

Women in Tech

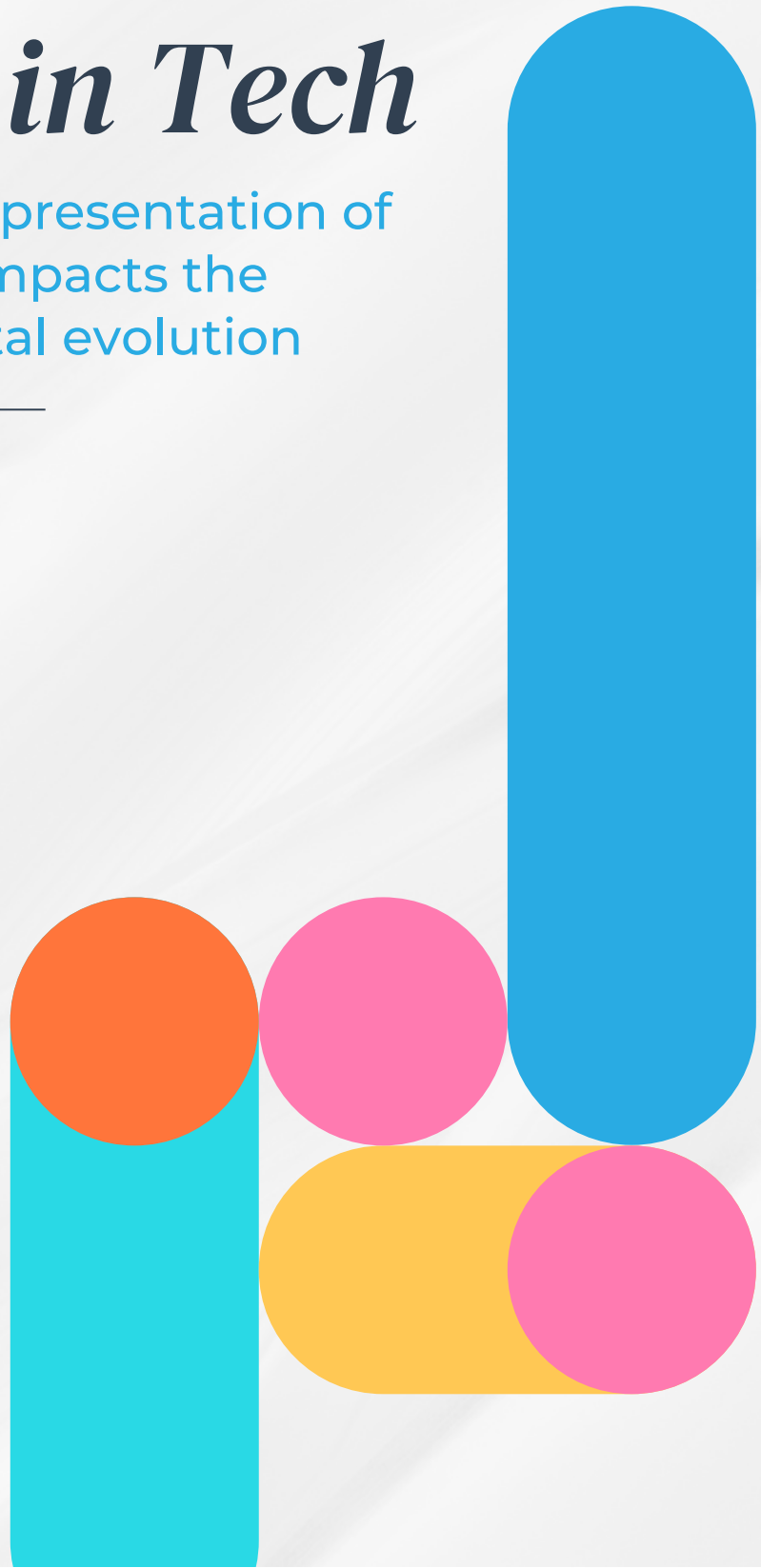
How the underrepresentation of women in tech impacts the trajectory of digital evolution

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Introduction

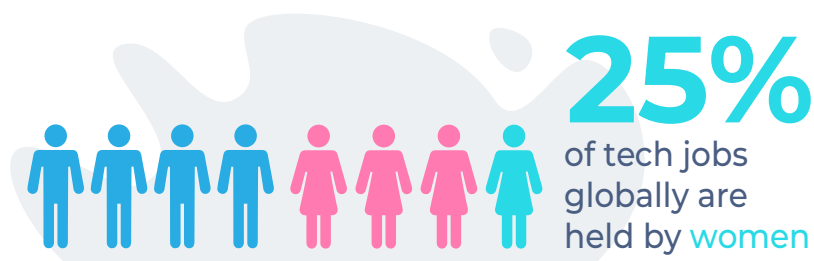
Innovation in the technology (tech) industry is unquestionably and rapidly transforming the world in which we live.

Leading the charge are the thought leaders and innovators responsible for this rapid and widespread disruption. These are the agenda-setters of our evolving global tech culture.

They tell us what tech is important or redundant, reshape the way we perform daily activities, influence our personal habits, and – ultimately – determine the way in which our society interacts and functions within the tech-driven ‘new normal’. Their influence on our daily lives is, however, yet to be fully acknowledged.

While global technological transformation is the inevitable descendant of the industrial revolution, this disruption was intensified by the Covid-19 pandemic. Global investment in financial technology (fintech) amounted to US\$105 billion (approx. R1.5 trillion) in 2020 – creating significant employment and pioneering innovative digital products and services.

And yet, despite phenomenal growth in the industry, women are inexplicably underrepresented in the cohort of successful tech entrepreneurs. Despite constituting 49.6% of the global population, only around 25% of tech jobs globally are held by women.



This is mirrored by the top five tech companies in the US – Google, Apple, Facebook, Amazon, and Microsoft (often collectively referred to as GAFAM) – of which only 25% employees are female. Alarming, a study conducted by PWC puts this figure at 19% within the world's top 10 global tech firms.

The question is clear – if the tech industry has reached record proportions, why has the number women involved in tech companies, careers and conversations remained so low?

How and where the gender inequality beast rears its head in the tech world


Male leadership is the status quo

Many of the foremost tech and digital innovations that are now commonplace in our daily lives have come about under strong male leadership.

The notion of “think manager, think man” has contributed to an ingrained male bias in the business world. According to a report by PWC, only 3.31% of CEOs of listed companies on the JSE at 30 April 2019 were female.

While the number of women holding positions in other executive roles such as Human Resources, Marketing, and Legal is on the increase, only about 1% of executives around the world are female. Moreover, the key positions that lead to CEO roles, such as COO and CFO, are predominantly held by men.

This issue stems both from the initial hiring process and promotion within an organisation. In fact, a recent Austrian study of the language used in leadership job postings found a 27:1 ratio in the use of masculine to 'gender-fair forms' (using both male and female terms).



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Despite these findings, the challenge does not simply lie with an overabundance of men in leadership roles, but rather in consciously and proactively creating more female leadership roles and challenging the flawed belief that leadership is inherently better suited to males.

Much work also needs to be done to actively develop more female leaders that are primed to take their seat at the head of the boardroom table.

Product design from the male perspective

A second prominent area in which gender inequality in the tech space becomes apparent is in product and solution design. The imbalance of men to women in leadership positions has negative spill-over effects into the business operations of tech firms. Few people are aware of the golden thread between gender inequality in tech firms and firm performance, but once they learn about it, it becomes very difficult to ignore.

The exclusion, underrepresentation, or misrepresentation of women in tech product design processes have resulted in many of the

everyday experiences on offer, as well as the objects and technologies we interact with, being designed by men, for men – although not necessarily intentionally.

1. Seat belts in cars

A seat belt in a car is accepted as a universal sign of safety. However, in truth, its basis in male-centric design renders the level of safety provided for men higher than for women.

When initially introduced in the 1950s, car crash test dummies were modelled on the measurements of the 50th percentile male, assuming that the 50th percentile male would be representative of the 50th percentile human, Perez reveals in her book *Invisible Women: Data Bias in a World Designed for Men*. While over time, female crash test dummies have been introduced, these are merely scaled-down versions of the original male dummy.

Concerningly, in the European Union, the female crash test dummies are only required in one of five regulatory tests for vehicle safety and ‘she’ is only required to be placed in the passenger seat. The result: women are at greater risk of dying or being seriously injured in a car accident than their male counterparts.

2. “Typical” warning signs for health

A second alarming example is how the “common signs and symptoms” of deadly health conditions we are made aware of from a young age, are actually common symptoms for males. Commonly accepted symptoms of a possible heart attack are tingling in the arm or pressure on the chest. In reality, female-specific symptoms of a heart attack include nausea, sweating, or vomiting, among others. The result: according to a Harvard study, women are less likely to survive their first heart attack than men. This could largely be

attributed to the fact that the symptoms differ between men and women and we are predominantly taught to observe for the male-specific symptoms. The historical lack of female representation in the design of biological and medical education is largely to blame for outcomes of this kind.

3. Voice recognition software

A third example is the predisposition of voice recognition software to respond to requests, follow orders and accurately comprehend instructions from a male voice rather than a female one.

Speech recognition is a form of artificial intelligence (AI) that has been shown to perform less effectively for women than for men. While studies report differing statistics on the gap between the accuracy of voice recognition for male versus female voices, it is largely accepted that accuracy for male voices is still higher by around 10%. The accuracy levels for females users of colour and those from minority ethnic groups are even lower.



These disparities exist because of the way in which data analysis, databases, and machine learning have been structured. Once again, it is doubtful that these biases were intentional, but it does not mean they are not problematic and are a prominent example of the impacts of male-dominated product design.

The gender data gap and our increasing reliance on AI

Adding further fuel to the fire is the gender data gap – the gender biases that exist in big data, which are increasingly used to inform decision-making. Gender inequality in the tech space extends beyond a lack in the physical presence of women. The issue extends to the historical, deep-rooted gender biases that exist in the data we produce. Most of recorded human history is one large data gap. This is the result of the lives of men being used to represent those of humans overall – not a deliberate occurrence, but rather the product of a method of thinking that has prevailed for many years.

As data starts to play an ever-increasing role in shaping how the world develops, the transparency, validity and representativeness of the data on which we are so reliant has become critical. Many organisations make decisions based on AI machine learning, in which algorithms learn from vast amounts of data to find patterns and make predictions. A consequence of the core function of machine learning is that when you feed it biased data, its ability to be biased improves. This can lead to AI systems reinforcing and intensifying existing harmful gender prejudices.


“Equal representation is vital not only to the development of the data and AI used to make decisions but also within the teams that make those decisions in every organization. Women represent 50% of the world’s population and if female customers are not represented where decisions are being made, you’ll fail to reach them in a way that resonates with and serves them.”

- **Thea Sokolowski, Head of Marketing and Communications at Stitch**

Those collecting data decide what and how to collect, and this can have important consequences for women. No industry better

demonstrates this than healthcare, in which male bodies have long been the standard for medical testing. It is evident from numerous studies that women are regularly excluded from medical trials, with many studies mentioning in the “limitations” sections of their papers that the female bodies were deemed too complicated and unpredictable to include.

Beyond explicitly choosing what (or what not) to collect, historical prejudice can also affect the patterns of the data that we use. In the consumer credit industry, initial processes used gender and marital status to define creditworthiness. Although, after some time, these discriminatory practices were replaced, by then, women had less formal financial history and suffered from discrimination, impacting their ability to obtain credit.

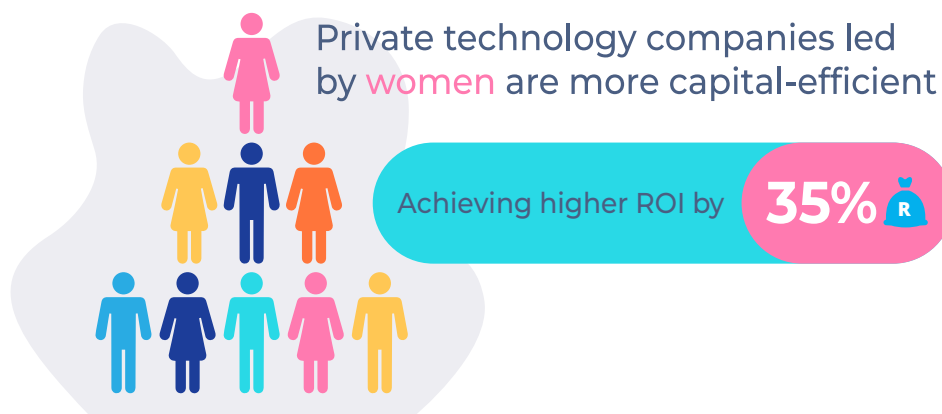


Being aware of the gender data gap, and no longer taking each statistic and ‘fact’ at face value will ensure that the data used to build tech products and services is free of gender biases and discrimination.

As with many looming social challenges, awareness is the first step towards developing meaningful solutions. We cannot change what we are not aware of. Being aware of the gender data gap, and no longer taking each statistic and ‘fact’ at face value will ensure that the data used to build tech products and services is free of gender biases and discrimination. In addition, businesses must make a conscious effort to collect sex-disaggregated data at the inception of every process.

Thriving businesses and economic prosperity

Including more women in tech and making the sector more gender-equal can lead to an increasing number of thriving businesses. The data clearly shows that investing in women in leadership positions has tangible benefits for stakeholders. According to the Kauffman Foundation, private technology companies led by women are more capital-efficient, achieving 35% higher return on investment (ROI), and, when venture-backed, have 12% higher revenue than start-ups run by men.



“Equal representation is vital not only to the development of the data and AI used to make decisions but also within the teams that make those decisions in every organization. Women represent 50%.”

- Sarah Rice, from Skynamo

Several studies on gender differences in risk assessment, including one conducted by the University of California, have found that women may be better at assessing risk, and at using those risk assessments to guide their decisions. Considering that about 75% of projects fail due to the flawed anticipation of risks, women in leadership positions can provide companies with an advantage when planning large-scale projects and business ventures.

What can be done to change the narrative of women in tech?

Gender equity – the process of being fair to women and men by providing both genders with what they need to succeed – is valuable in itself. To ensure such fairness in the tech industry, strategies and measures must be put in place to compensate for women’s historical and social disadvantages.

STEM education for girls

Enhancing access to educational opportunities in the Science, Technology, Engineering and Maths (STEM) space for girls is a major driver of increased female representation in tech. According to a PWC study, In South Africa, far fewer women than men graduate with STEM-related degrees, creating a far smaller female talent pool. It is thus critical to make a deep-rooted effort to equip women and girls with the tech skills required to compete with their male counterparts. Global organisations such as Women in Tech, Girls Who Code and Women in Data are making a significant impact by pushing for more access to better-quality education for women and girls in STEM fields.

Female role models

The second building block for changing the narrative around women in tech is the presence (and current lack of) female role models in tech careers. This is an aspect that goes hand-in-hand with promoting the education of women in STEM degrees and fields.

The more powerful are the female role models in the tech space, the more young girls will be inspired to take up STEM subjects and pursue careers in historically male-dominated fields.

Additionally, until the gender gap is adequately corrected, male leaders in tech can also serve as role models for women in the industry, actively encouraging increased women participation and inclusion.


Societal views

It is when we achieve a shift in societal views about women in tech, that we can safely state we are beginning to successfully move towards a more gender equal space. These societal views come about through the deeply-ingrained gender biases and preconceptions that exist within each of us as a result of the conditioning we have grown up with.

Why the underrepresentation of women in tech is important

There are many reasons that we should strive for gender equality in the tech industry and the business environment at large. From an economic point of view, research has proven that women play a fundamental role in the development of the tech sector, and their inclusion and involvement in business decisions result in increased ROI. As McKinsey Global Institute research suggests, this can ultimately result in economic prosperity, both nationally and globally.

From a social point of view, the inclusion of more women in tech and the achievement of gender equality will result in products and solutions that are designed to be more inclusive. A positive spill-over effect of this is that the social impact of businesses will increase as their products and solutions are able to help a wider audience than before.



We must strive for balance at the tech table to ensure that the needs of society are represented in decision-making processes and in the development of solutions and products.

These economic and social benefits are important, but it is vital to remember that the key to success is balance. We must strive for balance at the tech table to ensure that the needs of society are represented in decision-making processes and in the development of solutions and products.

However, for gender equality in the tech space to have a meaningful and lasting social impact, business leaders in tech must recognise that diversity is not merely a tick-box item, but rather a golden key to designing products that work for everyone.

How any company can drive women in tech

At Finch Technologies, we believe that diversity is an antidote to a stagnant 'group think' approach, and have actively taken steps to improve the number of skilled women in tech, building our team based on skillset and competency.

Three of our four most recent hires are women, while several of our senior and emerging roles are held by women:

Group CFO Tarryn Augoustatos

Head of Ecosystems Lara Du Plessis

Credit Analyst Alexandra Johnson

Content Marketing Specialist Ashleigh Butterworth

Design Intern Zarreen Samie

We believe this has only come by being aware, intentional, and recognising the talent that women equally bring to the table.

In an effort to close the gender gap in the tech sector, it's important that we open the conversation to leaders and employees - both male and female.

We need to talk about it, listen and take action, and until we get to a point where diversity is and will always be the norm.