# INTERSECTIONALITY IN TECH

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## Overcoming Socioeconomic Barriers and Driving Innovation

University of Dayton
Human Rights Center

GENDER TECH INITIATIVE
UGANDA

Research conducted by the University of Dayton and Gender Tech Initiative Uganda

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Author: Olive Ekoh
Affiliation: University of Dayton Human Rights Center/Summer Intern, Gender Tech Initiative Uganda
Email: oziomaolive@gmail.com

Contributing Author: Gender Tech Initiative Uganda.
Email: info@genderinitiativeug.org

Sponsor: University of Dayton Human Rights Center, Dayton, Ohio, USA
Email: hrc@udayton.edu

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**Conflict of Interest**

The authors declare no conflict of interest.

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# Chapter One: Introduction to Women in African Tech

In the tech world, there is a glaring issue regarding diversity, especially gender. Despite women showing immense talent and interest in tech careers, they often face numerous obstacles to getting into and staying in the industry. It is particularly tough for women from low-income backgrounds, who have even more hurdles to overcome. This imbalance is not just a problem in one part of the world—it is a global issue affecting places like Africa and the Western world.[1]

This paper dives into this problem, shedding light on how factors like income level intersect with gender to shape a person's experience in the tech field. However, it is not all doom and gloom. There are examples of real women of different backgrounds who have made it big in Tech despite the odds. However, this paper hopes to inspire change by increasing the number of women involved in the STEM world. We want to show that it is possible to break down the tech entry barriers and create a more inclusive and diverse tech industry for everyone.[2].

Many reasons, such as socioeconomic factors, explain the gender gap in the tech world. Access to education, money, mentors, and supportive networks can vary greatly depending on one's financial situation. This means that women from underrepresented communities often face extra challenges when entering and moving up in the tech industry.[3]. There are some fantastic initiatives out there led by women working hard to change this. For example, Andela in Nigeria, Girls Who Code in the USA, Women in Tech in Europe, and the Gender Tech initiative in Uganda are all doing different things. Still, the goal is the same: to help women from all backgrounds get into Tech and succeed, no matter where they are from or how much money they have. These initiatives show that breaking down those barriers and giving everyone a fair shot in the tech world is possible. When we combine efforts like these with the stories of women overcoming obstacles in Tech, we will see a path toward a more inclusive and diverse industry.[4].

Despite some steps forward, women need help entering the tech world. Whether it is dealing with biased hiring practices, facing stereotypes, or confronting discrimination in the workplace, these barriers hold women back from reaching their full potential and taking on leadership roles. Various initiatives across Africa are working to address these challenges. She Leads Africa in Nigeria and supports female entrepreneurs with training and networking opportunities. The Gender Tech Initiative Uganda (GTI-U) promotes digital literacy and tech careers for women. Digital Woman Uganda offers training and mentorship programs to empower women in Tech. AkiraChix in Kenya provides technical training to young women from underprivileged backgrounds. Women in Tech South Africa focuses on advocacy, education, and leadership development. Tech4Her Africa in Ghana supports women in STEM through mentorship and community building. WomHub in South Africa offers incubator programs and resources for women entrepreneurs in Tech and engineering. These organizations illustrate how gender and socioeconomic factors intersect to create unique challenges for women in Tech.[5].

[1] (McLain, Ashcraft, & Eger, 2021)
[2] (Ong, Wright, Espinosa, & Orfield, 2011)
[3] (Margolis & Fisher, 2002)
[4] (McLain, Ashcraft, & Eger, 2021) (Reshma, 2017)
[5] (McLain, Ashcraft, & Eger, 2021)

However, why does it matter so much to address these disparities? It is about more than just fairness—driving innovation, boosting the economy, and ensuring sustainable growth. Research shows that diverse teams are better at problem-solving and driving business success. By breaking down barriers and promoting gender diversity in Tech, we are not just giving women a fair shot but unlocking a new level of creativity and effectiveness that benefits everyone.[6]. It is about creating a future where everyone, regardless of gender or background, can thrive and contribute to a brighter tomorrow[7].

This paper explores how gender and socioeconomic status intersect to shape women's experiences in the tech industry, particularly in Africa. It will examine how access to resources and opportunities differs for women from various economic backgrounds and how these differences affect their ability to advance in Tech. We will also connect these insights to Silicon Valley, the heart of the global tech industry, to understand broader trends and provide a wider context.

The aim of this research article is to

1. To consider how various socioeconomic factors and gender combine to shape women's experiences in the tech industry in Africa.
2. To examine the disparities between women from a broad spectrum of socioeconomic backgrounds and their unequal access to the resources and opportunities conducive to pursuing a career in Tech.
3. To look at the connections that might be drawn between the experiences of the African women working in the tech sector and the experiences of women in the same sector globally, especially in the U.S., where the current tech industry originated and is now centered.

Understanding how gender and socioeconomic status intersect in the tech industry is crucial for creating a more diverse and inclusive environment. By recognizing the unique challenges women face from various economic backgrounds, we can help policymakers, industry leaders, and advocacy groups develop focused strategies to break down barriers and ensure everyone has a fair shot at opportunities in Tech. By comparing women's experiences in Africa with those in Silicon Valley, we can gain valuable insights that will help foster a more inclusive and welcoming tech industry worldwide.

[6] (Page, 2007)
[7] (McLain, Ashcraft, & Eger, 2021)

## Chapter Two: Intersectionality and Socioeconomic Backgrounds in the Tech Industry

This section delves into the intricate relationship between socioeconomic dynamics and gender, illuminating how these factors influence women's experiences in the tech industry, particularly within Africa, and its connections to Silicon Valley. By exploring the concept of intersectionality, pioneered by Kimberlé Crenshaw, we emphasize the interplay between various facets of an individual's identity—such as gender, race, and economic background—and how these factors collectively shape their encounters with discrimination and privilege.[8].

Understanding the backstory of gender gaps in Tech is not just insightful, but it is vital for grasping how gender intertwines with other factors like race, money, and where one lives[9]. Suppose one considers centuries of colonization, slavery, and imperialism that have all fed into a system where women's voices often get sidelined. In that case, it is imperative to note how women, especially in Africa, are becoming interested in Tech. The tech industry has been increasing in Africa, presenting opportunities and challenges for women. Education, money, and a support network play a massive role in whether women can enter and thrive in Tech. Still, despite the odds, many African women are showing incredible strength and determination to carve out their space in this industry. Across the continent, many initiatives are rallying to tackle these obstacles and give women the boost they need in Tech.

Furthermore, many organizations have sprung up to create more opportunities for women in Tech. These organizations illustrate how gender and socioeconomic factors intersect to create unique challenges for women in Tech. Socioeconomic disparities and access to resources significantly affect women's participation in the tech sector. While these organizations are making strides, there is still a long way to go to achieve gender equality in the tech industry. The global tech hub of Silicon Valley also grapples with issues of gender inequality and lack of diversity.[10]. By examining women's experiences in Silicon Valley, we can gain a deeper understanding of the global nature of these challenges.

In conclusion, this chapter lays the groundwork for a comprehensive exploration of the intersectionality of gender and socioeconomic background in the tech industry, aiming to foster a more inclusive and equitable tech industry for all.

### Connections with Silicon Valley

Silicon Valley, in the heart of California's San Francisco Bay Area, is renowned worldwide for its groundbreaking innovations and entrepreneurial drive. However, despite its global acclaim, Silicon Valley has faced scrutiny for its lack of diversity and inclusion, particularly concerning gender and socioeconomic representation.

For women, especially those from disadvantaged backgrounds, Silicon Valley presents formidable systemic hurdles in accessing opportunities and resources within its tech landscape. Despite ongoing

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[8] (Crenshaw)
[9] (Davis, 2008)
[10](Wynn, 2019)

efforts to champion diversity and inclusion, women continue to be underrepresented in both leadership roles and technical positions, with the gap being even more pronounced for those from marginalized socioeconomic backgrounds.

The obstacles confronting women in Silicon Valley resonate with challenges seen in other tech hubs worldwide. Gender biases, discrimination, and unequal resource distribution pervade the tech industry, transcending geographical boundaries. However, Silicon Valley's global influence magnifies these challenges, shaping industry norms and practices.

Despite these barriers, initiatives and organizations within Silicon Valley actively address diversity and inclusion issues. Companies like Google, Facebook, and Apple have implemented various programs to support women in Tech, including mentorship initiatives, diversity training, and efforts to enhance female representation in leadership roles.

Moreover, Silicon Valley's interconnectedness with tech ecosystems worldwide offers knowledge exchange and collaboration opportunities. By sharing best practices and lessons learned, Silicon Valley can play a pivotal role in driving global endeavors to foster diversity and inclusion within the tech industry.

Silicon Valley symbolizes innovation and technological progress but also reflects broader challenges regarding diversity and inclusion within the tech sector. By recognizing and addressing these issues through targeted interventions, Silicon Valley can lead by example in cultivating a more equitable and inclusive tech environment, inspiring similar efforts in tech hubs across the globe.


## Intersectionality and Gender in Tech

Kimberlé Crenshaw's intersectionality theory illuminates how different forms of oppression overlap and intensify based on a person's various social identities, such as race, gender, and socioeconomic status.[11]. This perspective is crucial for grasping the complex ways women in the tech industry face discrimination and marginalization. In Tech, gender and socioeconomic background intersect, leading to distinct experiences for women professionals. While gender discrimination is widespread across the industry, the specific challenges that women encounter can vary significantly depending on their socioeconomic status.

Women from higher socioeconomic backgrounds often benefit from access to quality education, advanced training programs, and extensive professional networks, which can ease their entry and advancement in the tech industry[12]. Despite these advantages, they still encounter significant gender-based obstacles. These include biased hiring practices, wage gaps, and a lack of representation in leadership roles[13]. For instance, a woman from a privileged background might graduate from a prestigious university and land a job at a top tech firm. However, she may still need help with issues such as being overlooked for promotions or needing to be taken seriously in male-dominated meetings.

[11] (Crenshaw, pp. 1241-1299)
[12] (Wynn, 2019, pp. 31-37)
[13] (Williams, Philps, & Hall, 2016)

Women from lower socioeconomic backgrounds often encounter challenges that make entering the tech industry significantly more difficult. Limited access to quality education and training opportunities can impede their ability to acquire the necessary skills and credentials for tech roles.[14]. Financial constraints can also prevent them from participating in unpaid internships or attending networking events that could open doors for career advancement. Furthermore, these women frequently face the intersection of gender discrimination with other forms of marginalization, such as racial or ethnic bias, which further complicates their professional journeys.

The intersection of gender and socioeconomic status significantly influences the types of roles women secure in the tech industry. Women from lower socioeconomic backgrounds often find themselves in lower-paying, less prestigious positions compared to their more privileged peers. The lack of representation and mentorship available to these women worsens this disparity. Mentorship and sponsorship are vital for career growth in Tech, offering essential guidance, support, and opportunities.[15]. Addressing these disparities through targeted initiatives is crucial for fostering a more inclusive tech industry. By recognizing and tackling these overlapping forms of discrimination, the tech industry can progress toward greater diversity, equity, and inclusion, ensuring that all women, regardless of their socioeconomic background, have the chance to succeed.[16].

## Historical Legacies of Oppression

The deep-seated effects of colonization, slavery, and imperialism have profoundly shaped the lives of women, especially in the tech industry. These historical injustices have left lasting marks, influencing women's access to education, economic opportunities, and ability to climb the social ladder.

Colonization was not just about conquering lands; it was about imposing power structures that marginalized indigenous people and reinforced restrictive gender roles. In many colonized societies, women were forced into secondary roles, denied educational and economic opportunities, and kept under strict patriarchal control. These colonial legacies still linger, affecting how society views and treats women and impacting their participation in the tech industry today.

Slavery was a dark period in history that forcibly uprooted millions of Africans, subjecting them to severe exploitation and dehumanization. Women suffered from multiple layers of oppression due to their race and gender. The repercussions of slavery have left deep economic inequalities and systemic racism, which still disproportionately affect women of color today, limiting their opportunities for advancement in the tech industry.

Imperialism, driven by the quest for power and profit, further entrenched exploitation and inequality worldwide. Colonial powers extracted wealth and resources from colonized regions, often to the detriment of indigenous peoples and marginalized communities. Women in these territories faced violence, exploitation, and the erasure of their voices and experiences.[17]. The enduring impacts of imperialism continue to shape global power dynamics and economic inequalities, contributing to the ongoing marginalization of women, especially those from historically oppressed communities.

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[14] (Castilla & Benard, 2010, pp. 543-676)
[15] (Rose Ragins & Kram, 2007)
[16] (Wynn, 2019)
[17] (Davis, 2008)

By acknowledging the historical backdrop of colonization, slavery, and imperialism, we gain crucial insights into the root causes of gender disparities in the tech industry. This understanding is essential in crafting effective strategies to combat systemic inequalities. Recognizing the lasting impacts of these historical injustices is vital for advancing gender equity and social justice within the tech sector. Through well-designed interventions and policies, we can work to dismantle the oppressive structures that still limit women's opportunities, striving to create a tech industry that is more inclusive and equitable for everyone.

## Intersectionality and Gender Disparities

Intersectionality theory highlights the interconnectedness of social identities and experiences, showing how race, ethnicity, class, and sexuality intersect with gender to shape individual experiences of oppression and privilege.[18]. In the tech industry, women from marginalized communities face compounded barriers due to these intersecting identities. They often encounter unique challenges that arise from a mix of gender discrimination and other forms of marginalization, such as racial or socioeconomic inequality.

Initiatives like Andela in Nigeria and She Leads Africa across the continent offer valuable insights into how these intersecting identities affect women's access to resources, opportunities, and representation in Tech. Andela recruits, trains, and deploys software engineers throughout Africa, striving to close the gender gap in Tech by providing opportunities for talented individuals, including women from diverse socioeconomic backgrounds.[19] similarly, She Leads Africa empowers female entrepreneurs through training, mentorship, and networking, recognizing the intersectional nature of gender and entrepreneurship in Africa[20].

By examining these initiatives through an intersectional lens, we gain a deeper understanding of the complex dynamics in the tech industry. Women from marginalized communities face not only gender discrimination but also additional barriers related to their race, ethnicity, socioeconomic status, and other intersecting identities. These barriers manifest in various forms, such as limited access to education and training, underrepresentation in leadership positions, and biases in hiring and promotion processes.

Addressing gender disparities in the tech industry requires a comprehensive approach that considers the intersecting nature of discrimination and privilege. By recognizing the unique challenges faced by women from marginalized communities and implementing targeted interventions to address these barriers, we can work towards creating a more inclusive and equitable tech sector for all individuals, regardless of their intersecting identities.

## Challenges and Resilience

Women's journeys, like gender bias and limited access to resources, often mark women's journey in the tech industry. Despite these obstacles, their resilience shines through as they navigate these

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[18] (Crenshaw, pp. 1241-1299)
[19] (Andela, n.d.)
[20] (She Leads Africa, n.d.)

complex and sometimes unwelcoming environments. Drawing strength from their diverse identities and supportive networks, women entrepreneurs and leaders have shown incredible determination in challenging stereotypes and driving change within the tech sphere.[21].

Take, for instance, initiatives like Andela in Nigeria, She Leads Africa, Girls Who Code in the USA, and Women in Tech in Europe. These initiatives exemplify the diverse ways women surmount obstacles and reshape the tech landscape. Andela, known for recruiting and training software engineers across Africa, offers opportunities to talented individuals from various socioeconomic backgrounds, including women.[22]. Similarly, She Leads Africa empowers female entrepreneurs through training, mentorship, and networking, enabling them to thrive in Tech's male-dominated domain[23]

In the USA, Girls Who Code is bridging the gender gap in technology by providing coding education and exposure to computer science for young women[24]. Meanwhile, Women in Tech initiatives in Europe strive to boost women's representation in the tech sector through advocacy, networking, and skill-building programs[25]. Additionally, the Gender Tech Initiative Uganda (GTI-U) champions digital literacy and tech careers for women in Africa, empowering them to pursue opportunities in the tech realm[26].

These examples underscore the resilience and resourcefulness of women in Tech, underscoring the vital role of supportive networks and mentorship in overcoming challenges. Through sharing their stories and experiences, women entrepreneurs and leaders inspire future generations to embark on tech careers, fostering greater diversity and innovation in the industry.[27]

## Socioeconomic Disparities in Access to Resources

For women with privileged backgrounds, the road may seem smoother—they often have access to top-tier schools, internships, and job opportunities, giving them an advantage in tech roles. However, for women from marginalized backgrounds, the journey can be filled with obstacles, from accessing quality education to securing employment.[28].

These disparities persist and contribute to a more extensive system of inequality within the tech realm. Women from marginalized backgrounds often face challenges accessing education, networking opportunities, and mentorship programs. Access to quality education, particularly in STEM fields, can help their ability to develop the skills necessary for tech roles.[29]. Financial constraints can exacerbate these challenges, preventing them from pursuing higher education or participating in coding boot camps—the avenues many use to enter the industry.

Moreover, discrimination and bias in hiring and promotion processes further hinder their progress[30]. Studies reveal that individuals from lower socioeconomic backgrounds are frequently overlooked for roles or receive lower pay compared to their counterparts from more privileged backgrounds.

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[21] (Ibarra, Carter, & Silva, 2010, pp. 80-85)
[22] (Andela, n.d.)
[23] (She Leads Africa, n.d.)
[24] (Girls who code, n.d.)
[25] (McLain, Ashcraft, & Eger, 2021)
[26] (GTI-U, n.d.)
[27] (Rose Ragins & Kram, 2007)
[28] (Hooks, 1984)
[29] (Gibbs Jr & Griffin, 2013)
[30] (Williams, Philps, & Hall, 2016)

These disparities have a significant impact. Addressing them requires comprehensive strategies, including breaking down barriers to education, fostering diversity in hiring practices, and providing support and mentorship to women from marginalized communities. By cultivating an inclusive environment, we can develop a tech industry that values and leverages the diverse talents and contributions of women from all backgrounds.

## Impact on Participation in Tech

Navigating the tech industry is like embarking on a journey fraught with challenges and opportunities, particularly for women from diverse socioeconomic backgrounds. As we have explored, disparities in access to resources and opportunities significantly shape women's experiences and participation in this field. For those coming from privileged backgrounds, the path may appear more straightforward, with access to prestigious educational institutions, internships, and job opportunities.[31]. However, this advantage does not guarantee smooth sailing; gender-based obstacles persist, such as biased hiring practices and underrepresentation in leadership roles[32]. Even as they secure positions at top tech firms, these women may still find themselves battling stereotypes and struggling to be heard in male-dominated spaces.

On the other hand, women from marginalized backgrounds face compounded barriers at every turn. Limited access to quality education and training programs often hinders their acquisition of necessary skills for tech roles[33]. Financial constraints further exacerbate these challenges, preventing them from participating in unpaid internships or attending networking events crucial for career advancement. Discrimination in hiring and promotion processes only adds to their uphill battle, perpetuating cycles of inequality and limiting their progression within the industry.

These systemic disparities have profound implications for women's overall participation in the tech industry. They hinder individual women's career advancement and perpetuate a lack of diversity and inclusion within the sector. By excluding women from diverse socioeconomic backgrounds, the industry misses out on a wealth of talent, creativity, and perspectives that could drive innovation and growth.

Addressing these disparities requires concerted efforts from all stakeholders. It necessitates policies and initiatives to increase access to quality education, dismantle biases in hiring and promotion practices, and foster supportive environments that empower women from all walks of life. By recognizing and rectifying the systemic barriers women face in Tech, we can create a more inclusive and equitable industry that benefits everyone.

In summary, we have embarked on a journey through the intersection of socioeconomic backgrounds and gender within the tech industry, focusing on Africa and its connections to Silicon Valley. Through the lens of intersectionality, pioneered by Kimberlé Crenshaw, we have gained insight into the multifaceted nature of discrimination and privilege experienced by women in Tech. Think of it like peeling back the layers of an onion – we are diving deep into how different aspects of a person's identity, like their background, gender, and where they come from, all influence their journey in the tech world. However, this is not just about theory; it is about understanding how real-life factors, like centuries of

[31] (Hooks, 1984)
[32] (Williams, Philps, & Hall, 2016)
[33] (Gibbs Jr & Griffin, 2013)

colonization and slavery, have shaped the opportunities available to women, especially in places like Africa.

However, despite these historical injustices, African women are increasingly drawn to the burgeoning tech industry. It is like they are stepping onto a fast-moving train – full of excitement for the opportunities ahead but also wary of the obstacles they might face. Education, money, and having a support network? They are like the keys that open doors in the tech world, but even with them, women still encounter roadblocks like biased hiring practices and unequal pay. Our journey does not stop in Africa; we also detour to Silicon Valley, the world's tech mecca. Despite its shiny exterior, Silicon Valley has its share of challenges when it comes to diversity and inclusion, especially for women from less privileged backgrounds. However, amidst these challenges, there is hope – initiatives and organizations within Silicon Valley are actively working to level the playing field, offering mentorship programs, diversity training, and other support for women in Tech.

# Chapter Three: Case Studies of Women-Led Tech Initiatives in Africa

In highlighting women-led and women-inspired tech initiatives in Africa, their innovative approaches, and how these ventures address socioeconomic barriers while promoting inclusion in the tech industry. Here is a brief overview of real-world examples that offer insights into the challenges faced by women entrepreneurs and the practical strategies they adopt to overcome them

## Case Study 1: Andela (Nigeria)

Andela[34], founded in 2014 in Nigeria, is a tech company with a new approach to software development. They train developers and connect them with top firms in a growing network. The company's African origins have allowed it to take advantage of the opportunities for growth on the continent and enabled it to build a model for other top tech firms to follow. Indeed, numerous tech startups are emerging all over Africa, with Andela leading them all.

Andela's initiatives for involving women have been playing their part in helping achieve the gender diversity the company sought. Andela has been ambitiously proactive in recruiting and training women to be top-tier software developers. On the other hand, it has designed support structures that give them the opportunities they need to excel. This is part of the company's mission, and it also makes good economic sense by leveling the playing field for all, giving you access to a much larger pool of talent.

Andela's impact is twofold: It promotes women in the tech field and gives women a voice in the economy and a means to break free from poverty. Andela's first all-women cohort graduated this year, and its women have found jobs. Some of its cohort members now work for I.T. services companies. Indeed, women from the I.T. industry who have received some basic training at Andela are starting to get job offers that pay between 1.5 and 2 times as much as what they used to make before — a far cry from the insinuation that being an Andela Fellow is some dead-end job.

## Case Study 2: She Leads Africa (Nigeria)

She Leads Africa[35] Offers African women entrepreneurs a variety of resources to succeed. Launched in 2014 in Nigeria, the organization has since expanded its footprint. It covers the sub-region that includes the most significant number of African nations. The group's focus is on serving these business creators with as many resources as they can offer. Its unique strength comes from fostering three types of programs: education, money (seed capital), and mentorship.

She Leads Africa is highly committed to empowering women and developing their leadership skills. Thanks to this organization, many programs and resources are now available. Opportunities for women—such as business boot camps, pitch competitions, and online courses—are offered at all

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[34] (Andela, n.d.)
[35] (She Leads Africa, n.d.)

stages that women entrepreneurs find themselves going through. Its programs cater to women just starting out and to women who are already at a certain level of business growth.

She Leads Africa and has made a significant mark on the African tech ecosystem. This organization's programs aid women entrepreneurs in finding the much-needed lifeblood—funding, networks, and expertise—to succeed in an industry dominated by men. The impact of these programs can already be seen in the successful startups and the contributions to the local economy made by the many women who have participated in them.

## Case Study 3: Ushahidi (Kenya)

Ushahidi[36] is a technology company that develops open-source software. The software it creates aids in a sort of "crowdsourcing" that allows people from all over to contribute valuable information in times of crisis. Ushahidi was founded in Kenya in 2008 but operates in many contexts: disaster response, election monitoring, and human rights work. It also works with many large and small partners worldwide, allowing the platform to operate in many languages, not just East Africa.

Ushahidi is committed to gender equality and social justice. The company recruits and strengthens women developers, designers, and project managers and affirms their presence and value in decision-making. The Ushahidi team shares a collective vision, operational policies, principles, and work styles that put gender equality and social justice front and center. They serve a growing international community of mappers and users who seek to build peace, justice, and prosperity.

Ushahidi is transforming societies. Its innovative technology allows Ushahidi to work at the very root level with local organizations that deliver supplies, make spaces safe, and provide opportunities to ensure communities are not over-exploited or oppressed. Ushahidi empowers community members to find within them the strength and the chance to change their circumstances and the hard-wired conditions that keep them securely fastened to old, evil ways of living.

## Case Study 4: Gender Tech Initiative Uganda (GTI-U)

Gender Tech Initiative Uganda (GTI-U)[37] aims to end the gender divide in the tech sector by empowering women and girls to take up technology. Established in 2016, GTI-U's work centers around skilling, mentoring, and networking to build a formidable force of women and girls in the tech industry and pave the way for the upcoming generation of tech-savvy women and girls.

GTI-U offers events to get women involved in Tech. We provide coding boot camps, hackathons, and workshops that can help draw women into the massive wave of computing opportunities we are experiencing.

The impact of GTI-U must be considered. For its proponents, it offers evidence that a community of kindred spirits can grow and thrive when pursuing one's path in life and seeking happiness and fulfillment. For the tech community, it offers a solid and positive example of how an underrepresented

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[36] (Ushahidi, 2017)
[37] (GTI-U, n.d.)

group can find its voice in a field long dominated by men. Based on these two levels of impact alone, GTI-U has already achieved considerable success.

## Case Study 5: Girls Who Code (USA)

The nonprofit organization Girls Who Code[38] Works in the United States to help reduce the gender gap in technological proficiency and opportunity. The group offers free summer tech camps and after-school clubs to middle and high school girls throughout the United States and Canada. These programs are designed to give young women the skills and confidence they need to pursue tech careers.

Girls Who Code acts effectively to enlist and prepare women mentors and instructors to back up and cheer on the close-at-hand up-and-coming generation of female technologists. They also actively look to pair with technology employers on internships and job placement.

Girls Who Code has widened its influence and impact to the point where it has empowered many thousands of young women throughout America to consider and pursue careers in technology. In doing so, the organization has provided many young women with the education, skills, and, most importantly, the self-belief to succeed in a male-dominated industry. For that reason, we see Girls Who Code as having a revolutionary effect on the tech world.

## Case Study 6: Women in Tech (Europe)

In Europe, Women in Tech[39] is an organization that works to bring gender equality and diversity to the technology industry. This group was created to address the need for more representation of women in the technology field, on the boards of technology companies, and among the sector's investors. The network, founded in 2015 and based in Berlin, delivers programs and resources that support women's careers at all levels of the industry.

The Women in Tech team works closely with several partners in various sectors—Tech, academic, and public—to make the European tech landscape more diverse and inclusive. They set up programs and events, secure funding, and do mundane and heroic organizational things. Women in Tech is based on a realized problem and unfulfilled potential.

Organizations like Women in Tech have been instrumental in elevating the number and quality of women in the European technology industry. They have pushed explicitly for equal opportunities and for policymakers, startup founders, and everyone in between to favor an inclusive and level playing field. As Women in Tech, we have the privilege of seeing the direct effect of our work on women's lives and careers.

The case studies above show diverse women-led and women-inspired tech initiatives contributing positively to their respective African communities. They use technology to promote inclusion and ensure that citizens are driven by innovation. The case studies selected for this chapter should inspire more African women to enter the tech field to lead even more missions and projects—whether nonprofit or for-profit—that will effect change in their communities.

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[38] (Girls who code, n.d.)
[39] (Women Tech Network, 2018)

# Chapter Four: Socioeconomic Factors and Women's Experiences in the African Tech Industry

This section thoroughly analyzes how socioeconomic factors intersect with gender within the African tech industry, drawing parallels with Silicon Valley and emphasizing key insights and practical approaches gained from these comparisons.

The technology industry in Africa has grown substantially in recent years. While this growth has brought many opportunities, especially for startups and innovation centers, the most marginalized women have yet to experience its access or benefits. This chapter will explore how layers of society related to poverty have a more direct effect on women's experiences in the African tech industry.

## Socioeconomic Factors and Access to Resources

### A. Education and Training

Having top-notch educational and training programs to enter the tech sector is paramount. However, women from impoverished backgrounds might come up against a formidable wall when seeking access to such opportunities. The Usual Aspects of Barriers are financial constraints, inadequate support from family and community, and gendered stereotypes. In Uganda, for example, girls are less likely than boys to enroll in STEM (Science et al.) programs due to cultural norms and limited resources[40]. Similarly, in Nigeria, socioeconomic disparities in education contribute to the underrepresentation of women in tech-related fields[41].

### B. Financial Resources

Financial resources play a crucial role in entrepreneurship and startup development. Women from affluent backgrounds may have access to personal savings, family investments, or venture capital, giving them a competitive advantage in launching and scaling tech ventures. In contrast, low-income women may need help securing funding or access to credit, limiting their ability to start or grow their businesses. In Kenya, for instance, startups founded by women face challenges in accessing financing, with only a tiny percentage receiving venture capital funding[42].

## Women in the African Tech Industry: A Comparative Analysis

### A.  Startup Ecosystems in Africa

Startup ecosystems in Africa, particularly Kenya, Nigeria, Uganda, and South Africa, have witnessed rapid growth in recent years. A vibrant mix of tech startups, innovation hubs, and entrepreneurial support organizations characterizes these ecosystems. In Kenya, hubs like iHub and Nailab provide resources and mentorship to aspiring entrepreneurs, including women. Similarly, Nigeria's tech ecosystem, centered around hubs like WormHub and Andela, has gained international recognition for its innovation and entrepreneurship.[43].

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[40] (Musiimenta, et al., 2019)
[41] (Williams, Philps, & Hall, 2016)
[42] (Kim, 2021)
[43] (Andela, n.d.)

### B. Women-Focused Financing Initiatives

To address the gender gap in access to financing, governments, and financial institutions can develop targeted initiatives to support women entrepreneurs in the tech sector. Case studies such as She Leads Africa in Nigeria highlight the impact of women-focused entrepreneurship support programs in providing funding and mentorship to women-led tech startups, contributing to economic empowerment and social mobility[44].

### C. Alternative Financing Models

In addition to traditional financing options, alternative models such as crowdfunding and impact investing can give women entrepreneurs access to capital. Case studies like Ushahidi in Kenya demonstrate the transformative power of technology for social change and the role of women in developing solutions to address pressing social challenges[45].

## Challenges and Opportunities for Women

Despite the tech industry's growth in Africa, women need help accessing opportunities and resources. In Uganda, for instance, women entrepreneurs in the tech sector often struggle to access financing, mentorship, and networking opportunities[46]. Similarly, in South Africa, gender disparities in STEM education and employment contribute to the underrepresentation of women in the tech industry[47].

## A Comparison with Silicon Valley

### A. Gender Disparities in Silicon Valley

While Silicon Valley is often portrayed as a global hub of innovation and entrepreneurship, it also grapples with gender disparities in the tech industry. Women in Silicon Valley face barriers to advancement, including discrimination, harassment, and unequal pay. Despite efforts to promote diversity and inclusion, women remain underrepresented in leadership positions and technical roles.[48].

### B. Entrepreneurship Support Programs

To support women entrepreneurs in the tech industry, governments and organizations can establish entrepreneurship support programs tailored to their needs. Case studies such as Andela in Nigeria showcase the impact of mentorship programs and networking events in creating a supportive environment for women's professional growth and success in the tech sector.[49].

### C. Corporate Diversity and Inclusion Initiatives

Corporate diversity and inclusion initiatives are crucial in promoting gender equality in the tech industry. Case studies like Ushahidi in Kenya highlight the importance of inclusive policies and

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[44] (She Leads Africa, n.d.)
[45] (Ushahidi, 2017)
[46] (Katongole, 2012)
[47] (Williams, Philps, & Hall, 2016)
[48] (Ibarra, Carter, & Silva, 2010)
[49] (Andela, n.d.)

practices in creating equitable workplaces where women from diverse backgrounds can thrive and contribute to innovation and economic growth.[50]

## D. Lessons Learned and Best Practices

Despite the challenges, there are lessons to be learned from both the African tech industry and Silicon Valley. Initiatives like mentorship programs, women-focused accelerators, and diversity quotas have shown promise in promoting gender diversity and inclusion in the tech sector[51]. By sharing best practices and collaborating across borders, stakeholders in both regions can work towards creating more inclusive and equitable tech ecosystems.

Addressing socioeconomic barriers and promoting inclusion in the African tech industry requires concerted efforts from governments, organizations, and other stakeholders. Investing in education, enhancing access to financial resources, and creating supportive ecosystems can empower women from diverse socioeconomic backgrounds to participate fully in the tech sector. Through case studies of women-led tech initiatives, we can learn from real-world examples and inspire more women to pursue careers in technology, driving innovation and social impact across the continent.

[50] (Ushahidi, 2017)
[51] (Bell & Belt, 2020)

# Chapter Five: Mitigating Socioeconomic Barriers and Promoting Inclusion in the African Tech Industry

Using the previous chapter, this section will briefly examine the intersection of the African tech industry and some of the fundamental yet persistent socioeconomic hurdles women face on the continent. The intention here is not to paint Africa with a single brushstroke but instead to lay bare some of the mechanisms that underpin the disproportionate access to opportunity that certain women have, while other women—especially of a particular class—have an equal and even growing stake in Tech.

## Addressing Education Disparities

### A. STEM Education Initiatives

To address disparities in STEM education, governments, NGOs, and private sector organizations can implement initiatives to increase access to quality education for girls and women. Coding boot camps, STEM scholarships, and mentorship programs can help bridge the gender gap in tech-related fields. In Kenya, organizations like AkiraChix and TechWomen Kenya provide training and mentorship to young women interested in pursuing careers in technology[52] Similar initiatives in other African countries can help empower women to enter and excel in the tech industry.

### B. Digital Literacy Programs

Digital literacy programs are essential for equipping women with the skills and knowledge needed to thrive in the digital economy. These programs can cover various topics, including basic computer skills, internet literacy, and digital entrepreneurship. In Nigeria, initiatives like the Digital Girls Club and She Leads Africa offer training and resources to help women leverage technology for personal and professional development[53]. By expanding access to digital literacy programs, stakeholders can empower women from all socioeconomic backgrounds to participate actively in the tech industry.

## Enhancing Access to Financial Resources

### A. Women-Focused Financing Initiatives

To address the gender gap in access to financing, governments, and financial institutions can develop targeted initiatives to support women entrepreneurs in the tech sector. These initiatives can include microfinance programs, venture capital funds, and women-focused investment networks. Organizations like the Lionesses of Africa and the South African Women in Tech Fund provide funding and mentorship to women-led tech startups in South Africa.[54]. Similar initiatives in other African countries can help women overcome financial barriers and access the resources they need to launch and grow their businesses.

[52] (Women Tech Network, 2018)
[53] (Digital Girls Club, n.d.)
[54] (Hawken, 2024)

## B. Alternative Financing Models

In addition to traditional financing options, alternative models such as crowdfunding and impact investing can give women entrepreneurs access to capital. Crowdfunding platforms like SheEO and iFundWomen enable women to raise funds for their projects from a diverse network of supporters.[55]In contrast, impact investors focus on profits and their investments' social and environmental effects. This makes them more inclined than traditional investors to invest in women-run businesses. When we diversify choices and use new models, we increase the likelihood that women will find funding at different life stages and come from various financial backgrounds.

# Creating Supportive Ecosystems

## A. Entrepreneurship Support Programs

Governments and organizations can better help women entrepreneurs in the tech industry by setting up programs designed specifically for them. These sorts of programs could enable the next generation of women to know they can be more than just employees in Tech. In Uganda, initiatives like the Women in Technology Uganda and the Uganda Women Entrepreneurship Program offer training and support to women-owned tech startups.[56]. Stakeholders can help them overcome barriers and succeed in the tech industry by fostering a supportive ecosystem for women entrepreneurs.

## B. Corporate Diversity and Inclusion Initiatives

Corporate diversity and inclusion initiatives are crucial in promoting gender equality in the tech industry. By implementing policies and practices prioritizing diversity and inclusion, companies can create more equitable workplaces where women from diverse backgrounds can thrive. Initiatives such as gender-neutral recruitment processes, mentorship programs, and family-friendly policies can help attract and retain women in the tech sector. In South Africa, companies like Google and Microsoft have launched diversity and inclusion programs aimed at increasing the representation of women in their workforce and have so far increased their female workforce by 0.5% each year since 2019[57]. Similar initiatives in other African countries can help dismantle barriers and create a more inclusive tech industry.

[55] (ifundWomen, n.d.), (SheEO, n.d.)
[56] (Women in Tech Uk, n.d.)
[57] (Google, 2023)

# Conclusion: Moving Forward for Inclusive Growth in African Tech

The African tech industry stands on the cusp of a transformative era driven by innovation and a growing recognition of the need for inclusivity. Women play a crucial role in this transformation, yet their journey is fraught with unique challenges. To ensure that the tech industry's growth is truly inclusive, it is essential to address these challenges head-on and create an environment where women can thrive alongside their male counterparts.

## Empowering Through Education and Training

Education is the cornerstone of empowerment. Ensuring that girls and women have access to quality education, particularly in STEM fields, is fundamental to closing the gender gap in the tech industry. Initiatives such as coding boot camps, scholarships, and mentorship programs can give women the skills and confidence to succeed in technology roles. Programs like AkiraChix in Kenya and TechWomen in various African countries serve as exemplary models, offering training and mentorship that enable women to enter the tech field and advance their careers.

Moreover, digital literacy programs are vital. These programs equip women with the necessary skills to navigate the digital world, enhancing their ability to leverage technology for personal and professional growth. Expanding these programs to reach more women, particularly those from underprivileged backgrounds, will help level the playing field and promote a more inclusive tech industry.

## Access to Financial Resources

Financial resources are pivotal for entrepreneurship and innovation. Women entrepreneurs often need help accessing funding, which hampers their ability to start and scale tech ventures. Traditional financing models have not been particularly favorable to women, but alternative financing methods such as crowdfunding and impact investing offer promising avenues. Platforms like SheEO and iFundWomen give women entrepreneurs access to capital, helping them overcome financial barriers and bring their innovative ideas to life.

Furthermore, targeted financing initiatives, such as the South African Women in Tech Fund, can be crucial in supporting women-led tech startups. By focusing on women entrepreneurs, these initiatives help bridge the gender gap in access to capital, fostering a more equitable startup ecosystem.

## Creating Supportive Ecosystems

A supportive ecosystem is essential for the success of women in Tech. Governments, private sector organizations, and NGOs must collaborate to create environments that nurture and support women entrepreneurs. This includes providing access to mentorship, networking opportunities, and resources that can help women navigate the tech industry's challenges. Programs like Women in Technology Uganda (WITU) and She Leads Africa demonstrate the impact of such support systems, offering training, resources, and mentorship to women entrepreneurs across the continent.

Corporate diversity and inclusion initiatives are also critical. Companies must implement policies that prioritize gender diversity and create inclusive workplaces. This includes gender-neutral recruitment processes, family-friendly policies, and mentorship programs that support women's career advancement. By fostering an inclusive corporate culture, tech companies can attract and retain talented women, driving innovation and growth.

## Learning from Global Examples

The African tech industry can draw valuable lessons from global examples. Initiatives like Girls Who Code in the United States and Women in Tech in Europe provide insights into practical strategies for promoting gender diversity and inclusion. These programs highlight the importance of mentorship, funding, and supportive networks in empowering women in Tech.

Moreover, comparing the African tech landscape with Silicon Valley reveals common challenges and potential solutions. Despite being a global innovation hub, Silicon Valley grapples with gender disparities, offering a cautionary tale and a roadmap for improvement. By adopting best practices from both regions, the African tech industry can work towards creating a more inclusive and equitable environment for women.

## The Path Forward

Adopting a multifaceted approach addressing women's various tech industry barriers is imperative. This includes investing in education and digital literacy, enhancing access to financial resources, creating supportive ecosystems, and learning from global examples. By doing so, stakeholders can empower women to participate fully in the tech sector, driving innovation and economic growth across the continent.

Inclusive growth in the African tech industry is not just a moral imperative but an economic necessity. Women bring diverse perspectives and innovative solutions that can address some of the continent's most pressing challenges. By breaking down barriers and promoting inclusivity, the African tech industry can harness the full potential of its talent pool, ensuring sustainable and equitable growth for the future.

# References

Andela. (n.d.). *Andela: Hire Software Engineers | On-Demand Talent*. Retrieved from About Andela: https://www.andela.com/

Bell, D. A., & Belt, D. (2020). *Gender Diversity in the Silicon Valley*. Retrieved from Fenwick: https://assets.fenwick.com/documents/Fenwick-Gender-Diversity-Survey-2020.pdf

Castilla, E., & Benard, S. (2010, December 543-676). The Paradox of Meritocracy in Organizations. *The Paradox of Meritocracy in Organizations, 55*(4). doi:http://dx.doi.org/10.2189/asqu.2010.55.4.543

Crenshaw, K. (n.d.). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review, 43*(6), 1241–1299.

Davis, A. (2008). Understanding gender disparities in the tech industry: A historical perspective. *Journal of Gender Studies, 15*(3).

Digital Girls Club. (n.d.). *Digital Girls Club Portal | Nigeria*. Retrieved from Digital Girls Club: https://digitalgirls.org.ng/dgcc/portal/

Disrupt Africa. (2022). *The Nigerian Startup Ecosystem Report*. Retrieved from Disrupt Africa: https://old.disruptafrica.com/wp-content/uploads/2022/09/The-Nigerian-Startup-Ecosystem-Report-2022.pdf

Gibbs Jr, K., & Griffin, K. A. (2013, Winter). What do I want to be with my PhD? The roles of personal values and structural dynamics in Shaping the career interests of Recent Biomedical Science PhD graduates. *CBE Life Science Education, 12*(4), 711–723. Retrieved from https://pubmed.ncbi.nlm.nih.gov/24297297/

Girls who code. (n.d.). *About Us*. Retrieved from Girls Who Code: https://girlswhocode.com/about-us

Google. (2023). *Diversity & Inclusion Report | Global Diversity and Inclusion at Microsoft*. Retrieved from Microsoft: https://www.microsoft.com/en-us/diversity/inside-microsoft/annual-report#global-strategy,-local-implementation

GTI-U. (n.d.). *About us|Gender Tech Initiative Uganda*. Retrieved from Gender Tech Initiative Uganda: https://www.genderinitiativeug.org/about-us/

Hawken, M. (2024, June 27). *Shifting the dial for women entrepreneurs to access investment and new markets for growth*. Retrieved from Lionessesofafrica: https://www.lionessesofafrica.com/blog/2024/6/27/shifting-the-dial-for-women-entrepreneurs-to-access-investment-and-new-markets-for-growth

Hooks, B. (1984). Feminist theory: From margin to center. In H. Bell, *Feminist theory: From margin to center.* South End Press. Retrieved from https://bellhooksbooks.com/product/feminist-theory/#:~:text=In%20this%20book%2C%20Hooks%20gives,in%20feminism%2C%20through%20this%20book.

Ibarra, B., Carter, N., & Silva, C. (2010). Why Men Still Get More Promotions Than Women. *Career Planning, 88*(9), 80-85. Retrieved from https://hbr.org/2010/09/why-men-still-get-more-promotions-than-women

ifundWomen. (n.d.). *IFundWomen Startup Funding For Women Entrepreneurs*. Retrieved from ifundWomen: https://www.ifundwomen.com/

Katongole, C. (2012, January). *Understanding Women Micro and Small Business Entrepreneurs in Uganda*. Retrieved from Research gate: https://www.researchgate.net/publication/273285278_Understanding_Women_Micro_and_Small_Business_Entrepreneurs_in_Uganda

Kim, K. (2021, February 05). *Assessing the impact of mobile money on improving the financial inclusion of Nairobi women*. Retrieved from Taylor & Francis Online: https://www.tandfonline.com/doi/full/10.1080/09589236.2021.1884536

Margolis, J., & Fisher, A. (2002). *Unlocking the Clubhouse: Women in Computing*. Retrieved from MIT Press: https://we.riseup.net/assets/459427/Margolis+Jane+Fisher+Allan+Unlocking+the+Clubhouse+Women+in+Computing.pdf

McLain, B., Ashcraft, C., & Eger, E. (2021, May). *Women in Tech: The facts*. Retrieved from National Center for Women & Information Technology: https://wpassets.ncwit.org/wp-content/uploads/2021/05/13193304/ncwit_women-in-it_2016-full-report_final-web06012016.pdf

Musiimenta, A., Tumuhimbise, W., Bangumya, E., Mugba, A., Mugonza, R., Kobuntungi, P., & Nankunda, M. (2019, December). *(PDF) Exploring the Gender Gap in Science, Technology, Engineering, and Mathematics (STEM),*

*Soft Skills, and Knowledge of Role of Models Among Students in Rural Uganda*. Retrieved from ResearchGate:
https://www.researchgate.net/publication/368077054_Exploring_the_Gender_Gap_in_Science_Technology _Engineering_and_Mathematics_STEM_and_Soft_Skills_and_Knowledge_of_Role_of_Models_Among_Stude nts_in_Rural_Uganda

Ong, M., Wright, C., Espinosa, L., & Orfield, G. (2011). Inside the double bind: A synthesis of empirical research on undergraduate and graduate women of color in science, technology, engineering, and mathematics. *Harvard Educational Review, 81*(2), 172–209. Retrieved from Harvard Educational Review: https://otl.wayne.edu/wider/inside_the_double_bind.pdf

Page, S. E. (2007). The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies. *Princeton University Press Review, 1*(1), 100–110.

Reshma, S. (2017). *Girls Who Code: Learn to Code and Change the World*—Viking Books for Young Readers.

Rose Ragins, B., & Kram, K. (2007). *The Handbook of Mentoring at Work: Theory and Practice.* SAGE Publications. Retrieved from
https://www.researchgate.net/publication/255662364_The_Handbook_of_Mentoring_at_Work

Sass, C. (2020, February 6). How Andela is growing tech talent in Africa: a conversation with Christina Sass. (Andela, Interviewer) Retrieved from https://www.itu.int/hub/2020/02/how-andela-is-growing-tech-talent-in-africa-a-conversation-with-christina-sass/

She Leads Africa. (n.d.). *Who we are*. Retrieved from She Leads Africa: https://sheleadsafrica.org/who-we-are/

SheEO. (n.d.). *SheEO Academy*. Retrieved from SheEO Academy | Mobile Business and Entrepreneurship Enrichment Programs for Girls: https://www.sheeoacademy.com/

Ushahidi. (2017). *Ushahidi - Crowdsourcing solutions to empower communities*. Retrieved from Ushahidi - Crowdsourcing Solutions to Empower Communities: https://www.ushahidi.com/

Williams, J. C., Philps, K., & Hall, E. V. (2016). Tools for Change: Boosting the Retention of Women in the STEM Pipeline. *U.C. Law S.F. Scholarship Repository*, pp. 11–15.

Women in Tech U.K. (n.d.). *About us*. Retrieved from Women in Technology – Opportunities and Advice for Women in Technology: https://www.womenintech.co.uk/

Women Tech Network. (2018). *AkiraChix Transforming Lives in Kenya*. Retrieved from Women Tech Network: https://www.womentech.net/en-at/how-to/akirachix-transforming-lives-in-kenya

Wynn, A. T. (2019, October). Pathways toward Change: Ideologies and Gender Equality in a Silicon Valley Technology Company. *Gender & Society, 34*(1), 31–37.