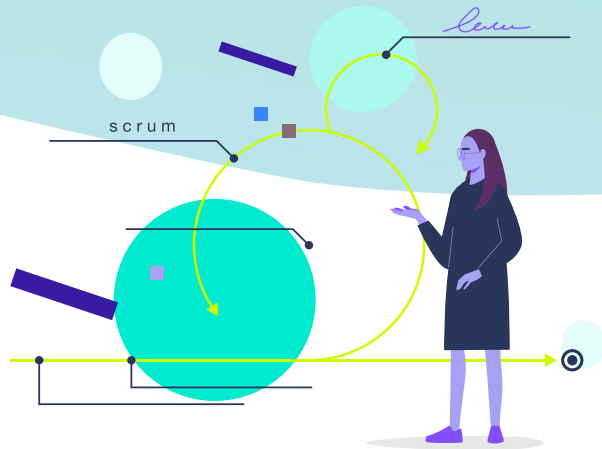
Agile Values

By reinforcing the principles of Agile in ways that go beyond lip service, companies can shift current industry dynamics and create more opportunities for women to access and advance in a computer science career.

The Agile manifesto was built to uncover better ways to develop software. The values of Agile have helped teams deliver high-quality products and effectively adapt to change. The tech industry can apply the same commitment and principles to create a more equal working environment for women. By favoring individuals and interactions, solutions over documentation, collaboration, and responding to change in the moment, leaders in tech can help change the dynamic for women, and all current and future employees. Achieving this will take understanding the challenges women face and what successful women have done to get where they are today.

Barriers and Breakthroughs: What Stands in Women's Way?

Logitech surveyed people currently working in tech and IT*, revealing five key moments that determine whether girls and women choose a career in computer science.

In these five moments, women either break through barriers or are blocked by them. Replicating the breakthroughs in more schools, workplaces, and in society at large will support the success of more women in the industry.
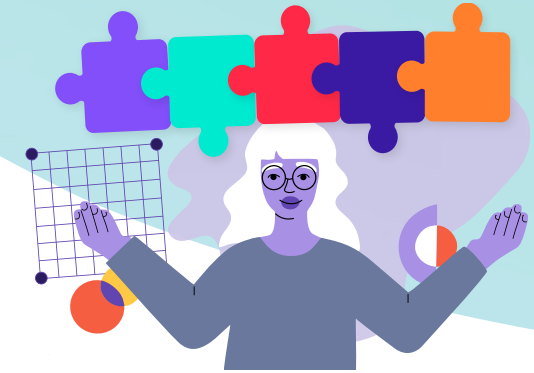
The Most Influential Breakthrough Factors for Women in Tech and IT

A survey of 400 men and women in tech and IT revealed the most influential breakthrough factors for women pursuing careers in these industries. This report is part of the Women Who Master initiative by the Logitech Master Series, which aims to celebrate, amplify, and enable the rise of phenomenal women in STEM.

#1 Early cheerleaders and real-life role models matter.

Early influences have a big impact on women in tech and IT. **Over half of women (60%) said a parent or a teacher encouraged them** to study computer science, demonstrating the pivotal role particular adults play in supporting women at a young age.

#2 Passion is a key driver for entering the tech sector.

Women most often cited finding a passion for the industry as a catalyst for pursuing a computer science-related career. The top reasons women are drawn to tech and IT include a **passion for computers (35%) and an interest in how things work (33%)**.

#3 Once hired, a job that makes a meaningful contribution to society is very important.

Among women in the tech industry, finding a job that positively contributes to the world is central to their career choices. An overwhelming **majority of women (92%)** said the ability to make a **meaningful contribution to society is a primary factor in their career development**.

#4 Access to women-friendly communities of support help them persist.

Communities of support help women handle a pervasive sense of judgment they feel before and during their tech careers. Women reported that **programs dedicated to women (44%)** and finding support through **professional networks (31%) help them persist**.

#5 Meaningful action from men makes a difference.

Men remain blind to the judgment, isolation, aggression, and sexual harassment women face in the tech workplace (80%). To increase gender equality in the tech industry **men must take steps toward self-awareness** and transform good intentions into meaningful action.
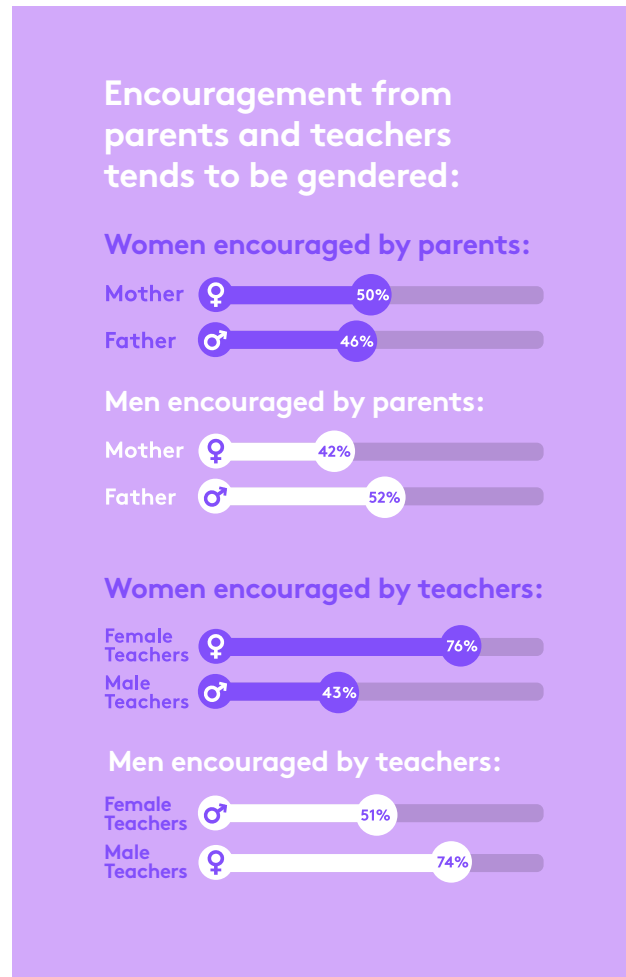
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4

Early Cheerleaders and Real-Life Role Models Matter

For the girls considering the fields of tech or IT — early support is essential. Authentic support from parents and teachers plays a pivotal role in supporting young women who may otherwise choose another profession.

96% **of women felt encouraged in their choice of a computer science career**
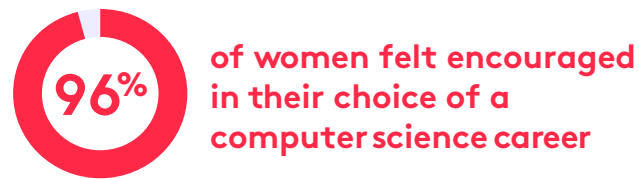
Among survey respondents, nearly all (96%) of women working in the field today said their family or friends supported their choice to pursue a career in tech or IT. This uniformity in response shows how influential early support can be for young women.

For women, the greatest influence in pursuing tech was: a family member or friend (60%), a teacher, (50%), and a famous person or character (35%).
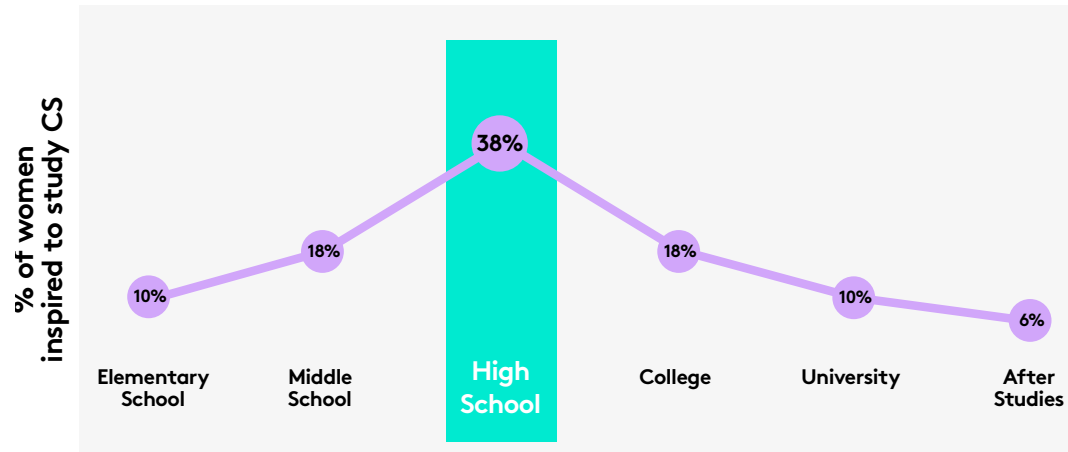
Encouragement from parents and teachers tends to be gendered:

Women encouraged by parents:

Mother ♀ 50%

Father ♂ 46%

Men encouraged by parents:

Mother ♀ 42%

Father ♂ 52%

Women encouraged by teachers:

Female Teachers ♀ 76%

Male Teachers ♂ 43%

Men encouraged by teachers:

Female Teachers ♂ 51%

Male Teachers ♀ 74%

" **I wasn't interested in math, but my dad suggested I take a pre-algebra class in college. My instructor was a woman who was an electrical engineer at Ford at the time. That was the spark. I ended up earning two degrees in engineering after that."**

Aisha Bowe
Founder and CEO, STEMBoard and LINGO

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Women's Interest in Computer Science Studies Mostly Starts in High School

% of women inspired to study CS

- Elementary School: 10%
- Middle School: 18%
- High School: 38%
- College: 18%
- University: 10%
- After Studies: 6%

The Tipping Point: High School

According to the survey, high school is a tipping point. By now the majority of people, regardless of gender, had an interest in computer science.

But for women high school teachers are difference-makers. Teachers at this level have the most influence on women choosing careers in IT or tech among all educators — a powerful role worth celebrating and recognizing.

Additionally, over a third (38%) of women said they developed an interest in computer science in high school. The second most influential times were during college (18%) and middle school (18%).

Lack of Visibility to Existing Role Models Reinforces the Cycle

Support from teachers and parents is especially important for women because they lack real-life role models. Women (12%) are less likely than men (18%) to be inspired by a real scientist. Instead, they find inspiration from fictional characters in a movie, series or book (16%).

School is an opportunity for inspiration, as women are strongly influenced by their teachers.

While the survey results didn't reveal why women turn to fictional characters, it is likely because they encounter so few real-life role models. Even when women have broken through, they often are not recognized as much as men.

The names of trailblazers such as **Ada Lovelace**, considered the first computer programmer and writer of the first algorithm, **Katherine Johnson**, whose work in orbital mechanics made the first U.S. crewed-spaceflight possible, and **Evelyn Boyd Granville**, who created the first computer software to analyze satellite orbits, are still relatively unknown.

" My parents were always supportive of me choosing a tech career. They weren't sure about the video game part, but they came around on that. Their support gave me the confidence to pursue my dreams. "

Gabby Llanillo
QA Engineer and Quality Lead, Riot Games

THE TAKEAWAY

Support girls as they grow.

Encouragement from teachers and parents and inspiration from more real-life role models can show girls and young women they belong in tech and IT.

Passion is a Key Driver for Entering the Sector

The opportunity to pursue a profession one is passionate about can be incredibly meaningful. For women in tech and IT, it's often the primary driver. In the survey, women were asked about why they entered the field, with choices that included wanting to be like friends, the trendiness of a job, pay, and existing skills, along with passion for the sector. Passion was the most prevalent draw.

Women said they were attracted to the sector most because of their **passion for computers (35%)** and an **interest in how things work (33%)**.

This commitment to passion is even more notable when comparing the women's answers to the men's. While over one-third of women said a passion for computers was their reason for entering the field, only 26% of men said the same. Similarly, only 29% of men noted that an interest in how things work led them to pursue computer science.
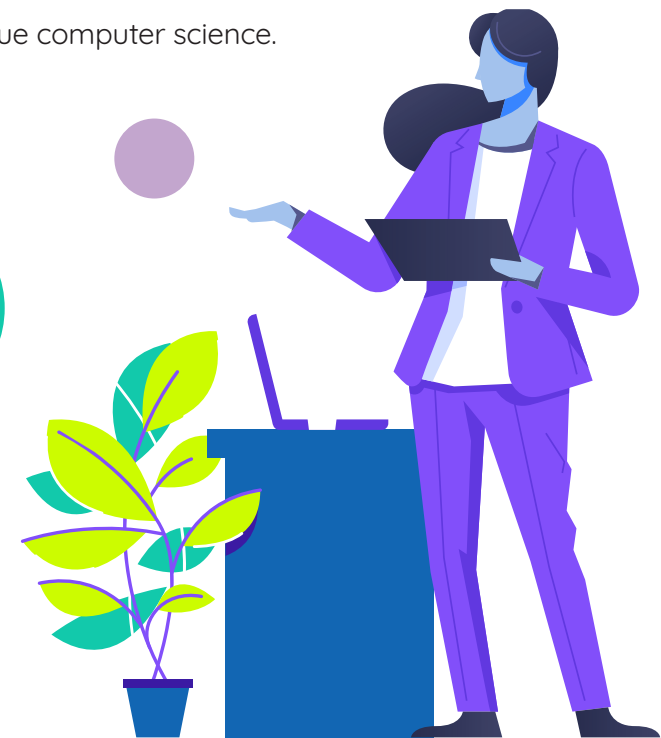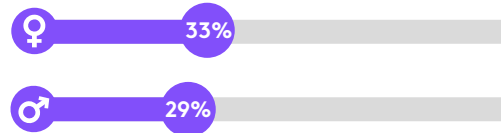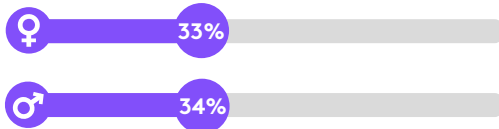
Top Key Drivers

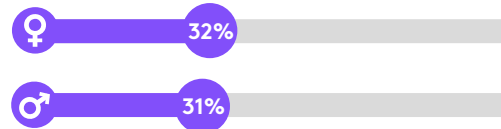**I have always been passionate about computers.**

♀ 35%

♂ 26%
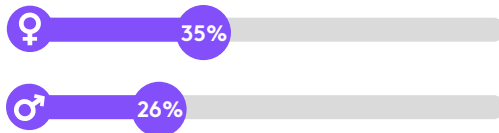
I have always been interested in how things work.

♀ 33%

♂ 29%

It's a well paid job.

♀ 33%

♂ 34%

This is the job of the future.

♀ 32%

♂ 31%

THE TAKEAWAY

Take pride in being passionate.

Support women as they enter the workforce through messages that encourage women to embrace their passion and interest in how things work will.

#2

Once Hired, a Job that Makes a Meaningful Contribution to Society is Very Important

After entering a tech or IT career, women place priority on what their job does for others, rather than for themselves. Nearly all women surveyed (92%) said that **the opportunity to make a meaningful difference to society is a primary driver in their career development**.

Equally significant, the survey reveals how gender inequality impacts women's career choices in ways that are both subtle and explicit. For example, the survey asked women what influenced their careers. Gender balance and mentorship ranked last in factors that contributed to women's career progression.
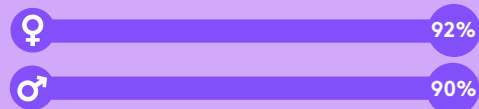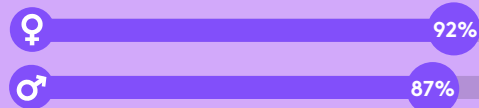
Top Career Drivers

Overall Atmosphere

♀ 94%
♂ 88%
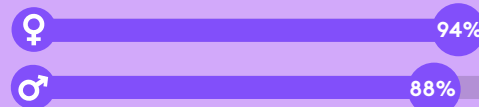
Development of Technical Skills

♀ 92%
♂ 90%

Ability to Socialize with Coworkers

♀ 92%
♂ 87%

> "I know that everything I do in my role at Logitech comes back to creating better ways for people to work, learn, create, and play. And this helps us align internally also around what matters within the organization around career development, mentorship, and involvement in meaningful projects."

Delphine Donné
General Manager,
Creativity & Productivity at **logitech**

#3

THE TAKEAWAY

Emphasize the ways tech and IT contribute to the world.

Showing tech and IT in a positive way while also addressing gender balance and increasing mentorship could support women's success and increase retention in the sector.

Access to Women-Friendly Communities of Support Helps Women Persist

There is a persistent perception of tech and IT as masculine careers. This may influence why so few women pursue careers in the industry — in 2019 **only one in five (21%) [people who earned computer science degrees were women](#)**. That gender imbalance is sharply experienced by women, especially at the college level, where 63% of women were unsatisfied with the gender balance in their college classes.

A lack of representation is not where gender inequity stops for women in tech and IT. They report higher rates of judgment, isolation, aggression, and sexual harassment in the workplace.

Microaggressions are particularly common. Nine in ten women (90%) have experienced microaggressions at work. Examples of unwanted and unfair treatment include being treated differently than male colleagues (66%); facing communication that dismisses and devalues their thoughts or infers they are less capable than men (62%); experiencing incivility, disrespect, contempt, steamrolling, sexist jokes, and sidelining (50%); and sexual harassment (40%).

Having these experiences, or hearing about them from other women, could be the reason nearly half of all women surveyed (44%) said they participated in computer science programs dedicated only to women during college. In the workforce, women continue to seek community, with nearly twice as many women (31%) seeking support through professional networks as compared to men.

> "If we truly want to disrupt tech and create a new vision for what developers and engineers look like, we have to expand our support system for girls and other marginalized groups. Creating clubs, expanding workforce development, and investing in mentorship programs ensures students will have support on their journey from school to career."

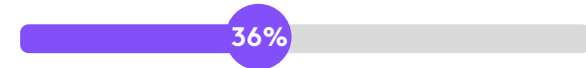**Dr. Tarika Barrett**
CEO, Girls Who Code

90% **of women have experienced microaggressions at work.**

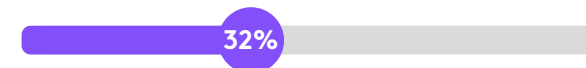## Microaggressions came from:

Coworkers
49%

Managers
36%

Personal Environment
32%

Clients
20%

Despite the discrimination and harassment they face, women in the field remain positive about their career choice. A majority who continued in tech or IT industries would recommend it as a career for other women (91%). This signals the significant opportunity there is to support women in the industry today and ensure future generations feel welcome as well.

> **"The women I've met in professional networks and communities helped me find my voice and my own style. I wouldn't be where I am today without their insights, support, and friendship."**
>
> **Sara Inés Calderón**
> React Native Engineer

#4

THE TAKEAWAY

Disrupt prejudice and bolster women-friendly communities of support.

The majority of women have felt unwelcome or unsafe while pursuing their careers. They find companionship and strength in communities where they feel welcome.

Meaningful Action From Men Makes a Difference

Despite the high number of women who reported experiencing microaggressions at work (90%), very few men recognize the continued hostilities their female colleagues experience. A vast majority (80%) of men believe their company creates a good environment to integrate male and female workers.

Yet when men are asked directly about barriers for women, they recognize more of the challenges. Among male survey respondents, over half (56%) reported that in hindsight they have been patronizing towards female colleagues; they acknowledge women have fewer opportunities to advance in the IT sector (60%); and that women may feel intimidated working with men and their team (58%).

My company creates a good environment to integrate male and female workers.

♂ ——————————————— 80%
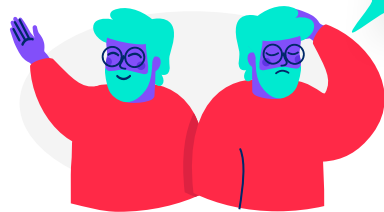
VS

Women may feel intimidated when working with me and my colleagues in the same team.

♂ ——————— 58%

Women have lower opportunities in the IT sector in comparison to men.

♂ ——————— 60%

In hindsight, I find some of my behavior toward female colleagues patronizing.

♂ ——————— 56%

#5

THE TAKEAWAY

Transform good intentions into meaningful action.

The attitudes and actions of men can hold women back. But it's not enough for men to recognize the challenges women face. They must become self-aware of how their actions are impacting women.

Make Agile principles the true centerpiece of tech company culture, rather than an optional feature and we can improve gender equality in tech and IT.

The results of this survey show the breakthrough moments that encourage women to pursue and progress in tech and IT careers. But they also reveal how far the industry has to go.

By valuing individuals and interactions, collaboration, and continual adaptation to change, we can expand the professional paths for women who are already in the field and give girls the early support they need to choose the career path.

Companies, and men, in particular, have essential roles to play in this effort.

Here Are Five Challenges We at Logitech MX Are Asking You to Take On:

Support more women-focused spaces.

Meet-ups held by organizations like Girls Who Code (GWC) can be powerful positive influences on young girls. GWC has served over 500,000 girls, women, and non-binary people, and its alumni choose CS majors at 7X the national average.

By making these groups accessible at all levels — elementary, middle school, high school, college, the workplace — organizations can reach women and girls in all the moments when they are most likely to choose a career in IT and tech.
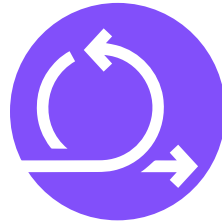
Adopt Agile.

Women want to create positive change through their work but a well-paying job is the second biggest reason women were inspired to choose a computer science career. Adopting policies that reduce the gender pay gap might therefore make these careers more attractive to women. However, women often choose jobs in CS for other reasons, such as flexibility and the chance to collaborate, so pay equity alone may not draw them to the field. Companies should embrace Agile principles, like prioritizing individuals and collaboration, to start a dialogue with female employees to find out what matters most to them.

Start male allyship programs.

Men need to turn their good intentions into meaningful action. Their first step should be to begin with themselves, questioning and addressing their own behavior. Male team leaders and executives should identify and address sexist attitudes and behaviors in their departments or companies.

Gabby Llanillo
QA Engineer and Quality Lead, Riot Games

Dr. Tarika Barrett
CEO, Girls Who Code

Sara Inés Calderón
React Native Engineer

Aisha Bowe
Founder and CEO, STEMboard and Lingo

Honor more real-life role models.

There are a number of ways to honor more women in tech and IT and create more real-life role models for females interested in the field. Showcases like Logitech MX's **#WomenWhoMaster** series highlight the achievements of female leaders in tech fields. Expanding these programs will show more people how women are advancing the industry.

Additionally, the industry should engage with those not directly in tech and IT, but who often influence the decision of girls and young women.

Working with high school teachers and college professors, the industry could highlight more of the accomplishments of history's female engineers, computer scientists, and mathematicians to bring attention to their notable contributions.

Tech and IT leaders could likewise use their influence to encourage film producers, television series creators, and authors to tell the stories of these women to inspire girls and women of all ages.

Celebrate tech's contributions.

Finally, women see making meaningful contributions to society as a key factor in their career choices. High school teachers, college professors, and others can highlight the positive impact of IT as a way to reach more women and girls. And in doing so, they will further strengthen and expand the good that technology can contribute to the world through greater equity and opportunity for all.

About Logitech MX #WomenWhoMaster Series

You can't be what you can't see. That's why, in support of the Girls Who Code mission, Logitech is putting the spotlight on women who have mastered their fields in STEM.

While our featured **#WomenWhoMaster** series provides girls with powerful aspirations and career tips, Logitech aims to equip them with the tools they need to thrive.

Methodology

The Computer Science Survey was conducted by IPSOS among a sample of 400 adults, 200 women and 200 men, who are between the ages of 18 and 35 years old.

The adults surveyed have been working for less than 10 years as developers (computer programmers, web developers, software developers) or IT professionals (computer systems analysts, information security analysts, database administrators, network administrators, and architects). The survey was live in the United States from February 7 to 18, 2022.