

Women in Technology: The Science of Success

Will Harris, Maryland, Virginia, USA

Abstract—The responsibility of any society, with the aim of excellence, is allowing all members of its society to contribute based on their abilities. Using gender as the foundation for selecting careers is not advised in the area of technology and computer science. The biggest difference in capabilities between genders is normally physical size and strength; neither of which is important for mastery of computer science or technology. A society is only as great as the equality of the society's members. Excellence and longevity are in direct correlation to equality of gender in the workforce. For this reason, women should be equally encouraged to enter the technology workplace.

Index Terms—Women in Engineering, Gender Equality, Societal Success

I. INTRODUCTION

The responsibility of any society, with the aim of excellence, is allowing all members of its society to contribute based on their abilities.

There is a natural progression of the maturity of any society. Comparison to the growth and birth of a democratic society yields similar results following the occupation or control of one culture outside of the original people of that land.

It is said those who forget the past are forced to relive it. A study of the United States origin and current world position yields insight to the reason for India's past experiences and future greatness. The United States, once ruled by England followed a path of civil disobedience, break from British Rule, Internal Civil War, Legal freedom of enslaved group, moral protection by government of women's rights. This progression led to the United States evolving from a British colony to being a world leader; one of the wealthiest countries in the world. This only occurred after women's empowerment and the struggle of women liberation became a reality.

Working for AutoTrader.com, Motorola Solutions and other global technology clients such as Verizon Wireless, I spent my career in the USA and abroad working within the IT sector directly for women managers. Retracing my professional experiences highlight frequent occasions when the best of intentions fall victim to the worst workforce habits in the form of gender inequality.

On March 16, 2015, Google's co-chairman, Eric Schmidt, participated in a panel on racial and gender diversity in the technology sector.[1] Schmidt openly supported increasing the number of women within the computer science industry. Mr.

Schmidt displayed the best of intentions.

Despite his expressed intentions, during the panel discussion he often interrupted his female co-panelist and former colleague at Google, Megan Smith. Mrs. Smith was the current US's Chief Technology Officer at the time of this drafting.

Mr. Schmidt's behavior appeared to contradict his expressed intentions in support of women being more involved in Technology. One participant described Mr. Schmidt's behavior as lacking professional courtesy; and the crowd supported this view in protest to Mr. Schmidt's behavior. Mr. Schmidt appeared to have an uncontrollable habit that weakened his ability to support women empowerment.

Habits are hard to break unless they come from the heart and remain broken through moral and legal exercises of will.

II. SCOPE OF THE PROBLEM

A. Alignment of words with action

Eric Schmidt declined to respond to the accusation around his behavior, but Megan Smith offered additional insight on women experiences within the Technology field.

Megan acknowledges the main differences in how men and women act within the workplace fosters an emotional prison limiting women from pursuing all options. Mrs. Smith referred to a study showing if a particular technology job description showed 10 prerequisites for hire, a man was more likely to apply for the position if he had three or less characteristics of the prerequisites. Adversely, the study showed a woman was most likely to not apply for the position unless she had seven or more areas of the 10 prerequisites.

B. Workplace Interaction

I have participated in 1,500 business meetings throughout a 15 year professional career. The meetings occurred in person and virtually via conference calls, webinars, and Skype meetings. This past experience allowed me to witness informally the actions taken against women in the Technology field and reaction to women in the Technology field when expressing their opinion.

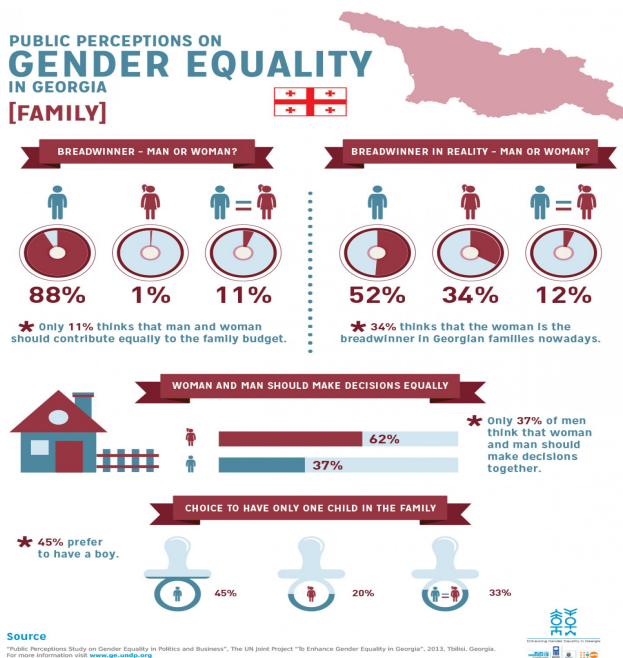


Fig. 1.A study of the people of Georgia revealed 88% of citizens believed a man should make enough money to support the family. Only 11% thinks that man and woman should contribute equally to the family budget. Yet, reality showed that 34% of the women contributed equally despite the opinion that men should carry the largest financial load. [2]

My observations included women expressing their opinion to a majority male audience and receive no response. In the same meeting, another male would repeat the same opinion as the woman colleague and men would suddenly acknowledge that opinion and accredit the male "echo" as being superior.

Furthermore, I have witnessed women employees become hired at lower wages than their male peers out of college. The only difference appearing between the new candidates were one was male and the other was female. I observed gender prejudice; resulting in the slow humiliation caused by miss thinking a woman could not be anything more than the administrative assistant in the room with mostly males. Many times I heard my boss say to another, "No, I am the engineer. He is my assistant."

Within my own company, I have hired women executives who were shown disrespect by male colleagues intentionally or unintentionally. During a board meeting, my female executive asked a question to a vendor seeking to acquire our business. The gentleman did not acknowledge the question and began responding directly to me. When other men asked questions in the same meeting, the gentleman would acknowledge the question and speak directly to the man who asked it.

After identifying the difference in treatment, I corrected the

TABLE I

In earlier grades, 74% of girls express interest in Science, Technology, Engineering and Math (STEM), but when choosing a college major, just 0.3% of high school girls select computer science.	100% of 2012 program participant's report that they are definitely or more likely to major in computer science following the program.
Women today represent 12% of all computer science graduates. In 1984, they represented 37%.	While 57% of bachelor's degrees are earned by women, just 12% of computer science degrees are awarded to women.
The U.S. Department of Labor projects that by 2020, there will be 1.4 million computer specialist job openings. Yet U.S. universities are expected produce only enough qualified graduates to fill 29% of these jobs.	

behavior of the vendor. I stopped the meeting and informed the prospective vendor that if he wished to win my business to address all directly and quickly when they ask a question. Furthermore, I expressed each person should be respected based on their position in the company and not in relation to their gender. This was the kindest mindset and represented the smartest business action.

III. OPTIMISTIC ALTERNATIVES

When looking at the state of the world one can find optimistic endeavors underway in women empowerment around the technology sector.

A non-profit organization based in the U.S. focuses on empowering women to enter the world of technology as leaders and drivers of our future. The organization's name is Girls Who Code. [3]

Girls Who Code focuses on equipping, educating and inspiring primary school girls for pursuing careers in computer science. It was founded by a lawyer who knew many failures and difficulties throughout her professional career. Twice she was rejected from Yale and she ran for primary election in New York City and lost the election. She is known for comparing her life experiences to a coder's journey of typical trial and error.

Girls Who Code has a summer program offered in nine U.S. cities with duration of seven-weeks. The program focuses on three main aspects: skills, mentorship and exposure. The program's scope is computer science fundamentals, robotics, web design, algorithms, and mobile development. Girls are also encouraged to start Girls Who Code clubs in their own schools.

Inspired by their founder's story, Girls Who Code continues to have 'sister' groups started. Saujani and her family were political refugees from Uganda, casted out because of their

Indian descent. Within the U.S. she struggled to find her place and pursue her interest in her chosen field.

In a family of engineers, Saujani was the only one to pursue a liberal arts degree, finding inspiration in her own parents struggle and quest for equality. She dedicated her life to being a catalyst for change through law, eventually getting accepted and graduating from Yale Law School.

While running for congress, Saujani noticed how few girls had access to technology within the primary school system. There were robot labs throughout New York City. Yet the attendance included only boys thus leaving a gap.

The U.S. Department of Labor reports 1.4 million computer specialist jobs by 2020. To close the gender gap, Saujani focused on helping women fill half of those positions. She noticed the gap, and created Girls Who Code to close it.

Saujani was named one of Forbes 'Most Powerful Women Changing the World, Fast Company's 100 Most creative People, Ad Age's Creativity 50 and Business Insider's 50 Women Who are Changing the World. She was the first Indian American woman to run for U.S. Congress.

"I love women's issues," Saujani said. "The plight of women in equity is every part of my life. I love having experiences and being able to share my failures with other women, by talking about it authentically." [3]

She is proof that the science of success is founded in kindness to all and the pursuit of equality for all.

IV. CONCLUSION

The science of success describes a systematic way of achieving happiness. When we look at the building of any great society it pulls collectively from the sum total of all its resources.

The sum total of our combined resources includes the intellect and talent found in both genders. When reasonable people compare goals with other reasonable people the common beliefs are the same: happiness for self and happiness for the family. This is a common thread that ties humanity together in one universal cloth of destiny. Yet, some attempt to ignore the commonality.

However, simple math cannot be ignored. This math statement will never be correct: $1+0=2$. A comparison could be made that utilizing the resources of only males will never lead to double the output. It is only when both males and females are allowed and freely encouraged to excel in technology that we maximize the math of $1+1=2$.

We would have double the progress if we add the other half of our heart.

ACKNOWLEDGMENT


I wish to acknowledge Professor Ajay P. Thakare and everyone involved with The Institution of Electronics and

Telecommunication Engineers (IETE) in Amravati and throughout all of India.

REFERENCES

- [1] Danny Yadron, "Thoughts on Gender Equality Interrupted". The Wall Street Journal, March 17, 2015, U.S. Edition.
- [2] UNDP in Europe and Central Asia, *Public Perceptions on Equality in Politics and Business* (Online Research study).
www.scribd.com/undpineuropeandcentralasia UNDP is focused on enhancing women's political and economical empowerment. Figure 1
- [3] Lyndsey Gilpin, *Reshma Saujani: Movement-starter to rebalance women in technology*. TechRepublic U.S. (Online Newsletter). February 24, 2014

AUTHOR'S PROFILE

	<p>Will Harris is the international Amazon best-selling author of Willpower Now and Power Prospecting. As Managing Director of Willpower Consultation, his firm specializes in technology strategic sales training and business management consultation. Will Harris is the founder of WIL Pvt Ltd, a philanthropy organization in India with 5,00,000 Indian Facebook fans. WIL Pvt Ltd is dedicated to three goals including women empowerment, youth education and poverty.</p>
---	---