

White Paper

Accelerating Gender Parity in the Fourth Industrial Revolution

An Agenda for Leaders to Shape the
Future of Education, Gender and Work

July 2017



This *White Paper* is the outcome of an international, multistakeholder Dialogue Series organized by the World Economic Forum's System Initiative on Shaping the Future of Education, Gender and Work. The goal of the Dialogue Series has been to bring together leaders to develop a common vision on emerging issues.

As a key output of the learning created by the discussion, this *White Paper* draws upon submissions by leaders and experts who engaged in the dialogue, as well as the latest thinking from international organizations, think tanks, businesses and other stakeholders. It provides a common narrative on the new context for emerging issues, identifies priorities for leaders, and supports the development of policy roadmaps.

The *White Paper* is intended to be a resource for governments, business and other stakeholders interested in strengthening the enabling environment for human capital formation in the Fourth Industrial Revolution. For more information, or to get involved, please contact the World Economic Forum's Education, Gender and Work team at educationgenderwork@weforum.org.

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This *White Paper* has been published by the World Economic Forum as a contribution to a project, insight area or interaction. The findings, interpretations and conclusions expressed herein are a result of a collaborative process facilitated and endorsed by the World Economic Forum, but whose results do not necessarily represent the views of the World Economic Forum, nor the entirety of its Members, Partners or other stakeholders.

Accelerating Gender Parity in the Fourth Industrial Revolution

The Issue

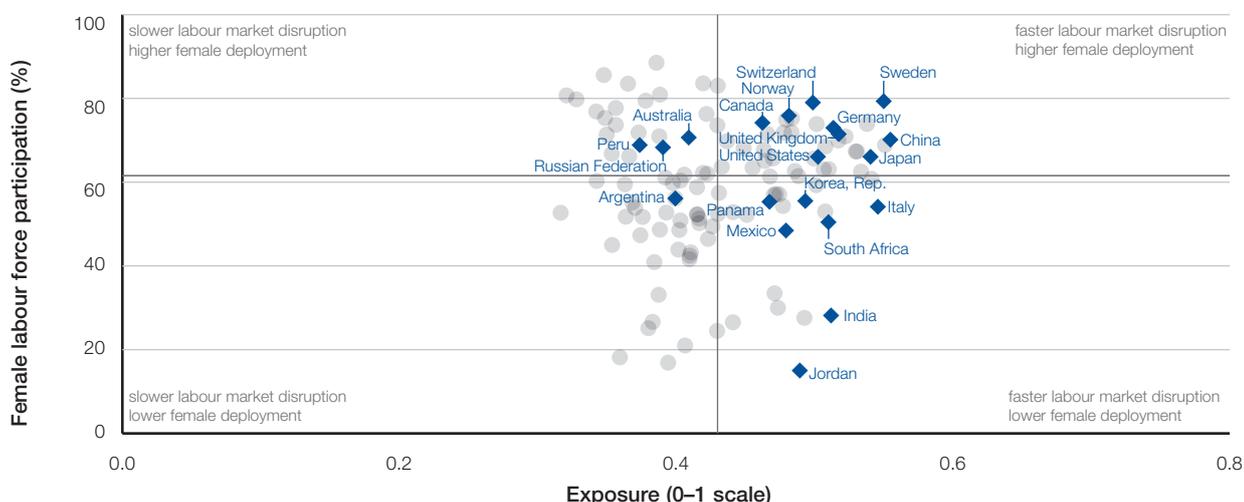
Over the last decade, gender gaps in the workforce, particularly those in leadership positions, have remained largely unchanged and progress has stalled, despite growth in the numbers of women acquiring education, surpassing the rates for men in most countries. In addition, the labour market remains highly segregated by gender along sectoral lines, reducing the dynamism and dividends derived from diversity. Today, however, technology and globalization are transforming the world of work. The speed at which jobs are created, displaced and modified is continuously increasing, skills gaps are widening, and the premium on innovation, creativity and other uniquely human traits is growing.

From the skills-demand perspective, the greater supply of educated female talent on the labour market is good news for talent-stretched high growth sectors. These sectors will have the opportunity to deploy these resources and, in doing so, benefit from the positive performance externalities of an increasingly diversified workforce. Similarly, many female-dominated sectors may also benefit from greater gender equality. However, both male and female dominated high-

growth sectors may not at present be including gender diversity among their growth targets. Additionally, women are also likely to be disproportionately impacted by disruptions in declining job families such as administrative and service roles—where women face five jobs lost for every job gained, versus three jobs lost to one gained for men overall. Given the lower share of women in the labour force, the lack of focus on gender equality in some high-growth sectors and the potentially differentiated exposure to technological change for male- and female-dominated occupations, the current progress towards gender parity hangs in the balance.

While all countries could benefit from optimizing their deployment of female talent, one angle through which to look at this opportunity is to view it as a way to reap the diversity dividend through innovation in high growth sectors—while preventing any further widening of gender gaps. Countries such as China, the Nordics, the United States and Germany—with relatively high levels of exposure to labour market change due to their productive structures and level of technological adoption as well as high female labour force participation rates—are well-placed to take advantage of the emerging opportunities to accelerate gender parity in high-growth sectors

Figure 1. Degrees of Opportunity: Labour Market Disruption versus Female Talent Deployment



Source: ILO estimates, World Economic Forum calculations.

Note: ILO estimates for 2014 for active labour force participation by females. Exposure brings together technological adoption, economic complexity, pay and productivity dynamics as well as unemployment levels.

through targeted policies (See Figure 1, top right quadrant). Countries such as Italy, India, South Africa and Jordan, among others, will face relatively significant levels of exposure, but will need diligent efforts to provide the additional female talent to support competitiveness in dynamic and high-growth industries (Figure 1, bottom right quadrant). Countries in the left-side quadrants of Figure 1 are somewhat less likely to be impacted to the same degree and as quickly by labour market disruption, but could work to prepare talent for labour market changes and to benefit from future opportunities.

In order to make the most of this moment for improving business performance in high-growth sectors and supporting progress towards gender parity at all levels of employment, it is critically important to better understand the specific dynamics hindering gender parity across high-growth sectors. These barriers vary by industry and geography, often reflecting different industry cultures in addition to overarching economic and societal factors. The most often cited factors include the disproportionate dual burden of caregiving and breadwinning on women, unconscious biases affecting women and men, workplace structures and practices built around traditional family structures, insufficient care infrastructure, a lack of role models and at times, a confidence gap.

To navigate the uncertainties of the Fourth Industrial Revolution and the new socio-economic and political context, all sectors need to increase diversity within their talent pools and their leadership to benefit from the range of perspectives, creative thinking and skills needed. The current moment thus offers a strategic win-win opportunity to proactively enhance gender equality and prevent widening gender—and skills—gaps.

Making the most of this opportunity requires concerted action across diverse high-growth sectors and by invested stakeholders. This document aims to support the development of a common set of future-oriented priorities for leaders to champion and implement, including members of the World Economic Forum's System Initiative on the Future of Education, Gender and Work, both through the Forum's platform and their own. It draws upon the latest work in international organizations, think tanks, businesses and other stakeholders, as well as submissions and conversations with Dialogue Series participants. We hope these priorities can help set the agenda for reform and reinforce the urgency for change.

This paper explores the dynamics of the challenges and opportunities for the acceleration of gender parity in sectors and job families that are likely to exhibit high growth in the context of the Fourth Industrial Revolution: including Education, Consumption, Financial Services, and Care Sectors, as well as in STEM-expertise job families including Engineering, Biotechnology, Information Technology and Life Sciences Academia. We propose strategies for these sectors and job families, as well as strategies that may help accelerate system-wide change.

Key Strategies by Sector

Education Sector

With demographic booms in certain countries, and the increasing need for lifelong learning to adapt to new types of work and business models, the demand for education services is likely to continue to grow in many countries. The high level of female participation in this sector is often attributed to the relative flexibility that teaching professions offer, with schedules that mirror that of children, making it easier to accommodate work and family responsibilities. In addition, cultural beliefs about the nurturing role of women also play an important role in feminizing the teaching profession in many contexts. Men are therefore missing out on opportunities within this sector. However, while the education sector has a high level of participation of women in the sector at large, it has significant gaps in senior management and leadership positions in many countries. For example, 68% of Korean teachers are female whereas only 13% of Korean principals are women. In Finland and Portugal, seven out of 10 teachers are women but only about four out of 10 principals are. On the other hand, in Norway, 61% of teachers and 58% of principals are women, and in Poland, the gender imbalance is below 10%. The spread of outcomes in the relative participation in leadership positions in different countries suggests the importance of specific policies to support greater parity in specific countries. Acceleration strategies include:

Promote greater parity at all levels of the education sector, particularly in bringing in greater shares of male talent

In the UK for example, the Training and Development Agency (TDA) has developed a campaign aimed specifically at recruiting men into the profession, which emphasizes the rewarding nature of teaching and provides introductory courses for male applicants in primary schools.¹

Better value and professionalize teaching

The professionalization of the sector, higher wages and added dynamism can all increase the attractiveness of the sector to women and men and create transparent pathways for progression for both equally.

Promote opportunities for cross-country learning and policy sharing

The diversity of gender parity outcomes in the share of women in education leadership positions provides a rich space for peer learning. Policymakers can facilitate country visits and learn from one another's policies about how roles are structured and which policies are best suited to their contexts.

Financial Services Sector

The financial services industry is relatively gender equal at lower levels of the corporate ladder. However in mid-career, a significant gap opens between men and women. Results from company studies indicate that the exit rates of women in financial services in the mid-part of their careers are not only higher than those of their male colleagues, but also significantly higher than in other industries. Female managers,

senior managers and executives in financial services are 20% to 30% more likely to leave their employer than their peers in other industries. These dramatic exit rates are driven by several factors. One significant issue is the level of wage disparity between men and women in this sector. Men get paid on average 40% more per hour than women in the financial services industry, despite women making up nearly half of the workforce (49%). This is the highest gender pay gap for any industry in the UK, and compares with a national average of 22.6%. Another critical factor is the lack of flexibility in work arrangements, particularly for supporting family responsibilities, as well as unconscious biases and assumptions. This pattern holds in the progression towards senior leadership. Women hold only 14% of board seats and just 2% of CEO positions in the financial services industry, despite making up 60% of its global workforce. Acceleration strategies include:

[Build transparency and accountability around wage parity](#)

The relative incentives of women to maintain demanding financial sector jobs are limited when the wages earned for equivalent work are lower than that of male counterparts. It also reflects poorly on a sector where trust and financial responsibility are paramount. Transparency around wage scales and accountability for fair implementation are critical for change.

[Remove the stigma from flexible work arrangements](#)

The financial services sector, along with many others, is facing a changing model of work with growth in flexible arrangements and greater interaction with technology. In addition, with a greater role in caregiving, women tend to be the ones who use leave or flexible arrangements. These work best in tandem with gender-neutral engagement with part-time and remote workers.

[Better connect diversity and performance](#)

There has been recent progress in the financial services sector in Europe, with increasing numbers of women on managing boards. In 2016, the average number of women on boards had increased to 26%, up from 20% two years before.² The greatest progress was in the banking segment, where women accounted for one-third of all board members. Much of this change was linked to proactive policies to promote diversity in the sector, especially as part of broader efforts to improve performance and governance. Such rational and proactive efforts now also need to be applied at the executive level, where there has been less progress than at the board level.

Consumer and Retail Sector

The dynamics of the consumption sector vary across product lines but follow trends similar to other sectors in the senior leadership dimension. In the food and beverage segment and in the restaurant industry in particular, 70% of the front staff is made up of women while kitchen and management positions are dominated by men. At the senior level, male leadership also dominates. Many companies across fast food and fine dining segments have all male boards. In the apparel retail segment, 60% of the employees in the retail industry are women and 85% of all retail purchases are made or influenced by women. Yet, women only make up 20% of executive teams and a mere 10% of executive boards within the industry. Acceleration strategies include:

[Strengthen the link between female consumers and female leadership in the sector](#)

Women are responsible for the lion's share of consumption decisions within the household. Thus, leaders in the consumption sector must tap into a larger share of female talent to develop, design, market and lead their products. This message must be internalized and translated into rigorous hiring policies and practices to promote, at a minimum, parity across all levels.

[Showcase best practices and champions](#)

Internal performance on gender parity and the ability to build a positive image around gender parity with external clients and customers are deeply connected over time. Companies that are champions can set the standard for others in the industry and use their considerable ability to influence mind-sets to promote broader societal change and engaging with messages that are resonating with the public—particularly younger generations—such as efforts by Unilever, Proctor & Gamble and others.

Care Sector

The care sector is a rapidly growing sector due to demographic changes taking place in many economies. These new job opportunities can offer socially impactful and rewarding work. Women form the majority of the sector's workforce, approaching 70% on average, but tend to be clustered in lower-level positions, with very few women represented in more senior roles. For instance, in the UK, 77% of the National Health Service is comprised of women, but out of the total workforce, only 6% of women are doctors or dentists versus 23% of men. Even when men and women do hold similar roles, for example as doctors, men are still paid 25% more on average in these roles. The gendering of certain occupations in the care sector, such as nursing or personal care aides, as well as the lack of clear career advancement pathways, limits both women and men's professional evolution in the sector. Acceleration strategies include:

[Professionalize and value care jobs](#)

The care sector contributes significantly to the economic growth and output in the economy and this value needs to be better reflected in the compensation and quality of jobs that it provides. Currently, despite the emotional intelligence and relational skills involved in many jobs in this sector, most care work is informal, low-paid and uncertified in many contexts. There is a clear need to better understand and value the diverse skills involved and the complexities of care work, and to adjust training to meet the needs of care workers. It is important to improve certifications, standards, attractiveness, wages and benefits in order to professionalize this workforce. Currently, women tend to make up a dominant share of the lower level functions in the care sector, with limited opportunities for moving into more senior level roles. Through increasing productivity, integrating the appropriate technologies, elevating the status of care-related work and increasing the recruitment of men into care work (see the Anchor and Frontline examples, on page 9), norms in the sector can evolve to help women and men in their career progression and development.

Create new opportunities through digitalization and mechanization of social care

The interface between human skills and the incorporation of technology is creating new opportunities in the care sector towards maximizing efficiency and valuing human skills. In Japan, personal care robots such as Pepper by Softbank, have been introduced into healthcare and elderly care facilities with positive results, supporting recreation activities, monitoring at night, helping with rehabilitation exercises for regaining functions such as walking, and increasing mobility by carrying heavy loads. Robot helpers free up healthcare staff to perform more sophisticated functions that require greater emotional intelligence and judgement. These developments are part of a strategic investment on the part of Japan: in 2015, Japanese policymakers developed a Japan Robot Strategy for five critical sectors, including care, planning ahead of expected labour shortages and improving quality. This strategy lays out specific targets for investment in technology and for acceptance and uptake across Japan, including creating a 50 billion yen market for healthcare robots by 2020, and for increasing the acceptance rates to 80% of healthcare professionals willing to work with robots, and 65% for those receiving care. The greater premium on human aspects in this sector may support more interesting opportunities for the majority of women and men in this sector and create greater opportunities for closing the leadership gender gap through appropriate planning.

Support gender-neutral reskilling, upskilling and career progression in the care sector

As hybrid jobs incorporating new technology and greater analytical tasks begin to emerge in the healthcare sector, there will be new opportunities for higher quality jobs that require sector-specific knowledge, emotional intelligence, and technical and digital skills. In order to benefit from these labour market shifts, the women who form the majority of workers can be supported through reskilling and upskilling for better incorporating new technologies and developing relevant technical skills. By doing so, women can be better positioned for high-growth, higher wage roles. There is a strong business case for gender parity and the care sector is no different. Given the relatively strong pipeline of women, it is well positioned to close gaps further up in seniority relatively quickly, but needs to do more to develop a pipeline of men joining the sector's lower-skilled but changing roles.

STEM-Expertise Job Families Across Sectors

STEM-related roles cut across multiple sectors and will continue to be in demand across a diversity of industries. Below we describe current gaps in engineering, biotechnology, IT and life sciences academia, and propose a range of strategies to address these gaps.

Engineering

Women account for 11% of employees in architecture and engineering job families, a lower share than other related STEM industries including 23% of those related to ICT and mathematics,³ and for less than 30% of world's science researchers.⁴ In sectors that employ large numbers of this job family, this is primarily due to 'leaky talent pipelines', with a relatively small share of women completing STEM-related studies, as well as challenges in retention of those women

that do enter, with many women moving into other sectors within the first five years of employment. Women account for 20% of engineering graduates, yet only 11% of the engineering workforce. The gap exists in both older industries that employ large numbers of civil and mechanical engineering professionals, such as infrastructure and construction, as well as newer industries such as IT that employ large numbers of computer engineers. Research regarding the gender divide in STEM career participation underscores the strong influence of societal stereotypes and implicit biases in influencing both self-assessment as well as less positive general attitudes towards female participation in these careers.

Biotechnology

While the biomedical talent pipeline is gender equal, there are significant barriers for women to reach senior leadership positions. There are on average 10 men for every woman in biotech boardrooms, and over half of all biotech companies have exclusively male boards.⁵ The sector employs a relatively young workforce, and some of the major challenges relate to the attributes valued in the start-up culture within the sector. This is reflected in the cognitive bias in which stereotypically masculine traits are frequently sought after in entrepreneurs, managers and executives. Furthermore, there are also misconceptions that women have a lower risk tolerance than men; in a risk-embracing culture such as a biotech start-up, this perception may also influence recruitment and evaluation. These dynamics can limit opportunities for women, and help reinforce the 'like hiring like' culture within this sector.

Information Technology

The field of computer science, the information technology sector and the internet economy broadly have a dearth of women in the talent pipeline: there is an average of 16% of women graduates in computer science in the US currently. Furthermore, in the top 10 largest tech companies in Silicon Valley, on average only 18.3% of the tech roles are filled by women, and challenges related to retention are pervasive.⁶ Opportunities for women in leadership in this sector are also limited, in part due to the talent pipeline challenges, as well as workplace cultures and dynamics. The relatively low level of interest in studying computer science of girls relative to boys has been attributed to the outdated associations of career and work in computer science, as well as to the leaky talent funnel from early education towards tertiary education.

Life Sciences Academia

In contrast to other STEM-related job families, the life sciences pipeline has relatively abundant female talent at its disposal. Over 50% of PhD graduates in life sciences are women. Nevertheless, this availability of talent doesn't translate into similar rates of participation in university-level teaching. Only approximately one-third of associate professors are women, and the number drops to one-fifth for full professors. In addition, studies have demonstrated that even in science-related academia positions, women with small children are 28% less likely to get tenured positions than women without children, indicating the tension between professional development and balance between family and work in these professions.⁷ Research exploring the causes of low retention also indicates that the graduate school period is one of particular volatility.

Strategies include the following:

Increase female talent in the pipeline

Initiatives to boost confidence and inspire greater interest in STEM-related subjects on the part of girls are crucial for building up the future female talent pipeline. Clubs and camps, such as those organized by Girls Who Code, outreach activities such as those by WomEng, as well as employer-sponsored activities and campaigns such as those at Saudi Aramco and the Hidden Figures campaign, are important tools for changing norms and for raising awareness about opportunities in STEM sectors (see examples in the next section). Teachers have an important role to play in the positive framing of discussions about performance, celebrating the achievements of girls as well as boys, and keeping track of progress towards gender equity in course participation. Furthermore, families are influential in shaping attitudes and in helping change beliefs and gender associations. Finally, in the workplace and at the outset of careers, senior managers—both women and men—can play an important role in sponsoring and championing more junior colleagues towards career advancement.

Redefine the possibilities of STEM-expertise careers

Some research has demonstrated that women tend to consider to a greater extent the benefits to society as a whole in making their career selections, and that engineering-related careers are perceived as less socially beneficial relative to others.⁸ A better understanding of how STEM-expertise careers can bring about change could better motivate girls—and boys—and pave the way for greater interest and class enrolment by girls into science and math courses, as well as helping attract and retain female talent later in the talent pipeline (See the example of STEM Connectors, on page 8). For example, engineering careers offer a diverse universe of opportunities for shaping the world and driving socially beneficial innovation. Companies including Siemens are creating school outreach programs to better inform girls about engineering-related jobs, and to shift paradigms about what the type of impact these careers can have. Furthermore, tertiary education in engineering fields can be applied to a broad range of sectors, opening a wide range of career possibilities. For instance, 15% of bioengineering graduates find employment in professional services and 56% seek opportunities in the pharmaceutical segment of the retail and consumer industry, and another 17% in manufacturing. Thus, an education in engineering provides skills that can be adapted into a variety of industries and functions. By seeking out champions from these diverse segments, a greater effort can be made to shift outdated perceptions about engineering careers.

Support the education-to-employment transition

Targeted mentoring and sponsorship programs to support women in their graduate school work and transition to employment can also be helpful. Mentoring programs, like the Million Women Mentors (see example), can help pair students in the life science sectors with mentors to help them through these particularly critical moments in their progression. Sponsoring on the part of male managers can also help bridge the divide between schooling and employment, as well as accelerate professional development.

Build specific approaches to recruiting and retaining female STEM-expertise talent in companies

The low recruitment and retention rates for women in STEM-expertise careers are the result of a range of factors. One is the lack of women role models and alienation in many sectors that employ engineering professionals while there is strong bias in hiring in the biotechnology sector. Companies must thus ensure that they take a holistic approach to gender parity—one that includes specific approaches for STEM professions. This includes role-specific mentoring programs and exposure to role models as well as policies to promote role-specific bias trainings, gender-blind recruitment, and equality ambassadors to help create a more inclusive workplace culture across all major STEM-expertise job categories.

Sector champions and sector-wide efforts

Companies that have put in place successful change efforts should showcase these results to inspire change elsewhere. Such champions can also drive collaborative efforts among companies for industry-wide reform in sectors that are dominated by STEM-expertise roles. This includes identifying sector-wide male and female role models to encourage and inspire women to move into the senior management ranks, sector-wide networks of employees committed to gender parity, mentoring programs with senior management staff across companies, bias training and guidance and support for advancing career progression. Pooling resources and working together will benefit all firms, decrease individual investments, make change efforts more efficient, widen the base of talent for all and create opportunities for learning between companies about which efforts are most effective for retaining and better engaging female talent.

Financial incentives

Financial incentives and tying outcomes to budgets is also an effective strategy, both as part of a company's overall accountability strategies for managers as well as in the use of public funds in academia. Recent initiatives in Canada have created important financial incentives for attaining gender parity in university research departments in life sciences. This has resulted in the adjustment of research funding criteria to include minimum gender parity requirements. This serves to channel resources to those that are making the best use of female talent and reward their diversity enhancing efforts. Reserving resources for institutions that have recruited and retained women in their research departments sends strong messages about the expected norms in these institutions.

Creating a more inclusive, respectful and meritocratic culture

Recent accounts of business cultures in some Silicon Valley firms, marked by episodes of harassment and unwelcome advances on female employees, have shed light on the need for proactive policies to drive change. Both men and women in these business environments can play an active role in calling out discrimination and advocating for more inclusive cultures and practices. Furthermore, workplace cultures need to move beyond confusing presence with performance, and move towards results-driven management and flexibility, which empowers employees to manage their own time and productivity.

Key Strategies for Systemic Change

Old stereotypes die hard. Culturally influenced perceptions of what counts as masculine and feminine vocations are formed early in life and are strongly influenced by traditional perceptions of gender roles. In many sectors, women still struggle to reach top leadership positions and are also less likely to become entrepreneurs.⁹ On the other hand, men are far less likely to become teachers and join care professions such as nursing. These limiting longstanding beliefs and traditions are a key stumbling block limiting capacities to de-gender work, to promote equality of opportunity in pursuing less traditional career choices, and reap the rewards of diversity across all sectors. In addition to sector-specific strategies, there are four additional system-wide measures that can promote parity across all sectors.

Combat biases though increasing gender parity in media, film, and advertising

The consistent underrepresentation of women in leadership roles in films, media and advertising is driven by and then influences our norms about gender in the world.¹⁰ According to the Center for the Study of Women in Television and Film, in 2014, 12% of protagonists were females, as were 29% of major characters.¹¹ Furthermore, men are also less represented in certain professional roles, such as in caregiving roles, influencing norms about who should be involved in these activities. While statistics on the type of roles and occupations women and men portray are not available, this skewed representation is unlikely to create the positive role models and to shift societal perspectives about the capacities and roles of men and women. Instead, to create a more virtuous cycle, media and industry professionals must take a more active stance in challenging stereotypes and inspiring new attitudes (See examples of #LikeAGirl, The Representation Project, GE Millie Dresselhaus, Unstereotype Alliance, and Hidden Figures later in the paper).

Promote business practices that foster gender equality broadly

Regardless of sector, deeper and broader implementation of proven business practices that eliminate gender gaps are critically important for levelling the playing field for women and men. Businesses with leaders that visibly commit to gender equality make significantly more progress towards achieving their diversity goals. Companies that implement processes towards eliminating implicit bias in recruitment, hiring, promotion and pay are better placed to achieve real results (See the Mercer example). Furthermore, establishing targets with manager accountability creates the infrastructure for making and measuring progress. While women currently tend to perform the larger share of informal care duties, flexible and family-friendly policies such as paid maternity, paternity and parental leave, and support for elderly and childcare can be important tools to support women and address the imbalance over time.¹² In addition, conducting systematic reviews of pay equity and offering training and mentoring to high potential staff with an eye to promoting gender parity in senior roles are also critical avenues for success. Organizations that conduct wage parity analyses regularly see much more effective progress in building gender diversity, as they promote their

value proposition for women and engage managers on the importance of equity. Understanding that broad pay gaps are driven primarily by the different roles occupied by women and men has also served to expand the focus from pay within job only to one that is inclusive of other areas that might suffer from bias, including the opportunity to advance and the allocation of performance ratings. Reduced reliance on prior pay at entry, which comes with a greater focus on pay for the job for new hires, is another step some companies are taking to ensure they do not inherit pay inequities from others.¹³ Recent initiatives towards putting pay parity into practice in the United States include the Pay Parity Pledge, which brings together over 40 major American firms (see the example of Pay Parity Pledge).

Public policy for families, gender-neutral social safety nets and government-mandated equality standards across all sectors

Government-mandated maternity, paternity and parental leave and benefits, as well as a robust childcare and eldercare infrastructure, have proven to be effective investments in most countries for promoting gender parity in the workforce as well as broader societal cohesion. As labour markets undergo a technology-enabled transformation and as governments consider new social safety nets, it will be imperative that these new measures take gender differences into account and leverage this moment of change for ensuring that retraining promotes gender equality rather than segregation. In addition, given that women are consistently underpaid compared to men in most economies for the same work, putting in place regulatory incentives to make rapid progress towards wage parity is crucial for recognizing the contribution of women in the workplace and not skewing incentives for one gender to take on a greater share of unpaid care work than the other. Regulatory efforts in countries like Sweden, which mandates wage parity and annual compensation reviews, have demonstrated positive results in reducing and in some cases eradicating wage parity gaps.

Showcase the public sector as a role model for shifting norms and outcomes

Moving towards gender parity should be a priority in all sectors, but the public sector can play an important role in helping shift norms by leading by example. The role of women in public leadership roles falls short in many respects, particularly in the role of judges and parliamentarians. Nevertheless, recent efforts in several countries highlight the capacity for impactful change. For instance, Prime Minister Justin Trudeau in Canada and President Emmanuel Macron in France have recently achieved gender parity in their cabinets of Ministers, as have a select number of other countries in the last decade. These decisions send clear signals about the importance of inclusive environments. In some MENA countries, deliberate policies by the government have integrated a much larger share of women in public administration than in the broader labour markets of these economies. Policies that promote pay parity within the government can also set the standard and serve as a rapid testing ground before roll out to the private sector. For example, in Norrköping, one of the largest cities in Sweden, gender parity of median wages in the public sector was achieved in 2016.

Examples of Successful Implementation

Campaigns to Change Mindsets

The Hidden Figures Campaign: Searching for the next generation of women who will lead the way in STEM

PepsiCo and 21st Century Fox launched an integrated, multi-platform campaign targeting girls aged 13-19 and over 20 in order to encourage more women to consider STEM-related careers. This targeted campaign reached a relevant audience of female contestants but also created a larger platform for the conversation about women in STEM. The essay contest was judged by a celebrity panel from the *Hidden Figures* movie, and 12 winners were awarded with \$50,000 or \$10,000 scholarships as well as other prizes. In addition to the essay submissions, participants were also encouraged to test their STEM skills and to submit their “real-life STEM” moments on social media. Overall, the campaign reached millions of women, and was successful in raising greater awareness among women about the cutting-edge opportunities available in STEM careers, and helped move towards a rebranding of STEM careers as attractive prospects for women.

GE’s “What if Millie Dresselhaus, Female Scientist, were treated like a celebrity?” campaign: Pushing the frontiers of female role models

This General Electric Advertising campaign examines the social status of female scientists and questions what the world might look like if scientists were renowned in the same way as celebrities, bringing to light current perceptions of female role models. The ad employs the figure of Millie Dresselhaus, an MIT professor and scientist whose work on carbon properties revolutionized the nanotechnology industry. The ad shows little girls receiving dolls of Millie, celebrating a Millie Dresselhaus Day, using Millie emoji, and seeing young girls aspire to be scientists. GE reveals that their goal is to have 20,000 women in tech roles by 2020 and showcases some of the women in its company.

The Representation Project: Tackling the limiting ways men and women are presented in film and media

After the success of her first documentary film *Miss Representation*, examining the negative and limiting images of women, particularly in the media, Jenifer Siebel Newsom founded the Representation Project.¹⁴ The Representation Project aims to use film and media as catalysts for cultural transformation and elimination of negative gender stereotypes affecting both boys and girls. It is dedicated to bringing advocates together and provides resources to raise awareness and change behaviours among youth, parents, educators, coaches and businesses.

Proctor & Gamble #LikeAGirl Media Campaign: Challenging belittling norms

This 2013 communications campaign challenged the negative associations of doing things commonplace activities like running or catching “like a girl”. The campaign shed light on the demeaning perceptions that have become associated

with the idea of girls capacities, and contrasted them with the images of confident little girls and their own estimations of their capacities. The campaign was launched to bring attention to girls’ confidence issues around the age of puberty, but grew into a larger mass-media dialogue about sexism and discrimination.

Scotland’s Be What You Want Campaign: Broadening career horizons for boys and girls

The Scottish government has made efforts to reduce gender-based occupational segregation with its “Be what you want” (<http://www.bewhatyouwant.org.uk>) campaign. The campaign specifically targets 11-14 year-old students in Scottish schools and tries to support the aspirations of young people by highlighting the barriers that boys and girls face when trying to enter non-traditional areas of work.

Networks and Organizations Implementing Change

Girls Who Code: Empowering girls with the skills for the tech jobs of tomorrow

Girls Who Code (GWC), a non-profit organization started by Reshma Saujani, is based in the United States and dedicated to ensuring that girls receive appropriate training and encouragement for entering tech sector jobs. GWC estimates that there will be over 1.4 million computing-related jobs in the US by 2020, and women will only hold 3% of these jobs. GWC is dedicated to inspiring, educating and equipping girls with the skills and resources to pursue opportunities in technology. Through their Summer Immersion and Clubs Programs, GWC helps girls use computer science to impact their community, build resilience and bravery, and join a sisterhood of supportive peers and role models. Thus far, Girls Who Code has reached 40,000 girls through their programmes, which is four times the number of women that graduate with a computer science degree every year in the US.¹⁵ GWC’s programs are raising awareness and interest in technology sector careers. Of the girls who participate in the Summer Immersion Program, 93% report greater interest and intention to major in Computer Science as a result of the programme.

WomEng: Developing the next generation of women engineering leaders

WomEng is a social enterprise that, since 2006, has been working to develop the next generation of women engineering leaders in society. It works to actively promote STEM education; foster the retention of women in the engineering field; support skills development, employability and entrepreneurship; and provide mentoring. WomEng works to attract, retain and develop women in the engineering pipeline through every stage of development, from primary school through to professional workers. In 2015 WomEng received an award for Best Practice in Technical Vocation Education and Training (TVET) from the African Union, and as of 2016, the enterprise has worked with over 14,000 girls and women in Sub-Saharan Africa. In 2017 it launched the #1MillionGirlsInSTEM campaign, endorsed by UNESCO, which will see a global education drive to develop 1 million girls through STEM education with a focus on developing a strong pipeline of female talent for the engineering and technology industries.

Anchor and Frontline: Leading the campaign for more men in the care sector

Anchor, the largest non-profit provider of housing and care for the elderly in the UK, is leading a recruitment drive across schools and colleges to recruit more men into the care sector. Anchor is also working with the Veterans Employment Transition program to help veterans consider movement into social care professions in light of the growing number of opportunities in the sector. Another initiative, Frontline, a graduate scheme for social workers working with vulnerable families, has been successfully recruiting 25% men for their programs.¹⁶ Efforts to recruit in the sector are made more difficult by the minimum wage compensation, long hours, intensive training and intimate personal care for elderly people. Nevertheless, greater diversity in recruitment is a positive sign of efforts to shift societal perceptions of care as a female profession, and as an undervalued profession.

STEM Connector: A one-stop-shop for information about the STEM universe of jobs and workforce development

Founded in 2011, STEMconnector (SC) brings together over 165 organizations as part of an established platform designed to leverage partnerships and collaboration to advance the STEM economy and the future of jobs. The collective network represents the entire talent pipeline and impacts millions of jobs. SC is owned by Diversified Search, the largest women-owned executive search firm in the US and with global search capabilities in 29 countries. SC works to establish an effective community of practice for practitioners seeking to impact STEM education and workforce development, help design career pathways to jobs, bridge the gap between academic institutions and employers and build public awareness of the opportunities that STEM careers represent for economic inclusion. SC implements a number of diverse initiatives across a range of STEM-related activities, including the STEM Food and Ag Council, the STEM Innovation task force, the STEM Higher Education Council, the Million Women Mentors and well as the Global STEM Talent Summit.

EDGE Certification: Setting a global standard for corporate gender equality performance

EDGE is a foundation and consulting company that began operations in 2011 and conducts evaluations and employs certification tools to assess company practices and performance on gender equality. Over 100 companies representing 22 industries and 40 countries are undergoing evaluation and assessment to benchmark their performance. Thus far, IKEA Switzerland and the World Bank are among the early recipients of the highest level of EDGE certification.¹⁷

The EDGE Certification program provides global recognition of gender equality performance in four areas:

- Gender balance at all levels of the company or organization, including a 30% requirement on women representation at the non-executive board level.
- Eliminating gender wage gaps controlling for responsibility, seniority and educational attainment.
- The presence of an appropriate framework of policies taking into account recruitment, promotion, leadership development, flexible working and company culture.

- An inclusive culture signalled by high employee ratings of career development opportunities.

Skills for Care: Setting and raising the standards of care

Skills for Care is a Non-Profit Organization in the UK dedicated to empowering workers in the social care industry through training, development, and connections with recruiters in the social care sector. This is crucial for meeting the demands of the projected of 718,000 care workers in the UK by 2025.¹⁸ The social care sector in the UK employs 82% women, but is trying to shift these trends (see Frontline example). Skills for Care works with care organizations in setting and raising social standards of care, and ensuring professional service delivery. These efforts are very successful in helping professionalize the care industry, including through certificate accreditation programs, and to provide the relevant skills to men and women pursuing careers in the care sector.

Business Transformations and Pledges

AirBnB: Prioritizing diversity targets over speedy hiring targets

In Silicon Valley, technology companies are struggling with gender parity, particularly in smaller start-ups, where women account for only 23% of staff in top tech companies with less than 100 employees.¹⁹ But progress is possible—as AirBnB demonstrated by raising its share of female’s employed by the company from 15% to 30% within the scope of just one year. AirBnB pursued new policies for diversity in recruitment when it realized there was a large disconnect between its constituents, of whom 55% of hosts are women, and the composition of the company. AirBnB shared that the key to their progress was prioritizing diversity over expedient hiring. The company made significant efforts to not just recruit through networks of candidates know from previous companies, but instead put in place new procedures including incorporating gender blind technical assessments previous to interviews, and ensuring at least 50% women on interviewing panels. These efforts appear to be paying off: in 2016 AirBnB had exceeded 40% female employees, with over 25% of females in tech roles, significantly above the top 10 tech giant average of 18.3% of female employees in tech roles.²⁰

Saudi Aramco: Implementing firm-level strategies for building the female STEM talent pipeline, increasing recruitment and supporting professional development

Saudi Aramco has doubled its female participation rate in the workforce over the past 10 years, with particular success in attracting additional women in STEM disciplines, which grew six-fold during that period. This progress towards gender parity was achieved by launching several initiatives focused on attracting women into careers in the oil and gas industry.

One of the most impactful initiatives was leveraging the company scholarship program whereby 25% of available scholarships were earmarked for female candidates. As of 2017, Saudi Aramco sponsors more than 270 young Saudi females globally in pursuit of different STEM majors; 117 of them are specializing in PTP majors. In addition, the company conducts early outreach programs for female students in elementary schools to promote and encourage careers in STEM. Over 2,400 females and 200 parents recently

attended a two-day workshop promoting STEM education. The involvement of parents and their daughters in STEM at an early stage increases their mutual interest and aspirations for exciting, new educational and career opportunities.

In addition to pursuing aggressive and targeted initiatives for increasing female workforce participation in technical areas, Saudi Aramco has also established annual recruitment targets for increasing employment opportunities for women across all business fields. The company initiated the Gulf Region Organization for Women (GROW) platform and allied with more than 30 companies and business partners to expand opportunities in employment, development and career progression within the region. Such partnerships improve the overall industry perception among women that STEM jobs are a viable and rewarding career choice, while creating business environments and career opportunities where high-performing female leaders can excel.

Nokia's StrongHer: disrupting people's perceptions about gender and talent in the technology sector

StrongHer is a grassroots movement created by Nokia's employees to promote and enable gender balance within the company, magnify women's business contribution to the company and unleash their full potential within Nokia and beyond. The employee network is led by an international board of seven women and is open to all employees, men and women, executives and non-executives. Started by six employees in 2011, today StrongHer has over 2,300 members—including 23% men—in more than 60 countries worldwide on five continents. Members want a company where women have the same opportunities as men and are well represented in all business domains and functions. StrongHer advances gender diversity by offering networking opportunities, personal development and a think-tank on leadership and management. It also provides exposure to diverse role models for women and men, along with business contacts within and beyond the technology sector. Through its activities and the commitment of its members, StrongHer acts to disrupt people's perceptions about gender and talent, and to close the gender gap in the technology sector. StrongHer also recognizes excellence in female leadership through annual awards for women in 14 countries, and provides access to e-mentoring programs in 13 countries to provide knowledge exchange and support. In addition, StrongHer also recognizes managers who commit to gender parity and follow through on those commitments with a StrongHer label, encouraging and recognizing accountability on the part of managerial staff.

PepsiCo Ready to Return Program: Creating a bridge for those seeking to re-enter the workforce

Ready to Return is a 10-week paid program in two of PepsiCo's New York locations designed for experienced professionals who have been out of the corporate workforce for more than two years and are looking to return. To help ease the transition back to work, participants are provided with mentoring and coaching support, training to refresh skills, and the opportunity to work on a functional project in the Research & Development, Human Resources, Supply Chain and Marketing functions. During PepsiCo's inaugural programme that ended in June, 2017 participants took on projects that tapped into their expertise, facilitating an easier transition back into the workforce

and building their confidence. The support mechanism in the form of a buddy, mentor, manager and program manager enables a quicker immersion into the PepsiCo culture and creates an instant network—whether for day-to-day support through a buddy or to elevate their thought-process and approach to a project from a mentor or manager. The participants have brought tremendous value and experiences to the teams they worked in and have allowed PepsiCo to tap into a strong talent pipeline as a number of participants are being considered for permanent roles within the organization.

Mercer: Implementing business practices that foster gender equality

Mercer is on a journey to building a more diverse workforce and an inclusive workplace, so that the firm can offer a more supportive work environment for colleagues, drive innovation and boost business success. To increase gender representation, diversity and inclusion across the entire firm, Mercer applies a holistic inclusion and diversity strategy broken down into a five-step process.

Align the organization on the business imperative. Mercer established inclusion and diversity as a business imperative in 2013 through alignment with business strategy, and by securing buy-in from the top—at the global executive and regional levels.

Diagnose. Mercer diagnosed the current state and projected future state by leveraging its workforce analytics, such as the proprietary Internal Labor Market (ILM) analysis, to uncover the root causes of retention, promotion and high performance across gender, race and generations. This quantitative analysis, combined with insights from the engagement results and focus group feedback, helped to identify at what stages women are facing choke-point and leaving the organization, and how access to key roles limits advancement. For example, findings from the analysis revealed that: (1) Women tend to have higher ratings, yet are less likely to advance; (2) Client-facing roles are more strongly linked to promotion for women, yet women are less likely to be in these roles; (3) People manager roles are more strongly linked to promotion, yet women are less likely to be in these roles; (4) Over the past three years, men had overall more favourable engagement scores than women in most categories, yet turnover rate was higher than men.

Engage to create passionate leaders and drive personal commitment. Mercer secured sponsorship from all relevant stakeholders about the insights and actions to be taken. This included the executive team, business resource groups (BRG's) and managers and colleagues of both genders and all ethnicities.

Take action to ensure that the right practices, programs and processes are in place. To address the areas of opportunities, Mercer implemented the following actions: (1) Manage bias in talent/performance reviews, hiring and building diverse client/project teams; (2) Deepen understanding of individual differences and address unconscious bias through formal learning; (3) Develop processes to proactively build diverse teams and better manage key inflection points and flexibility that drive retention. Additionally, Mercer actively empowers colleagues to drive their career by (4) Strengthening self-advocacy skills through training, expanding mentoring and sponsorship and promoting career

development resources and tools; (5) Workplace flexibility: taking a multipronged approach to build a workplace culture that supports and fosters flexibility for colleagues.

Measure and refine. On a biannual basis Mercer revisits these steps to ensure that the advocates, culture, accountability and infrastructure are in place to persevere, strengthen and foster an inclusive workforce. This is mainly achieved through continuous communication and education of all leaders, people managers and colleague learnings (inclusive leadership training, tools and resources for leaders and people managers). Additionally, Mercer UK and US are currently undergoing EDGE Certification to reinforce their commitment to gender equality.

CEO Action for Diversity and Inclusion: Creating inclusive work environments for all²¹

Started by the US Chairman of PwC Tim Ryan, this is the largest CEO-driven business commitment to advance diversity and inclusion within the workplace, driven by a realization that addressing diversity and inclusion is not a competitive issue, but a societal issue. Participating CEOs recognize that change starts with them and will work to leverage individual and collective voices to advance diversity and inclusion in the workplace. As of June 2017, this initiative brings together CEOs from over 175 companies, including Cisco, Dow Chemical, HP, The Home Depot, PepsiCo, Merck, Morgan Stanley, Staples, Target, among many others. Participating CEOs have pledged the following:

- We will continue to make our workplaces trusting places to have complex, and sometimes difficult, conversations about diversity and inclusion. We will create and maintain environments, platforms and forums where our people feel comfortable reaching out to their colleagues to gain greater awareness of each other's experiences and perspectives. By encouraging an ongoing dialogue and not tolerating any incongruence with these values of openness, we are building trust, encouraging compassion and open-mindedness, and reinforcing our commitment to a culture of inclusivity.
- We will implement and expand unconscious bias education. Experts tell us that we all have unconscious biases—that is human nature. Unconscious bias education enables individuals to begin recognizing, acknowledging and, therefore, minimizing any potential blind spots he or she might have but wasn't aware of previously. We will commit to rolling out and/or expanding unconscious bias education within our companies in the form that best fits our specific culture and business. By helping our employees recognize and minimize their blind spots, we aim to facilitate more open and honest conversations. Additionally, we will make non-proprietary unconscious bias education modules available to others free of charge.
- We will share best—and unsuccessful—practices. Each of our companies has established programs and initiatives around diversity and inclusion. Yet, we know that many companies are still developing their strategies. We will commit to helping other companies evolve and enhance their current diversity strategies and encourage them, in turn, to share their successes and challenges with others.

- We also pledge to create accountability systems within our companies to track our own progress and to share regular updates with each other in order to catalogue effective programmes and measurement practices. We believe that by sharing and learning with each other, we can strengthen our existing programmes and commitments to better serve our employees and society as a whole.
- We recognize that these three commitments are not the complete answer, but we believe they are important, concrete steps toward building more diverse and inclusive workplaces. We hope our list of signatories will grow, and we invite other CEOs across America to join us.

Million Women Mentors: A large scale platform for personalized STEM support²²

Million Women Mentors is a movement bringing together corporate and government pledges to change the face of women and girls, their career choices and advancement through active mentoring. The goals of the programme span education, career choice and workplace retention areas by seeking to:

- Increase the percentage of high school girls planning to pursue STEM careers.
- Increase the percentage of young women pursuing undergraduate degrees in STEM fields.
- Increase the percentage of women staying and advancing in STEM careers through supporting workforce mentoring programs.

In order to achieve these objectives, the programme provides an automated, scalable and easy-to-use platform to facilitate large numbers of STEM professionals (male and female) with tools to become effective mentors, in partnership with over 60 national organizations, reaching over 30 million girls. It also works to actively match participating corporations to scaled non-profit partners and educational institutions in need of STEM mentors and role models, as well as track good practices on successful implementation and impact.

Unstereotype Alliance: disrupting the norms of advertising

In a concerted effort to bring an end to gender stereotyping in advertising and brand-led content, leaders from a broad array of major companies and organizations came together to launch the Unstereotype Alliance in June 2017 at Cannes. This alliance brought together participants from ANA, AT&T, Alibaba, Cannes Lions, Diageo, Facebook, Geena Davis Institute, Google, IPG, IPA, Johnson & Johnson, Mars, Mattel, Microsoft, P&G, Publicis, Twitter, The Female Quotient, UN Women, Unilever, as well as the World Federation of Advertisers.

These companies and organizations have joined forces to explore how these industries can affect positive cultural change by using the power of advertising to help shape perceptions that reflect realistic, non-biased portrayals of women and men. Participants acknowledged the power of advertising in shaping perceptions and impacting social norms, and vowed to put an end to negative and diminished portrayals within their media campaigns.

Pay Parity Pledge: Companies paving the way towards wage parity

Over 100 companies have signed on to the White House-led pay parity pledge launched in 2016. This widespread support highlights the important role that businesses can play in tackling the gender pay gap. By taking this pledge, participating companies mark their commitment to conduct an annual company-wide gender pay analysis and to review hiring and promotion practices to reduce unconscious bias and structural barriers. Signatories have come together representing diverse and include major companies such as Apple Facebook, Intel, Microsoft, Target, Anheuser Busch, Delta Air Lines, Coca-Cola, General Motors, PepsiCo, and Nike. Many companies have already put in place mechanisms for identifying pay disparities, but this process marks a formal commitment and sets the standard for other companies to follow suit.

National Transformation Models

The Chile Gender Parity Task Force: Coming together for national impact

Implementing a collaborative model of action developed by the Forum, senior public, private sector and civil society leaders have come together to accelerate progress on economic gender parity across Chile. Supported by the Forum and the Inter-American Development Bank, and backed by President Bachelet, the leadership of the Task Force has designed an action plan focused on four key areas: increasing the participation of women in the labour market; increasing numbers of female managers and leaders; narrowing the gender wage gap; and shifting mindsets and stereotypes on gender. Within each of these four areas the Task Force has identified specific measures that can be taken to create impact, such as implementation of a gender-based approach in corporate human resources policies, a proposed amendment to the law on equal pay between men and women, and agreements with head hunters to increase the presence of women in senior management and board level positions. To deliver change, the Task Force is gathering commitments to action from the more than 70 companies—many of which come from high-growth sectors crucial to Chile's future economic growth—that have signed up to be members. Impact is already being felt, for example, through a recent government agreement with the private sector to support management and skills training for aspiring female managers. The model is now being promoted for adoption in other countries.

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