Breaking the Barriers: Women and Technology

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Abstract: *All around the world, in various social norms, in some or the other form, women deny their rights to education, economic growth, and participation in politics. This inequality in gender slows down the progress of the world. Women are away from technology due to many reasons including gender bias, unequal opportunities, unequal pay for their hard work and talent, lack of guidance, and lack of women role models in the field. The technical industry is one of the industries which is growing rapidly reaching new heights and setting new goals. Climbing the career ladder in the technical industry is not so easy. But for women technologists, the path to the top is more difficult. When we compare men and women, men with a bachelor's degree earn 16% higher median wages than women. The technical industry is male-dominated, whereas women are underrepresented in technology. This is not only a societal shortage but also a workforce problem, given that there is a shortage of women's technical professionals. We should concede that women have a significant barrier between them and the technology company entries. This broken rung in the career of women puts them at a disadvantage. This becomes a reason for technical companies to hire same-gender people. People often think that women are not good at technology. Thinking that society is inside a bubble where women will stop working after marriage, and even if they continue working after marriage, they will stop after having children. We can see the variation in internet usage by different genders in which women lie far behind men, and this is true in every part and corner of this country. The Internet plays a very important role in people's lives as it helps everyone in accessing information and helps in social participation. Opportunities are never the same for men and women, and the differences in access to tools and technologies compromise the opportunities for women.*

Keywords: Gender Bias, Imposter Syndrome, Patriarchy, STEM, Unconscious Bias, Women and Technology

Introduction

The question, "are women in the technology field famous as they are in other fields?" yields the response "no", despite the fact that women have accomplished a great deal in various fields, including technology. As can be seen, women and technology are very different. We cannot deny that women work in technology but do not get as many higher positions as men do. Regarding positions in technology-related fields, they are chosen the same way as men are. As can be seen, most positions are held by men, with only a few women in them. Inequality in the workplace affects women in a way that women share with the world. They are confronted with widespread gender bias in the technology sector. There are significantly more women employed in India's tech industry than in any other private sector. According to the most recent information, women comprise about 36% of the five million people in the technology industry. Despite this, they undoubtedly face discrimination. In 2021, women are still underrepresented despite their increasing participation in various roles, according to a report. According to a report published in 2022, only 7% of them hold executive-level positions [1]. Even though women put in as much effort as men do, they are still underrepresented and often viewed as lacking intelligence and talent. Women are more creative and logical than men, so they can bring a new perspective. A Boston consulting group survey found that women-run businesses generate higher returns than men. According to the survey, investors have a higher threshold for women-owned startups. Women tend to contribute more to society than men when they work in technology. Additionally, they tend to increase the number of female employees in their businesses, thereby expanding women's employment opportunities.

Literature Review and Methods

Position of women in ancient India: From the beginning, India was a patriarchal society. In a patriarchal society, men lead the family and make all important decisions about the house. First, if we look at a madman's virtue, it is simple to say that he can manage his city's affairs in a way that benefits his friends and hurts his enemies, as well as taking care not to hurt himself. Or take a virtue of a woman: It is easy to

describe it as the responsibility of maintaining order in the house, taking care of the property inside, and obeying her husband [2]. Because women are treated as second-class members of the household, they are forbidden from offering advice or opinions to men because they do not have the same rights. Ladies in India don't reserve an option to get property as a legacy from fathers in the days of yore. This explanation drove ladies to rely upon men in various ways. Women rely on their fathers when they are young, their husbands when they get married, and their sons when they are old. Women in this society are severely limited in their opportunities to demonstrate their worth. Also, they were very little if given and meant only for wealthy women. Women were taught from a young age how to be good housewives and were mostly involved in activities like weaving, singing, and dancing. They were prepared and taught that their job was simply to run the house and comply with their parents-in-law. Everyone was expected to follow the rules and jobs set for both genders by society, and those who questioned them were severely punished. It was expected of women to keep their thoughts to themselves. Men dominate this patriarchal society; only a few women fight against it and attempt to achieve their dreams and goals despite the odds. Ladies were separated regarding their freedoms. They likewise never reserved the privilege to make choices for themselves.

Position of women in modern India: The times have changed, and women have started breaking all the rules men in society set. They have done many things and shown that women are just as good as men. Women have overcome all gender barriers, fought for their rights, and advanced in various fields, including politics, the arts, science, and law. For the past 100 years, women in India have dared to break barriers and achieve their goals. Before that, women had also accomplished a lot, but not much. They have made incredible contributions to the nation. Women began to equally balance their personal and professional lives. Women are treated on an equal footing with men and are now eligible to inherit property from their parents. Their accomplishments over the past few years are quite noticeable and worth recognizing. We can look at many women who broke all the rules and were the first in their fields, inspiring many women.

Additionally, they encountered numerous obstacles, making them memorable. Like Prime Minister Indira Gandhi, Speaker of the Lok Sabha Mrs. Meera Kumar, First Woman IAS Isha Basant, First Woman IPS Kiran Bedi, and the list continues. Women are contributing significantly to society's development over time. They began slowly accomplishing everything, and now there is nothing a woman cannot achieve. Women are now valued as valuable rather than viewed as a burden. Women and men now share the same level of equality [3].

Challenges faced by women in the technology industry: We only see one side of the story; to analyze a situation, we must examine both sides. We are saying that ladies are not in the industry, but rather we never pondered the explanations for it. Women choose to work in technology but are not given the same opportunities for advancement as men. According to a report from Accenture and Girls Who Code, a significant number of girls and women leave their jobs before age of 35, 2.5 times more than in other industries. Requesting that ladies join is not just an issue; giving them great open doors is likewise in such a one-sided orientation industry. Keeping this gender bias and stereotype in mind, there are other issues, such as that females in the technology industry, which is the first in the industry, lack female mentors who can share their experiences, challenges, and solutions. We realize that correspondence is the way to take care of any sort of issue. However, women are prohibited from doing so for several reasons. Women may have fewer opportunities for networking in the tech industry than men [4] [5]. Networking is essential for career advancement. It can be challenging for women to connect with peers and industry leaders at tech events and conferences because they tend to be dominated by men. Tech assiduity is known for working long hours and having a lot of work, which can be hard for women who want to simultaneously work and care for their families. Women may have the impression that they must choose between their job and their particular life, which can result in career decline and collapse [6]. Women working in technology frequently suffer from impostor syndrome, in which they may believe they do not belong or are not good enough. Orientation predisposition and generalizations in the business can exacerbate this. Sadly, wage disparities between men and women persist in the work place.

Benefits of women in technology: Young women in the technology industry are encouraged to apply for positions with the realistic expectation of ascending the corporate ladder as women advance into leadership roles. Better morale, safety, and workplace culture are also cultivated in a balanced workplace. Increased revenue and improved employee performance are the outcomes of these factors. Women bring fresh

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perspectives that foster creativity and better problem-solving. We want technological advancement to accommodate all customers, regardless of race or gender. When developing cutting-edge technologies, computer science engineers must consider the needs of end users. Diverse teams are necessary for companies to achieve representation. Women's perspectives differ from those of men in industries where decisions about unisex or female products were previously made solely by men. Taking a woman's perspective into account, results in novel changes. Test-taking tasks are where women shine: the ability to speak, read, and write, as well as fine-motor coordination, speed of perception, and access to information stored in their long-term memory. Men still possess their own set of abilities, though. Because they fear they will be unable to move up the corporate ladder, qualified candidates are not applying to specific jobs that men dominate.

The talent pool grows as a company's-company's mentors, leaders, and role models become more diverse. Women's equal representation will impact future generations of the tech industry at the table and in the company hierarchy. Not only encouraging young women to keep learning and coming up with new ideas but also developing technology to better understand what female users want. Good mentors bring the talent pool of people who want to learn from people they want to be in the future. An improved talent pool leads to improved product and innovation. Increased safety is one of the reasons why the tech industry needs more women. You can see how women's ideas bring a new perspective to the table now that you have seen the research on the differences between men's and women's brains. Women on your security teams provide additional protection because hackers are not just men. Open discussions, better HR practices, and less gender bias in the workplace are made possible by transitioning from male-dominated environments to gender-balanced work teams. Everyone benefits from a safer and more enjoyable workplace as a result.

Let us look at some statistical representations which talk about women in technology. The following picture states the works mostly given to women:
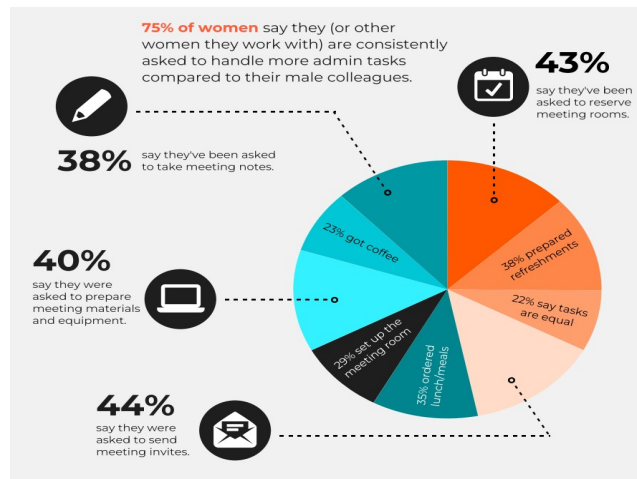
The following picture depicts the percentage of women that represent the higher positions:
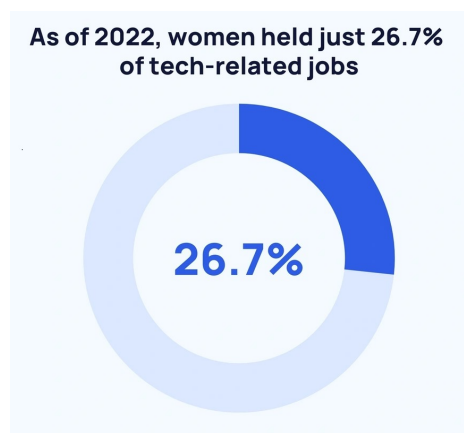
- Statistics say that Women's representation in tech companies with more than 10,000 employees stands at 26.2%.

- Last year, women's representation in big tech fell by 2.1%.

- 75% of tech companies report implementing pay equity policies in the workplace.

- 83.6% of technology companies employ unbiased hiring and training practices.

The following shows us about the funding received by companies run by women:

66% of women entrepreneurs found it challenging to obtain business funding

Women in technology are twice as likely to be laid off or furloughed as men in technology. In prior years, women have received as little as **2% of all investment funds** in a given year and receive far less global venture capital funding than male entrepreneurs [7].

When a survey conducted in public about their opinions on people whether women are better in coding or men:

WHO'S BETTER IN CODING AND TECHNO RELATED WORKS?

| Women | 39% |
| Men | 61% |
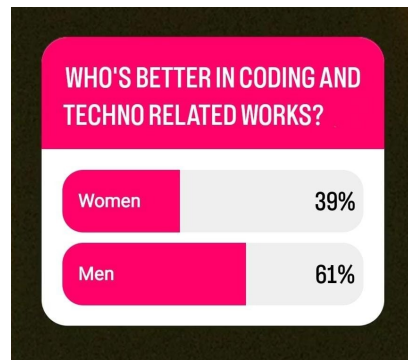
The output of the survey comes out like this. People consider men better at coding than women. Out of 100 people, 61 voted for men and 39 for women.

Proposed Methodology

Bridges that can reduce the gaps between women and technology:

- When children want to learn about technology and make it their primary career, parents need to be there for them. Parents should avoid being unconsciously biased against their daughters because parents can sometimes be biased. Find resources you can give younger girls you know who are interested in STEM subjects and encourage them to do so. By effectively recommending assets for them to gain from, you work with genius abilities quite early in life! The previous young ladies begin, the more valuable [8] [9].

- Associations ought to make sexually unbiased expectations to urge ladies to apply. In addition, hiring firms must encourage women by offering them the same pay as their male counterparts. Women should be represented on hiring boards to avoid gender bias in the hiring process. Additionally, the hiring procedures ought to prevent gender bias. Companies ought to have inclusive cultures that prevent women from feeling excluded. Younger women interested in pursuing a career in technology may be encouraged if leading tech companies allocate a proportionate number of senior positions to women. Inspire inclusive practices in the businesses you collaborate with. Speaking up is the first step toward change, so do not be afraid to say something when you know things might be different. Change becomes more active and attainable when everyone contributes to improving the workplace [10] [11].

- Paid maternity and paternity leave would hurt your bottom line to extend and lengthen it. However, examples from significant tech companies demonstrate that this assumption is incorrect. It has been shown that generous paid maternity and paternity leave boosts retention. Google saw a 50% decrease in the number of new mothers quitting when it increased the length of its paid maternity policy from 12 to 18 weeks. Since then, Netflix and Microsoft, two tech giants, have started providing more generous paid maternity and paternity leave.

- Many people are worried about how much it will cost to become a technical worker through education or other means. Providing girls with free education can help close the gaps. Because many parents in India do not want their daughters to go to college and want them to settle down as soon as possible with less money spent on school, many people in India choose to major in the arts or social sciences even though they are interested in science and technology. Therefore, providing free education to girls can benefit them.

- Ladies' accomplishments should be addressed appropriately to reduce the myth that women are not given credit for their work when an individual receives the necessary credit. This gets trust and motivation from other people looking and remembering to seek it as their profession. Without help from anyone else, we won't take a hazardous and inconvenient profession. Parents will not accept it either if we want to take it and pursue it. But only if we can guarantee our name and safety; we could try to make it a career.

- Eliminate gender bias in employment hiring. Posts must not mention gender and should not object by citing gender. Diverse hiring methods are required. There should be no favoritism while recruiting individuals independent of variety, ideology, and orientation. Companies should employ individuals from diverse locations to increase diversity in the workplace. The organization's growth will also benefit from this diverse hiring because it will bring out the best in everyone.

- Equal pay and equal opportunities will also help ensure that gender bias and inequality in the workplace are not present. Women can also benefit from having a sense of security in a supportive space. Provide opportunities for development and growth: Giving open doors to professional development and improvement can assist with holding female workers and advancing professional success [12].

- Legislation encouraging women's professional advancement and helping them deal with societal bias can help close the gender gap between technology and women. This may help to close some of the gaps. Increasing the compulsory percentage of the number of women employees also helps in this context.

Results

According to the surveys, many people think women are less smart than men. Consequently, the findings demonstrate a significant gender disparity in technology preferences. People's thinking has changed to the point where they now think women are not good at technology. However, this mindset must be altered because ignoring half the population makes it difficult to maintain social stability and equality. Inequality between men and women can also arise from this. Society will never be able to compare to everyone. Women may face difficulties in the long run due to these differences. We have found that women still face a lot, but these problems could get better if we follow the methods that have been explained. We can express that there is as yet a distinction in the outlook of men, and there is an oblivious predisposition in each spot we go. Ladies are segregated wherever in innovation fields and different fields; however, the thing, the amount is less.

Discussion

We can proceed with this paper further with the examinations after existing regulations can be changed to help ladies and assist them with fostering their vocation in innovation. We can also see why women hold most administrative positions. We can also investigate and survey why women believe that men in technology are superior to them. We can also examine the trends that will change over the next few years to

determine whether or not things will improve. We can also ask women to describe their work difficulties and how they deal with them.

Technology exposure as a child: Girls and young women may be inspired to pursue careers in technology if they are given early exposure to technology. This includes programs that provide students with hands-on experiences and role models who show what technology can do.

Diversity and inclusion promotion: Diversity and inclusion can contribute to developing a more welcoming and inclusive work environment in the technology sector. This includes implementing procedures and policies that target unconscious bias and encourage a more equitable work environment.

Promoting women's aspirations for leadership positions: Women's representation in senior positions can be increased by encouraging them to take on leadership roles in technology. This includes giving women in technology opportunities for sponsorship, mentoring, and leadership training.

Accepting new technologies: Emerging technologies like artificial intelligence and robotics could transform the technology sector. Women's participation in developing these technologies can help ensure that they are inclusive and designed from various perspectives.

Education and ongoing training: Innovation is a continually developing field, so giving proceeded with schooling and preparing open doors for ladies in innovation can assist them with keeping awake to date with the most recent patterns and abilities.

Conclusion

All in all, the orientation hole in innovation is a complicated issue that requires a diverse methodology. Due to women's underrepresentation, there is a lack of diversity and inclusion in the technology sector.[4] We need to address unconscious bias, provide mentorship and networking opportunities, highlight the accomplishments of women in technology, increase access to technology education and resources, and encourage girls and women to pursue STEM education to close the gender gap in technology. By eliminating gender bias in job postings, employing diverse hiring teams, sourcing candidates from various networks, offering equal pay and benefits, flexible work arrangements, opportunities for growth and development, and creating a welcoming and inclusive workplace culture, businesses can also increase the number of women working in technology. We can work toward a tech industry that is more diverse, inclusive, and innovative if we take a comprehensive approach to address the gender gap in technology.

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