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Redefining Leadership in the

Age of the SDGs

Accelerating and Scaling Up Delivery Through Innovation and Inclusion

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INTRODUCTION

"For them, I set no boundaries in space and time." – Jupiter's prophecy in Virgil's Aeneid

"... Innovators enable collaboration across boundaries and time. Let us unleash innovations to unlock the potential of every person everywhere, especially women and young people." – President of the UN General Assembly Miroslav Lajčák to Business Leaders and Innovators

"Statesman" is a term of praise, a word we use to express our admiration for those men and women who lead their communities with exceptional wisdom and skill. Unlike the modern bureaucrat, the statesman is a figure that appears in every period. In this sense we might say his virtue is timeless." – Anthony T. Kronman- Yale Law School

"We are facing [an] existential crisis, the biggest crisis humanity has ever faced," Greta Thunberg told the business community at an event sponsored by Salesforce at the World Economic Forum in 2019. The young climate change activist said "If everyone is guilty, then no one is to blame, and someone *is* to blame... Some people, some companies, some decision makers in particular know exactly what priceless values they have been sacrificing to continue making unimaginable amounts of money, and I think many of you here today belong to that group of people." She continued, "The future of humankind rest firmly in your hands."¹ Thunberg was echoing what the UN Secretary General told a group of business leaders in 2018: "Let me start by a brutal sentence: either the Sustainable Development Goals are fully assumed with enlightened self-interest by the business community, the private sector, and the financial sector, or the Sustainable Development Goals will be a very nice exercise in diplomatic discussions in New York and maybe in some policies of some Governments, but the impact on people, the impact on poverty, the impact on the planet, will be extremely, extremely small. Without your leadership, our project will simply fail."² When history is written, the age of the Sustainable Development Goals (SDGs) from 2015-2030 will be known as a time when purpose-driven business leaders envisioned businesses as a powerful platform for change. As Marc Benioff, the founder of Salesforce has said recently, "The business of business is improving the state of the world."³

¹ James Workman, *"Our House is on Fire." 16 year-old Greta Thunberg Wants Action*, WORLD ECONOMIC FORUM (Jan. 25, 2019).

² Secretary-General's Remarks at UN Private Sector Forum [as delivered], United Nations (Sept. 18, 2017).

³ Dan Pintefract, Salesforce CEO Mark Benioff Says The Business of Business is Improving the State of the World, Forbes (Jan. 7, 2017).

Our study examines selected leaders in technology and unpacks their leadership values and how those values have the potential to accelerate the SDGs. Conversely, we examine how the SDGs provide a roadmap by which to align strategic business goals with the public good and transform the social purpose of business. The SDGs have been described by Mary Robinson, the Former President of Ireland as the diplomatic feat of the 21st century and heralded by the UN Secretary General as the great collective journey to leave no one left behind, calls for the collaboration of all stakeholders, including business leaders. Corporations account for 157 of the 200 largest entities on the planet, according to a list compiled by Global Justice Now.⁴ Without the cooperation of business leaders, and their collaboration with governments and those furthest left behind, the lofty goals of the SDGs will remain aspirational and unattainable.

Our research examines how the SDGs, considered the grandest vision for sustainable development for the world, can be accelerated by ambitious leaders in the field of innovation. Through careful selection based on the type of industry, scale, impact, and diversity, we study a cohort of bold leaders who are shaping a brave new world. In turn, the urgent charge of the SDGs provides a platform and an innovation lab to incubate new ideas for inclusion and technologies.

Digital technology has the power and the potential to either widen the development gap or close it. The SDGs were ushered in at a new age for technology. Together, they can have a profound impact on the world and spur an exponential rate of growth in development. The challenge now is how to reimagine business to make the SDGs central to the overall business strategy so as to achieve the Aristotelian vision of global growth based on virtue ethics-- the connective tissues of the SDGs.

Launched in 2015, the SDGs are a universal call to action to end poverty, protect the planet and ensure equality and inclusion for all people. The SDGs provide the private sector an unprecedented blueprint to make positive impact on the lives of many. Because of their reach and influence, the SDGs provide a cartography to align strategic social impact goals and design a developmental agenda through innovation and inclusion.

⁴ Ben Chapman, Majority of the World's Richest Entities are Corporations, Not Governments, Figures Show, The Independent (Oct. 17, 2018) <https://www.independent.co.uk/news/business/news/companies-bigger-than-governments-un-human-rights-council-meeting-a8588676.html>.

Yet, four years after the adoption of the 2030 Agenda, Secretary General Guterres has said that “we are not yet on track and must step it up.”⁵ At the High-Level Political Forum in July 2019, Secretary General Guterres urged all stakeholders to “ratchet up the ambition and highlight the imperative of inclusion.”⁶ The leaders in our study are chosen to be profiled because of the ambition of their ideas, their global reach, diverse impact, enduring influence and their acknowledgment of a challenge. We are aware that there are many more leaders in the field, but these innovators and disruptors are uncommon in their ability to cross-fertilize a world of new ideas. While the cardinal targets of Goal 9 on fostering innovation are integral to the business plans of these leaders, the research will examine the way in which inclusion is an imperative to transform innovation. Secretary Guterres, specifically referencing the rapid technological change, has said, “inequality raises economic anxiety, erodes public trust, and undermines social cohesion, human rights, peace and prosperity.”⁷ Meanwhile, mounting evidence illustrates in the Secretary General’s words, the “transformative results of equality and inclusion - particularly of women - in higher Gross Domestic Product, greater stability, and enhanced private sector performance and institutional effectiveness.”⁸

⁵ António Guterres, Remarks to Opening of High-Level Political Forum Ministerial Segment, United Nations Secretary General (July 16, 2019) <https://www.un.org/sg/en/content/sg/speeches/2019-07-16/remarks-opening-of-high-level-political-forum-ministerial-segment>.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

Why the Private Sector Should Care About the Sustainable Development Goals

“There are leaders out there who while watching the bottom line realize to whom so much is given much more can be expected.” – Phumzile Mlambo Ngcuka

The SDGs provide businesses an unprecedented opportunity to make positive impacts in the lives of many. Because of their reach and influence, the SDGs provide a blueprint by which to design a developmental agenda, through innovation and inclusion— and a critical tool kit to achieve corporate social impact goals.

During the past five years, the business sector has played an increasingly integrated role in the discussion and programming of the global development agenda. The 17 goals and 169 targets of the SDG’s set forth a broad scope of development objectives for all countries and call for action by actors beyond government.⁹ For the first time, the business sector fully participated in the creation of the development goals and was recognized as an essential partner in the achievement of the goals. In contrast to the Millennium Development Goals (MDGs) of 2000, the SDGs are a broader set of goals that are universal in applying to all nations and targeted at all players, including the private sector.¹⁰

The importance of the engagement of the private sector is underscored by Goal 17, which emphasizes the need for enhanced public-private partnerships to mobilize and share knowledge, technology, and financial resources for the Global Goals.¹¹ There are many ways in which the business sector can be a key engine for sustainable development. These include filling the financing gap, driving innovation, expanding access, creating job opportunities, building inclusive businesses, and producing goods and services that address development challenges.¹²

Larry Fink, chairman and CEO of BlackRock, the world’s largest equity fund, caused a stir with his 2018 letter to CEO’s stating: “stakeholders are demanding that companies exercise leadership on a broader range of issuesability to manage environmental, social, and governance matters ...which we are increasingly

⁹ Sustainable Development Goals, United Nations, <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>.

¹⁰ We Can End Poverty Millennium Development Goals and Beyond 2015, United Nations <https://www.un.org/millenniumgoals/bkgd.shtml>.

¹¹ Goal 17: Revitalize the Global Partnership for Sustainable Development, Sustainable Development Goals, United Nations <https://www.un.org/sustainabledevelopment/globalpartnerships/>.

¹² *Id.*

integrating into our investment process.”¹³ Businesses are being offered guides to incorporating the SDGs in their strategies, including by the World Business Council for Sustainable Development, Accenture Strategy, EMPEA, and the Silicon Valley Community Foundation.¹⁴

As to whether the SDGs make business sense, the 2017 Commission on Sustainable Business, chaired by Mark Malloch-Brown, identified a 12 trillion market in four of the SDGs by 2030.¹⁵ A 2015 Harvard Business School study of 180 U.S. companies found that for over more than a decade, companies that scored well on Environment, Sustainability and Governance (ESG) factors also achieved significant returns. The SCR300 “SDG Commitment Report” reports that of 400 of the world’s largest companies with a market cap of more than 25 trillion dollars, 300 disclose commitment to the SDGs and that for 2017 the UNGSII SCR300 Global Sustainability Fund outperformed market benchmarks, such as Dow Jones and Standard & Poor’s.¹⁶

The SDGs align development goals (inclusive growth, social equity, environmental protection) with key business imperatives (revenue growth, resource productivity, risk management) and create a case for the business sector’s involvement in global development. This focus has come at the right time as companies are moving from uncoordinated corporate responsibility programs toward a more systematic integration of social, environmental, and governance concerns into their core business strategy. While these efforts vary widely by country, industry, and company size, companies increasingly recognize the importance of sustainability to the future of their businesses. This recognition is because they must confront and adapt to intense business competition, uncertainty over access to energy and materials, climate change threats, and greater scrutiny from the public and their own employees about corporate practices.

The SDGs were adopted by the 193 nations at a time of great upheaval-- when reactionary populism and nativism was sweeping the world. As a new global order took hold, innovators came to the forefront to rethink deeply entrenched narratives and find ways to solve some of the great challenges including, gender

¹³ *Larry Fink's 2018 Letter to CEOs A Sense of Purpose*, BlackRock, <https://www.blackrock.com/corporate/investor-relations/2018-larry-fink-ceo-letter>.

¹⁴ The SDG Compass Provides Guidance for Companies on How They Can Align Their Strategies as Well as Measure and Manage Their Contribution to the Realization of the SDGs, SDG Compass <https://sdgcompass.org/>.

¹⁵ Sustainable African Businesses Can Help Unlock US\$12 Trillion in New Market Value, Business Commission <http://businesscommission.org/news/sustainable-african-businesses-can-help-unlock-us-1-trillion-in-new-market-value-in-africa-and-us-12-trillion-globally>.

¹⁶ Robert G. Eccles, Ioannis Ioannou & George Serafim, The Impact of Corporate Sustainability on Organizational Processes and Performance, 60 *Management Science*, 2835 (Nov. 25, 2011).

bias in leadership, climate justice, income inequality and the digital divide.¹⁷ Global technocrats and entrepreneurs have been now recast as advocates and statesmen and women — who find unusual ways not just to rethink our new world order but also to reshape it. These corporate titans are visionary thinkers who aim to protect their bottom lines while doing the right thing. These leaders enable cheap mobile access for the poor, invest in female-founded start-ups, and seek to challenge deep-rooted gender and racial biases in hiring and promotion. Together, they show that the SDGs call for visionary thinking. The groundbreaking work from this group of global innovators serves as a snapshot of the leaps forward that technology took during the first five years of the SDGs — and of the good this progress could do in the next ten years for global health, mobile money, and more.

The SDGs seek to mobilize global efforts around a common set of goals and targets which transcend the boundaries of geography or economies. The SDGs call for worldwide action among governments, business and civil society to end poverty and create a life of dignity and opportunity for all. Unlike their predecessor, the Millennium Development Goals, the SDGs explicitly call on all businesses to apply their creativity and innovation to solve sustainable development challenges.¹⁸ The SDGs define a common framework of action and language that will help companies communicate more consistently and effectively with stakeholders about their impact and performance. Scaling up and accelerating the implementation of the SDGs is a monumental task that costs over 15 billion dollars a year.¹⁹

Technology companies are some of the fastest growing companies in the private sector and provide contributions to development in their own right – as engines of growth, innovation and employment. A new breed of entrepreneurs are creating a shift in mindset and investing in sustainable societies as ‘smart business.’ Digital technology can have a profound impact on global development across sectors and in many parts of the world. Although much has been said and written about the impact of technology on achieving the SDGs, little has been done to examine the innovators and their humanistic vision for inclusive innovation.

Digital technology has the capacity to accelerate the achievement of the SDGs by minimizing inequality. However, in the midst of these forces of innovation, there are legitimate concerns that the advent of new technologies could be a double-edged sword. With the SDGs’ pledge to ‘leave no one behind’, there is a

¹⁷ *Sustainable Development Goals*, *supra* note 9.

¹⁸ *Sustainable Development Goals*, *supra* note 9; *We Can End Poverty Millennium Development Goals and Beyond 2015*, *supra* note 10.

¹⁹ Roadmap for Financing the 2030 Agenda for Sustainable Development 2019-2020, United Nations Secretary General, 5 (July 2019).

considerable risk that that new technology could exacerbate the existing divides in society between those who can benefit, and those who are left behind.²⁰ ICTs have profound impact on the people of the world in every corner of the world, in areas of health, education, commerce, carbon reduction, security and inequality. In the near future, AI will usher changes we are yet to fully comprehend or imagine. Changes in the way we work, learn and relate in the Fourth Industrial Revolution can widen inequalities. Now more than ever, we need leaders who will lead with a higher purpose and make gender equality and global change a part of the business imperative.

The Higher Moral Purpose of Leadership: How Innovators Can Accelerate the SDGs

“A rate of change that a Business As Usual (BAU) approach simply cannot deliver.” - Jeffrey Sachs

The clock is ticking and the pace of progress toward achieving the SDGs is slow. Disparities between women and men have grown wider in many areas. In achieving the SDGs, the bedrock principle is leaving no one behind.²¹ A key shift from the Millennium Development Goals has been the inclusion of business as a key partner— this change reflects the extraordinary rise in the power of business and the tech industry in the last few decades.²²

The SDGs also bring \$12 trillion in market opportunities across their value chains.²³ However, implementing the SDGs according to Brookings costs 4.5 trillion a year.²⁴ This shows the need for a private sector to innovate based on an analysis of needs. Implementing the SDGs will require partnerships and innovations and mobilize funding and investments. If we want companies across the board to be more innovative, we need more innovative leaders; leaders who are able to turn new ideas and technologies into assets that will transform the SDGs. These leaders must be encouraged to adopt holistic and systemic solutions to achieve the scale of impact required for realizing the SDGs.

²⁰ Leaving No One Behind, The Sustainable Development Goals Report (2016)
<https://unstats.un.org/sdgs/report/2016/leaving-no-one-behind>.

²¹ Leaving No One Behind, *supra* note 20.

²² Goal 17, *supra* note 11.

²³ Nazila Vali, More Than Philanthropy: SDGs are a \$12 Trillion Opportunity for the Private Sector, United Nations Development Programme (Aug. 25, 2017)
<https://www.undp.org/content/undp/en/home/blog/2017/8/25/More-than-philanthropy-SDGs-present-an-estimated-US-12-trillion-in-market-opportunities-for-private-sector-through-inclusive-business.html>.

²⁴ Homi Kharas & John McArthur, Building the SDG Economy, Brookings Institute, 2 (Oct. 2019) .

Technology is one of the most powerful tools we have for solving the world's major challenges—ending poverty and hunger, ensuring universal access to basic services, and making the transition to a low-carbon economy. Although technology has the powerful potential to transform communities, it is not by itself a solution. It must be properly deployed—directed towards the common good. For that, we require truly visionary corporate leadership, when and where it matters. Information communication technology, especially mobile broadband, will be the essential infrastructure platform for the SDGs. Paragraph 15 of the Agenda 2030 states:

“The spread of information and communications technology and global interconnectedness has great potential to accelerate human progress to bridge the digital divide and to develop knowledge societies, as does scientific and technological innovation across areas as diverse as medicine and energy.”²⁵

While this is recognized in the 2030 Agenda for Sustainable Development, where the terms ‘technology’ and ‘technologies’ appear at least 50 times and ICT is explicitly cited, the full potential of ICT is neither systematically nor adequately reflected in the individual goals and subsequent targets.

New technologies have the capacity to paradoxically bridge gaps or widen gaps. Despite technologies’ immense capacity for good, it has enormous potential to polarize society. It must be directed towards social purpose and extended to the poor. As Jeffrey Sachs has said, “Technology must be combined with a will towards the common good.” Information communication offers a powerful platform for achieving the SDGs. Meeting the SDGs call for stretch - a transformation of societies far deeper and faster than ever before. It is as Jeffrey Sachs states: “a rate of change that a Business As Usual (BAU) approach simply cannot deliver.”²⁶

ICT has the potential to alter the status quo and revolutionize society and upscale human history. “ICT has demonstrated the fastest most global technology uptake.... In future rapid innovation around the Internet of Things, advanced robotics, artificial intelligence and big data promised further substantial gains across the entire global economy.” However, ICT also exacerbates divisions. Four billion people from the Global South do not use the internet, and the majority of them are women.

²⁵ Transforming Our World: the 2030 Agenda for Sustainable Development, General Assembly, U.N. Doc A/RES/70/1 ¶15 (Sept. 25, 2015).

²⁶ Ericsson and Earth Institute: ICT Accelerates Action on Sustainable Development Goals, ericsson.com (May 12, 2016) <https://www.ericsson.com/en/news/2016/5/ericsson-and-earth-institute-ict-accelerates-action-on-sustainable-development-goals>.

One of the key leadership challenges of our time is to find ways to marshal the extraordinary innovation, technology and resources of the private sector. Relatively little analysis has been done on the linkages between leadership and the SDGs. Goal 8 (“decent work and economic growth”) emphasizes job creation, entrepreneurship, innovation, and small-and medium-sized enterprises.²⁷ Goal 9 focuses on building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation—all tasks in which business and entrepreneurs are essential.²⁸ Goal 17 (“partnerships for the goals”) encourages and promotes “effective public, public-private and civil society partnerships,” which are critical to commercial success and economic development in emerging markets, especially in sub-Saharan Africa.²⁹

Innovators use their unique strengths to provide solutions to societal challenges such as early childhood education, water safety and sanitation, employment for people with disabilities, small business development, energy conservation, and disaster relief. How do we use values and principles as a guiding principles and harness technological innovations to contribute to the public agenda?

It is important to distinguish philanthropy from innovation. Unlike traditional philanthropy, innovators contribute new ideas. That is why the tech leaders that we have studied believe in a larger purpose; stimulate breakthrough ideas and create new patterns and connections in thinking. This last factor is helpful in focusing on the inextricably interrelated nature of business and development in the SDGs. The SDGs, unlike the MDGs, reflect a common vernacular that increasingly is understood by government, civil society, and business.³⁰ As Horst Köhler, the former International Monetary Fund Chief and one of the architects of the SDGs, said, these goals are “our declaration of inter-dependence for the 21st century.”³¹

Why Transformational Leadership is Key to the SDGs?

²⁷ *Goal 8: Decent Work and Economic Growth*, Sustainable Development Goals <https://www.un.org/sustainabledevelopment/economic-growth/>.

²⁸ *Goal 9: Build Resilient Infrastructure, Promote Sustainable Industrialization and Foster Innovation*, Sustainable Development Goals <https://www.un.org/sustainabledevelopment/infrastructure-industrialization/>.

²⁹ *Goal 17*, *supra* note 11.

³⁰ *Sustainable Development Goals*, *supra* note 9; *We Can End Poverty Millennium Development Goals and Beyond 2015*, *supra* note 10.

³¹ Witney Schneidman, *The SDGs, business, and the development challenge*, Brookings (Sept. 20, 2015) <https://www.brookings.edu/blog/africa-in-focus/2015/09/30/the-sdgs-business-and-the-development-challenge/>.

“Transformational leaders engage with others in such way that leaders and followers raise one another to higher levels of motivation and morality.” -- Joseph Nye

In February 2019, at the Cyprus Institute, Prof Jeffrey Sachs, University Professor at Columbia University, and Director of the United Nations Sustainable Development Solutions Network spoke of “Eudaimonia in the 21st Century: Looking to Aristotle for New Solutions.” “Aristotle shows us the way to return to a global growth that is both sustainable and moral”, said Prof. Sachs, one of the architects of the Sustainable Development Goals (SDGs).³² Sachs’ search for answers to achieve sustainability had him looking to the leadership of ancient Greek philosopher Aristotle to understand solutions to this complex challenge to achieve the SDGs. The SDGs are a set of goals premised on the fundamental principle of “no one left behind,” or an “endeavour to reach the furthest behind first,” a bedrock principle which calls for ambition and altruism on the part of leaders both in the public and the private spheres. In advancing the SDGs, Sachs urged us to refocus our attention and commitment on the values of ethics, eudaimonia, justice, and mutual good.³³

It is an inconvenient truth that innovation can be double-edged. Yet if these novel tools are wielded by virtuous leaders, the potential dangers can be minimized. Sustainability means etching virtue into the very code of innovation to provide security for future generations. Each section will profile an industry leader, examining what lessons can be learned for future leaders from their character, followed by an analysis of how their organizations are aligning their work in support of the SDGs. Only through this holistic, and ultimately humanist, investigation can a true profile of inclusive leadership that is required for innovation in the age of the SDGs be developed.

It’s easy to fall into the conceptual trap that innovation is an external force. It is instead a result of human leadership. Behind innovation there is always leadership that has supported and enabled the change. At the heart of this study is the belief that strong leadership is required for innovation in the age of the Sustainable Development Goals.

What are the implications of this belief? By placing leadership at the forefront of our study, we seek to examine current leaders driving innovation so as to understand the vision that is required to achieve the 2030 Agenda. Moreover, we must analyze how their leadership principles and perspectives translate in

³² Prof Jeffrey Sachs Delivers the 2019 Hubert Curien Memorial Lecture, “Eudaimonia in the 21st Century: Looking to Aristotle for New Solutions,” The Cyprus Institute (Feb. 20, 2019) <https://www.cyi.ac.cy/index.php/in-focus/prof-jeffrey-sachs-delivers-the-2019-hubert-curien-memorial-lecture-eudaimonia-in-the-21st-century-looking-to-aristotle-for-new-solutions.html>.

³³ Prof Jeffrey Sachs Delivers the 2019 Hubert Curien Memorial Lecture, *supra* note 32.

tangible action. This approach is unabashedly eudaimonistic, or concerned with virtuous action, and draws direct inspiration from modern virtue ethics. We believe this approach does not just fit with the sustainability philosophy of the SDGs but is essential to it. Ignoring virtue in leadership is to disregard the SDGs themselves.

Moral theories from both Eastern and Western traditions discuss the relationship between morality and happiness. Aristotle said that happiness is the end of life because it is an end-in-itself, meaning there is no other reason to be happy than to be happy. His concept of happiness, eudaimonia, means happiness in the sense of flourishing as a human being. Drawing from Aristotle, Ciulla argues that “The relationship between leaders and followers and the ends of that relationship must rest on eudaimonia.”³⁴ It is the goal and the ultimate test of ethical and effective leadership.

Eudaimonia is also the foundation of the Sustainable Development Goals. “Development” has long been criticized as a Western construct, consisting of a linear future of primarily economic growth. Sustainability, in the development context, has meant opening up our understanding of development and creating a more inclusive vision of development. The famous Brundtland Report defined it from the lens of long-term benefits as opposed to short term benefits.³⁵ Accordingly, “sustainable development” refers to “development that meets the needs of the present without comprising the ability of future generations to meeting their needs.”³⁶ The 2030 Agenda has further refined this definition, with sustainable development meaning effort in “three dimensions – economic, social and environmental – in a balanced and integrated manner.”³⁷ No longer can development mean providing economic opportunity at the expense of social justice and the environment; development must also ensure new opportunities also benefit the healthy functioning of society and are environmentally conscious. The welfare of others, or general eudaimonia, is at the center of the SDGs.

The Egyptian philosopher and vizier, Ptahhotep, who lived over four millennia ago and wrote about virtue in leadership, offers this advice to leaders:

*“If you are a man who leads,
Who controls the affairs of the many,
Seek out every beneficent deed,
That your conduct may be blameless...”*

³⁴ Joanne B. Ciulla & Donelson R. Forsyth, *Leadership Ethics*, 236 (2011).

³⁵ Report of the World Commission on Environment and Development: Our Common Future, 5 (1987).

³⁶ Report of the World Commission on Environment and Development: Our Common Future, 41 (1987).

³⁷ The 2030 Agenda for Sustainable Development, *supra* note 25.

While eudaimonia is part of the character of the transformative leaders we study, the leaders we feature do not fit into one normative theory of leadership. They open their connections to the world and their success in business and in public life derive heavily from linkages. They draw strength from relationships based on social capital as well as from financial capital. But these leaders are not monolithic thinkers. Difficult as it is, they engage with counterparts in other corporations and fields. These leaders are intersectional and cosmopolitan thinkers. They have access to different stakeholders and viewpoints, they wear multiple hats and can step outside a single role to consider and pursue different ideas and approaches. These are transformational leaders who provide their followers a greater purpose beyond the day to day work by creating and articulating a vision of change that transcends short term goals and focuses on a higher set of principles. Rosabeth Moss Kanter calls these leaders vanguard leaders, those who are part of something bigger than the companies they manage and lead. Their guiding principles and lofty goals are drawn from unexpected juxtapositions of people and ideas.

The Harvard Business Review has observed that over the last 50 years, leadership scholars have conducted more than 1,000 studies in an attempt to determine the definitive styles, characteristics, or personality traits of great leaders.³⁸ None of these studies has produced a clear profile of the ideal leader.³⁹ The Great Man theory of leadership is one based on what is considered the natural traits of leadership which has now been debunked.

James MacGregor Burns' 1978 book on leadership made him the father of leadership studies. In this work, Burns develops a normative theory of leadership. Transforming leaders are distinguished by the fact that they are more concerned with end values such as liberty, justice and equality, than with modal values, that is values about day to day routine obligations. In short, they are concerned with cosmopolitan values and adaptive leadership. In his normative theory of leadership, Burns' notions of collective purpose and social change have moral priority as the best indicator of successful leadership.⁴⁰ The transforming leader works from higher levels of motivation and morality. This form of leadership moves people away from ethics of self-interest toward conceptions of morality that embrace universal moral principles like the SDGs.

³⁸ Oriana Bandiera, Stephen Hansen, Andrea Prat & Raffaella Sadun, *A Survey of How 1,000 CEOs Spend Their Day Reveals What Makes Leaders Successful*, Harvard Business Review (Oct. 12, 2017) <https://hbr.org/2017/10/a-survey-of-how-1000-ceos-spend-their-day-reveals-what-makes-leaders-successful>.

³⁹ *A Survey of How 1,000 CEOs Spend Their Day Reveals What Makes Leaders Successful*, *supra* note 38.

⁴⁰ JAMES MACGREGOR BURNS, *LEADERSHIP*, (1978).

Burns' suggestion that socially useful goals can elevate followers to a higher moral ground, or the common good, is important for the SDGs. A transforming leader uplifts the levels of human conduct and ethical aspiration of both leader and led. Transactional leaders are incrementalists—“business -as- usual” leaders often focusing on the mechanisms.⁴¹ The leaders in this study are transformational leaders who alter the framework- with a grand design of transforming the world.

Burns has said that leaders “raise one another to higher levels of motivation and morality...” beyond everyday wants and needs.⁴² John Gardner builds on Burns, in the “Moral Aspects of Leadership” he argued that leaders should “serve the basic needs of their constituents” and defend “fundamental moral principles.”⁴³ They should also “seek the fulfilment of human possibilities.”⁴⁴ John Gardener has said that the best leaders “express values that hold society together—“Lift people out of their petty occupations and unite them toward higher goals.”⁴⁵ They both stress an important facet of leadership, where nations and multilaterals follow these leaders and often a new narrative in history is shaped because of their leadership.⁴⁶

In his theory on adaptive leadership, Ronald Heifetz presents a new theory of leadership for both public and private leaders in tackling complex contemporary problems. Central to his theory is the distinction between routine technical problems, which can be solved through expertise, and adaptive problems, such as crime, poverty, and educational reform, which require innovative approaches, including consideration of values.⁴⁷

Heifetz believes that leadership is, at its essence, about influencing change that builds and enables the capacity of individuals and organizations to thrive. Specifically, that leadership is the practice of *mobilizing groups of people to tackle tough challenges and thrive*. The bottom line is that leaders need to understand the importance of *adaptation* and are able to employ the relevant processes and tools to build the adaptive capacity of organizations.⁴⁸

The idea that leaders have big and audacious ideas is important to accelerating the SDGs. The leaders profiled here champion audacious ideas driven by a transformative purpose that could help accelerate the SDGs.

⁴¹ LEADERSHIP, *supra* note 40.

⁴² LEADERSHIP, *supra* note 40.

⁴³ JOHN W. GARDNER, THE MORAL ASPECTS OF LEADERSHIP (1989).

⁴⁴ THE MORAL ASPECTS OF LEADERSHIP, *supra* note 43.

⁴⁵ THE MORAL ASPECTS OF LEADERSHIP, *supra* note 43.

⁴⁶ THE MORAL ASPECTS OF LEADERSHIP, *supra* note 43; LEADERSHIP, *supra* note 40.

⁴⁷ RONALD HEIFETZ, LEADERSHIP WITHOUT EASY ANSWERS (1994).

⁴⁸ LEADERSHIP WITHOUT EASY ANSWERS, *supra* note 47.

In the final analysis, the common thread that runs through these leaders is Nelson Mandela's belief that it is upon every generation to be great.⁴⁹ Moreover, the principle of human connection articulated by Nelson Mandela is the most far reaching of leadership principles.

As President Obama said in his eulogy for Nelson Mandela: "Mandela understood the ties that bind the human spirit. There is a word in South Africa, ubuntu that describes his greatest gift- his recognition that we are all bound together in ways that are invisible to the eye; that there is a oneness to humanity; that we achieve ourselves by sharing ourselves with others, and caring for those around us."⁵⁰

We interview the following leaders:

- **Vas Narasimhan** is the CEO of Novartis who is bringing Novartis to a new age of innovation and stresses the role of partnership between medicine and big data.
- **Natalie Payida Jabangwe** is the CEO of EcoCash, the mobile money service of Econet Wireless, a leading wireless telephony company in Zimbabwe. She heads the second-largest mobile financial service company on the African continent, serving more than 6 million.
- **Tony Cole** is the co-founder and former Group Executive Director of Sahara Group, an energy conglomerate with operations spanning the entire energy chain in Nigeria and neighboring West African countries to East Africa and beyond.
- **Mats Granryd** is Director General of the GSMA – the trade organization which represents the world wide mobile network (over 800 operators) and mobile innovation. He led the mobile industry in becoming the first sector to broadly commit to the United Nations Sustainable Development Goals (SDGs) in 2016.
- **Mitch Zuklie** is Chairman and Chief Executive Officer of Orrick. Under Mitch's leadership, the law firm has pursued a strategy to be a leading advisor to the global technology & innovation, energy and infrastructure sectors and has been named the most innovative law firm for three years in a row.
- **Ratan Tata** is Chairman Emeritus of Tata Sons the holding company for Tata Group, one of India's largest conglomerates; he is the head of its charitable trusts.

⁴⁹ Address by Nelson Mandela for the "Make Poverty History" Campaign, London- United Kingdom (Feb. 3, 2005) http://www.mandela.gov.za/mandela_speeches/2005/050203_poverty.htm.

⁵⁰ *Nelson Mandela Death: Full Text of Barack Obama Tribute*, BBC (Dec. 5, 2013) <https://www.bbc.com/news/world-africa-25250278>.

- **Ngozi Okonjo-Iweala** is on the Boards of Twitter and the Chair of the Global Alliance for Vaccines and Immunization (GAVI) which brings together the public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.
- **Marc Benioff** is the Founder, Chairman, and Co-CEO of Salesforce. Under Benioff's leadership, Salesforce is the fastest-growing top-five enterprise software company and the leading provider of Customer Relationship Management (CRM) software globally.
- Finally, as part of looking to the future, we interview the founder – **Kumar Mahadeva** and current CEO **Brian Humphries** (the former CEO of Vodafone) of Cognizant Technology Solutions one of the world's technology services on the Future of Work. Cognizant's Center for the Future of Work wrote the very influential "21 Jobs of the Future", 2017, and "The Shape of Work to Come: 42 Things to Know about the Future of Work," 2019.

THE LEADERS AND THE SDGS

Bending the Curve of Life: Vas Narasimhan

In the end what will we be measured by? Did we actually bend the curve of life? Did we extend and reimagine the care of patients around the world? In fact, the only thing we are going to remember is not the profit and loss and what happened to the share price, but how many lives did we transform? - Vas Narasimhan, November 2018

Vas Narasimhan is the CEO of Swiss-based pharmaceutical giant Novartis. Since becoming one of the youngest Fortune 500 CEOs in February 2018, Vas has taken unprecedented steps towards integrating technology with

pharmaceutical development to improve access to drugs and care of patients.⁵¹ His goal is, in his own words, to “inspire collective action to improve the health of the world.”⁵²

Listening to Vas Narasimhan speak is like having one of the smartest and most successful innovators in business walk into your living room, pull up a chair and say, “This is what I’ve been thinking.” During a crisis of leadership, Narasimhan reminds us that standard-bearers of business can create new vision and offer new solutions. Narasimhan likes to cite Paul Farmer and Jim Kim of Partners in Health, his intellectual mentors from his time as a student at Harvard Medical School and the Kennedy School of Government. His zeal is also imbued with hope and optimism. He often refers to Steven Pinker’s “Enlightenment Now: The Case for Reason, Science, Humanism and Progress” as a hopeful portrayal of the Enlightenment’s impact on the human condition.

Narasimhan’s hopeful portrayal of the human condition is grounded in the way in which new drugs have helped to increase life expectancy and help lower mortality rates of communicable diseases. As a result of 900 million malaria treatments provided by Novartis without profit, Narasimhan explains, “the number of malarial deaths worldwide has been halved since 2000 – an amazing public health accomplishment.”⁵³

“Taken together, this set of 17 specific and concrete goals describes a vision that is both idealistic and eminently pragmatic. To be achieved, the SDGs will require leaders who demonstrate both those traits, too...”
- UN Secretary-General António Guterres

In a welcome letter to the Task Force on Digital Financing of the Sustainable Development Goals, the Secretary General stated: “Taken together, this set of 17 specific and concrete goals describes a vision that is both idealistic and eminently pragmatic. To be achieved, the SDGs will require leaders who demonstrate both those traits, too.”⁵⁴ Narasimhan brings that difficult balance of idealism and pragmatism to his vision on how to make innovation accessible. Starting in 2019, every novel medicine or therapy must have a defined strategy to

⁵¹ Vasant (Vas) Narasimhan, M.D., Novartis <https://www.novartis.com/our-company/executive-committee/vasant-narasimhan>.

⁵² Interview by authors with Vas Narasimhan, CEO, Novartis (interviews conducted between February 2019 and July 2020).

⁵³ Malaria, Novartis <https://www.novartis.com/our-impact/malaria>.

⁵⁴ Interview by authors with Vas Narasimhan, CEO, Novartis (interviews conducted between February 2019 and July 2020).

improve access, and expanding access will be a key measurement of success for leaders in the pharmaceutical industry.

Building for Collective Action

Narasimhan's leadership trajectory spans the public and the private sector. He combined medical school with a graduate degree in Public Administration. Soon after medical school he worked for the World Health Organization (WHO) and McKinsey & Company.⁵⁵ As a CEO, he notes that "sometimes the most important role we can play as international partners is to bring people together and foster a continuous exchange of knowledge and expertise across borders and institutions."⁵⁶

Narasimhan's genius lies in his ability to collaborate with those who may have been unusual bedfellows to traditional big pharma. He works seamlessly with Gavi, the Vaccine Alliance and WHO. He has mastered the art of teamwork both within and outside the company.⁵⁷ He embodies the era of the SDGs, an era that calls for innovation, creativity and collaboration.

His vision is ambitious: a digital revolution in medicine. To Narasimhan, the role of business and innovation is to solve problems of the world, providing a firsthand account of how the imagination and energy of leaders can continue to transform the SDGs and our lives.⁵⁸

A Humanist Vision of Innovation

⁵⁵ Vasant (Vas) Narasimhan, M.D., *supra* note 51.

⁵⁶ Vas Narasimhan, *The Evolution of Healthcare and Access in Africa: Lessons from my Recent Travels* (July 3, 2018) <https://www.linkedin.com/pulse/evolution-healthcare-access-africa-lessons-from-my-vas-narasimhan/>.

⁵⁷ Andrew Nusca, *What you Missed at Fortune's First-Ever Virtual Brainstorm Health Conference*, Fortune (July 10, 2020) <https://fortune.com/2020/07/10/brainstorm-health-virtual-summary/>.

⁵⁸ Vas Narasimhan, *Accelerating the Digital Revolution in Healthcare* (Jan, 21, 2019) <https://www.linkedin.com/pulse/accelerating-digital-revolution-healthcare-vas-narasimhan/>.

The importance of vision in innovation has been vividly stated by Michel de Montaigne: “A man who does not have a picture of the whole in his head cannot possibly arrange the pieces. What good does it do to a man to lay in a supply of paints if he does not know what he is to paint.”⁵⁹

If there is one important driver of innovation, it is leadership capable of anticipating change. Narasimhan sees his role in history by turbo charging the research and development. However, the creation of a hugely ambitious culture of R&D and access principles is just the first step. Instead of a future of singular and monolithic industry leaders transforming the human condition single-handedly, Narasimhan believes the future will be inevitably collaborative.⁶⁰ Mobilizing other industry leaders to achieve a common goal calls for a bold vision of connection. Collaboration on shared goals like the SDG is the centerpiece of leadership in the 21st century.

“A man who does not have a picture of the whole in his head cannot possibly arrange the pieces. What good does it do to a man to lay in a supply of paints if he does not know what he is to paint.”

- Michel de Montaigne

“When governments are backtracking when multilateralism is being tested, how can an industry leader be a deal breaker?” Narasimhan reasons, “Given my background in public health and as a physician, I like to see myself as bridge builder.” This self-description as a “bridge builder” has been justified by his efforts to bring the industry closer to Gavi, a global vaccine alliance. The partnership has helped to unite the public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world’s poorest countries. He sees himself as building bridges not only with the public sector but also with disparate private sector partners. “We have never talked to each other,

“When governments are backtracking when multilateralism is being tested, how can an industry leader be a deal breaker? Given my background in public health and as a physician, I like to see myself as bridge builder.”

*– Vas Narasimhan,
CEO of Novartis*

⁵⁹ Michel de Montaigne, *Of the Inconsistency in* THE COMPLETE ESSAYS OF MICHEL DE MONTAIGNE, 243.

⁶⁰ “*Inspired by a Sense of Purpose*”: Vas Narasimhan Brings a Passion for Health Care to Novartis’s Top Role, McKinsey Alumni Center <https://www.mckinsey.com/alumni/news-and-insights/global-news/alumni-news/inspired-by-a-sense-of-purpose>.

so this is difficult, but we need to work with industry leaders in insurance, energy, and most of all technology.”⁶¹

Aristotle observed that people become virtuous by acting virtuous: if you do good, you will be good. Herminia Ibarra at Harvard Business School takes forward this concept. She argues that in order to think like a leader, one must act like a leader. She calls this dynamic oversight: change from the outside-in. Those who act like a leader – proposing new ideas, making contributions outside areas of expertise, or connecting people and resources to a greater cause – create a new way to internalize leadership identity.⁶²

There cannot be any doubt that the innovations made in the age of the SDGs will be forged on the anvil of collaboration. At the same time, much radical thinking on accelerating the SDGs come from the individual leaders profiled in this study. Just as much as the amalgam of the computer and distributed networks led to a digital revolution that today allows us to disseminate and access any information anywhere, we are at another exponential moment which Ginni Rometty, CEO of IBM calls: “exponential learning for exponential impact,” when the SDGs intertwine with machine learning, digitization and AI.⁶³ The idea is that these innovations will make it easier for those most left behind to share in development.

Secondly, we are struck by how Narasimhan forges a symbiosis between people and machines. He sees the way in which new advancements in artificial intelligence and machine learning forge partnerships between humans and machines to accelerate access and inclusion in health. We were struck by how he connects humanism to the sciences, one that is animated by purpose. This is not grand rhetoric, but real tangible results-driven strategies via social business, telemedicine, and access principles.

One way in which Narasimhan sees medical innovations reaching the far corners of the world is by steering Novartis into the digital revolution. His vision for Novartis is that of a focused medicines company powered by data and digital technologies. He envisions the ways in which machine learning and artificial intelligence can transform drug research. Scientific conclusions are more likely to be accurate and egalitarian when the data base is bigger. “We’ve been working to place artificial intelligence and predictive analytics in the heart of all of our operational areas,” he notes. Novartis recently partnered with QuantumBlack, a McKinsey company, to create software that tracked all of Novartis’ 500 clinical trials around the world in real time. He is now

⁶¹ Interview by authors with Vas Narasimhan, CEO, Novartis (interviews conducted between February 2019 and July 2020).

⁶² Herminia Ibarra, *How to Think and Act Like a Leader* (Mar. 17, 2015) <https://herminiaibarra.com/how-to-act-and-think-like-a-leader/>.

⁶³ *In Case You Missed It: IBM’s Ginni Rometty at VivaTech 2018*, <https://newsroom.ibm.com/corporate-content?item=30512>.

expanding this technological approach to other areas, like manufacturing and regulatory affairs, among others.⁶⁴

Narasimhan sees how data science can help amplify his “big sense of purpose” that he brings to leadership. “As a data science and medicine company, we stand at the cusp of fundamentally changing drug discovery.” He sees the imperative of deep learning through mining the existing data of over two million patients in clinical trials. “AI will help find biomarkers. Predictive analysis of machine learning has the capacity to find signature markers.” This capacity for bold and ambitious thinking is a hallmark of Narasimhan’s philosophy: “Unlocking the biology through predictive analysis of AI and blockchain will blow up the drug discovery process. This is important in expediting drug discovery and developing precision medicine.”⁶⁵

He does reflect on the fact that pharma has been slow to embrace the digital revolution. “As an industry we must evolve and embrace the new tech revolution.” Here again, his answer is to collaborate with what he calls the “ecosystem” of industry partners. Novartis have taken the initiative, partnering with MIT Media Lab and Google. In an unusual twist to his quest to push the intellectual frontiers of science, he even takes groups of scientists to Boeing to observe how it uses real time data and how this can help scientists mine trial sites in South Africa in real time.⁶⁶ A hallmark of a leader is to balance binary oppositions, he tells us. There is a tension in “Innovating at high speed on precision medicine like gene therapy and expanding access to all medicines.”⁶⁷ The way he can do this is through his vision of inclusion and innovation.

Marrying tech and pharma harnesses the expertise of both worlds and disrupts the business as usual, but this is not for disruptions sake, but for a purpose. He often speaks of Ethiopia’s 10 million diabetes patients and ways to use technology and innovation to avoid a health crisis that would be similar to the HIV/AIDS crisis.⁶⁸ Programs like “SMS for Life” allows depots all around rural Africa to let the Central Depot know their inventory level of drugs that are rolled out, avoiding wastage and stock outs. In his words, technology offers “The

⁶⁴ “*Inspired by a Sense of Purpose*”: Vas Narasimhan Brings a Passion for Health Care to Novartis’s Top Role, McKinsey Alumni Center <https://www.mckinsey.com/alumni/news-and-insights/global-news/alumni-news/inspired-by-a-sense-of-purpose>.

⁶⁵ Vas Narasimhan, *Reimagining Novartis as a ‘Medicines and Data Science’ Company* (Jan. 12, 2018) <https://www.linkedin.com/pulse/reimagining-novartis-medicines-data-science-company-vas-narasimhan/>.

⁶⁶ Stefanie Koperniak, *Applying Machine Learning to Challenges in the Pharmaceutical Industry* (May 17, 2018) <http://news.mit.edu/2018/applying-machine-learning-to-challenges-in-pharmaceutical-industry-0517>.

⁶⁷ Interview by authors with Vas Narasimhan, CEO Novartis (interviews conducted between February 2019 and July 2020).

⁶⁸ Vas Narasimhan, Remarks at the Business for Social Responsibility Conference: Reimagining our Trust with Society (Nov. 7, 2018) www.novartis.com/files/2Fbsr-speech-vas-narasimhan-2018.pdf&usg=AOvVaw233gBdqCHv97dFk88_xBrt.

difference between getting a life-saving medicine and dying.”⁶⁹ The drone-based blood delivery service “Zipline” picks up blood from a central depot in Rwanda and drops the blood in a parachute at the hospital door, eliminating the challenges of weak infrastructure and refrigeration.⁷⁰

Moral Values in Leadership: Unmasking the Complexity

Niccolò Machiavelli classically posed the question: “Can one be a good leader in terms of effectiveness without being a good leader in terms of morality?” The popular view in leadership literature is that the essence of effective leadership is in fact ethical leadership. James McGregor Burns argued that leaders aspire to reach more principled levels of judgment in pursuit of values such as liberty, equality and justice.⁷¹ John Gardner too speaks of leaders defending fundamental moral principles which then have multiplier impact.⁷²

Stanford legal ethics scholar Deborah Rhode claims that “virtue begets virtue and observing moral behavior by others promote similar conduct. Employers reap the rewards in higher moral, recruitment, and retention.” Despite the impossibility of drawing causal relations from correlations between social and financial performances, employees who view their leaders as moral and caring about ethical issues are more willing to pursue the common good and work harder. Rhode argues that a leaders ethical and moral values have a direct correlation to workplace performance. At the same time, while a reputation for ethical conduct by leaders creates financial value, the financial case for values undermines its very purpose.⁷³

“Ultimately, what defines moral behavior,” asserts Rhodes, “is a commitment to do right whether not it is personally beneficial. What defines moral leadership is adherence to fundamental principles when they carry a cost.”⁷⁴ Narasimhan know this well. As age 20, Narasimhan took time off of college, to work with the Red Cross in the Gambia: “My experience working in public health with a variety of NGOs in Africa, South America and India has given me a sense of the of the moral purpose of my work, and a desire to dramatically improve human health. It’s that ideal that I take into leading Novartis.”⁷⁵

⁶⁹ Novartis Social Business SMS for Life- SMS for Life Fact Sheet, [novartis.com/sites/www.novartis.com/files/factsheet-sms-for-life.pdf&usg=AOvVaw3HwOrfWpj9Vi4Yvej_dwb5](https://www.novartis.com/sites/www.novartis.com/files/factsheet-sms-for-life.pdf&usg=AOvVaw3HwOrfWpj9Vi4Yvej_dwb5)

⁷⁰ *Safe, Fast, Precise, & Magical*, ZIPLINE <https://flyzipline.com/how-it-works/>.

⁷¹ JAMES MACGREGOR BURNS, *LEADERSHIP*, (1978).

⁷² JOHN W. GARDNER, *THE MORAL ASPECTS OF LEADERSHIP* (1989).

⁷³ Deborah L. Rhode & Amanda K. Packel, *Ethics and Nonprofits*, *STANFORD SOCIAL INNOVATION REVIEW* (2009).

⁷⁴ Deborah L. Rhode, *Introduction: Where is the Leadership in Moral Leadership*, in *LEADERSHIP FOR LAWYERS* (Deborah L. Rhode, ed., 2020).

⁷⁵ “*Inspired by a Sense of Purpose*,” *supra* note 64.

Deeply pragmatic, however, Narasimhan understands that a big purpose without a strategy to achieve its goals, has little impact. Collaboration is key to Narasimhan's sense of mission and purpose. Driven by the question of how Novartis fits into the broader health care ecosystem, and how solutions need to be sustainable, he is intent on building bridges with policymakers – governments on global public health issues. His visits to Ghana, Kenya, and South Africa allow him to see the urgency of improving noncommunicable disease care. His vision for Novartis to become a “medicine and data science” company is driven by egalitarian notions of how big data can democratize medicine and health care and finally help with the question: “How do we build medical innovation in the furthest parts of the world?”⁷⁶

A Theory of Change

The great advances of the 21st century arise when ideas and needs come together with capabilities. Narasimhan shows that a transformative vision is one which is built on the theory that inventions and innovations will not have any value unless they are used by many people as possible.

WHO estimates that two billion people don't have access to the medicine they need.⁷⁷ “For me as a physician, this is not acceptable,” Narasimhan told us. His leadership vision is defined by both “how will history remember us” and also “how will we change the course of disease in those parts of the world that are often unseen on a map and that often are not part of the cartography of business... I want nothing more than to create incredible innovations that reimagine medicine, and then get these medicines to the millions of people around the world who need them.”⁷⁸

We ask Narasimhan to distill his leadership philosophy. “I really think my role as a leader is to inspire collective action. In this role I try to inspire one hundred and

“My philosophy today is to inspire action to create a healthier world, where it used to only be to improve the health of the world.”
– Vas Narasimhan, CEO of Novartis

⁷⁶ Vas Narasimhan, *Reimagining Novartis as a ‘Medicines and Data Science’ Company*, *supra* note 65.

⁷⁷ *Access to Medicines: Making Market Forces Serve the Poor*, WHO (2017) <https://www.who.int/publications/10-year-review/medicines/en/>.

⁷⁸ Interview by authors with Vas Narasimhan, CEO Novartis (interviews conducted between February 2019 and July 2020).

twenty-five thousand people to improve the health of the world and what I'm actually realizing is that in this job, I can inspire a lot of people outside of Novartis.”⁷⁹

This philosophy mirrors James McGregor Burns’ claim that great leaders “raise one another to higher levels of motivation and morality... beyond everyday wants and needs. They aspire to reach more principle levels of judgment in pursuit of end values such as liberty, justice.”⁸⁰

Narasimhan repeats, “My philosophy today is to inspire action to create a healthier world, where it used to only be to improve the health of the world.”⁸¹

In the final analysis, the theory of change that this Study posits is how leaders can influence others, both in the public and private sectors, to advance human development. John Gardner in the “Moral Aspect of Leadership” argues that leadership is conferred by followers. He notes further, that transformational leadership happens when leaders raise one another to higher levels of motivation.⁸² The goals Narasimhan has set are ambitious in their breathtaking sweep of inclusion and innovation in medicine and medical care. The next stage of Narasimhan’s leadership will measure whether he is able to bring other leaders to share his vision and level of moral consciousness.

⁷⁹ Interview by authors with Vas Narasimhan, CEO Novartis (interviews conducted between February 2019 and July 2020).

⁸⁰ JAMES MACGREGOR BURNS, LEADERSHIP, (1978).

⁸¹ Interview by authors with Vas Narasimhan, CEO Novartis (interviews conducted between February 2019 and July 2020).

⁸² JOHN W. GARDNER, THE MORAL ASPECTS OF LEADERSHIP (1989).

Novartis and the SDGs: Inspire Action to Create a Healthier World

SDG 3: Good Health and Well-Being

The first principle of the 1992 Rio Declaration on Environment and Development states: “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”⁸³ As one of the foundational documents of sustainable development, the Rio Declaration affirms the primary role of public health in the contemporary development agenda. Of course, universal health is not a new concern: in 1966, the International Covenant on Economic, Social and Cultural Rights (ICESCR) recognized “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”⁸⁴ However, what has changed between the ICESCR and the Rio Declaration is an acknowledgement that health is fundamentally interconnected to every part of development and is not just a secondary issue. As Secretary General Kofi Annan explains, “The goals of sustainable development cannot be achieved when there is a high prevalence of debilitating illnesses, and population health cannot be maintained without ecologically sustainable development.”⁸⁵



Goal 3: Ensure healthy lives and promote well-being

Sustainable Development Goal 3 aims to guarantee the health and well-being of all, continuing and expanding upon earlier development agendas. As a whole, Goal 3 represents one of the most ambitious public health undertaking in history. The U.N. General Assembly has repeatedly noted that “global health challenges require concerted and sustained efforts, and that partnerships with a broad range of actors — including national Governments, local authorities, international institutions, business, civil society organizations, foundations, philanthropists, social impact investors, scientists, academics and individuals.”⁸⁶ Of this constellation of actors, Novartis has established itself as a leader and organizer within public health.

⁸³ United Nations Conference on Environment and Development, *Rio Declaration on Environment and Development*, A/CONF.151/26, (June 14, 1992) <https://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>.

⁸⁴ *International Covenant on Economic, Social and Cultural Rights*, opened for signature December 16, 1966, *United Nations Treaty Series*, vol. 993, p. 3, https://treaties.un.org/doc/Treaties/1976/01/19760103%2009-57%20PM/Ch_IV_03.pdf.

⁸⁵ United Nations General Assembly, *Health and sustainable development: report of the Secretary-General*, E/CN.17/2001/PC/6, March 2, 2001, <https://undocs.org/A/63/332>.

⁸⁶ United Nations General Assembly, *Global health and foreign policy: note by the Secretary-General*, A/69/405, (Sept, 26, 2014) <https://undocs.org/A/69/405>.

Achieving the ambitions of Goal 3 will require sustained innovation and acceleration from industry, and Novartis – with the leadership of Narasimhan – is poised to do just that.

Perhaps one of the most important aspects of Goal 3 is its call for more “research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries.” Novartis is an industry leader in research and development, investing over \$9 billion in research and development each year, more than any other company relative to sales. Novartis has also discovered over 100 novel medicines that are being distributed around the world. These efforts are part of a long history in leading the fight against some of the world’s biggest health challenges, including leprosy and malaria. Since 2000, Novartis has donated over 56 million blister packs valued at approximately US\$90 million through the World Health Organization, treating more than six million leprosy patients worldwide.

Target 3.3 specifically calls for the end of malaria, and Novartis has been for many years at the forefront of collaboration for malaria eradication. In 2001, they began a 10-year alliance with the WHO to provide malaria treatment, without profit, for use by public health systems in developing countries and pioneered the supply of artemisinin-based combination therapy (ACTs) without profit to public-sector buyers. The WHO describes ACTs, first developed by Novartis, as “the most effective antimalarial medicines available today.”⁸⁷ Since 2001, Novartis and its partners have provided over 900 million treatments, without profit, to more than 60 malaria endemic countries, with the goal of providing a total of 1 billion treatments by the end of 2021. The agreement with WHO expired in 2011, but Novartis continues to tackle malaria through the Novartis Malaria Initiative, one of the largest access-to-medicine programs in the healthcare industry. Since 2010, Novartis has participated in an initiative called the “Affordable Medicines Facility-malaria,” a Global Fund financing program to expand access to ACTs for patients at a subsidized price in both the private and public sectors. More than 115 million antimalarial treatments, including 63 million pediatric treatments, were provided through this channel. Furthermore, in 2012 Novartis launched their own program to expand access to quality-assured ACTs in the private sector in several malaria-endemic countries.

Despite these efforts, the world is not on track to end malaria by 2030. Great strides have been made, as the global malaria incidence rate in 2015 was 94 per 1,000 people at risk - a 41 per cent decrease since 2000.⁸⁸

⁸⁷ *Overview of Malaria Treatment*, WHO, (Jan. 18, 2018) <http://www.who.int/malaria/areas/treatment/overview/en/>.

⁸⁸ United Nations Economic and Social Council, *Progress towards the Sustainable Development Goals: report of the Secretary-General*, E/2017/66, May 11, 2017, <https://undocs.org/E/2017/66>.

However, in 2016, 216 million cases of malaria were reported versus 210 million cases in 2013.⁸⁹ Over time, malaria parasites build resistance to existing drug treatments, meaning new medicines need to be in a state of constant development. “Resistance to treatment presents the biggest threat to the incredible progress that has been made in the fight against malaria in the past 20 years. We cannot afford to wait; this is why we are committing to advance the research and development of next-generation treatments,” said Narasimhan.⁹⁰ In April 2018, Novartis renewed their commitment to malaria elimination, pledging US\$100 million to research and develop next generation antimalarial trials over the next five years. A year later, Novartis launched a Europe-Africa partnership with the West African Network for Clinical Trials of Antimalarial Drugs consortium, ten academic organizations based in Africa and Europe, and the not-for-profit organization Medicines for Malaria Venture. The collaboration aims to advance the development of a much-needed new antimalarial therapy while strengthening clinical trial development capabilities in Africa. Finally, Novartis has spearheaded the use of local insights into accelerating the fight against malaria, sponsoring second opinion research studies in both Africa and Asia. The first of its kind in many years, the Malaria Futures for Africa study and Malaria Futures for Asia study gathered the views of opinion-leaders in the countries most affected by the disease.

Novartis’ efforts to treat sickle cell disease (SCD) exemplifies their commitment to innovation in the age of “no one left behind.” SCD is a genetic disorder which causes red blood cells to form into crescents, rather than discs, resulting in a host of health problems and a shorter lifespan. The majority of children with SCD are born in sub-Saharan Africa, where SCD is endemic. “Most children with sickle cell disease in Africa suffer relentless pain, experience numerous infections and die before their fifth birthday.”⁹¹ Across the world, more than 500 children with SCD die every single day.⁹² What treatments exist for SCD are expensive and not available in the regions where SCD is most prevalent. While SCD is a global health priority for both the WHO and the UN, the treatment of SCD is not explicitly mentioned in any of the SDGs goals, targets, or indicators. As long as SCD remains largely invisible in the development agenda, the achievement of Target 3.2 — which calls for “the end

⁸⁹ United Nations Department of Economic and Social Affairs, *The Sustainable Development Goals Report 2018*, 5 (June 20, 2018)

<https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf>.

⁹⁰ *World Malaria Day 2019*, Novartis, (Apr. 25, 2019) <https://www.novartis.com/news/world-malaria-day-2019>.

⁹¹ Cathy Kristiansen, *Research Needed to Treat Sickle Cell Disease in Africa*, Fogarty International Center, NIH, (Dec. 2014) <https://www.fic.nih.gov/News/GlobalHealthMatters/november-december-2014/Pages/sickle-cell-disease.aspx>.

⁹² P.T. McGann, *Time to Invest in Sickle Cell Anemia as a Global Health Priority*, *Pediatrics* 137, no. 6 (June 1, 2016), <https://doi.org/10.1542/peds.2016-0348>.

[of] preventable deaths of newborns and children under 5 years of age” by 2030 — will be impossible.⁹³ Novartis aims to expose this overlooked area of public health and to spearhead the innovation of low-cost treatment strategies for SCD. During the World Economic Forum, Narasimhan announced a new public-private partnership to improve the diagnosis and accelerate treatment for people with SCD in Ghana. The Ministry of Health of Ghana, Ghana Health Service, the Sickle Cell Foundation of Ghana and Novartis signed a Memorandum of Understanding to create a holistic approach to help tackle the disease. The partnership aims to improve and extend the lives of people with SCD through a comprehensive approach to screening and diagnosis; treatment and disease management; training and education; and elevating basic and clinical research capabilities. Novartis aims to collaborate on field-testing and implementation of SCD treatment guidelines, the establishment of centers of excellence across regions, and the implementation of new-born screening at these centers. What began as a pilot project in Ghana has catalyzed several countries to tackle sickle cells disease in their own regions, with the potential to treat hundreds of thousands of children across sub-Saharan Africa.⁹⁴ Narasimhan comes from a public health background himself and is uniquely positioned to promote similar partnerships and collaborations with public health actors in the coming years, which he believes can be powerful vehicles for transformative change.

Innovation through Social Business Initiatives

While philanthropy and not-for-profit efforts help address important public health issues, they have limitations: they only assist people with specific diseases and can only be sustained as long as donors are willing to pay. Over the last decade, Novartis has placed significant focus on their Social Business programs. Programs such as Novartis Access and Healthy Family aim to expand access to a broader range of medicines and healthcare while also earning a small profit that can make them self-sustaining and able to grow.⁹⁵ Target 3.C specifically calls on member states and partners to “[s]ubstantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.”⁹⁶ The Secretary General reports that close to

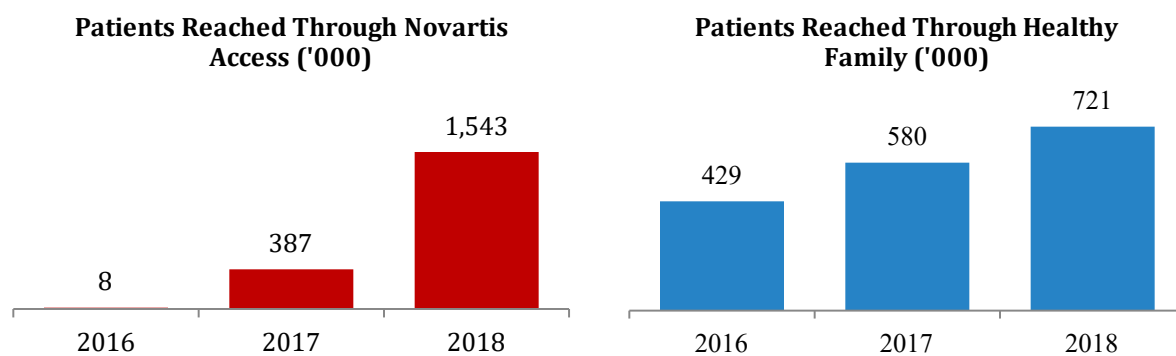
⁹³ P.T. McGann, *supra* note 92.

⁹⁴ *MOH and Novartis Sign MOU on Treatment of Sickle Cell Disease at World Economic Forum, 2019*, Ministry of Health, Republic of Ghana (Jan. 24, 2019) <https://www.moh.gov.gh/moh-novartis-foundation-signs-mou-on-treatment-of-sickle-cell-disease-at-world-economic-forum-2019/>.

⁹⁵ *Novartis Social Business Supports Global Public Health Through Novel Sustainable Business Models*, Novartis <https://www.novartis.com/our-company/corporate-responsibility/expanding-access-healthcare/novartis-social-business>.

⁹⁶ SDG 3: Ensure Healthy Lives and Promote Wellbeing for All at All Ages, World Health Organization, <https://www.who.int/sdg/targets/en/>.

45 percent of all countries and 90 percent of least developed countries (LDCs) have less than one physician per 1,000 people, and over 60 percent have fewer than three nurses or midwives per 1,000 people.⁹⁷ Locally oriented and sustainable social business programs, which help to build a foundation of educated healthcare professionals in LDCs, are potent means by which Novartis is advancing Goal 3.



Source: Novartis in Society Report, 2018, pg. 48,

<https://www.novartis.com/sites/www.novartis.com/files/novartis-in-society-report-2018.pdf>.

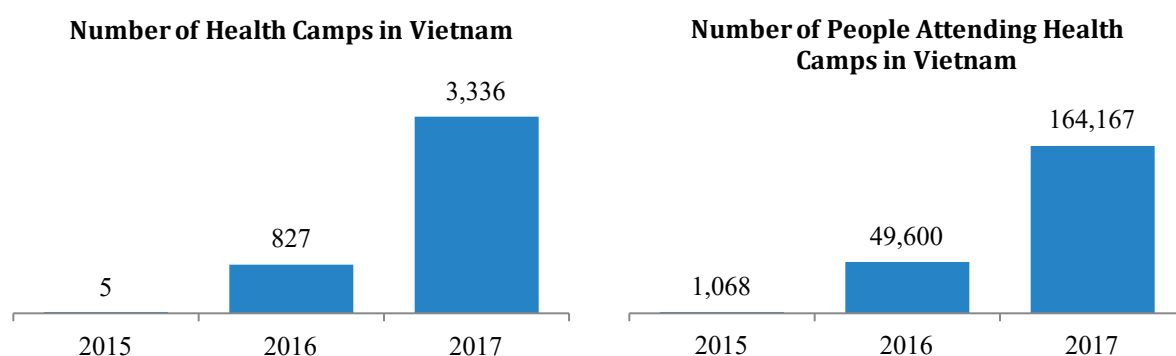
The Healthy Family program was launched to address social issues that impact access to healthcare, such as education, infrastructure, and distribution. These programs are active in India, Kenya, and Vietnam where it has reached over 40 million villagers through health education and provided direct health benefits to over 3 million villagers through diagnosis and provision of medicines. Arogya Parivar was the first social business model launched by Novartis in 2007, and today operates across 11 Indian states, covering 14,000 villages and small towns that are home to more than 32 million people. Over 500 health educators and sales supervisors conduct community health education and establish a distribution network for sustainable medicines supply with more than 60,000 doctors, pharmacists, and distributors. In 2017, more than 7 million people attended nearly 150,000 health education meetings. Sales of Arogya Parivar products funded the health education activities, allowing the program to break even in less than three years, meeting both commercial and social targets. The program expects to reach 44 million people by 2022.⁹⁸

⁹⁷ United Nations Department of Economic and Social Affairs, *The Sustainable Development Goals Report 2018*, 5 (June 20, 2018)

<https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf>.

⁹⁸ *Healthy Family Programs*, Novartis <https://www.novartis.com/our-company/corporate-responsibility/expanding-access-healthcare/novartis-social-business/healthy>.

Similar programs were launched in Vietnam in 2012 and Kenya in 2013, tailored to local culture, healthcare infrastructure, and laws. In Vietnam, Cùg Sông Khòe is a public-private partnership currently operating in 16 provinces of the Northern and Mekong regions; in 2017, more than 160,000 people either received health education or health screening. In Kenya, Familia Nawiri in Kenya works with locals, NGOs and outreach workers to address access and availability of medicines and doctors across nine counties. Since the start of the program, some 735,000 people have attended around 23,000 health education meetings, and more than 43,000 patients have been diagnosed and treated at nearly 300 health camps.⁹⁹

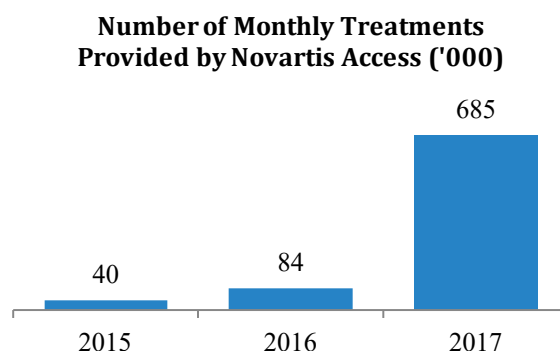
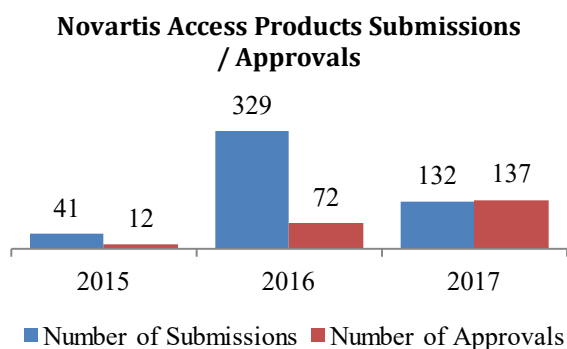


Source: *Healthy Family 2017*, 22, <https://www.novartis.com/sites/www.novartis.com/files/2017-healthy-family-report.pdf>.

Novartis Access offers a portfolio of 15 medicines for key non-communicable diseases for \$ 1 per treatment per month to governments, NGOs, and other institutional customers. The program started in September 2015 and has launched in six countries – Kenya, Ethiopia, Rwanda, Pakistan, Uganda, and Cameroon – delivering more than 800,000 monthly treatments.¹⁰⁰

⁹⁹ *Healthy Family Programs*, Novartis <https://www.novartis.com/our-company/corporate-responsibility/expanding-access-healthcare/novartis-social-business/healthy>.

¹⁰⁰ *Healthy Family Programs*, Novartis <https://www.novartis.com/our-company/corporate-responsibility/expanding-access-healthcare/novartis-social-business/healthy>.

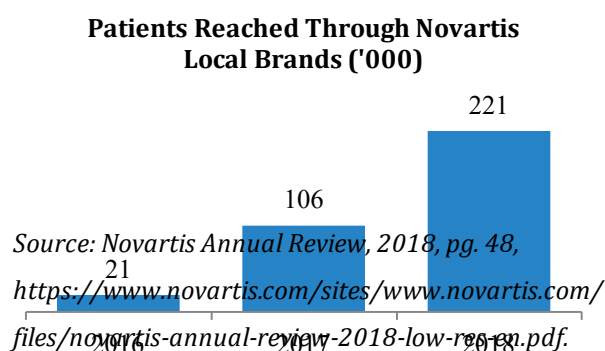


Source: Novartis Access Factsheet, <https://www.novartis.com/sites/www.novartis.com/files/factsheet-novartis-access.pdf>.

Improving Access to the Latest in Drugs and Pharmaceuticals

All the aforementioned strategies focus on infectious diseases and established medicines that are near off-patent or already available as generics. However, in 2018, Novartis under Narasimhan's leadership adopted the Novartis Access Principles in a commitment to fundamentally shift the way Novartis does business and significantly accelerate patient access to critical healthcare innovations. For every new product in the R&D portfolio, Novartis is responsible for assessing the product against the unmet health needs of underserved populations, devising a global access strategy that enables anyone to affordably access the medicine, and strengthening existing infrastructure for medicine delivery.¹⁰¹

This groundbreaking set of principles serve as an industry lodestar on the issue of access embedded in Goal 3. Target 3.8 seeks to guarantee “access to safe, effective, quality and affordable essential medicines and vaccines for all,” however Target 3.B expands the scope of access beyond “essential medicines” to “the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries.” The challenge of Target 3.B cannot be



¹⁰¹ Access Principles, Novartis <https://www.novartis.com/our-company/corporate-responsibility/expanding-access-healthcare/access-principles>.

underestimated; it calls for pioneering new drug discovery for underserved populations and geographies.¹⁰² A 2012 trilateral report by WTO, WHO, and WIPO claimed “Market-based innovation models fail to address the disease burden specific to developing countries, the so-called neglected diseases.”¹⁰³ With the access principles and social business model, Novartis has developed a novel approach that overcomes the previous pitfalls encountered by earlier market-based solutions.

Entresto, a recently discovered drug for heart failure, would normally take as long as 15 years to reach a low to middle income country. However, through an impactful access strategy, Novartis was able to launch their first emerging market brand of the drug within a year of the initial launch in the European Union.¹⁰⁴ Novartis has 128 emerging market brands, and in 2018 alone launched more than 60 local brands reaching 220,000 additional patients in 30 different countries around the world.¹⁰⁵

The Novartis Access Principles take a holistic approach as well, looking at how to improve present medical infrastructure and advancing Target 3.C and Goal 9. Innovative digital approaches and unconventional technology partnerships can help to leapfrog developmental barriers. In resource-constrained countries, infrastructure and supply chain problems make it difficult to get essential medicines to patients in a timely manner, particularly those living in remote areas. In an example of using technology to resolve this issue, Novartis invested in a business called “Zipline,” a drone-based delivery service. These drones pick up blood from a central depot in Rwanda and then parachute drops these packages in front of hospitals, eliminating the need for roads, refrigeration and local storage. Zipline is expanding across Africa as a method of overcoming the challenges of delivering blood over large regions of Africa.¹⁰⁶

In 2009, Novartis and several public and private partners, launched the SMS for Life program to prevent stock-outs of anti-malarial drugs in Tanzania. Since then, the program has been rolled out in more than 10,000 public health facilities in Kenya, Ghana, the Democratic Republic of Congo, and Cameroon. In 2016,

¹⁰² SDG 3: Ensure Healthy Lives and Promote Wellbeing for All at All Ages, World Health Organization, <https://www.who.int/sdg/targets/en/>.

¹⁰³ World Health Organization, World Intellectual Property Organization, and World Trade Organization, *Promoting Access to Medical Technologies and Innovation: Intersections between Public Health, Intellectual Property, and Trade*, WIPO Publication, no. 628E., Geneva, Switzerland, 2013.

¹⁰⁴ *Novartis to present new Entresto HFpEF and HFrEF data at ESC Congress 2019*, Novartis, <https://www.novartis.com/news/media-releases/novartis-present-new-entresto-hfpEF-and-hfref-data-esc-congress-2019>.

¹⁰⁵ Novartis in Society Report 2018, Novartis (Jan. 29, 2019) <https://www.novartis.com/sites/www.novartis.com/files/novartis-in-society-report-2018.pdf&usg=AOvVaw39uaT9AcBffCnTpADf9tfN>.

¹⁰⁶ Vas Narasimhan, *Reimagining Novartis as a ‘Medicines and Data Science’ Company*, *supra* note 65.

Novartis launched a new enhanced version, SMS for Life 2.0, in Kaduna State, Nigeria. Novartis also runs numerous technology-enabled programs across emerging markets with an increased focus on chronic diseases. In rural Nigeria, a Novartis-run telemedicine program allows doctors to send scans of patients with diabetic macular edema to a central hub in Europe where they can be diagnosed. In Kenya, Novartis teams work with physicians in Spain to train local doctors to perform kidney transplants. In Ethiopia, a country with over 10 million diabetes patients and only seven endocrinologists, Novartis is using technology and innovation to increase treatment and medication to patient groups. Novartis has invested in several health working training applications in a program called Last Mile Health, where the goal is to train one million village health workers using digital technologies.¹⁰⁷

The innovative use of science, technology, and data to further public health is not explicitly described in Goal 3 but is certainly an important facet of the overlapping Goal 17. Target 17.6 calls for enhanced “North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation,” and Target 17.18 aims “to increase significantly the availability of high-quality, timely and reliable data.” Ultimately, the potential for science, technology, and innovation to advance Goal 3 is evident. The High Level Political Forum on Sustainable Development notes that “Information and Communication Technologies have the potential to deliver incredible advances across the whole of the global healthcare ecosystem.”¹⁰⁸

Novartis’ focus on using technology to enable access in emerging markets is rooted in a core strategy to enable large-scale adoption of digital technology and data science across the business. Novartis uses machine learning and predictive analytics to improve the initiation and management of clinical trials – making trial timelines shorter while improving the quality of data. They are rethinking what a trial site is and bringing the treatment to the patient: at their local doctor’s office, or even in their home. They are collecting richer and more diverse insights via apps and sensors that give real-time data and quality of life information to enhance their understanding of disease progression. They are also using the latest technologies to mine their vast troves of biological data and wealth of compounds to find new disease targets and match them to existing treatments.

¹⁰⁷ *SMS for Life*, Novartis, <https://globalhealthprogress.org/collaboration/sms-for-life/>.

¹⁰⁸ *2017 HLPF Thematic Review of SDG3: Ensure healthy lives and promote well-being for all at all ages*, High-level Political Forum on Sustainable Development, (July 19, 2017) 8, https://sustainabledevelopment.un.org/content/documents/14367SDG3format-rev_MD_OD.pdf.

Apps like FocalView, which Novartis launched in 2018 and has made freely available to the research community on an open-source platform, can help accelerate the development of treatments and bring them to the patients who need them most. FocalView is a first-of-its-kind app designed to modernize ophthalmic clinical trials, making them more accessible and flexible. Using patients' self-recorded measurements, FocalView aims to enable more sensitive trial endpoints and more accurate patient-reported outcomes. Another example aimed at easing clinical trials accessibility is the alliance Novartis has established with Science 37, a leader in decentralized clinical trial technology and design. Travel-time alone can be a major barrier to a patient taking part in a clinical trial. Decentralized, or virtual, trials harness digital technology to allow some or all aspects of a clinical trial to be carried out at a participant's home or local physician's office, rather than at a central trial site such as a large hospital.¹⁰⁹

SDG 5: Gender Equality

Goal 5 is dedicated to the achievement of equality and has serious implications on private industry practices. While Target 5.1 generally calls for efforts to “[e]nd all forms of discrimination against all women and girls everywhere,” Target 5.5 is most relevant to business: “Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.” Progress on Target 5.5 is measured partially by Indicator 5.5.2, the proportion of women in managerial positions. Globally, women remain underrepresented in managerial positions. In the majority of the 67 countries with data from 2009 to 2015, fewer than a third of senior- and middle-management positions were held by women.¹¹⁰

Novartis aims to achieve gender balance in management within five years. Currently, women make up 42% of management, and of the top 350 leaders, 28% are women. Four of the 19 senior positions reporting to the CEO are held by women, two of which are Executive Committee members, up from zero in 2017. In September 2018, Novartis joined the United Nations Equal Pay International Coalition with a pledge to continue its global practice of conducting regular gender pay equity analyses and remediating where

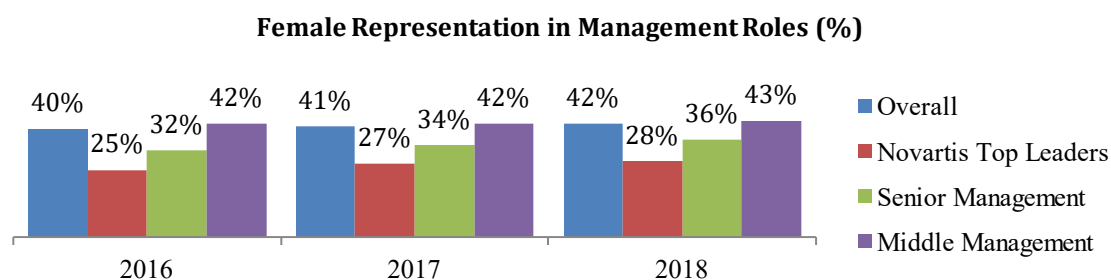


Goal 5: Achieve gender equality and empower all women and girls

¹⁰⁹ Novartis launches FocalView app, providing opportunity for patients to participate in ophthalmology clinical trials from home, Novartis (Apr. 25, 2018) <https://www.novartis.com/news/media-releases/novartis-launches-focalview-app-providing-opportunity-patients-participate-ophthalmology-clinical-trials-from-home>.

¹¹⁰ *Progress towards the Sustainable Development Goals: report of the Secretary-General*, United Nations Economic and Social Council, E/2017/66, May 11, 2017, <https://undocs.org/E/2017/66>.

appropriate.



Source: Novartis in Society Report 2018, pg. 40,

<https://www.novartis.com/sites/www.novartis.com/files/novartis-in-society-report-2018.pdf>.

In line with the cross-cutting objectives of Goal 5 and Goal 10, Diversity and inclusion (D&I) has been a priority for Novartis over a number of years, with their most senior executives held accountable for D&I goals in their yearly objectives. Novartis is a leader in D&I and were ranked second in the 2018 Thomson Reuters D&I Index, an index of the top hundred most diverse and inclusive organizations globally.¹¹¹ They are taking steps toward mitigating any biases that may exist in the staffing process by applying techniques to make the recruitment processes more objective and attractive to the right candidates, including training recruiters specifically on unconscious bias management. One of the most important diversity goals is to increase the representation of women when hiring for senior positions, and there is evidence that a neutral tone in job postings, diverse interview panels, and diverse candidate slates increase the chances of attracting and hiring more women. Other actions taken so far toward more gender-balanced representation in management include requiring diverse candidate slates and interviewer panels in recruitment processes, taking steps to remove unconscious bias from development and promotion decisions, and working to introduce new policies on parental leave for both fathers and mothers. Beginning in 2019, Novartis will implement a policy of 14 weeks parental leave for both parents as standard everywhere at the company. Novartis is also committed to pay transparency by telling employees how their pay compares to internal and external benchmarks.¹¹²

¹¹¹ Thomson Reuters D&I Index Ranks the 2018 Top 100 Most Diverse & Inclusive Organizations Globally Thomson Reuters, 2018, <https://www.thomsonreuters.com/en/press-releases/2018/september/thomson-reuters-di-index-ranks-the-2018-top-100-most-diverse-and-inclusive-organizations-globally.html>.

¹¹² Our Equal Pay International Coalition (EPIC) Commitments, Novartis, <https://www.novartis.com/our-company/our-approach/diversity-inclusion/diversity-inclusion-our-strategic-priorities-novartis/our-epic-commitments>.

Going beyond Target 10.2 — “By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.” — Novartis became the first major pharmaceutical company to support the United Nations’ workplace standards protecting the rights of lesbian, gay, bisexual, transgender and intersex people.¹¹³ Novartis recognizes that it is important to be sensitive to different identities that do not necessarily fit into binary male or female sex categories.

Novartis takes a country-led approach to gender pay gap reporting. They were the first company in the pharmaceutical sector to publish a Gender Pay Report in the UK in April 2018. The report shows that, when looking at the gender pay gap by job bands across all Novartis affiliates in the UK, women earn, on average, the same or more than men in all but one job band. Within their UK employees, on average, women earn 0.4% more than men in salary and men earn 0.8% more than women in bonuses.¹¹⁴



Source: Novartis Gender Pay Report, <https://www.novartis.co.uk/file/2901/download?token=NIDWqkeC>.

In effort to achieve more global consistency in measuring gender pay equity, in 2017 Novartis piloted a new assessment methodology in eight countries representing approximately one third of Novartis associates worldwide. This methodology is based on regression analysis of employee pay within the same job level and function. Novartis aims to expand the methodology to more countries over time. At the same time, they are implementing processes and tools to ensure gender equal pay across the organization.¹¹⁵ Novartis’ novel algorithmic approach to assessing the gender pay gap represents a unique approach that ties together Goal

¹¹³ Sustainable Development Goal 10 Reduce inequality within and among countries, SDG Tracker <https://sdg-tracker.org/inequality>.

¹¹⁴ Novartis Gender Pay Report, <https://www.novartis.co.uk/file/2901/download?token=NIDWqkeC>.

¹¹⁵ Novartis Gender Pay Report, <https://www.novartis.co.uk/file/2901/download?token=NIDWqkeC>.

17, which calls for improved data aggregation, and Target 5.B, which calls for the enhanced “use of enabling technology, in particular information and communications technology, to promote the empowerment of women.”¹¹⁶

In addition to promoting gender quality in the workplace, in an effort to improve health outcomes for women, Novartis has established a working group to assess overall gender disparities in healthcare, with a focus on chronic diseases, in particular chronic obstructive pulmonary disease, cardiovascular disease and diabetes. This work will help inform recommendations on how to address this gap.¹¹⁷

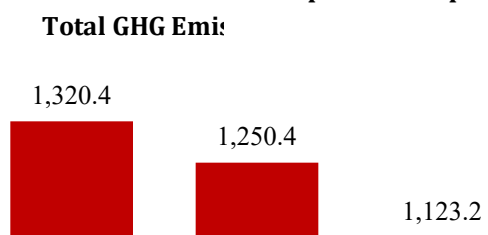
SDG 12: Responsible Consumption and Production

There is rising concern in the healthcare industry about the downstream and upstream consequences of healthcare services on the environment. Nearly every aspect of pharmaceuticals is intimately connected to the environment and natural resources, from the complex manufacturing process of medical equipment to the transportation of medicine around the world. Target 12.6 encourages “companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.”¹¹⁸ In May 2018 the Executive Committee of Novartis officially endorsed a new Environmental Sustainability Strategy committing to be Carbon Neutral, Water Neutral and Plastic Neutral by 2030.¹¹⁹

Carbon Footprint: Novartis is committed to using resources efficiently and reducing greenhouse gas (GHG) emissions by establishing targets on total GHG emissions for 2020 and 2030, which represent an



Goal 12: Ensure sustainable consumption and production patterns



Source: Novartis Environmental Data Supplement 2017.

¹¹⁶ *Achieve Gender Equality and Empower All Women and Girls*, UNITED NATIONS <https://sdgs.un.org/goals/goal5>.

¹¹⁷ *Novartis Social Business Supports Global Public Health Through Novel Sustainable Business Models*, Novartis <https://www.novartis.com/our-company/corporate-responsibility/expanding-access-healthcare/novartis-social-business>.

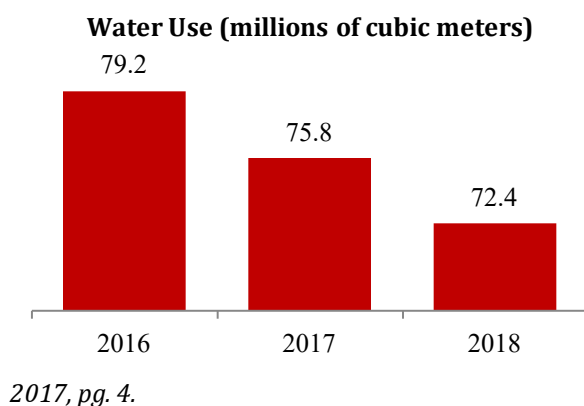
¹¹⁸ *SDG Target 12.6*, GLOBAL REPORTING INITIATIVE <https://www.globalreporting.org/information/SDGs/Pages/SDG-target-12.6-.aspx>.

¹¹⁹ *Climate*, NOVARTIS, <https://www.novartis.com/our-company/corporate-responsibility/environmental-sustainability/climate>.

absolute reduction of 30% by 2020 and of 50% by 2030, based on 2010 levels. Together with the new vision 2030 and targets 2020, Novartis endorsed a carbon price of USD 100 per ton of CO₂e, in line with the cost of climate change to society as calculated by the World Bank. Building a carbon price into investment decisions is important as it helps identify projects that will most cost-effectively reduce GHG emissions. Novartis has a dual strategy GHG reduction, primarily from energy and fuel usage, i.e. to improve energy efficiency and to adopt renewable energy sources. The second track is to undertake forestry carbon sink projects to complement the internal reduction efforts.¹²⁰

Water: Novartis closely monitors all water streams into and out of company sites, which helps ensure effective management of water resources and costs.

Sites with high level of water scarcity and high water usage are included in a corporate water saving program. They regularly monitor the levels of active pharmaceutical ingredients (APIs) in Novartis effluents and in the aquatic environment as a result of Novartis activities. Novartis minimizes release of APIs into wastewater from their operations, following a site and substance-specific approach. These levels are below those approved as safe by medical regulatory agencies and therefore do not present a health risk.¹²¹



¹²⁰ *Climate*, NOVARTIS, <https://www.novartis.com/our-company/corporate-responsibility/environmental-sustainability/climate>.

¹²¹ *Water*, NOVARTIS, <https://www.novartis.com/our-company/corporate-responsibility/environmental-sustainability/water>.

Plastic: Novartis aims to minimize waste and increase material efficiency with the ultimate goal of becoming plastic neutral. By 2025, Novartis has committed to eliminating polyvinyl chloride in packaging and reducing waste disposal by half versus 2016 levels. By 2030, Novartis aims to be completely plastic neutral, with all new products meeting sustainable design principles.¹²²

SDG 17: Partnerships for the Goals

Goal 17 serves as the connective tissue of the Sustainable Development Goals, and many of the aspects of Goal 17 manifest themselves in Novartis' programs and initiatives examined previously in this report. Novartis continues to stay at the forefront of technology advancements through internal teams, but also through partnerships with other industries, academia, and government. Their application of these emerging technologies helps drive the next wave of medical innovation, improves their own R&D engine, and ultimately contributes to better health and wellbeing around the world.



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

The Novartis Biome is a digital innovation lab and series of open innovation initiatives that houses and supports digital health startups through access to resources and mentoring. Novartis is also one of the largest investors in Startup Health, an organization that invests in entrepreneurs in developing countries working towards transformative change. Startup Health's mission is to solve ten of the world's major health challenges, including expanding access to care, reducing costs, and finding cures for cancer and other diseases. StartUp Health's West Coast operation and the Novartis Biome innovation lab are now located together, helping them to work more closely together.¹²³

Novartis is also working with companies like Microsoft to better treat leprosy. The Novartis foundation partnered with Microsoft in 2018 to develop a proof-of-concept digital health tool enabled by artificial intelligence to aid in the early detection of leprosy. Doctors can simply take a photo of a skin lesion with their smartphones, and the artificial intelligence detection algorithm can diagnose whether the lesion is simply a

¹²² *Waste*, NOVARTIS, <https://www.novartis.com/our-company/corporate-responsibility/environmental-sustainability/waste>.

¹²³ *Welcome to the Novartis Biome*, NOVARTIS, <https://www.novartis.com/our-science/novartis-biome>.

rash or a leprosy lesion. The product is being developed as a case study for future applications in providing diagnoses and treatment for patients in remote areas.¹²⁴

In early 2018, Sandoz, a division of Novartis, announced a collaboration with Pear Therapeutics, Inc. to commercialize and continue development of reSET – a prescription digital therapeutic for treatment of patients with Substance Use Disorder. Every day, approximately 115 Americans die after overdosing on opioids. The misuse of and addiction to opioids-including prescription pain relievers, heroin, and synthetic opioids is a serious national crisis that affects public health as well as social and economic welfare. The Centers for Disease Control and Prevention estimates that the total "economic burden" of prescription opioid misuse alone in the United States is \$78.5 billion a year, including the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement. This collaboration brought together Sandoz's expertise in launching and commercializing treatments with Pear's leading experience in prescription digital therapeutics design, development, and implementation. In December, Novartis announced together with Pear, FDA clearance for reSET-O, a prescription mobile medical application specifically designed to help patients with Opioid Use Disorder and intended to increase retention of patients with Opioid Use Disorder in outpatient treatment by providing cognitive behavioral therapy.¹²⁵

¹²⁴ *Novartis Foundation and Microsoft Partner to Develop AI-enabled Digital Health Tool for Early Leprosy Detection*, NOVARTIS, <https://www.novartisfoundation.org/news/novartis-foundation-and-microsoft-partner-develop-ai-enabled-digital-health-tool-early-leprosy>.

¹²⁵ *Sandoz signs agreement with Pear Therapeutics to develop and commercialize prescription digital therapeutics for patients with substance use disorder and opioid use disorders*, SANDOZ (Apr. 18, 2018) <https://www.sandoz.com/news/media-releases/sandoz-signs-agreement-pear-therapeutics-develop-and-commercialize-prescription>.

We Must Do Seemingly Impossible Things: Ratan Tata

“What advances a nation or a community is ...to lift up the best and the most gifted, so as to make them of the greatest service to the country.” - Jamsetji Tata, Founder of the Tata Group

Western civilization’s vision of a leader grew out of heroic epics: The Iliad and The Odyssey – a brave warrior leading by example in the Trojan War. The warrior-*cum*-leader ideal has taken hold of our public conscience but this idea that leadership is a divine or inherited trait has long been held in different civilizations. For example, Arjuna and Krishna are blessed by divine grace and are two valiant warriors, both important characters in the great Hindu epic, the Mahabharata. Max Weber too argued that charisma is a divine grace. However, this definition of leadership as an inherited trait rather than a learned trait has been assailed. Ratan Tata’s leadership in India is a learned trait although it could be attributed to an inherited trait handed down by generations of the Tata industrialists who played a singular role in developing a nation struggling to grow into independence after British colonial rule. Ratan Tata’s vision for business and for India’s development has grown out of a more modernist understanding of what it is for India to be part of the global marketplace.

Ratan Tata is one of India’s most prominent business and philanthropic leaders and was head of the Tata Group, a Mumbai-based global conglomerate with family roots extending to the 19th century, from 1991 to 2012¹²⁶. Over the past decade-and-a-half, the Tata Group has changed more than ever before in its long and illustrious history. Rejuvenating existing businesses, entering new ones, manufacturing breakthrough products, and expanding into foreign markets are among the initiatives the Group has undertaken with vigor during this period.

In 1996, Tata Teleservices was set up to tap into India’s burgeoning telecom market; in 1998, the Indica, India’s first indigenously made car, was successfully launched; in 2002, the Group acquired VSNL, India’s top international telecom service provider; in 2004, Tata Consultancy Services went public in the largest private sector initial public offering in the Indian stock market; and, in 2008, the trailblazing Tata Nano car was unveiled.¹²⁷

¹²⁶ *Leadership – Ratan Tata*, TATA TRUSTS, <https://www.tatatrusts.org/article/inside/ratan-n-tata> (last accessed on May 9, 2019).

¹²⁷ *About Us*, TATA TRUSTS, <https://corporate.tatateleservices.com/en-in/aboutus>

Ratan Tata's vision looks at the way history will judge the Tata enterprise: "One hundred years from now, I expect the Tatas to be much bigger, of course, than it is now. More importantly, I hope the group comes to be regarded as being the best in India — best in the manner in which we operate, best in the products we deliver, and best in our value system and ethics."

Ratan Tata embodies the moral leadership that essayist John Gardner speaks of in "Moral Aspects of Leadership."¹²⁸ The best leaders seek the fulfilment of human possibilities and "express values that hold society together – to lift people out of their petty occupations and unite them toward higher goals."

We met Ratan and Noel Tata a few days after Noel Tata is inducted as chair of the Board of Tata Trusts.¹²⁹ This is at a turning point in the history of the Trusts. Given the Trusts' work on every one of the 169 SDG Targets, we limit our discussion to the recent work on innovative sanitation and clean water technology.

Adaptive Leadership

Ronald Heifetz, founder of the Center of Public Leadership at Harvard Kennedy School, presents a new theory of leadership for both public and private leaders in tackling complex contemporary problems. Central to his theory is the distinction between routine technical problems, which can be solved through expertise, and adaptive problems, such as crime, poverty, and educational reform, which require innovative approaches, including consideration of values.

Heifetz believes that leadership is, at its essence, about influencing change that builds and enables the capacity of individuals and organizations to thrive. Specifically, that leadership is the practice of *mobilizing groups of people to tackle tough challenges and thrive*.¹³⁰ The bottom line is that leaders need to understand the importance of *adaptation* and are able to employ the relevant processes and tools to build the adaptive capacity of organizations. Ratan Tata embodies Heifetz's adaptive mindset, adapting the Tata enterprises from a national to international brand, from a more traditional mindset to a vision of accomplishing the impossible.

¹²⁸ J.W. Garner, *The Moral Aspects of Leadership*, 73 (513) NASSP Bulletin 43 (1989)

¹²⁹ Reeba Zachariah, *Ratan's half-brother Noel joins Tata Trusts board*, TOI, Feb. 14, 2019, <https://timesofindia.indiatimes.com/business/india-business/ratans-half-brother-noel-joins-tata-trusts-board/articleshow/67984260.cms>

¹³⁰ RONALD HEIFETZ, ALEXANDER GRASHOW AND MARTY LINSKY, *ADAPTIVE LEADERSHIP: TOOLS AND TACTICS FOR CHANGING YOUR ORGANIZATION AND THE WORLD* 14 (2009)

Unless a leader is actually teaching you something you didn't know or expanding your worldview and moral outlook, you are not being led, says Ratan Tata. "We have been...thinking small...I would urge that we all, in the coming years, think big, think of doing things not in small increments, not in small deltas, but seemingly impossible things. But nothing is impossible if you really set out to do so. And we act boldly."¹³¹

Ratan Tata stepped down from the Tata Group in 2012 to become chairman of Tata Trusts. The Tata founders bequeathed most of their personal wealth to the many trusts they created for the greater good of India and its people. Since becoming the Chairman of Tata Trusts, Ratan Tata shifted the trusts' focus from charitable work to programs that seek to transform lives. Ratan Tata's philosophy was to take the Tata Trusts to a different level of relevance in the 21st century - to maximize the benefits the trusts seek to bring to disadvantaged communities. Tata cites Jonas Salk and his discovery of the polio vaccine as his inspiration to make a sustainable difference, rather than individual philanthropic projects that scratch the surface. His credo is "Can we fund a research project that aims to eliminate or control a certain disease and, therefore, has the potential to benefit a larger number of people, or should we help individuals suffering from that disease? We believe we can make a greater difference through large projects that serve mankind."¹³²

Ratan Tata is a man of ideas. Some of Tata's leadership traits include increasing the "dare quotient" - making ideas matter. Many speak of Ratan Tata's living legacy. "Tata has shown that there is no other way he will do business other than do it ethically," says Gopalakrishnan an Executive Director of Tata Sons, Ltd. He points to the Tata Finance episode as an example. A senior company official had committed fraud and rather than wait for regulatory intervention, the Tata Group self-reported the incident, protected the interests of the depositors, and conducted an objective and transparent inquiry.¹³³

Activist Marian Wright Edelman says: "The time has come for you, Marian, to have a frank talk with yourself. Where are you headed? You are in the midst of a history making epoch..."¹³⁴ Tata lives by these high standards and self- reflection. Tata chooses to deflect the credit and attention showered on him away from himself. Tata states "I have spent a lot of time and energy trying to transform the group from a patriarchal concern into an institutionalized enterprise. It would be a mark of failure on my part if the perception gained

¹³¹ *Ratan Tata's Words of Inspiration*, CHATUR IDEAS (2016)
https://www.chaturideas.com/ic/Ratan_Tatas_words_of_inspiration.

¹³² *'The Tata Trusts will have to keep renewing itself'*, TATA TRUSTS, <https://www.tatatrusts.org/our-stories/article/the-tata-trusts-will-have-to-keep-renewing-itself>.

¹³³ *Leadership In The Tata Group*, UKESSAYS (Nov. 2018)
<https://www.ukessays.com/essays/management/leadership-in-tata-group-management-essay.php?vref=1>.

¹³⁴ Deborah L. Rhode, *LAWYERS AS LEADERS* 31 (2013).

ground that I epitomize the group's success."¹³⁵ Those in a position of power set a tone - a moral tone and a moral example by their behavior. Employees take cues about appropriate behavior from their supervisors.

Deborah Rhode has written "Leadership not only poses special challenges and special obligations, it can also bring exceptional rewards. Those that are most fulfilling are generally not, however, the extrinsic perks that accompany positions of power...satisfaction with work depends on... contributing to social valued ends that bring meaning [to] purpose."¹³⁶ "Legacy" is often the hardest form of success to measure says Rhodes. She writes: "The philosopher William James insisted that the greatest use of life is to spend it on something that outlasts it but what that something is depends on personal values. Contemporary leadership experts agree. They underscore the need for a larger purpose but warn against confusing fame with legacy. A focus on ensuring recognition of a legacy can get in the way of achieving it."¹³⁷

¹³⁵ TED, *Reflections from a Lifetime Fighting to End Child Poverty*, YouTube (Feb. 20, 2019) <https://www.youtube.com/watch?v=jTVWtrMleI0>.

¹³⁶ Deborah L. Rhode, *LAWYERS AS LEADERS* 207 (2013).

¹³⁷ *Id.*

The Tata Group and the SDGs

“[The Tata's have] enriched the nation, the whole of that wealth is held in trust for the people and used exclusively for their benefit. The cycle is complete, what came from the people has gone back to the people many times over”
– Ratan Tata

What does it mean to be sustainable? The Tata Group believes that the role of business is not just about giving back to society from its profits but also about ensuring that the processes it employs to earn these profits are ethical, socially responsible, and environmentally sound. The Tata Group has been a partner to the SDGs campaign since they were launched in 2015. Their companies carry out various initiatives across geographies, which aim to impact global discourse, design, and development surrounding the SDGs, through business innovations and by helping communities in need. At the backbone of the Tata Group's sustainability efforts is the Tata Sustainability Group (TSG), a business group with the aim of developing corporate governance frameworks for the Tata Group as a whole and providing consultation services on sustainability to other businesses and NGOs. While the Tata Trusts handle the philanthropy work of the Tata Group, the TSG investigates novel business models that align and advance the SDGs. Commending the Tata group on its vision, Yuri Afanasiev, UN Resident Coordinator in India, said, “India's private sector will play a critical role in addressing the country's most pressing development problems through developing commercially viable business models, and offering solutions that can be scaled to achieve the SDGs.”¹³⁸

The Tata Sustainability Group helps individual Tata companies achieve their sustainability goals, and it also leads group-wide efforts, such as Tata Group's volunteering and disaster response programs. It creates policies and makes recommendations regarding group companies' sustainable development efforts. Although Tata claims to have had sustainable development in its DNA for more than a century, the company is not taking the future for granted. The Tata Sustainability Group provides training to the companies' future leaders and employees in sustainable development. Its methods to achieve that include:

The Tata Index: The Tata Index for Sustainable Human Development is one tool TSG has used to drive sustainable development across the Tata Group. The index, created in cooperation with the UN Development Program, defines objective measures for assessing Tata companies' community initiatives. The index provides a standardized measure to quantify progress made in sustainable development efforts. The goal is to drive

¹³⁸ *Tata Group Launches Report on its Sustainability Work*, OUTLOOK (Aug. 23, 2017) <https://www.outlookindia.com/newscroll/tata-group-launches-report-on-its-sustainable-work/1129890>.

continuous improvement in sustainability. The Tata Index is undergoing a review to widen its scope beyond human development. Elements of the Index are used in the Tata Business Excellence Model, modeled on the Malcolm Baldrige quality framework, which annually assesses where companies are in their business excellence journey. Going forward, elements of the refreshed Sustainability Assessment Framework will find its way into the TBEM framework, thereby reaffirming sustainability as a core element of business excellence.¹³⁹

CEO Training: The Tata Sustainability Leadership Program trains chief executives and board members from across Tata Group on the risks and opportunities of climate change. The three-day program is held on the campus of the University of Cambridge (UK) in partnership with the Cambridge Institute for Sustainability Leadership. About 150 Tata chief executives and board members have gone through the three-day program.¹⁴⁰

One of the core focuses of the Tata Group is sanitation. India loses many children in infancy or within the first two years because of malnutrition. Tata Group quickly recognized the importance of hygiene, sanitation, and education. They focused their efforts at the village level, and their approach became holistic, which attracted other philanthropic organizations. They have also received tremendous support from the state governments. Ratan Tata has said: "There is a tremendous need for NGOs and philanthropic organizations to consider partnering with government agencies. Unfortunately, there has been a view that the government shuns collaborating with NGOs or philanthropic groups because officials consider the so-called welfare of the people to be their business. But our own experience in working with state governments has been very positive. We have terrific cooperation, and without the infrastructure that government agencies have built, we could never have achieved the impact we have today."¹⁴¹

¹³⁹ *Tata Index Fund*, TATA MUTUAL FUND <https://www.tatamutualfund.com/products/tata-index-fund>.

¹⁴⁰ *Tata Sustainability Leadership Program*, TATA SUSTAINABILITY GROUP <https://www.tatasustainability.com/sustainability-leadership-programme.aspx>.

¹⁴¹ Rohit Menezes & Soumitra Pandey, Q&A with Ratan Tata, Stanford Soc. Innov. Rev. https://ssir.org/articles/entry/qa_with_ratan_tata.

For the purposes of this Study, we focused on the Tata Trusts engagement with SDGs 5 (gender equality), 6 (clean water and sanitation) and 17 (partnerships for the goals). Among these, we focused on Tata Trusts and innovative sanitation including partnership with the Swachh Bharat Mission, Internet Saathi and Tata Engage.

SDG 5: Gender Equality

The Tata Group has a long history when it comes to supporting gender equality. The Lady Meherbai D. Tata Education Trust exclusively supports research on women's issues. The Trusts also fund gender empowerment-focused NGOs in South Asia.¹⁴² The Tata Group continues to extend this legacy with various programs, including the Internet Saathi, a digital literacy program helping rural women in India access and use the internet.



Goal 5: Achieve gender equality and empower all women and girls

Goal 5 is clear about the connection between ICTs and empowering women and girls. Target 5.B calls for the enhanced “use of enabling technology, in particular information and communications technology, to promote the empowerment of women.” ICTs can enable developing nations to leapfrog over currently existing gaps in gender equality and open new opportunities for women in a fast-growing market. Internet Saathi is at the forefront of using ICTs to accelerate the achievement of Goal 5.¹⁴³

Internet Saathi

¹⁴² Team YS, *Six gender empowerment-focused NGOs get funded by Tata Trusts and Harvard University South Asia Institute (SAI)*, YOURSTORY, May 9, 2016, <https://yourstory.com/2016/05/gender-empowerment-ngo-funding>

¹⁴³ *Achieve Gender Equality and Empower All Women and Girls*, UNITED NATIONS <https://sdgs.un.org/goals/goal5>.

Internet Saathi is a joint initiative of Tata Trusts and Google to impart digital literacy to rural women by training community members to bridge the digital divide and empower women. It is one of the largest digitally connected rural networks in India. Its current coverage includes 18 States and over 210,000 villages. The goal of the program is to promote gender equality in internet usage across rural India by expanding opportunities for women to take more ownership of their lives and improve their economic well-being.¹⁴⁴



The “Saathi”, the Hindi word for “friend,” functions by:

- Collaboration with ground partners and identification of villages
- Identification of potential women trainers (Saathis)
- 2-day in person training of the Saathis
- Assessment, final selection and device distribution of 2 internet enabled devices for each Saathi
- Each Internet Saathi reaches ~ 600 women across 2 to 4 villages in a span of 6 to 8 months

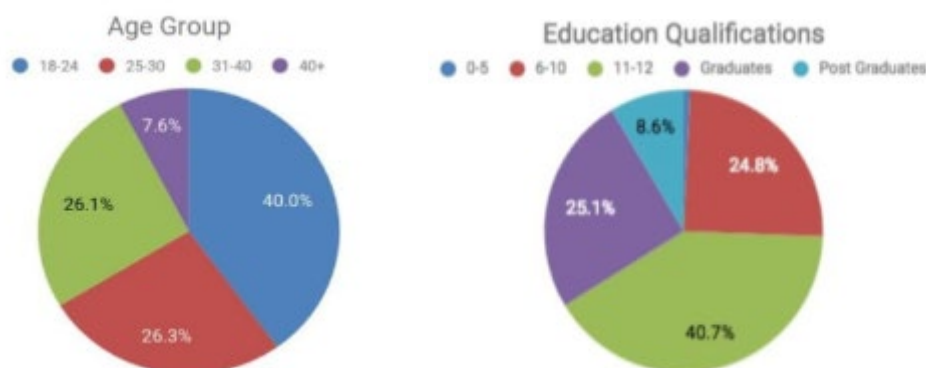
This programme has managed to train over 22 million women. It has significantly helped overcome the rural online gap in India – in the year 2015 only 1 in 10 women had access to the internet. Currently the internet gap is 3 in 10 women. The program aims to train about 30 million women and cover over 300k villages by the end of 2019.

¹⁴⁴ See generally – Village Square, *TBI Blogs: A Unique Project is Empowering Women in Rural Assam by Introducing Them to the Internet*, THE BETTER INDIA, May 18, 2017, <https://www.thebetterindia.com/101045/empowering-rural-women-assam-internet-saathis/>

In a 2017 study by Ipsos found a positive impact on the programme on internet awareness and usage among women in rural India.¹⁴⁵ Women trained by Internet Saathis are twice as likely to express themselves in village level meetings and three and half times more likely to join other social causes. Additionally, 45% of women trained by Internet Saathis believe they have increased their income by learning new skills and 57% of women trained by Internet Saathis feel they have learnt better ways of investing money.¹⁴⁶

A typical Internet Saathi is a trained Internet Trainer equipped with mobile Broadband enabled smartphone devices and has completed outreach & training to 600+ women in her community. She is an influencer within her community and is passionate to drive positive change for her community. Saathis are usually the most digitally literate person in their village, twice that of the rest of the village. One in three Internet Saathi beneficiaries believe that the program positively impacted their personal and children's education and two in ten Internet Saathi beneficiaries claimed to have started their own business with an average revenue of over Rs 4,000 per month.¹⁴⁷

Internet Saathi Profile



¹⁴⁵ Ipsos, *Connected Women – The Mobile Gender Gap Report 2018*, February 2018,

https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/04/GSMA_The_Mobile_Gender_Gap_Report_2018_32pp_WEBv7.pdf

¹⁴⁶ *Internet Saathi*, TATA TRUSTS, <https://www.tatatrusters.org/our-work/digital-transformation/digital-literacy/internet-saathi>.

¹⁴⁷ *Internet Saathi*, TATA TRUSTS, <https://www.tatatrusters.org/our-work/digital-transformation/digital-literacy/internet-saathi>.

The next phase for Saathis involves fostering women entrepreneurs in rural India. For this purpose an independent not-for-profit entity was launched in December 2017 to build sustenance for Internet Saathi network called Foundation for Rural Entrepreneurship Development (FREND). FREND will create income opportunities for Internet Saathi by opening up the network to other like-minded organizations to drive further socio-economic uplift in Rural India. The goal is to ensure Rs. 100k for 100k women by 2022.¹⁴⁸

SDG 6: Clean Water and Sanitation

The SDGs have kindled a revolution in sanitation. In the waning months of the year, the World Bank and the Bill and Melinda Gates Foundation Team announced that they would accelerate innovative sanitation through \$1 billion of financing. The Urban Sanitation Innovative Partnership seeks to increase sanitation access, especially by poor households, through a combination of policy reforms, financing, infrastructure, and technology. The World Bank has worked with the Gates Foundation on sanitation for the past two and a half years and has committed US\$10 billion to water and sanitation services over the past 25 years. SDG target 6.2 seeks to achieve access to adequate and equitable sanitation and hygiene for all, and to end open defecation, while SDG indicator 3.9.2 identifies unsafe water, unsafe sanitation, and lack of hygiene services as an important factor in reducing premature death and illness.¹⁴⁹



Goal 6: Ensure availability and sustainable management of water and sanitation for all

India is ranked 120 out of 122 nations for its water quality and 133 out of 180 for water availability. It is estimated that only 18 percent of the total population has access to treated water. Over 138 million rural households are water stressed resulting in more than 1,180,000 deaths annually due to contaminated water and diarrhea. Having access to clean drinking water all the time is therefore, central to human development.¹⁵⁰

Tata Water Mission – A Tata Trusts Initiative

¹⁴⁸ *Internet Saathi*, TATA TRUSTS, <https://www.tatatrusters.org/our-work/digital-transformation/digital-literacy/internet-saathi>.

¹⁴⁹ *Target 6.2- Sanitation and Hygiene*, U.N. WATER, <https://www.sdg6monitoring.org/indicators/target-6-2/>.

¹⁵⁰ Final Report of the Research Study on Composite Water Resources Management Index for Indian States, Dalberg Global Development Advisors (2018).

Improving access to safe water and environmental sanitation has been a key focus area for Tata Trusts. The mission aims to create a healthy future for millions of Indians through provision of safe, assured and adequate drinking water, along with improved sanitation and hygiene facilities for underserved communities by advocating a decentralized, demand-responsive and community-managed approach, and promoting innovative technological and economically sustainable solutions in achieving their goals. The mission has so far impacted 6 million individuals spread across more than 7000 villages in 12 states in India.¹⁵¹

The Swachh Bharat Mission (SBM) was launched on October 2nd 2014 in order to accelerate the nation's efforts to achieve universal sanitation coverage and focus on safe sanitation. It is comprised of two sub-missions, the Swachh Bharat Mission (Grameen) and the Swachh Bharat Mission (Urban). The former works to make gram panchayats open defecation free (ODF), clean, and sanitized through solid and liquid waste management activities.¹⁵²

The Tata Trusts have partnered with the Swachh Bharat Mission, having donated over Rs. 1 Billion to the cause in 2018. In 2016, the Trusts took on the role of development support partner to the Government of India's Swachh Bharat Mission (SBM), which has the target to develop sanitation facilities for over 500 million Indians, who do not have access to toilets and continue to defecate in the open. Tata Trusts stepped in to make the SBM more effective and sustainable, by looking at all aspects of sanitation and toilets — supply chain, finance, behavior change, toilet design and usage.¹⁵³

India's Sanitation Warriors: Torch Bearers for the Swachh Bharat Mission

Tata Trusts in collaboration with the Ministry of Drinking Water and Sanitation launched the Zila Swachh Bharat Prerak (ZSBP) initiative. In 2016, Tata Trusts partnered with district administrations in 25 districts across three states under SBM to make them ODF. To support the implementation, the Trusts had deployed young men and women at the District Collector offices, who achieved quick progress. The Ministry of Drinking Water and Sanitation, impressed by the work, asked the Trusts to replicate the model in 26 states, which led to the creation of the Zila Swachh Bharat Prerak Programme, which was formally unveiled in December 2016.

¹⁵¹ *The Tata Water Mission*, U.N. GLOBAL COMPACT CEO WATER MANDATE, <https://ceowatermandate.org/resources/tata-water-mission-2/>.

¹⁵² *Swachh Bharat Mission- Grameen*, GOVERNMENT OF INDIA, <https://swachhbharatmission.gov.in/sbmcms/index.htm>.

¹⁵³ *Tata Trusts bolsters Swachh Bharat Mission through the appointment of 600 Zila Preraks*, TATA TRUSTS (Dec. 16, 2016) <https://www.tatatrusts.org/article/inside/tata-trusts-swachh-bharat-mission>.

Selected Preraks started training by March 2017 and (the first batch of Preraks) set out in the field in April 2017.¹⁵⁴

The initiative aims to place around 600 "young professionals" in each district of the country to give a boost to the Swachh Bharat Mission. The initiative is a first of its kind partnership between a philanthropic organization and Government of India to effect change at this scale, hoping to "positively and sustainably impact 100 million lives by 2021. There are 475 Zila Swachh Bharat Preraks (ZSBP) at the moment, who are assisting the district administration in implementation of Swachh Bharat Mission (Grameen). In 2017, the ZSBP initiative was recognized through an award by the Ministry of Drinking Water and Sanitation's for outstanding support to the implementation of the Programme.¹⁵⁵

The Trusts faced certain challenges in the program, the hardest one among them was empowering youth to take on the challenge. Training was conducted in partnership with University of Chicago Booth School of Business and includes domain level sanitation issues, technical aspects of the Swachh Bharat Mission, the functioning of district-taluka-block- gram panchayat administrations, community mobilization for behavioral change, etc., soft skills such as — communication, leadership, team building, etc. The 475 Preraks, of which 35% are women, were trained in batches of 40-50 over a series of three-day workshops held in New Delhi.¹⁵⁶

Scale and Impact

There has been a dramatic increase in the number of toilets being built, number of households with toilets, and number of districts declared ODF. At the end of March 2017, India had about 65% of districts declared ODF. By September 2018, that figure had jumped to 92.6%, increasing coverage to another third of India in just 18 months.¹⁵⁷

One key reason the ZSBPs were able to accelerate the SBM was their training in working with data. The Prerak initiative introduced evidence-linked management practices to the programme, which helped them support the district administration in constantly improving the efficiency of the mission. Accurate data collection was ensured through addressing gaps, smoother disbursements of incentives, prioritizing certain villages, efficiency in

¹⁵⁴ *Id.*

¹⁵⁵ *Zila Swachh Bharat Prerak Programme*, TATA TRUSTS, <https://www.tatatrusts.org/our-work/water-sanitation-and-hygiene/sanitation-and-hygiene/zila-swachh-bharat-prerak-programme>.

¹⁵⁶ *Id.*

¹⁵⁷ *Swachh Bharat Abhiyan 2017 Target: Government To Declare 300 Districts Open Defecation Free By End Of This Year*, SWACHHINDIA (Sept. 4, 2017) <https://swachhindia.ndtv.com/swachh-bharat-abhiyan-2017-target-government-declare-300-districts-open-defecation-free-end-year-9928/>.

project management software, and faster payments and streamlining procedures.

The success of the ZSBP programme is a testament to the power of the public-private partnership model. Tata Trusts took on the onus of the national recruitment drive, interviewing and hiring talented young professionals, and paying their salaries and allowances. The MDWS facilitated the placement of ZSBPs at the districts and coordinated with the state governments. Together, they shared the responsibility of the initial training and capacity building. They also monitored the performance of the preraks who worked to bridge the gap between the district administration and the beneficiaries in the villages, maintained the SBM MIS dashboards, and drove progress on the ground.¹⁵⁸

One of the objectives of the prerak model was to influence the government ecosystem by infusing innovative thought processes; this has been fairly successful in the ZSBP initiative. Such a public-private partnership model, which strengthens the government system and supplements the efforts of the community, can be adopted in other areas for enhanced service delivery and sustainable development.¹⁵⁹

SDG 17: Building Partnerships

The Tata Trusts have paved the way in forging partnerships with various entities to create impact, be it the Government of India for Swachh Bharat Mission or Google for Internet Saathi.

Tata Engage

Towards achieving Goal 17, they established Tata Engage – a group level volunteering platform, which encourages and facilitates volunteering among employees, their family members, and retirees around the globe. The initiative helps individuals volunteer with non-profits and impact lives through meaningful community engagement. Launched in March 2014, the project has achieved 1.2 million volunteering hours as of 2016-17, making Tata Group truly visible in its volunteering efforts. The project also celebrates “Tata Volunteering Week” which sees participation by over 650 NGOs across 150 locations around the world. A full-



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

¹⁵⁸ Zila Swachh Bharat Prerak Programme, TATA TRUSTS, <https://www.tatatrusts.org/our-work/water-sanitation-and-hygiene/sanitation-and-hygiene/zila-swachh-bharat-prerak-programme>.

¹⁵⁹ *Id.*

time six month deputation to a non-profit has also been introduced through the establishment of the Engage+ program.¹⁶⁰

¹⁶⁰ See generally, TATA ENGAGE, <https://www.tataengage.com/>

Lighting Up All of Africa: Tonye Cole

"The mission to realize the SDGs is possibly the most daunting objective faced by the United Nations. The impact the attainment of these goals will have on the ability of the entire global system to co-exist peacefully cannot be over-emphasized. It is in the interest of all humanity to collaborate on the SDGs, especially in Africa where we believe access to energy holds the key to achieving the 17 goals by the 2030 target." -Tonye Cole

Ngozi Okonjo-Iweala in *Reforming the Unreformable: Lessons from Nigeria* provides an account of 'petro-state definition' relevancy: "If you depend on oil and gas for 80 percent of government revenues, over 90 percent of exports are one commodity, oil, if that is what drives the growth of your economy, if your economy moves up and down with the price of oil, if you have volatility of expenditures and of GDP, then you're a petro-state."¹⁶¹

Tonye Cole – the energy entrepreneur and founder of the Sahara Group – operates within a petro-state but brings a different narrative to the table. Tonye Cole has been profiled by Forbes magazine as a business titan. He served on the UN SDG Expert Advisory Council. His efforts to confront global challenges through the World Economic Forum are well known. As the co-founder of Sahara Group, Tonye has created jobs for hundreds of young men and women. He is consulted by presidents of countries whose economies are failing. Tonye has become an inspiration and a mentor to millions of young people across the continent.

Tonye Cole borrows heavily from the Ubuntu principles of humanism: "I am, because we are, and since we are, therefore I am." This Ubuntu notion is different from the idea that leaders are somehow more unique, more special than their followers. In Plato's *Republic*, Socrates tells us that leaders are by nature more likely to engage in philosophy and to rule in a city while the rest inhabit a space outside of philosophy. This creates a strict class division in the ideal state, one which Ubuntu eschews. G. W. F. Hegel too referred to

*"I am, because
we are, and
since we are,
therefore I am."*

*– Ubuntu
Philosophy*

the trait views of leadership, that some people are better equipped by nature to be leaders. He has said: "The world historical persons, the heroes of their age ...must therefore be recognized as seers – their words and deeds are the best of the age..."¹⁶² The Ubuntu philosophy on the other hand is premised on the view that personal characteristics must bear relationship to the goals of the followers. Ubuntu is a cosmopolitan moral theory – which goes beyond a communitarian argument – to include all human society.

¹⁶¹ NGOZI OKONJO-IWEALA, *REFORMING THE UNREFORMABLE: LESSONS FROM NIGERIA*, 2014.

¹⁶² GEORG WILHELM FRIEDRICH HEGEL, *REASON IN HISTORY, A GENERAL INTRODUCTION TO THE PHILOSOPHY OF HISTORY*, (1953).

Tonye Cole believes that if we are truly going to fulfill our purpose of reimagining the world and improve the lives of people, we need to take bold moves in the most transformative areas. To Cole, Ubuntu is an important concept for the harmonious co-existence and sustainable development in a multicultural society such as South Africa: “It is the sine qua non in the reconstruction and development of society and its institutions... As a cohesive moral value that is inherent in all humans.”

James Macgregor Burn's normative theory of leadership is a study of transformative leaders like Gandhi and James Madison and others who are distinguished by the fact that they are more concerned with end values that go beyond modal values of honesty and responsibilities. They are more concerned with cosmopolitan values which move people toward universal moral principles.¹⁶³

Burn's conception of the higher moral good involves actual social change. The problem is that transforming leaders are left with a variety of value systems. Although no one can rightly claim knowledge of the greater good, the SDGs are transcending value conflict between narrow particularist ends and are a universal set of development principles.

SDG 2: Zero Hunger

In Africa, agriculture remains a vital source of employment and income generation. In Nigeria the sector contributes to an estimated 70% of employment in Nigeria, but only 22% of GDP, thus indicating a significant potential for productivity gains. Despite a strong reliance on farming and agriculture, malnutrition is often prevalent in many regions and invariably an estimated 50-70% of harvests can be lost due to the lack of appropriate storage facilities and limited market information.¹⁶⁴

The Sahara Group has spearheaded the creation of more sustainable agribusiness in Nigeria with the collaborative Food Africa Project. The Food Africa Project is an innovative public-private partnership between the Sahara Group, SDG Fund, UN Agencies, world-wide recognized chefs the Roca Brothers, Nigerian National Government and Kaduna State Government to improve food security and nutrition, and alleviate poverty by strengthening of local value



Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

¹⁶³ JAMES MACGREGOR BURNS, LEADERSHIP, (1978).

¹⁶⁴ *Food Security Portal: Nigeria*, International Food Policy Research Institute, <http://www.foodsecurityportal.org/Nigeria>.

chains for farmers. The pilot project in Kaduna provides a backward and forward integration approach for food supply chain management and introduces more sustainable practices to reduce crop waste and improve smallholder farmers' profitability. Recognizing the link between the gaps in skills and structural unemployment in the region, the project promotes income generating opportunities and offer technical support to promote trade of local goods and services.¹⁶⁵

Its unique feature is demonstrated by a clear effort to promote national ownership with a matching fund approach, where SDG Fund takes the lead to onboard private sector in the design phase and acted as a convener to bring together all partners. Jointly with the Sahara Group, the SDG Fund provides bulk of co-financing, convened additional partners and mobilized contributions. Chefs Roca Brothers contribute knowledge to showcase how local food production can be processed for new markets and consumers, while specialized UN Agencies provide expertise on food production, employment and international trade.

The program will feature an agro-processing facility and serve as a Center of Excellence to increase farmers' income and efforts to reduce food loss. The center will provide training in the food industry on issues linked to food safety, business planning and product diversification. Designed as a hybrid public-private facility, the program will eventually be sustained and managed by the community's local farmers.¹⁶⁶

It is expected that 5,000 women and men of Kaduna will be directly impacted with new job prospects, increased income and additional skills to compete in the thriving food industry.

In addition, an estimated 500,000 residents will indirectly benefit from the Food Africa Project which is designed to be scaled-up in the region and eventually replicated in other parts of Sub-Saharan Africa.¹⁶⁷

SDG 4 and 5: Quality Education and Gender Equality

Sahara Group has appointed Zuriel Oduwole, a globally acclaimed Girl's Education advocate as ambassador in its bid to accelerate the achievement of the triad of Sustainable Development Goals (SDGs) that focus on improving the



Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

¹⁶⁵ See generally, *Food Africa Project Adopting a backward and forward integration model (SDGFund)*, SDG Partnership Platform, <https://sustainabledevelopment.un.org/partnership/?p=11940>.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

access of children (especially girls) to education, fostering gender equality and creating more opportunities for girls across Africa.

The leading energy conglomerate's partnership with Zuriel's Dream Up Speak Up Stand Up (DUSUSU Foundation) will target SDGs 4, 5 and 10 that seek to enhance access to Quality Education, Gender Equality and Reduced Inequalities by 2030.¹⁶⁸

Globally, there are 31 million fewer girls than boys in primary school. According to the UNESCO Institute for Statistics (2016), over 9 million girls of primary-school age are out of school in sub-Saharan Africa.¹⁶⁹ The partnership seeks to promote access to education and economic empowerment through film-making and other activities.

Sahara Group's Head of Corporate Communications, Bethel Obioma, said the project will be driven by Sahara Foundation, the Group's Corporate Responsibility vehicle. "This represents another major step for us at Sahara Group towards promoting the SDGs in Africa and across the globe. We believe the foundation for sustainable development rests on empowerment and access to equal opportunities for all children," he said.¹⁷⁰



Goal 5: Achieve gender equality and empower all women and girls

¹⁶⁸ *Sahara Group boosts SDGs achievement in empowering Africa's girl child*, VANGUARD (June 30, 2018)

<https://www.vanguardngr.com/2018/06/sahara-group-moves-boost-achievement-sdgs-4-5-10-africa/>.

¹⁶⁹ UNESCO Institute for Statistics, "One in Five Children, Adolescents and Youth is Out of School: Fact Sheet No. 48," UIS/FS/2018/ED/48, February 2018, <http://uis.unesco.org/sites/default/files/documents/fs48-one-five-children-adolescents-youth-out-school-2018-en.pdf>.

¹⁷⁰ *Sahara Group Moves to Boost Achievement of SDGs 4, 5 and 10 in Africa*, BUSINESSGHANA (July 1, 2018)

<https://www.businessghana.com/site/news/business/167909/Sahara-Group-Moves-to-Boost-Achievement-of-SDGs-4-5-and-10-in-Africa>.

Speaking at the presentation of Zuriel as Sahara's Ambassador in Accra, Ghana, Seyi Ojuronbe, Manager, Sahara Foundation said the partnership reinforces Sahara's unwavering commitment to promoting equitable and inclusive quality education for all. According to him, "empowering the youth, especially the girl child, is a goal that Sahara Group supports passionately, and we have consistently implemented several educational and capacity building projects to enhance the achievement of this goal in Africa."

SDG 6: Clean Water and Sanitation

According to a 2017 joint report by WHO and UNICEF, 2.1 billion people lack safe drinking water at home, more than twice as many lacks safe sanitation. Some 3 in 10 people worldwide, or 2.1 billion, lack access to safe, readily available water at home, and 6 in 10, or 4.5 billion, lack safely managed sanitation.¹⁷¹

The implication of this is that these people are at risk of various water related diseases, many of which are fatal. At the moment, only 61% of the people in sub-Saharan Africa have access to have access to clean water sources. Similarly, over 40% of all people globally that lack access to drinking water are in sub-Saharan Africa. In these areas, the burden of carrying water falls primarily on women and young girls who are forced to walk several miles in search of water.

The inadequacy of clean water sources has accounted for poor sanitation in the affected areas with rural areas topping the list. A vast majority of rural people still practice open defecation or lack adequate sanitation facilities. The consequences of such practices are very devastating for human health and the environment. Even in more developed areas where household toilets are readily available, a large number of the toilets are either connected to septic tanks that are not safely emptied or use other means that discharge sewage into open drains.¹⁷²

In line with its commitment to promote clean water sources and encourage good sanitation, Sahara Foundation is committed to the donation of boreholes in areas of need. The donation of these boreholes has contributed to the eradication of Guinea-worm disease in Nigeria and Ghana. Sahara's interventions have also enhanced access to water and sanitary facilities in schools and communities, resulting in the wellbeing of



Goal 6: Ensure availability and sustainable management of water and sanitation for all

¹⁷¹ Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines. Geneva: World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), 2017.

¹⁷² *Millennium Development Goal drinking water target met*, WHO (Mar. 6, 2012) https://www.who.int/mediacentre/news/releases/2012/drinking_water_20120306/en/.

students. Over the years, Sahara Foundation has implemented numerous Water Sanitation and Hygiene (WASH) programs in schools across Africa. This includes over fifty borehole projects in Ghana, Cote d'Ivoire and Nigeria; toilet constructions in schools where they were either dilapidated or were non-existent, including schools in Ghana, Nigeria and Tanzania. These interventions have resulted in improved school attendance but particularly improved safety for the students who prior to such interventions had to use bushes as their toilet.¹⁷³

SDG 7: Affordable and Clean Energy

Improved access to energy in Africa has the potential to alleviate poverty, promote industrialization, facilitate gender equality and reduce the region's vulnerability to climate change. Consequently, the current low rates of electrification in many SSA countries has been identified as the most pressing obstacle to economic growth, more important than access to finance, red tape or corruption. Goal 7 calls for universal access to affordable, reliable, and modern energy services, including clean fuels and technologies.¹⁷⁴

The Sahara Group and the United Nations Development Program (UNDP) have joined forces to promote reliable access to affordable and sustainable energy, and to mainstream the Sustainable Development Goals (SDGs) in the private sector in Africa. The partnership was formalized in April 2019 with a Memorandum of Understanding between the organizations.

Per the agreement, UNDP and the Sahara Group will work to identify best avenues to build on their respective network and experience to create power solutions that will help drive sustainable development and provide support for SDG nationwide monitoring and reporting.¹⁷⁵



Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

¹⁷³ Sahara Foundation Infographic, www.sahara-group.com › Sahara Foundation Infographic

¹⁷⁴ Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all, UN SDGs <https://unstats.un.org/sdgs/report/2016/goal-07/>

¹⁷⁵ UNDP - Sahara Group partner to promote sustainable energy, SDGs in Africa, UNDP <https://www.africa.undp.org/content/rba/en/home/presscenter/pressreleases/2019/undp-and-sahara-group-join-forces-to-promote-sustainable-energy-.html>

“650 million people in sub-Saharan Africa do not have access to electricity. UNDP looks forward to partnering with Sahara Group to ensure everyone in this region has access to affordable energy, a critical part of our work supporting countries to achieve the Sustainable Development Goals by 2030.” said UNDP Administrator Achim Steiner.¹⁷⁶

SDG 17: Partnerships for the Goals

The Sahara Group was appointed as one of two African companies on the Private Sector Advisory Group set up by the United Nations Sustainable Development Goals fund (UN-SDGF) in 2016.¹⁷⁷ It has since played a significant role in driving that mandate by the creation of the first country-level Private Sector Advisory Group (PSAG) Nigeria, which was inaugurated by the Vice President of Nigeria and comprises over thirty leading businesses and corporate foundations in Nigeria. The PSAG aims at mirroring the Global Private Sector Advisory Group which was established by United Nations Sustainable Development Fund to effectively achieve effective public-partnerships for the SDGs as a result of the numerous challenges faced during the implementation of the Millennium Development Goals. Cole explained that the group would galvanize ideas and initiatives from various stakeholders to achieve accelerated and inclusive development across the nation. “We strongly believe that the achievement of the PSAG objectives will not only improve the global SDG ranking of Nigeria, it will also improve the standard of living across the nation through the provision of sustainable solutions to basic problems,” said Cole.¹⁷⁸



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

¹⁷⁸ *Inspired by SDG Fund, Nigeria launches the first country level private sector advisory group*, SUSTAINABLE DEVELOPMENT GOALS FUND, (Mar. 27, 2017) <https://www.sdgfund.org/es/node/1568>.

If You Find Problems, You Must Find Solutions: Ngozi Okonjo-Iweala

‘Investing in women is smart economics, and investing in girls, catching them upstream, is even smarter economics.’ - Ngozi Okonjo Iweala

Ngozi Okonjo Iweala often quotes Nelson Mandela. Her favorite quote is from that historic day on the evening of May 2, 1994, when Mandela claimed victory in the first democratic elections in South Africa: “I am your servant, I don’t come to you as leader... Leaders come and go but the organization and the collective leadership that has looked after the fortunes and reverses of this organization will always be there.” Okonjo-Iweala feels the same about being a servant leader, a servant leader who is also not afraid to cause trouble. “‘Wahala’ is a popular Pidgin English word in Nigerian meaning trouble. So, I was essentially nicknamed Okonjo the Trouble Maker. I loved this nickname To me it was a badge of honor.”

As a world-renowned development economist, author, and advocate, Okonjo-Iweala has been a force for economic development, sustainable financing, and anti- corruption. Okonjo-Iweala has held some of the most distinguished positions in the government of Nigeria, the World Bank, and in organizations and institutions worldwide. Disrupting the status quo has been a common thread across her professional endeavors and has been instrumental in ushering change and breaking glass ceilings in the public and private sector. Okonjo-Iweala’s impressive ability to drive change makes her one of the most influential figures on the world stage. In a time of global volatility, it is a time to take stock of how to keep Africa rising. Through a prism of war, disease, poverty, starvation and corruption. This ‘single story’ (The failure to represent Africa fairly) has had deleterious consequences.¹⁷⁹

The 2030 agenda aims to fundamentally transform society through disruptive thinking in business and financial sectors and in public policies. A global leader at the forefront of this transformation, Ngozi Okonjo-Iweala has emphasized that realizing such ambitious social and economic sustainable development goals will require mobilizing private financing on an unprecedented scale. To mobilize financing to drive the SDGs, she has been a fierce advocate for building partnerships between innovations in the business and technology sectors. These partnerships in the private sector have transformative potential. As a global leader, Okonjo-Iweala has demonstrated an unrelenting commitment to using innovative technologies and financial solutions to achieve targets for several SDGs. She is particularly energized by the revolutionary impact that

¹⁷⁹ Interview by authors with Ngozi Okonjo Iweala, (interviews conducted between February 2019 and July 2020).

digitalization is having on the financial ecosystem, and how innovations in business models and the financial ecosystem can be harnessed for sustainable finance and achieving the SDGs.¹⁸⁰

Okonjo Iweala speaks of a narrative of a rising Africa- an Africa of hope and opportunity rather than the single story of war, disease, poverty, corruption. An alternative narrative is one of the power and potential of technology to revitalize Africa. She talks of using drones to deliver vaccines through ziplines and the private public partnerships with Gavi and Novartis. Most of all she sees the power of innovation to stabilize the continent. The telecom revolution has created a mini revolution in the region. Africa is ahead with mobile money- pay for solar with cards.

Another transformative cornerstone is the mitigating effects of climate change on 32 countries in Africa- through the African Risk Capacity- the weather- based insurance initiative that Ngozi is heading. She articulates the greatest impact of the work being to “keep the population at home.” The idea she explains is to look for solutions in their own country.¹⁸¹

Guiding Principles of *Ubuntu* Leadership

At the center of Okonjo-Iweala’s world view is the spirit of *ubuntu*, a concept that elevates empathy and community participation as integral to an enriched and fulfilled human experience. Okonjo-Iweala is inspired by Desmond Tutu who writes: *No Future without Forgiveness*:

Ubuntu is very difficult to render into a Western language. It speaks to the very essence of being human. When you want to give high praise to someone we say, “Yu, u nobuntu”; he or she has ubuntu. That means that they are generous, hospitable, friendly, caring, compassionate. They share what they have. ... We say, “a person is a person through other people” (in Xhosa Ubuntu ungamntu ngabanye abantu, and in Zulu Umuntu ngumuntu ngabanye). I am human because I belong, I participate, and I share.’¹⁸²

As one whose “humanity is caught up, inextricably bound up in [others],”¹⁸³ Okonjo-Iweala’s leadership style embodies *ubuntu*, focusing on using compassion and humanity to empower the community and world around her.

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

¹⁸² Desmond Tutu, *No Future Without Forgiveness* (1995) at pp. 34-35

¹⁸³ *Id.*

Shaping the Contemporary World Over

Okonjo-Iweala served two terms as Finance Minister of Nigeria from 2003-2006 and 2011-2015, and as Nigeria's Foreign Minister in 2006. She was the first woman to hold both positions. She has spent more than two decades at the World Bank as a development economist, rising to the number-two position of managing director, which she served from 2007-2011. While at the World Bank, she was responsible for an \$81 billion operational portfolio including Europe and Central Asia, South Asia, and Africa.

In 2012, she and Colombia's Jose Antonio Ocampo squared off against American physician Jim Yong Kim in The World Bank's first-ever contested presidential selection. Although she was unable to break the traditional gentleman's agreement on the World Bank leadership, Okonjo-Iweala helped to challenge business as usual with her candidacy and has laid the foundation for future challenges from non-Americans, especially from developing countries. Seven years later, Okonjo-Iweala is once again a potential presidential candidate for the leader of the World Bank.

The power of partnerships between the private and public sector to bring about meaningful change is her priority. She is currently the head of the board of the Global Alliance for Vaccines and Immunization (GAVI) Gavi Board. In this role, along with Larry Summers and the Ministers of Health of Myanmar, Ethiopia, Chad and Congo, she is leading the future strategic vision for providing crucial immunizations and health services to children in developing countries. Okonjo-Iweala also sits on the boards of the African Risk Capacity, an innovative weather-based insurance mechanism for African countries; the Commission on the New Climate Economy with Lord Nicolas Stern and Paul Polman; and the Nelson Mandela Institution. Recently, she was appointed to the Twitter Board.

"I would like to congratulate my friend Ngozi Okonjo-Iweala who has been named by the Council on Foreign Relations as one African woman out of six women who have shaped the contemporary world order." - President Ellen Johnson Sirleaf, 2019

How Corruption is a Threat to Development

“Ngozi Okonjo-Iweala is a heroine not just of Nigeria, but of the entire continent. Her crusade against corruption has put her life at risk.” - The Independent (UK)

According to Transparency International, of the ten countries considered most corrupt in the world, six are in sub-Saharan Africa. A 2002 African Union study estimated that corruption cost the continent roughly \$150 billion a year. To compare, developed countries gave \$22 billion in aid to sub-Saharan Africa in 2008, according to the Organization for Economic Cooperation and Development. It has been estimated that Nigeria has lost more than 600 billion to corruption since independence. Okonjo-Iweala has dedicated her life to fighting corruption. This crusade has threatened her personal security. In 2012, Okonjo-Iweala’s 83-year-old mother was kidnapped in retaliation for Okonjo-Iweala’s leadership in anti-corruption policies and Nigerian government reform. The kidnappers demanded that Okonjo-Iweala publicly resign from office. She did not, and her mother escaped. Okonjo-Iweala discusses the danger of confronting deep-seated corruption in her most recent book, *Fighting Corruption Is Dangerous* (2018). Okonjo-Iweala’s vision for macroeconomic reform in Africa considers and combines African culture and history, sustain. In *Reforming the Unreformable: Lessons from Nigeria* (2012), Okonjo-Iweala presents a framework used by her and her team that stabilized the macroeconomy, increased economic growth and fiscal transparency, reduced the debt burden, strengthened the integrity of public and civil service and redirected resources being syphoned to private interest back to the people and the poor. She also details the challenges and confronts head on the daunting complexity of pushing for macroeconomic and development economic reform, as well as pushing back against corrupt trade, tariffs, and customs practices.¹⁸⁴

“The 2030 SDGs has a powerful vision, but we must ensure financing is sufficient. That means making creative use of digital technologies that are revolutionizing the financial markets.”

-Ngozi Okonjo-Iweala

¹⁸⁴ NGOZI OKONJO-IWEALA, *REFORMING THE UNREFORMABLE: LESSONS FROM NIGERIA*, 2014

SDG 3: Good Health and Well-being

SDG 3 aims to promote health and well-being across the human life cycle. Providing immunizations and vaccines to prevent illness in children and adults alike is an essential way that countries can help reach this goal. Okonjo-Iweala's vision of making developing countries shape GAVI's agenda has been instrumental in many sustainable reforms. ant contributions to achieving SDG 3 through her leadership as chair of the GAVI Board, an organization that helps provide access to affordable vaccines to children in developing countries.¹⁸⁵ Okonjo-Iweala is leading the strategic vision for the organization on the GAVI Board, which includes Larry Summers and the Ministers of Health of Myanmar, Ethiopia, Chad and Congo. Together this team oversees the strategic direction, policy-making, operations of the Vaccine Alliance and monitors programme implementation.¹⁸⁶



Goal 3: Ensure healthy lives and promote well-being

Vaccines are one of the most cost-effective investments in health and development in history. A study in Health Affairs covering 73 GAVI-supported countries over the 2011-2020 period shows that for every US\$1 spent on immunization, US\$16 are saved in healthcare costs, lost wages, and lost productivity due to illness, and return on investment increases to US\$ 44 when taking into account the broader benefits of people living longer and healthier lives.

Since its creation in 2000, GAVI has immunized 580 million children in developing countries and saved 8 million lives through over 430 immunization programs and vaccination campaigns. In 2017 alone, 65 million children were immunized with GAVI-supported vaccines, equal to more than 190 million points of contact between these children and the primary health system. Under the leadership of Okonjo-Iweala, GAVI plans to increase immunization coverage another 300 million children.¹⁸⁷ As Chair, Okonjo-Iweala leads representatives from the World Bank, the Bill & Melinda Gates Foundation, UNICEF, Civil Society

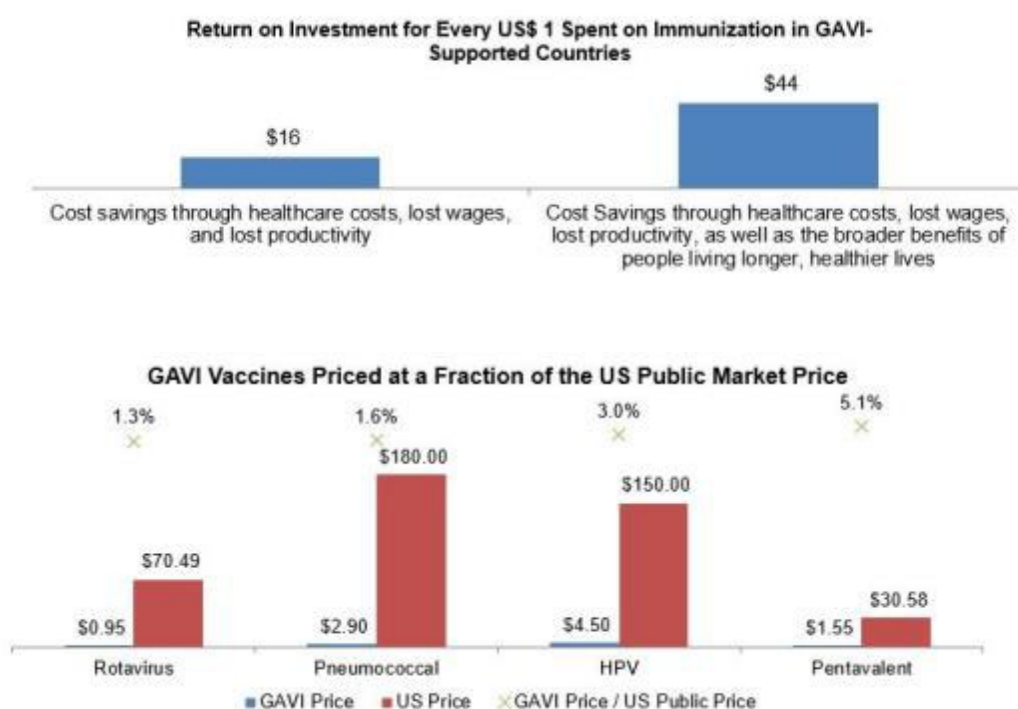
¹⁸⁵ World Health Organization. "Dr Ngozi Okonjo-Iweala appointed Chair-elect of Gavi Board". <https://www.who.int/life-course/news/gavi-chair-elect/en/>

¹⁸⁶ GAVI. " Ngozi Okonjo-Iweala appointed Chair-elect of Gavi Board". <https://www.gavi.org/library/news/press-releases/2015/ngozi-okonjo-iweala-appointed-chair-elect-of-gavi-board/>.

¹⁸⁷ *GAVI's Mission*, <https://www.gavi.org/about/governance/gavi-board/>.

Representatives, the Private Pharmaceutical Sector and representatives of developed, emerging markets and developing countries to formulate international vaccine implementation policy.¹⁸⁸

GAVI uses its unique partnership model to ensure access to vaccines in countries that need them the most. For example, rotavirus causes diarrhea in infants and young children, causing over 500,000 deaths each year in children under the age of 5 with over 95% of deaths in low-income countries in Africa and Asia. Thanks to long-term supply agreements with manufacturers, GAVI has been able to secure rotavirus vaccines at under US\$1 per dose for two types of rotavirus vaccine, less than 2% of the public price in the US in 2019 at US\$70.49 per dose. To date, GAVI has helped strengthen health systems and immunization services in more than 60 countries. By 2019, 15 countries had started to fully self-finance all their vaccines that had been introduced with GAVI support. GAVI currently supports 13 life-saving vaccines for some of the most prevalent diseases targeting developing markets, including HPV, polio, rotavirus and others.¹⁸⁹



¹⁸⁸ *GAVI's Mission*, <https://www.gavi.org/about/governance/gavi-board/>.

¹⁸⁹ *See generally, Operating Model*, GAVI, <https://www.gavi.org/our-alliance/operating-model>.

Artificial Intelligence can be used in gathering gender-disaggregated data and tracking performance metrics.

Leveraging digital technologies for better health outcomes:

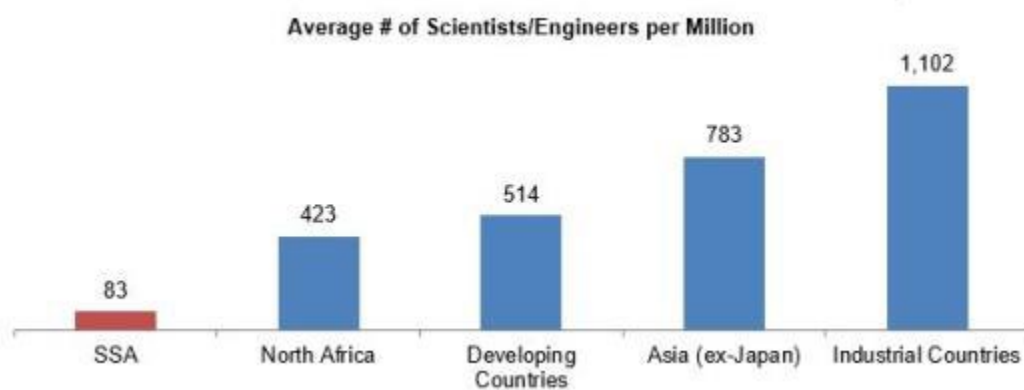
Digital technologies can be a powerful tool to advance gender issues in areas of education and health. One example of such a dynamic initiative in this area is the Mobile Alliance for Maternal Action (MAMA) founded by the United States Agency for International Development, Johnson & Johnson, the United Nations Foundation, and BabyCenter. MAMA uses mobile technology to deliver free messages to pregnant women and new mothers on pre- and postnatal health. In Bangladesh, the majority of consumers had a pre- school education. These initiatives can be used in vaccination efforts too.

SDG 4: Increasing Educational Opportunities and Success

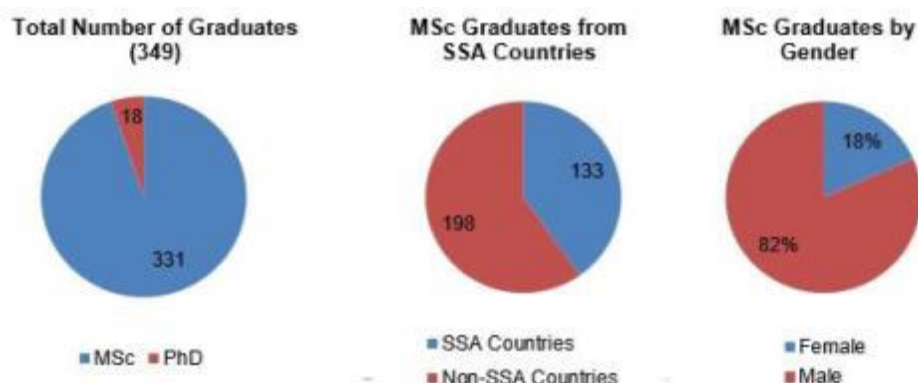
SDG 4 is committed to creating equal learning outcomes across economic and gender divides. Economic growth and global competitiveness are increasingly driven by knowledge and education, and universities play a key role in advancing societies. In particular, science and technology has propelled the growth of many countries in recent years. However, the Sub-Saharan African (SSA) region has fallen behind in developing a robust knowledge economy. The average number of scientists and engineers per million in SSA is only 83, compared to 423 in North Africa and 783 in Asia (excluding Japan).



Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



The Nelson Mandela Institute (NMI) was established in 2004 to help narrow the gap between SSA countries and the rest of the world in the fields of science and technology. NMI currently has three affiliated centers of excellence devoted to graduate education in Burkina Faso, Nigeria, and Tanzania. Between 2008 to 2016, 349 students graduated from NMI affiliated institutions, of which women comprised over 18% of MSc graduates and SSA students comprised over 40% of MSc graduates.¹⁹⁰



Regarding the specific need to expand educational opportunities for women under SDG 4, Okonjo-Iweala's models to increasing spending towards educational equality as well as determining more effective ways to spend money that is allocated will be useful.¹⁹¹ During an interview with Foreign Affairs, she described how the Government of President Goodluck Jonathan of Nigeria, under which she served as Minister of Finance, implemented a conditional cash transfer program in Nigeria to help girls enroll in school.¹⁹² She has used her global platform to bring attention to increased funding for basic education for underprivileged children, particularly those living in war-torn countries or countries that are experiencing natural disasters, with a focus on girls education.¹⁹³

SDG 5: Gender Equality, Empowering Women and Girls

¹⁹⁰ See generally, *Nelson Mandela Institute of Science and Technology*, <https://www.nm-aist.ac.tz/>.

¹⁹¹ Ngozi Okonjo-Iweala, *Securing Development: Challenges of Economic Inclusion in Africa*, (Dec. 1, 2016) <https://ngoziokonjo-iweala.com/2016/12/01/securing-development-challenges-of-economic-inclusion-in-africa/>.

¹⁹² *Reforming Nigeria: A Conversation With Ngozi Okonjo-Iweala* (Feb. 12, 2014) <https://www.foreignaffairs.com/interviews/2014-02-12/reforming-nigeria>.

¹⁹³ Okonjo-Iweala, Ngozi & Sheikha Lubna Al Qasimi, *On Women's Day, take the next step for girls' education* (Mar. 7, 2017) <https://www.cnn.com/2017/03/07/opinions/girls-education-okonjo-iweala-lubna-al-qasimi-opinion/index.html>.

As finance minister, Okonjo-Iweala managed the Nigerian Federal Government budget, and implemented a budgetary incentive program that would motivate ministries to implement initiatives to empower girls and women in their sector. Simultaneously, the Ministry of Agriculture had developed a new e-wallet system, which transferred subsidies directly to farmers through the financial technology, removed the government from the supply chain, and allowed farmers to directly purchase for the fertilizer and pesticides they needed. Seizing the moment, Okonjo-Iweala offered the ministry a budget increase as reward for bringing this new, innovative technology to more women, which helped to tremendously benefit and improve the lives of women in Nigeria.¹⁹⁴



Goal 5: Achieve gender equality and empower all women and girls

Okonjo-Iweala's leadership efforts enabled 3 million women to participate in the e-wallet program in 2014.¹⁹⁵ This achievement demonstrates the necessity of cross-sector collaboration for advancing the status of women in society as it combines both SDG 5 and SDG 9.

As Minister of Finance, Okonjo-Iweala was able to leverage the resources at her disposal to work with other ministers such as the Minister of Agriculture to bring technological and financial resources to women in rural areas.¹⁹⁶ Additional achievements with budget-incentives include the Ministry of Water Resources developing a new system for women to manage their communities' water and sanitation centers, and the Ministry of Public Works developing a new training regimen to levy women into positions of subcontractors in procurement.



Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

SDG 8: Equal Economic Access

SDG 8 strives to create equal economic access to the workplace. As an economist with over twenty years of development experience, Okonjo-Iweala has a sound understanding of the key challenges facing emerging economies and seeks to help citizens of those nations to obtain stable economic futures.

¹⁹⁴ *Why Should Finance Ministers Care About Gender Equality? Mainstreaming Wasn't Getting Results Fast Enough*, THE WORLD BANK (May 5, 2016) <http://www.worldbank.org/en/news/speech/2016/05/05/why-should-finance-ministers-care-about-gender-equality>.

¹⁹⁵ *Id.*

¹⁹⁶ Bolaji Akinboro, *Bringing Mobile Wallets to Nigerian Farmers* (2014) <https://www.cgap.org/blog/bringing-mobile-wallets-nigerian-farmers>.

Her efforts in towards achieving SDG 8 have been particularly robust during her time at the World Bank and in Nigeria. Most significantly, she chaired the IDA replenishment process that raised nearly \$50 billion in low interest credit for the poorest developing countries.

In addition, Okonjo-Iweala has also heavily pushed for anti-corruption policy to help increase investment in Nigeria. This initiative ensures that jobs are created and accessible to all members of the population. Okonjo-Iweala has encouraged the involvement of the private sector in bring much-needed jobs to a continent where more than 60% of the population is under the age of 30 and where unemployment is high.¹⁹⁷

Within Nigeria, she helped support entrepreneurial citizens through the You WIN Program, GWiN program (Growing Girls and Women in Nigeria) and the creation of the Development Bank of Nigeria.

"There has to be a focus on sectors that create jobs and support our young entrepreneurs."- Ngozi Okonjo-Iweala

SDG 13: Addressing the Harmful Impacts of Climate Change

The African Risk Capacity (ARC) is a Specialized Agency of the African Union created to help African governments better plan, prepare, and respond to extreme weather events and natural disasters. Through collaboration and innovative finance, ARC supports countries in improving their capacity strengthen their disaster risk management systems in order to protect the food security and livelihoods of vulnerable populations. As chairperson of the ARC Governing Board, Okonjo Iweala attempts to transfer the burden of climate risk away from governments, farmers and pastoralists. Because droughts do not happen in the same year across all parts of the African continent, the ARC can capitalize on the natural diversification of weather risk across Africa and use risk pooling and risk transfer to establish a contingency financing facility. Analysis from the Boston Consulting Group shows that the potential benefit of ARC outweighs the estimated cost of ARC by 4.4x, in other words, each dollar spent on early intervention through ARC saves US\$ 4.4 spent after a crisis is allowed to evolve. From its unique software, to the development of contingency plans and



Goal 13: Take urgent action to combat climate change and its impacts

¹⁹⁷ Liz Ford, *Rebuilding Africa 'can't be dependent on donors' – Ngozi Okonjo-Iweala* (Feb. 1, 2013) <https://www.theguardian.com/global-development/2013/feb/01/rebuilding-africa-donors-ngozi-okonjo-iweala>.

financial support, ARC is specifically designed to target SDG 13, and protect the most vulnerable citizens and communities in Africa.¹⁹⁸

SDG 9: Sustainable Infrastructure and Industrialization

“No matter how much government money we get, it’s not going to deliver the sums we require to build infrastructure, so we’re looking aggressively at public-private partnerships”

Partnership between the public and private sector played a critical role in all of Okonjo-Iweala’s platforms as Finance Minister. In addition to working with the World Bank and DFID on the budget-incentive plan, she emphasized the importance of public-private partnerships in rebuilding Africa’s infrastructure. SDG 9 is not only about bringing technology to disconnected communities, but also focusing on revitalizing developing countries’ infrastructure to enable them to grow their GDP, to expand their economic viability, and to recalibrate their economy.

To encourage the private-sector support for these initiatives, Okonjo-Iweala introduced initiatives to publish the government’s budgets and accounts on a regular basis in newspapers and online to increase transparency and accountability.



Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

¹⁹⁸ United Nations, IFC, African Risk Capacity, and AAISA Work Towards Creating Disaster Risk Insurance Markets in Africa, AFRICAN RISK CAPACITY (June 24, 2019) <https://www.africanriskcapacity.org/2019/06/24/united-nations-ifc-african-risk-capacity-and-aaisa-work-towards-creating-disaster-risk-insurance-markets-in-africa/>.

SDG 17: Cross-Industry Partnerships

SDG 17 underscores the importance of partnership goals and seeks to strengthen global alliances to support and achieve the ambitious targets of the 2030 agenda. Accomplishing this goal involves bringing together national governments, the international community, civil society, the private sector and other actors. Dr. Okonjo-Iweala's efforts to strengthen global partnerships are evident in the budget-incentive program programs she has established, which formed alliances between the World Bank and the UK development aid agency, DFID to design and implement this revolutionary scheme.

In addition, Okonjo-Iweala has used her role as chair for the Board of Gavi to introduce a new era of public-private partnerships between multilateral organizations, private sector, civil society, developed and developing country governments. This partnership has been critical towards ensuring children their future, protecting children from pneumonia, largest killer of children under five-- an intricate component of SDG 3. Dr. Okonjo-Iweala's ability to apply innovative solutions to cross-cutting issues makes her a formidable leader for the 2030 agenda.¹⁹⁹



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

¹⁹⁹ *Id.*

Moonshoot - Going Over and Above the Mandate of Excellence: Natalie Payida Jabangwe

“Nothing is future-proof forever and nothing cannot be broken, you must break the rules.” - Natalie Payida Jabangwe, 2018

The Bottom of the Pyramid (BoP) is a demographic term that covers the approximately 4.5 billion people who live on less than US \$8 per day at the base of the global economic pyramid. These people live primarily in Asia, Africa, and South America and though they are largely excluded from formal markets, they are value-conscious consumers, entrepreneurs, producers, business partners, and innovators who have a strong demand for basic needs.

Although great strides have been made toward financial inclusion, close to one-third of adults – 1.7 billion – are still unbanked, according to the latest Findex data. About half of unbanked people include women in poor households in rural areas or out of the workforce.²⁰⁰ The story of EcoCash and its leader, Natalie Jabangwe, is the story of achieving financial inclusion in some of the most challenging parts of the world. Jabangwe who was recently appointed to the Secretary General’s Task Force on Digital Financing of the Sustainable Development Goals states:

“I say this as the CEO of one of the fastest-growing mobile money companies in the world, but it’s about so much more than mobile. It’s about artificial intelligence, blockchain, big data, machine learning—it’s about applying rapidly evolving digital technologies onto financial services platforms to create products beyond financial inclusion....As far as I am concerned, the story of EcoCash, like the story of Ant Financial, and IEX, and others is this: technology is creating new values in a very short period of time. I want to keep creating new value, and unlocking new value chains in the market, both through my leadership on EcoCash and on the Task Force.”²⁰¹

Ant Financial, a payments company affiliated with Alibaba, is a case study of a transformative financial model. It is currently worth US\$ 150 billion with 520 million payments customers in China and over 112 million customers abroad through its affiliates. According to CEO Eric Jing, Ant Financial got its name because ants are small and its service was to support the “little guys.” Ant has been instrumental in expanding financial

²⁰⁰ *The Global Findex Database 2017*, THE WORLD BANK <https://globalfindex.worldbank.org/>.

²⁰¹ *EcoCash: From start-up to 98% market share in four years*, DIGITAL FINANCING TASK FORCE OF THE SDGs <https://digitalfinancingtaskforce.org/ecocash-from-start-up-to-98-market-share-in-four-years/>.

inclusion within China and across the Asia Pacific, through improving the availability, convenience, and affordability of financial products for consumers within a large online ecosystem.²⁰²

Econet Wireless was created in 1993 in Zimbabwe by Strive Masiyiwa. After a protracted legal battle, in 1998, the Supreme Court granted telephony license, at a time when 70 percent of the country inhabitants had never heard a ringtone. Starting with a mobile payment system developed to help NGO's make cash transfers to refugees after the Burundi War, the system was extended and integrated in Econet Wireless' technology, along with a credit solution. EcoCash was officially launched in 2011 and by November 2017, the service had over 6.7 million registered users, accounting for 80 percent of adult Zimbabweans.²⁰³

In less than a decade, EcoCash has become Zimbabwe's largest mobile finance company; today, eight out of ten monetary transactions in Zimbabwe are done using EcoCash. Natalie Payida Jabangwe, CEO of EcoCash, has a simple explanation for EcoCash's explosive growth, summarized in two words: "Needs must." An old English idiom and a favorite phrase of Shakespeare's Richard II – "Needs must I like it well: I weep for joy." – "needs must" means to be compelled by necessity.²⁰⁴ In the context of Jabangwe's vision, the "needs must" model is about placing the needs of community at the center of business. Jabangwe eschews the tech-centric or product-centric approach in favor of a custom-centric approach. Such an approach requires deep empathy and understanding of the community's needs and desires. Jabangwe is constantly in search of new solutions to unresolved problems and challenging the status quo when told it can't be improved.²⁰⁵ She advocates the need for "moonshoot" leadership to combat the volatility and uncertainty in all environments. "Moonshoot" leadership is described as your ability to futureproof yourself through innovation and disruption to launch to the next level. EcoCash and its sister products are revolutionizing the financial industry in Zimbabwe. She pushes for the company to provide the best-in-class service and always overshoot in that endeavor.²⁰⁶

Most businesses incorporate sustainability and the 2030 Agenda as outputs: the Global Goals become means to highlight or thematically organize existing CSR or products. What makes the "Needs must" approach so

²⁰² Jim Erickson & Adam Najberg, *Online Bank "For the Little Guys" Debuts*, ALIZILA (June 25, 2015) <https://www.alizila.com/online-bank-for-the-little-guys-debuts/>.

²⁰³ *EcoCash – How a telco turned a cash crisis into a cash cow*, HBS DIGITAL INNOVATION AND TRANSFORMATION (Feb. 1, 2018) <https://digital.hbs.edu/platform-digit/submission/ecocash-how-a-telco-turned-a-cash-crisis-into-a-cash-cow/>.

²⁰⁴ WILLIAM SHAKESPEARE, *THE TRAGEDY OF KING RICHARD III* act 3, sc. 2.

²⁰⁵ *EcoCash: From start-up to 98% market share in four years*, DIGITAL FINANCING TASK FORCE OF THE SDGs <https://digitalfinancingtaskforce.org/ecocash-from-start-up-to-98-market-share-in-four-years/>.

²⁰⁶ *Natalie Jabangwe – Moonshoot*, BAKERTILLY (Nov. 29, 2018) <https://bakertilly.co.zw/natalie-jabangwe-moonshoot-3/>.

revolutionary is that it inverts this paradigm – the pressing needs of sustainability become the inputs to business. The 2030 Agenda, issues of sustainability, and the problems facing the community are determinates of corporate target setting and product development.

Jabangwe represents the Millennial leader-activist whose approach to business is about making an impact on the quality of life of clients and transforming the companies she heads from incumbent traditional companies to entrepreneurial companies. Although Jabangwe is a computer science engineer by profession, she has had a broad multidisciplinary education in English literature, history, and geography, and she holds an Executive MBA from Imperial College London. Her professional genesis into the systemic interventions in the digital economy started in Atlanta, United States at the age of 21. While studying at Spelman College as part of the Mayor of London's Leadership Exchange scholarship and interning at the mayor of Atlanta's office, Jabangwe developed the city of Atlanta's first information technology security policies. She would go on to work on NCR Corporation's digital payments strategy, and in 2014 she was head-hunted by Econet Wireless to lead EcoCash. In her five years at the helm of EcoCash, Jabangwe has dramatically scaled the reach of the business, growing from approximately three million customers when she first joined to over 7.6 million today. Earlier this year, she was named as part of Zimbabwe President Mnangagwa's Member Advisory Council. Her accomplishments have not gone unnoticed internationally either: she is a 2017 Oxford University Tutu Fellow, a 2018 World Economic Forum Young Global Leader, and a UN Women's Entrepreneurship Day ambassador. Most importantly, she is a member of the UN Secretary General's Task Force on Digital Financing of the Sustainable Development Goals. However, the accolades and titles are secondary for Jabangwe, who explained: "I want to be remembered as a great contributor to the economic development of nations and a champion in developing the potential of others."²⁰⁷

Jabangwe is the apotheosis of an innovator with audacious ideas, a characteristic that is critical for innovation according to David Hornik who teaches entrepreneurship and Venture Capital at Harvard Law School and is one of Silicon Valley's best known investors across the technology and software. He has invested in Splunk, Fastly, PayCycle, Rocket Lawyer, evite, Ebates, WePay, Bill.com, and Handle Financial. Himself an innovator, Hornik is the creator and executive producer of "The Lobby," August Capital's annual gathering of thought leaders across digital media. David Hornik has earned a mythological status as the first innovator to be profiled in Adam Grant's "Give and Take." In our conversation with Hornik we asked him what he thinks are the most important criteria that he would consider before funding an innovative idea. He gave us three: "The

²⁰⁷ Interview by authors with Natalie Jabangwe, CEO EcoCash (interviews conducted between February 2019 and July 2020).

idea must be big and audacious.” The second: “I don’t fund business plans, I fund people and people who are deep thinkers.” Third, he said: “As an investor, I have a responsibility in shaping the moral compass of the business, so the business must have good intentions.” Jabangwe fits all the criteria of the modern unicorn.²⁰⁸

How EcoCash Revitalized Formal Finance in Zimbabwe

Jabangwe’s push for innovation and need to remain agile in rapidly changing environments has been foundational to the company’s success. In a short time, EcoCash has seen phenomenal adoption and has become the most prominent digital financial instrument in the country, contributing 53 percent of Zimbabwe’s GDP in 2017. EcoCash is Zimbabwe’s leading and fastest growing mobile money service controlling 99.8 percent of the national mobile money market.²⁰⁹

After the collapse of the Zimbabwe dollar in 2009, the country adopted the U.S. dollar to stabilize prices. But since it can’t print them itself, the country is now so low on dollars that banks have stopped dispensing cash or transferring money abroad. The government, under budgetary pressure, has essentially created quasi-U.S. dollars that exist only electronically in local bank accounts and are now coursing through the economy. But they are deeply devalued: On the black market, a USD 100 bill can cost as much as 350 in digital dollars. With serious liquidity problems in rural areas, simple, daily transactions have been challenging, and robbery, while on the road or at home, has been a real risk.

The hyperinflation and resulting unemployment crisis of 2009 pushed many Zimbabweans into the informal sector, which remains the largest in Africa and the third largest in the world. Those who do work in the formal sector may also have second or third jobs in the informal sector. Over 60 percent of Zimbabwe’s USD 17.85 billion GDP is generated in this “shadow economy.”²¹⁰

In addition, hyperinflation has had a profound impact on faith in formal financial institutions. When Zimbabwe underwent the process of “dollarization,” banks had to convert accounts balances with largely

²⁰⁸ Interview by authors with David Hornik, Professor, Harvard Law School (interviews conducted between February 2019 and July 2020).

²⁰⁹ *EcoCash has processed over \$23 billion since launch and that’s not the only impressive figure*, TECHZIM (Nov. 10, 2017) <https://www.techzim.co.zw/2017/11/ecocash-processed-21-billion-since-launch/>.

²¹⁰ Leandro Medina & Friedrich Schneider, *Shadow Economies Around the World What Did We Learn Over the Last 20 Years?*, INTERNATIONAL MONETARY FUND (2018) <https://www.imf.org/en/Publications/WP/Issues/2018/01/25/Shadow-Economies-Around-the-World-What-Did-We-Learn-Over-the-Last-20-Years-45583>.

worthless Zimbabwean dollars, meaning many had their balances wiped out completely. Roughly 12 percent of the population previously had bank accounts, but after 2009 have chosen to use informal financial services instead. To this day, many still distrust banks.

Launched in 2011 by telecommunication company Econet, EcoCash allows users to trade electronic dollars over their phones. Users set up a mobile wallet—either linked to a bank account or topped up through transfers from another user—and then use the service to make everyday payments by punching codes into the phone’s call function. Customers perform cash-in and cash-out transactions through an authorized agent. Through this P2P service, EcoCash brought payment services to the informal sector and ultimately bridged the formal and informal economies.²¹¹

The adoption of EcoCash was buoyed by Zimbabwe’s high mobile penetration rate as well as parent-company Econet’s market-leading position in the telecommunications sector. In less than two years, 2.3 million Zimbabweans had signed up for the service. Jabangwe was scouted in order to grow EcoCash past P2P money transfers and expand its product offerings. Under her leadership, EcoCash now offers the most comprehensive set of mobile finance options in Africa and has facilitated over USD 23 billion in transactions.²¹²

Jabangwe’s vision goes beyond achieving financial inclusion to expanding the possibilities of the human spirit through inclusion. She has said:

“There’s financial inclusion and then what I call eligibility. Once people are included, what else might they eligible for? Digital financing makes a lot of new things suddenly possible. Maybe a person is a newly arrived immigrant or very young or otherwise someone who just doesn’t have a big credit file. Data lets us see that he pays his rent and utility bills on time—that should matter, and now it can. Or it might reveal that he has a big social network of friends and family who send small amounts of money to each other all the time to help each other out. That “social capital” should matter, too, and now it can. Along with blockchain, e-commerce no doubt will be a big part. That alone holds all kinds of potential for consumers to have access they didn’t have before to SDG-related goods and services they need, and

²¹¹ Phil Levin, *Big ambition meets effective execution: How EcoCash is altering Zimbabwe’s financial landscape*, GSMA (2013) available at: www.gsma.com › 2013/07 › EcoCash-Zimbabwe.

²¹² *Id.*

*for suppliers to produce and deliver those goods in more sustainable ways. I think there are limitless opportunities....*²¹³

The digital mobile banking services company is not only exceeding business growth expectations but is also showing the world how businesses have a responsibility towards society. Through innovation, EcoCash is lowering the barriers of entry to banking that for so long have financial excluded 68 percent of the citizens of Zimbabwe. While traditional commercial banking had prohibitive account minimums and account maintenance fees, along with burdensome paperwork requirements, EcoCash has streamlined and eliminated the banking processes increasing financial inclusion and uplifting many out of poverty.²¹⁴

EcoCash is advancing Sustainable Development Goals by increasing financial inclusion, creating a cash light economy, establishing a reliable financial infrastructure, generating employment and creating value for consumers. The success of EcoCash has resulted in many low income, previously unbanked Zimbabweans having the ability to transact with the local and global economy at large, borrow money for enterprise ventures, and save money for financial emergencies. EcoCash has had a particular positive impact on women in rural communities of Zimbabwe, as it has facilitated savings club and helped enterprising women raise the capital needed to start their venture.

SDG 1: No Poverty

A decade of financial turmoil which included hyperinflation, currency collapse and the adoption of the US dollar, left 68 percent of Zimbabweans unbanked. The lack of access to formal banking services caused many Zimbabweans to become dependent on alternative financial services that charge expensive fees for transactions with no means for savings, accessing credit, or asset building. The lack of accessible financial infrastructure resulted in the majority of citizens trapped in a cycle of poverty, and financially excluded from the economy.²¹⁵

In 2011, EcoCash was founded to offer cheap, quick and convenient ways for consumers to transfer, save, borrow and pay. Being able to have access to a banking account is foundational



**Goal 1: End poverty
in all its forms
everywhere**

²¹³ *EcoCash: From start-up to 98% market share in four years*, DIGITAL FINANCING TASK FORCE OF THE SDGs <https://digitalfinancingtaskforce.org/ecocash-from-start-up-to-98-market-share-in-four-years/>.

²¹⁴ *Id.*

²¹⁵ *The Global Findex Database 2017*, THE WORLD BANK <https://globalfindex.worldbank.org/>.

to greater financial inclusion as it allows all people to save money, send and receive payments, and participate in commercial transactions in the local economy. Through providing affordable, quick, and convenient access to financial services, EcoCash is ensuring that all Zimbabweans have equal rights to economic resources which advances the Sustainable Development Goal 1 of ending poverty.

Since its inception, EcoCash has expanded financial inclusion from 32 percent to 83 percent. EcoCash is now the largest financial system in Zimbabwe, processing 70 percent of the country's national payments by volume. This has had particularly important benefits for rural populations, who are frequently not reached by traditional bank intermediaries and whose service cost is frequently prohibitive for low income households, small scale entrepreneurs and informal businesses. EcoCash allows for the rapid and seamless movement of money from urban centers to rural areas, having a dramatic impact on rural economies and fueling economic growth. The access to cash unleashes new economic opportunities from purchasing daily necessities and local goods, education, and enterprising.²¹⁶

EcoCash has built the resilience of the poor and vulnerable to economic shocks of the country's major cash shortage problem and larger economic crisis by allowing them to continue daily commercial transactions and sustain business despite the country's cash crunch. EcoCash is also building the resilience of the poor and vulnerable through its EcoCash Save platform which enables the underprivileged to affordably save and prepare for financial emergencies. EcoCash Save allows customers to open a savings account with as little as \$1 and devoid of fees. These customers receive an interest of 4 percent per annum on their savings. Traditional banks have prohibitive requirements including high account opening fees and maintenance fee requirements while only offering interest of 2 percent per annum. This equalization of banking has significantly impacted the low and middle income families in Zimbabwe and now EcoCash makes up almost 50 percent of all savings accounts in the country.²¹⁷

EcoCash has made significant strides in reducing poverty in Zimbabwe. Low and middle income citizens are now able to transact in the economy where they were previously financially excluded. They have also been equipped with the mechanisms to save for financial emergencies and access credit to create businesses. In the last 6 years, \$23 billion has been transacted through EcoCash.²¹⁸

²¹⁶ *Id.*

²¹⁷ *See generally, EcoCashSave*, ECO CASH <http://www.ecocash.co.zw/about/products/ecocashsave>.

²¹⁸ *EcoCash: From start-up to 98% market share in four years*, DIGITAL FINANCING TASK FORCE OF THE SDGs <https://digitalfinancingtaskforce.org/ecocash-from-start-up-to-98-market-share-in-four-years/>.

Exhibit 1: EcoCash Socioeconomic Objectives

Socioeconomic Objectives:

- 1) **Increase financial inclusion:** Banking the unbanked by providing them an easily accessible, quick, affordable, secure and convenient mobile financial service
- 2) **Creating a cash light economy:** Digitizing all financial transactions and payments where cash is used to minimize 'cash-crunch' and 'change-problem'
- 3) **Establishing financial infrastructure and generating employment:** To facilitate mobile money transactions create a digital financial ecosystem including agents, merchants and partners and eventually provide employment opportunities
- 4) **Creating value for consumers:** Creating value for financially excluded and underserved segments by providing them much needed financial services

Exhibit 2: EcoCash Save Competitive Advantage Over Traditional Banking

EcoCash Save	Commercial Banks	EcoCash \$ave
Number of depositors	>1.57 million (total for all commercial banks)	1.5 million
Account opening fee	US\$ 100	US\$ 0
Number of documents required	3 (identity proof, residence proof, income proof)	0 (for existing EcoCash user)
Monthly maintenance fee	US\$ 5	US\$ 0
Minimum balance required to get interest	US\$ 800	US\$ 1
Average interest on US\$ 100	2%	4%*

Source: Mahindra Comviva. "The EcoCash Story." Nov. 2018. www.mahindracomviva.com/wp-content/uploads/2018/11/the-EcoCash-story.pdf

SDG 5: Gender Equality

Sustainable Development Goal 5 promotes gender equality as a means to maximize productivity and economic growth. Women's empowerment is paramount to the success of society and closing the gender gap is at the forefront of this mission. The financial access gender gap is 7 percent globally and 9 percent in developing countries. For banks in Zimbabwe, the financial access gender gap is 10 percent, however, for EcoCash the gender gap is only 5 percent. EcoCash has been able to reduce the financial access gender gap by 50 percent through ease and affordable financial access, targeted initiatives empowering women, and increased women employment.²¹⁹



Goal 5: Achieve gender equality and empower all women and girls

Increasing women's access to and use of financial services can have both economic and societal benefits. Greater inclusion of women in financial services promotes greater stability in the banking system and enhances economic growth. EcoCash has launched savings clubs that allow women to reach financial goals, save money for basic needs and emergencies, and get capital for small business investments. The EcoCash Savings Club help facilitate the saving practice known as 'Mukando' or 'Maround' where members pool their money together to borrow and use on a rotating basis. EcoCash Savings Club offers a more inclusive, secure, transparent and convenient way for people to pool funds using their mobile wallet. Anyone registered on EcoCash can participate and set up a Savings Club. EcoCash Savings services 1,340 active clubs and 8,250 customers, with 60 percent of EcoCash Savings Club users are women.²²⁰

The EcoCash Savings Club is particularly beneficial in rural communities where the effects of the cash crunch are even more exacerbated. For example, in the Marondera District in rural Zimbabwe, a women's group at the Border Church Clinic uses the Savings Club to support the financial emergencies of pregnant women and new mothers. The EcoCash Savings Club also supports social investors women's groups. Five women entrepreneurs have grouped together to use the EcoCash Savings Club to collect capital for their business ventures. Women save \$200 each month, with one woman getting \$1000 once in five months. The women with funds travel to Mozambique to buy clothes in bulk at discounted prices and sell it in Zimbabwe at higher prices.

²¹⁹ *The Global Findex Database 2017*, THE WORLD BANK <https://globalfindex.worldbank.org/>.

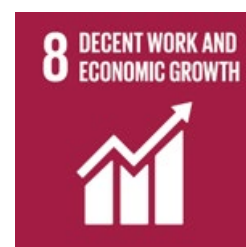
²²⁰ See generally, *EcoCash Savings Club*, ECO CASH <https://www.ecocash.co.zw/about/products/ecocashsave/ecocashsave-club>.

These low-income women who were previously unbanked by commercial institutions due to their limited funds have now been empowered to build communities around savings, have been able to create economic opportunities and enjoy financial success. The financial inclusion of women in Zimbabwean economy is fundamental to its recovery and success.²²¹

EcoCash also advances the Sustainable Development Goal of gender equality by its commitment to women in leadership evidenced by its CEO Natalie Payida Jabangwe. Women in leadership positions in the burgeoning financial services in Zimbabwe can influence banking policies that empower all women and give hope as an archetype to what all women can be.

SDG 8: Decent work and economic growth

EcoCash supports job creation and has had an extraordinary effect on the Zimbabwean labor market. EcoCash has created employment opportunities for more than 50,000 people. It is the largest job creator in the financial services sector in Zimbabwe providing financial stability to many families and enhancing overall economic growth. EcoCash allows for many citizens who would otherwise be without work to become EcoCash agents or brand ambassadors. These agents and brand ambassadors can perform cash-in and cash-out transactions for EcoCash customers, register new users and educate customers on how to use mobile money and its benefits. These include many women, small entrepreneurs and people who live in rural communities. Many agents who started with one shop, have now opened three or four shops employing other people. A phenomenal \$370 million has been paid to agents and dealers in commission since inception.²²²



Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

EcoCash also achieves higher levels of economic productivity through innovation. The EcoCash agents use a \$15 handset to process transactions which replaces the \$500 point of sale machine traditionally used and cuts down the waiting time. Since inception EcoCash has processed \$39.8 billion transactions facilitating economic activity and growth in country.

²²¹ See generally, *EcoCash Savings Club*, ECO CASH <https://www.ecocash.co.zw/about/products/ecocashsave/ecocashsave-club>.

²²² *Natalie Paidia Jabangwe*, AACSB <https://www.aacsb.edu/influential-leaders/honorees/2020/natalie-paida-jabangwe>.

EcoCash has expanded access to banking by disrupting the banking industry and lowering the barriers to banking of high fees and burdensome paperwork. In digitizing the banking industry and training agents in even the most rural areas, EcoCash has helped in decreasing the underbanked population in Zimbabwe by 51 percent.²²³

Moreover, in current cash crisis, EcoCash has enabled merchants to digitize their payments and overcome cash shortage and change problem, thus sustaining business activity in the time of economic crisis. EcoCash has enabled 4,000+ billers and 50,000+ merchants like electricity companies, water and sewage companies, city councils, churches, supermarkets, insurance companies, hospitals, schools and many small and medium merchants, to accept payments digitally. Around 50,000 merchants relied on EcoCash to continue operating during the financial crisis. Through the innovation of digitizing payments, EcoCash has enabled all types of merchants to continue and sustain business during the cash crunch scenario and mitigated the damage to the Zimbabwe economy and the livelihood of its citizens.²²⁴

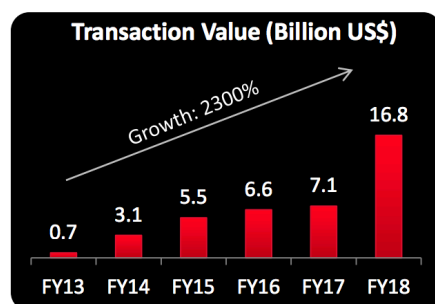
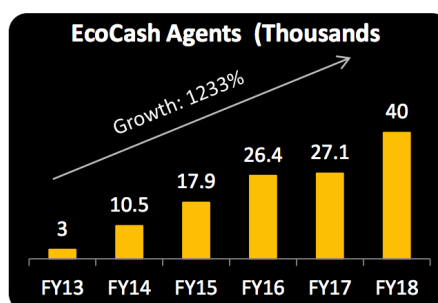
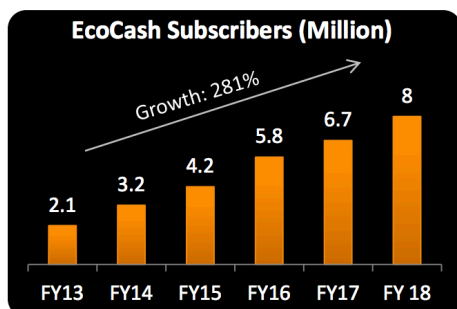
According to the governor of the Reserve Bank of Zimbabwe, John Mangudya, “as much as 70 percent of the country’s day-to-day commercial transactions are made through EcoCash. If it wasn’t for mobile money, we would’ve come to our knees.”²²⁵

Exhibit 3: EcoCash Growth

²²³ *EcoCash has processed over \$23 billion since launch and that’s not the only impressive figure*, TECHZIM (Nov. 10, 2017) <https://www.techzim.co.zw/2017/11/ecocash-processed-21-billion-since-launch/>.

²²⁴ *Is Mobile Money Helping or Harming Zimbabwe?*, MONDATO (Oct. 23, 2019) <https://blog.mondato.com/mobile-money-zimbabwe/>.

²²⁵ *Zim Leaps into the Cashless Future*, CHRONICLE (ZIMBABWE) (May 24, 2018) <https://www.pressreader.com/zimbabwe/chronicle-zimbabwe/20180524/281762744921237>.



Source: Mahindra Comviva. "The EcoCash Story." Nov. 2018. www.mahindracomviva.com/wp-content/uploads/2018/11/the-EcoCash-story.pdf

SDG 9: Industry innovation and infrastructure

Investments in infrastructure lead to sustainable development and strengthens communities through productivity and economic growth. EcoCash advances this Sustainable Development Goal through replacing the expensive machinery traditionally used to complete transactions and providing access to capital to small business owners.



Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

The digitizing and mobilization of banking has significantly lowered the cost of infrastructure needed for financial services in Zimbabwe. EcoCash established a financial infrastructure rooted in mobile money transactions and dependent on a digital financial ecosystem. The cost of the handset used by agents is only \$15 and easily accessible to all citizens, as compared to the \$500 point of sale machine traditionally used. The digital and mobile banking services of EcoCash are also transborder, enabling 200+ countries and territories to send remittance directly to mobile wallets of EcoCash users in Zimbabwe.²²⁶

EcoCash has launched many innovations like mobile-based merchant payments, Africa's first Mastercard Debit Card and Virtual Card, NFC contactless payment service EcoCash Ta and QR Code service EcoCash scan & Pay, creating the digital financial infrastructure in Zimbabwe, digitizing payments and moving Zimbabwe towards a cash-light economy. This digital infrastructure is both reliable and sustainable in a country laden with currency cash problems. It ensures that divorced from the country's cash shortage, millions of citizens will be able to continue to transact, participate in the local and global economy and escape poverty through access to financial resources.²²⁷

EcoCash also increases the access of small businesses to capital through services like EcoCash Loans, Savings Club. EcoCash loans allows customers often denied by commercial banks to get short-term small-value loans without documentation and collaterals, just based on their mobile-usage and EcoCash transaction history.

In 2018, EcoCash launched an EcoCash Business Wallet for merchants. All payments made to merchant using are collected in an EcoCash Business Wallet. Merchants can not only cash-out this money or transfer it to bank account, but can also now pay vendors, pay employee salary, pay bills, buy airtime, refund customers

²²⁶ Interview by authors with Natalie Jabangwe, CEO EcoCash (interviews conducted between February 2019 and July 2020).

²²⁷ *EcoCash Ta*, ECO CASH <http://www.ecocash.co.zw/about/products/ecocash-debit-card/ecocash-ta>.

and pay informal vendors like plumbers, electricians all through their EcoCash merchant wallet digitally. This helps to create a digital value chain where merchant gets money digitally from consumer and he pays same money digitally to vendors and employees, thus establishing a true cashless ecosystem. Merchants also gets benefit such as higher transaction limits, lower service charges, daily account statements and security through insurance coverage.²²⁸

SDG 17: Partnerships for the Goals

EcoCash fulfills development goal 17 in numerous ways. Mobile money services like EcoCash inherently require partnerships with numerous stakeholders in both the public and private sector, as they require the transfer of currency, heavily regulated by the state, telecommunications and banking infrastructure, in addition to distribution mechanisms generally at the ground-level.

In the case of EcoCash, target 17.8 is particularly fulfilled, as it is owned by EcoNet, a leading telecommunications provider and through mobile internet, the



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.

Target 17.3: Mobilize additional financial resources for developing countries from multiple resources.

²²⁸ *EcoCash Unveils A Business Wallet Dedicated For Business Payments*, TECHZIM (June 20, 2018) <https://www.techzim.co.zw/2018/06/ecocash-unveils-a-business-wallet-dedicated-for-business-payments/>.

service has helped to operationalize technology and further develop innovation capacity building, particularly in Zimbabwe.²²⁹

Target 17.3 is clearly aided by EcoCash as it targets the mobilization of financial resources. The utilization of the service has helped to provide access to money transfer, banking, and savings infrastructure to populations that were otherwise unreached, and has helped to inject capital into these communities.²³⁰

Finally, target 17.1 has also been supported by EcoCash and there is evidence that it could fulfill this goal further in the future. Mobile money has the potential to increase tax collection, as it provides not only a mechanism to reach unbanked populations, but a method of client identification and monitoring of transactions. In the case of EcoCash, the Zimbabwe Revenue Authority (ZIMRA) and the Zimbabwe National Road Administration (ZINARA) have already partnered with the company in order to digitize tax and toll payments. ZIMRA, the primary tax collection agency of the Zimbabwean government, has also recently collected tax payments valued at \$8.2 million USD using EcoCash. Given these factors, it is possible the service can increasingly be used to fulfill target 17.1.²³¹

²²⁹ *SDG Indicators Metadata repository*, SDG

<https://unstats.un.org/sdgs/metadata/?Text=&Goal=17&Target=17.8>.

²³⁰ *17.3 mobilize additional financial resources for developing countries from multiple sources*, INDICATORS AND A MONITORING FRAMEWORK <https://indicators.report/targets/17-3/>.

²³¹ *SDG Indicators Metadata repository*, SDG

<https://unstats.un.org/sdgs/metadata/?Text=&Goal=17&Target=17.1>.

Tackling Some of the Biggest Issues Facing Our World Today: Mats Granryd - Director General of GSMA

“I’m committed to accelerating change and tackling some of the biggest issues facing our world today – and this includes bridging the gender digital divide.” - Mats Granryd

“Mats Granryd can use his vast convening power to nudge things in the right direction. There are certain people in a specific time and place, where because they were there, and made certain choices. they nudge others in the right direction.” - Phumzile Mlambo Ngcuka

In 2016, under Mats Granryd’s leadership, the mobile industry became the first sector in the world to commit to the SDGs. As a powerful platform for the SDGs, mobile technology continues to have an impact across all 17 goals of the SDGs and bring together the public and the private sectors. Mats Granryd, the Director General of The Global System for Mobile Communications, better known as GSMA, is a trade body that services mobile and internet providers globally and represents the interests of mobile network operators worldwide. Approximately 800 mobile operators are full GSMA members and a further 300 companies in the broader mobile ecosystem are associate members.²³²

Through our interview with GSMA Director General Mats Granryd, we can trace the rise of a new gender empowerment consciousness finding its expression through mobile phone usage. For many billions of people, especially women across the globe, a mobile phone is more than just a communications tool – it’s the only means of accessing different services, including access to health services, energy, and educational opportunities. Used well, it is a potentially powerful tool to help lift women out of poverty, the seminal goal of the SDGs.

It is an unassailable argument that mobile technology is the gateway to the global economy, and Granryd is at the forefront of a movement sweeping across the private sector-- the race to close the gender gap and immerse women in the digital age. On the World Economic Forum blog, Granryd asserted that mobile technology was more than just a phone: it was an enabler across the entire spectrum of the SDG Goals. He wrote: “Mobile is a key enabler of sustainable economic growth and a major contributor to the delivery of the

²³² GSMA Membership, GSMA www.gsma.com › GSMA-Membership-Brochure.

UN's 17 SDGs." Calling the goals audacious in its ambition, he pledged to use the mobile phone industry to "halt climate change, and fight injustice and inequality – all to be achieved by 2030."²³³

Mobile internet services provide not only access to services, but access to political participation as it can be a tool to engage citizens. A quarter of a million education-related apps are available on smartphones which has enabled 1.2 billion people using mobile to improve their education or the education of their children. This increase in use has a positive impact on women in low and middle income countries.

Mats Granryd could be likened to a leader whose excellence in management or occupational competence cannot be separated from his virtue. The Greek notion of virtue (*areté*), which is also translated as excellence, does not separate an individual's ethics from his or her occupational competence. When writing about ethics, both Plato and Aristotle use numerous examples of doctors, musicians, coaches, rulers, to talk about the relationship between moral and technical or professional excellence. Aristotle writes, "Every excellence brings to good the thing to which it is the excellence and makes the work of that thing be done well....Therefore, if this is true in every case, the excellence of man also will be the state which makes man good and which makes him do his work well." It could be said that Granryd's ethics and virtue has enabled his rise as a leader.

The words "leadership" and "leader" have also been the subject of considerable definitional debate. Leadership scholar Joanne B. Ciulla examined the 221 definitions of the word and then compared and contrasted the definitions based on their social and historical context. Whereas Joseph C. Rost concluded that most who defined the nature of leadership seemed to think that a leader was little more than an effective manager, Ciulla noted the strong normative element that permeates the conceptualizations of leadership.²³⁴

James MacGregor Burns suggests that many leaders – transactional ones – are competent in that they promote exchanges among subordinates in their pursuit of collective outcomes, but that only transformational leaders are leaders in a strong moral sense. Granryd is one of those transformational leaders and the age of the SDGs seem to bring the normative elements of his leadership into the forefront.

²³³ Mats Granryd, *More than just a phone: mobile's impact on sustainable development*, WORLD ECONOMIC FORUM (Sept. 20, 2018) <https://www.weforum.org/agenda/2018/09/more-than-just-a-phone-mobile-s-impact-on-sustainable-development/>.

²³⁴ Joanne B. Ciulla, *Leadership Ethics: Mapping the Territory*, 5 BUS. ETHICS QUARTERLY 5 (1995).

If a hallmark of a leader is the capacity for big and transformative thinking, Granryd is one such leader. He looks at the real obligation of business and governments towards society and ways in which GSMA can lead by a set of value principles by bringing new innovations to the world. One of his key leadership skills is his capacity to build partnerships: partnerships between the private sector, the public sector, civil society, and academia. Although a firm believer in collaborations and partnerships, he is committed to individual accountability. In the 2018 Connected Women Report, he made a call to action to divide responsibilities among different stakeholders to close the gender gap. Annual collaborations like the Ecosystem Accelerator also bring together multiple actors to build connections between start-ups and mobile operators, with the aim to scale innovative and sustainable mobile services in emerging markets. The idea is that in fostering these partnerships, there are more individualized and indigenized mobile solutions put in place in areas and for people who need them the most. Whether it is through “National Dialogues for Digital Transformation,” which convene mobile industry leadership and senior policymakers to identify closer public-private collaboration, or by partnering with the World Bank, Granryd’s innovative collaborations help to advance towards the SDGs and impact at scale.²³⁵

Granryd has been a key player in efforts to reach the SDGs both internally at GSMA and externally through partnerships. His engagement with a range of public, private, and nonprofit organizations demonstrates his focus on addressing economic inequality from multiple fronts. One key part of his work is his involvement with The B Team, a non-profit organization with the goal of utilizing the power of business to help create wealth for needy members of the global population.²³⁶ Within the private sector, he has worked with business leaders in his role as Commissioner on the Business & Sustainable Development Commission.²³⁷ Not only does the Commission allow for collaboration among a range of industrial sectors, it also includes specific initiatives that target income inequality. For instance, the organization has developed a “Blended Finance Taskforce,” to support investment and protect against systematic barriers for investment.²³⁸ Granryd’s collaboration to address inequality further include his recent appointment to the United Nations Task Force

²³⁵ Interview by authors with Mats Granryd, Director General, GSMA (interviews conducted between February 2019 and July 2020).

²³⁶ *Full Transparency*, BTEAM <http://www.bteam.org/planb/#drive-full-transparency>.

²³⁷ *Director General*, GSMA <https://www.gsma.com/aboutus/leadership/director-general>.

²³⁸ *Our Work*, BLENDED FINANCE TASKFORCE <https://www.blendedfinance.earth/better-finance-better-world>.

on Digital Financing of the Sustainable Development Goals, a role that allows him to use his extensive private sector experience to help reach SDG 10.²³⁹

For Granryd, acceleration of the SDGs include engagement with both people and data. “We cannot sustain this industry if we don’t have the best talent,” he tells us. “We need to reach out to more women in order to make sure that our industry includes the entire talent pool.” In order to close the gender gap in mobile phones, he recommends that it is “important to understand the data and there is very little availability of gender disaggregated data.”

Granryd explains new changes in data collection as an important strategy. “Data is skewed and it is challenging to get the gender-disaggregated data on mobile phones.” GSMA will use “Artificial intelligence to predict if the phone user is a man or women based on whereabouts, call duration, incoming or outgoing.” He mentions that it is important to use data to identify the barriers to mobile usage. Thirdly, data helps to “push governments to have a gender strategy built into their regulations, to make sure concrete strides are being taken to bridge this gap based on this data that we are now getting.” Although AI provides a mechanism to close this gap, it is also important to understand that the gaps vary from region to region: “In South Asia – 40% less women than men have mobile phones. In sub-Saharan Africa, its 25-30%.”²⁴⁰

How would we leverage this data into implementing the SDGs? Granryd responded that closing the gender mobile gap would advance Goals 1 and 5. In his words, Goal 5 is a determinant of Goal 1 and the confluence of the Goals can contribute to reducing poverty and increasing employment. In Granryd’s words, “women reinvest 90 percent of their income in the family. By having women being the contributors to the household in financial terms, we can almost guarantee that money will be reinvested in education, health and well-being.”²⁴¹

We discussed ways in which GSMA can reach 3.5 billion people who are not connected to the internet. “What are the major steps needed to reach these people and not have to wait another 20 years before they are

²³⁹ GSMA’s Mats Granryd Appointed to UN Task Force on Digital Financing of the Sustainable Development Goals, GSMA (Dec. 4, 2018) <https://www.gsma.com/newsroom/press-release/gsmas-mats-granryd-appointed-to-un-task-force-on-digital-financing-of-the-sustainable-development-goals/>.

²⁴⁰ Interview by authors with Mats Granryd, Director General, GSMA (interviews conducted between February 2019 and July 2020).

²⁴¹ *Id.*

online?” we ask Granryd. His answers can be divided into different areas: increasing affordability and skills training, addressing stigma, and creating locally developed content to close the gender gap.²⁴²

Affordability: “Affordability is key,” says Granryd: “We need to work on the affordability of devices. To make sure the cost of buying devices and using devices are on a level that makes sense. If you compare prices, Africa mobile operators pays three times more than European ones. This is not fair. African operators are then cash strapped. They can’t build out. There needs to be a better strategy.”²⁴³

Skills: Second, it is important to improve skills. GMSA’s training toolkit is an easy and intuitive ‘train the trainer’ tool.

Stigma: The third barrier is stigma, which is more complicated and is very prevalent in South Asia. This is one area which needs more governmental intervention. He says: “We as mobile operators have difficulty addressing this. One of the good examples of addressing stigma was in India. Based on research, the mobile operator rolled out a combo sim pack, where both the husband’s and wife’s credit was topped up. This was a quite way to work around the gender gap.”²⁴⁴

Local Content - An Eco System Accelerator: “Fourth, the local content needs to be relevant. We need to find entrepreneurs who can solve a problem relevant to local people in local languages. All the apps are being built in the US and Europe. On the innovation for local content, we have an ecosystem accelerator where we give out grants to entrepreneurs. We have 3-4 entrepreneurs per terms. We have 40 so far. They get more money when they meet key targets. We coach them. They have to develop a product. We help them, we invest in them. For example, in Samoa, they are making baskets in a village. There is no google map. One entrepreneur did their own google map which connected producers and buyers. This creates a locally relevant solution and service.” In order to reach scale, the increasing number of mobile products and services must meet potential users. Despite a plethora of mobile products and services in emerging markets, reaching scale is still a challenge. The GSMA Ecosystem Accelerator acts as a bridge to connect operators and innovators, enabling strong partnerships that will support innovators to bring their products and services to scale. Although telecommunications can help connect many women to critical services such as health care services and facilities, mobile devices are hamstrung by geographic location. That is why collaboration with different stakeholders is key. Granryds responds to us that: “The World Bank and IMF must address cost through

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ *Id.*

taxation. We work with standardization of products to bring to scale and lower unit costs. There are also multiple stakeholders: regulators, politicians, private sector, and culture. The barriers are interlinked that's why it is so important to have many stakeholders are involved."²⁴⁵

Granryd also makes important points about the distinction between coverage and usage and sees the importance of government and private sector collaboration. "We also need to distinguish between coverage and usage. There are activities underway to accelerate coverage (where the gap is about 10 percent). That is moving. Usage is where we get into local content and digital skills. This is the 40 percent gap. This is where we will see more emphasis for women. Coverage is where the World Bank is involved. We see a huge interest from mobile operators and government to make a difference."²⁴⁶

SDG 2: Zero Hunger

Goal 2 aims to end hunger and all forms of malnutrition by 2030. Hunger is most pervasive among rural populations. Since 2015, there has been an increase of almost 150 million people living in rural areas in developing countries using mobile technology. GSMA partners with "Living Goods" project in Uganda where, community health workers use apps to register members of a household and record relevant health information. This initiative has shifted health related behavior in a country where poor nutrition and child mortality are key factors. For new mothers using the service, there was a 32 percentage-point improvement in the number of women successfully initiating breastfeeding compared to non-users. In turn, "Living Goods" partners with governments, implementers and funders to advance digitally empowered community health workers who can act as frontline health workers in the community.²⁴⁷



Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

SDG 5: Gender Equality

"We cannot sustain this industry if we don't have the best talent- the talent of women." - Mats Granryd

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ See generally, *Living Goods Uganda: A community health service leveraging mobile technology*, GSMA (Apr. 5, 2018) <https://www.gsma.com/mobilefordevelopment/resources/living-goods-uganda-a-community-health-service-leveraging-mobile-technology/>.

GSMA sees its defining role as accelerating digital and financial inclusion for women through mobile. GSMA Connected Women's mission is to reduce the gender gap in mobile internet and mobile money services in low- and middle-income countries and advance women's empowerment. In today's increasingly "connected" world, women are "unconnected" and being left behind. "Connected Women" sees that successfully targeting women is smart business for it not only advances women's digital and financial inclusion but unlocks significant growth potential for the mobile industry. If the gender gaps in low- and middle-income countries can be closed by 2023, it is estimated that it would provide an estimated additional \$140 billion in revenue to the mobile industry over the next five years. There is a direct correlation between women's empowerment and economic growth. For GSMA, the relationship between mobile technology and sustainable development is clear: mobile money will help low-income and disconnected women, connecting them to the financial community and introducing them to a new market.²⁴⁸



Goal 5: Achieve gender equality and empower all women and girls

Despite concerted action, women face barriers in fully accessing and benefiting from mobile internet and money services.²⁴⁹ According to research generated by the GSMA's Connected Women program, "fewer women than men own a mobile phone in low-and middle-income countries".²⁵⁰ The gender gap in mobile money services and mobile internet is astronomical, because while 45 percent of the population of LMCs do not access mobile internet, these individuals are disproportionately female.²⁵¹ These statistics underscore a profound challenge -- as the world becomes increasingly more mobile, digital, and cyber-based, women are not only left behind, but the gap between the connected and disconnected becomes more seismic, depriving women not only of opportunities, but the tools they need to function in a rapidly changing world.

²⁴⁸ Bernhard Kickenweiz, *A Conversation with Mats Granryd, Director General of the GSMA*, SPENCERSTUART (Mar. 2019) <https://www.spencerstuart.com/research-and-insight/a-conversation-with-mats-granryd-director-general-of-the-gsma>.

²⁴⁹ *Connected Women Programme*, GSMA <https://www.gsma.com/mobilefordevelopment/connected-women/>.

²⁵⁰ *Connected Women Commitment Partners*, GSMA <https://www.gsma.com/mobilefordevelopment/connected-women/the-commitment/>.

²⁵¹ *The Mobile Gender Gap Report 2019*, GSMA <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA-Connected-Women-The-Mobile-Gender-Gap-Report-2019.pdf>.

Granryd has stressed that it is a fundamental human right for women to fully participate in the digital community,²⁵² but changes of this magnitude require quantum leaps forward, not gradual patchwork solutions. “Through the Connected Women Commitment Initiative, 36 mobile operators have made 51 formal commitments to reduce the gender gap in their mobile money and/or mobile internet customer base across Africa, Asia and Latin America”, and, in partnership with mobile operators, has connected 22 million women to critical information, employment, and financial services.²⁵³

However, the research that GSMA engaged in has found that these findings differ by regional and environmental differences that further compounded some of these obstacles. For example, safety and security was a dominant concern for women in Latin America, while literacy and digital skills topped the charts in every country.²⁵⁴ Changes will have to be granular and tailored to benefit each community and “unlock this substantial market opportunity for the mobile industry, deliver significant socio-economic benefits and transform women’s lives”.²⁵⁵

Mobile phones can have transformative impact on women’s lives. However, women are being left behind as myriad interconnected barriers keep them from accessing and using mobile at the same rate as men. This unequal access to mobile technology threatens to widen the gender gap in technology.

The double-edged sword of mobile technology can have other effects on women. While women feel safer with a mobile phone, safety concerns related to mobile have been identified as barriers to mobile ownership and use. Safety concerns have been identified as bullying, ID theft harassment etc. and general gender-based cultural discomfort associated with purchase of a mobile phone. To address these gaps, it is important to collect gender disaggregated data, the GSMA’s Gender Analysis and Identification Toolkit (GAIT) - a machine

²⁵² Bernhard Kickenweiz, *A Conversation with Mats Granryd, Director General of the GSMA*, SPENCERSTUART (Mar. 2019) <https://www.spencerstuart.com/research-and-insight/a-conversation-with-mats-granryd-director-general-of-the-gsma>.

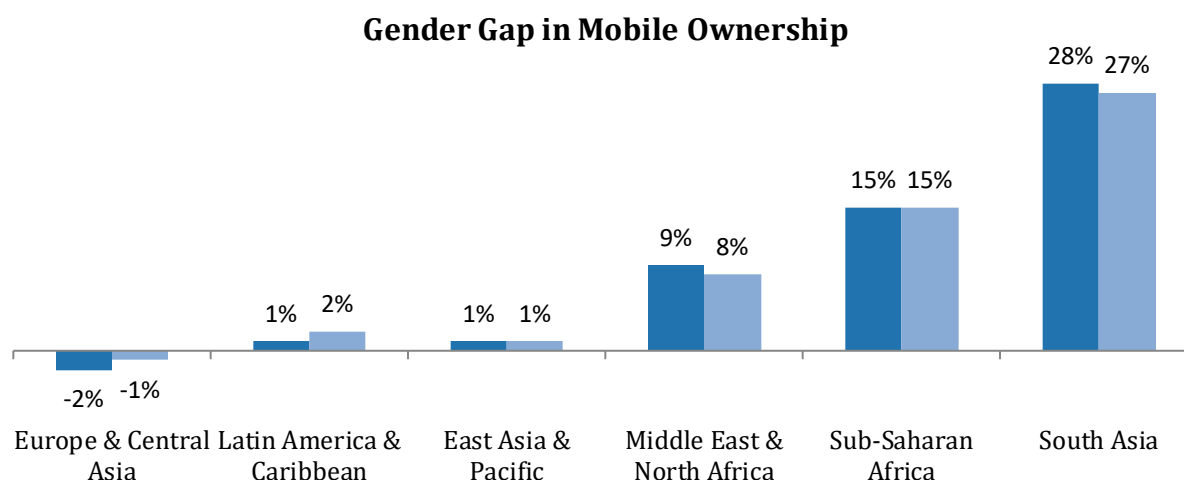
²⁵³ Mats Granryd, *Closing the mobile gender gap*, GSMA (July 18, 2018) <https://www.gsma.com/betterfuture/news/closing-the-mobile-gender-gap>.

²⁵⁴ *The Mobile Gender Gap Report 2019*, GSMA <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA-Connected-Women-The-Mobile-Gender-Gap-Report-2019.pdf>.

²⁵⁵ *Connected Women Programme*, GSMA <https://www.gsma.com/mobilefordevelopment/connected-women/>.

learning algorithm that analyzes mobile usage patterns - helps to understand the scale of the mobile gender gap as a prerequisite to closing the gap.²⁵⁶

GSMA's most recent Mobile Gender Gap Report of 2019 underlines the commercial and economic opportunity that closing the mobile gender gap represents and shows how the mobile gender gap is changing in low- and middle-income countries. The ranking of the factors preventing equal mobile ownership and mobile internet use for men and women could help to create the solutions that can directly address the gaps.²⁵⁷



Source: <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA-Connected-Women-The-Mobile-Gender-Gap-Report-2019.pdf>

The GSMA argues that if mobile operators in low- and middle-income countries could close the gender gap in mobile ownership and mobile internet use today (as a result of addressing safety concerns along with other barriers such as cost and digital literacy), this would generate an estimated incremental revenue of \$15 billion over the coming year.²⁵⁸

²⁵⁶ *The GSMA's Gender Analysis and Identification Toolkit (GAIT)*, GSMA (Aug. 31, 2018) <https://www.gsma.com/mobilefordevelopment/resources/the-gsmas-gender-analysis-and-identification-toolkit-gait/>.

²⁵⁷ *The Mobile Gender Gap Report 2019*, GSMA <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA-Connected-Women-The-Mobile-Gender-Gap-Report-2019.pdf>.

²⁵⁸ *Id.*

The GSMA has committed to an ambitious agenda of gender equality policies both internally and externally. Most recently, In July 2019, GSMA adopted another powerful agenda: the UN Women's Empowerment Principles as part of its commitment to promoting gender equality and the empowerment of women in the workplace, marketplace and community. The seven Women's Empowerment Principles, subtitled Equality Means Business, outline the business case for corporate action to promote gender equality and women's empowerment.²⁵⁹

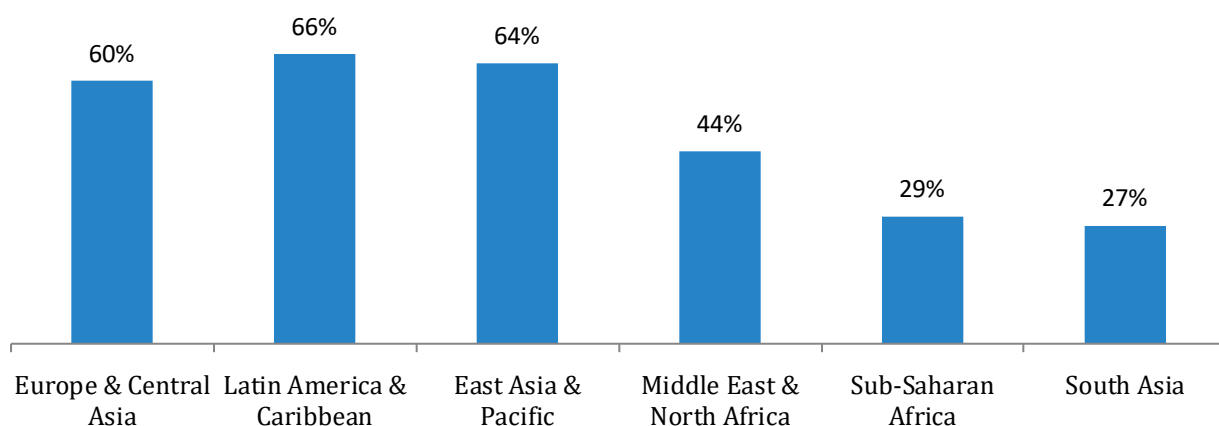
One of the most important initiatives that GSMA has sponsored is the launch of 'Rural Women's Alliance'. Public policies and private programs that contribute to the empowerment of rural women through the mass use of ICTs is the goal of the alliance.

Although according to GSMA over 1.2 billion women in low- and middle-income countries do not use mobile internet and women are, on average, 10 percent less likely than men to own mobile phones than men and 26 percent less likely to use mobile internet than men, the gender divide tends to be wider in rural areas than urban areas; in Brazil, for example, while the gender gap is two per cent in urban areas, it grows to 32 per cent in rural areas. Ensuring rural women have access to digital technologies is pivotal to improve their livelihoods. Through the Alliance founded by UN Women, the subscribers undertake to join forces to foster actions such as: promoting programs that provide connectivity to rural, remote and underserved areas; and encourage ICT training for women and girls in rural areas. The Rural Women's initiative highlights the cross-cutting nature of digital technologies, essential for the empowerment of women.²⁶⁰

²⁵⁹ *GSMA Adopts UN Women's Empowerment Principles*, GSMA (June 12, 2019). <https://www.gsma.com/newsroom/press-release/gsma-adopts-un-womens-empowerment-principles/>.

²⁶⁰ *GSMA joins 'Rural Women's Alliance', a regional effort to address the digital gender divide in rural areas*, GSMA (Dec. 19, 2018) <https://www.gsma.com/latinamerica/rural-womens-alliance/>.

Proportion of Women Using Mobile Internet in Low and Middle-Income Countries



Source: <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA-Connected-Women-The-Mobile-Gender-Gap-Report-2019.pdf>

GSMA's digital ID program is another important initiative that has gender implications. Through the Commonwealth Digital Identity Initiative, the GSMA Digital Identity program is partnering with the World Bank's ID4D program to help make progress in providing a digitally-enabled identity for every woman and girl in the Commonwealth by 2030.²⁶¹

Over 230 million women and girls across the Commonwealth have no access to an official form of identity yet the ability to prove one's identity is essential to exercising rights and securing access to a number of life-enhancing services including healthcare, voting, education, financial services, employment and social protections. Identification is also becoming ever more critical to gaining access to mobile connectivity and a range of mobile services in the digital identity ecosystem about the challenges in ID-linked services for women and girls.²⁶²

GSMA launched the tech4girls program in 2018 and co-founded the global EQUALS partnership in 2016. Equals is a global partnership of corporate leaders, governments, non-profit organizations, communities, and

²⁶¹ *Digital Identity Programme*, GSMA <https://www.gsma.com/mobilefordevelopment/digital-identity/>.

²⁶² Azima Dhrodia & Matthew Wilson, *Closing the identity gap for women and the role of mobile: 5 insights from the Commonwealth Digital Identity Initiative*, GSMA (June 27, 2019) <https://www.gsma.com/mobilefordevelopment/uncategorized/closing-the-identity-gap-for-women-and-the-role-of-mobile-5-insights-from-the-commonwealth-digital-identity-initiative/>.

individuals around the world working together to bridge gender digital inequalities. EQUALS was founded by five partners: apart from GSMA, the other partners are: the International Telecommunications Union, UN Women, the International Trade Centre, and the United Nations University. It links multilateral organizations, public industries, and private companies in the fight against gender discrimination in mobile and internet access.²⁶³ The goal of Equals is to reverse the increasing gender digital divide, and to close the gap by 2030 – supporting UN Sustainable Development Goal 5 by empowering women through their use of information and communication technologies. They aim to accomplish this goal by creating gender-disaggregated data; integrating a gendered perspective in public policy and budgets; combatting issues of safety and harassment, access and digital literacy that serve as the primary barriers preventing women from accessing the internet; and inspiring multiple stakeholders to support these endeavors.²⁶⁴

The first of its kind, the Equals Report on Taking Stock: Data and Evidence on Gender Equality in Digital Access, Skills and Leadership, reveals persistent digital gaps and the complicated nature of gender equality in ICT Access. The report also enshrines 25 case studies on how technology impacts women and girls in various contexts, including jobs and wages, security and privacy, cyber threats, and new technologies such as artificial intelligence (AI).²⁶⁵

The research finds that while digital technologies offer new opportunities for women, without an understanding of gender diversity and inclusion, and a lack of attention to gender dynamics, advancement in this area will be inhibited. Addressing barriers for women and girls to meaningfully access and participate in the digital economy, including access to the ICT industry, remain profoundly important concerns. More effort must be made by all stakeholders to transcend barriers for women's greater participation of women and girls in a digital revolution. Even in the emerging AI industry, creeping gender bias hampers the full participation of women in an industry where systems and processes are shaped largely by men. The gender digital divide grows as technologies become more sophisticated and expensive. Women's leadership and representation in the technology sector is predicted to grow with the emergence of new technologies.

In an era of rapid technological transformations, the future health of our global economy and the leave no one behind principle hinges on the empowerment of women and girls. The work of EQUALS corresponds to the

²⁶³ Mats Granryd, *Closing the mobile gender gap*, GSMA (July 18, 2018)

<https://www.gsma.com/betterfuture/news/closing-the-mobile-gender-gap>.

²⁶⁴ Access Coalition, EQUALS GLOBAL PARTNERSHIP <https://www.equals.org/access>.

²⁶⁵ *Taking Stock: Data and Evidence on Gender Equality in Digital Access, Skills, and Leadership*, EQUALS (Araba Sey & Nancy Hafkin, eds., Mar., 2019) available at <https://www.equals.org/research>.

key concept in the UN 2030 Agenda for Sustainable Development. The Equals Report calls for more credible gender-disaggregated data, as well as better measurement tools, to accurately capture women's level of ICT access, skills, and leadership participation. Research, government policy, and design principles should include gender awareness and analysis, for example by being aware of issues that may have second generation bias such as unconscious bias.²⁶⁶

SDG 7: Affordable and Clean Energy

Mobile-enabled, pay-as-you-go (PAYG) solar in the off-grid energy sector has facilitated the delivery of clean energy solutions across parts of Africa, Asia and Latin America. Since 2014, PAYG solar sales increased six-fold to reach over 1.6 million units by 2017, resulting in an estimated 8.5 million individuals having access to clean and reliable energy in their homes, vastly improving their lives in a range of areas. For example, in Kenya, M Kopa Solar has installed off-grid solar systems. Recipients pay for with mobile phone based payment systems, such as M-Pesa. Customers pay via their cellphones, daily or weekly, at a rate of \$0.40 per day. This is approximately 10 cents less than a household's average daily kerosene expenditures. Once paid off, the system is yours to keep. To prevent non-payment, M-Kopa's products are fitted with wireless switches that are connected to a customer's phone. According to the M-Kopa leadership, some 500 new customers are added to their database every day. Mobile payments are made via M-Pesa. Basic solar in Africa is both a business and development opportunity.²⁶⁷



Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 11: Sustainable Cities and Communities

SDG 11 focuses on making cities and human settlements inclusive, safe, resilient and sustainable, addressing vulnerability to disasters.

The mobile industry is helpful in providing infrastructure to assist with disaster response efforts, in collaboration with other public and private organizations.



Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

²⁶⁶ *Taking Stock: Data and Evidence on Gender Equality in Digital Access, Skills, and Leadership*, EQUALS (Araba Sey & Nancy Hafkin, eds., Mar., 2019) available at <https://www.equals.org/research>.

²⁶⁷ *Pay-As-You-Go Model Brings Millions into Financial Inclusion*, M-KOPA (March 2019) available at: <http://www.m-kopa.com/pay-as-you-go-model-brings-millions-into-financial-inclusion/>.

Mobile phone companies have provided important humanitarian assistance during epidemics and natural disasters. Examples include AT&T's drone based cells on wings to help to locate and connect with people in Puerto Rico in the aftermath of the 2017 hurricane, as well as Ncell's early warning system in Nepal, which alerted people to the floods and landslides that affected Nepal in August 2017. As part of the GSMA "Big Data for Social Good Initiative," Telefónica has been able to predict traffic-related pollution in São Paulo up to two days in advance, allowing the city to take steps to address this problem.²⁶⁸

SDG 10: Reduce Inequality

Economic inequality is a pervasive problem that impacts individuals in both developed and developing countries alike. To address growing financial barriers, SDG 10 seeks to reduce inequality within countries as well as between countries through targeted fiscal policy and sustainable financial growth.²⁶⁹ Under the leadership of Granryd among others, GSMA works generally to reach this goal by increasing mobile access across socio-economic boundaries through collaboration with public and private actors.²⁷⁰ Mobile access is crucial for reaching income equality, as it allows individuals to access everything from employment information to basic communication to even the news cycle. GSMA is committed to advancing SDG 10 through specific collaborations to even a section of the company's website devoted to exploring mobile phone company efforts to reach SDG 10.²⁷¹



Goal 10: Reduce inequality within and among countries

Part of GSMA's work towards developing increased income equality involves the earlier discussed, Ecosystem Accelerator program with the goal of bringing mobile stakeholders together to discuss the ways technology can be used to decrease inequality.²⁷² This program works to bring together mobile operators to address barriers in the industry, including five key issues: 1) coverage, 2) affordability, 3) education, 4) handset costs, and 5) service. During the 2019 program, Head of GSMA's Mobile Development team Yasmina McCarty "called

²⁶⁸ *GSMA Expands Big Data for Social Good Initiative, Announces Successful First Wave of Trials*, GSMA (feb. 26, 2018) <https://www.gsma.com/newsroom/press-release/gsma-expands-big-data-social-good-initiative-announces-successful-first-wave-trials/>.

²⁶⁹ *Reduce Inequality within and Among Countries*, U.N. DEPAR'T OF ECON. AND SOC. AFF. <https://sustainabledevelopment.un.org/sdg10>.

²⁷⁰ *Mobile for Development*, GSMA <https://www.gsma.com/mobilefordevelopment/>.

²⁷¹ *SDG Impact Explorer*, GSMA <https://sdgexplorer.gsma.com/#>.

²⁷² *The Task Force Will Launch its Final Report on 26 August 2020*, UNSG DFTF <https://digitalfinancingtaskforce.org>.

[on companies] to rise to the challenges of today's uncertain world and build a digitally inclusive future for all," a statement that indicates GSMA's focus on the overall goal of reducing inequality.²⁷³ Furthermore, in support of SDG 17 as well as SDG 10, the symposium connected stakeholders across sectors as it invited representatives from both public government and private industry.²⁷⁴

In addition to programing focused on reducing overall inequality, Granryd's leadership at GSMA helped spearhead a specific way to meet SDG 10 through a "Mobile Money Certificate" scheme, a development that allows consumers in need of mobile connections to receive the highest level of consumer protection.²⁷⁵ The process can prevent economic inequality "by providing financial services to individuals and small businesses that would otherwise be financially excluded."²⁷⁶ As part of the program, GSMA networked with providers including the Kenyan company Safaricom and Vodacom Tanzania to develop good practices and appropriate solutions.²⁷⁷ Thus far, money certificate programs have witnessed success, boasting approximately 700 million accounts by the end of 2017, a development that has an immeasurable impact on individual economic stability.²⁷⁸

The Mobile phone industry's impact is pivotal to mobile money and in reducing inequalities. Mobile money has transformed lives in emerging markets and been central in driving financial inclusion and reducing inequalities. At the end of 2017, there were nearly 700 million registered accounts (up 62 percent from 2015), and mobile money has evolved into the leading payment platform for the digital economy in many emerging markets. Although initially built on domestic payments and cash transfers, this has now broadened to international remittances, as seen in the Pacific region. For example, more than 70 percent of formal remittances between New Zealand and Tonga are processed through the KlickEx/Digicel service.

²⁷³ *Id.*

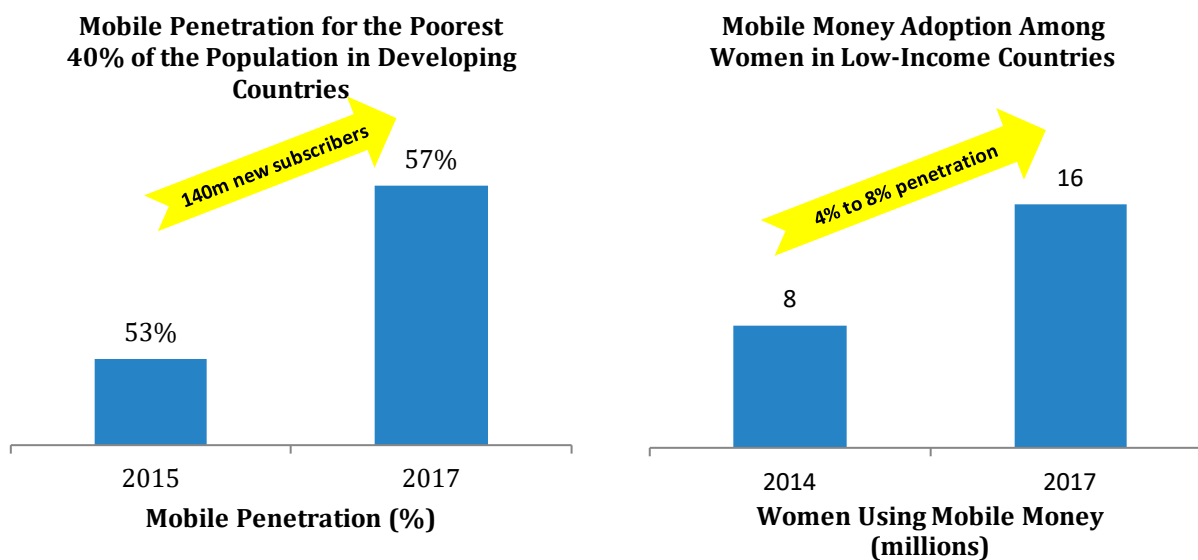
²⁷⁴ *Id.*

²⁷⁵ *GSMA's Mats Granryd Appointed to UN Task Force on Digital Financing of the Sustainable Development Goals*, GSMA (Dec. 4, 2018) <https://www.gsma.com/newsroom/press-release/gsmas-mats-granryd-appointed-to-un-task-force-on-digital-financing-of-the-sustainable-development-goals/>.

²⁷⁶ *Id.*

²⁷⁷ *GSMA Launches Global Mobile Money Certification Scheme*, GSMA (Apr. 12, 2018) <https://www.gsma.com/newsroom/press-release/gsma-launches-global-mobile-money-certification-scheme/>.

²⁷⁸ *GSMA's Mats Granryd Appointed to UN Task Force on Digital Financing of the Sustainable Development Goals*, GSMA (Dec. 4, 2018) <https://www.gsma.com/newsroom/press-release/gsmas-mats-granryd-appointed-to-un-task-force-on-digital-financing-of-the-sustainable-development-goals/>.



Source: <https://www.gsma.com/betterfuture/2018sdgimpactreport/>

SDG 17: Global Partnership for Sustainable Development

Speaking recently about “hyperconnectivity,” Granryd has stated that, “The combination of 5G, the IoT, Big Data and AI will impact almost every aspect of our daily lives from the way we consume entertainment to the way in which we learn and interact with colleagues – all underpinned by ubiquitous hyper-connectivity.” But this hyper connectivity also calls for partnerships across sectors and industries like never before.



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

The solution of mobile access spearheaded by GSMA--under Granryd’s leadership--requires the combined efforts of a multitude of different stakeholders. In part because of Granryd’s commitment to these unique partnerships, the mobile industry was one of the first sectors to commit to the SDGs.²⁷⁹ SDG 17 accentuates the importance of global partnerships in achieving the 2030 sustainable development agenda,²⁸⁰ and GSMA’s research and report on connecting women calls on mobile network operators, internet companies, policymakers and regulators, and the development community to combine their resources, diverse talents, and means to successfully and finally close this gap.²⁸¹

Within the sphere of income inequality, GSMA has also worked to develop partnerships with a range of actors. As Granryd states, “collaboration between the private sector, the public sector, civil society, and NGOs has never been more important,” indicating the central role that these synergies play in the mission of GSMA.²⁸² The overall structure of the GSMA further indicates a commitment to SDG 17 through its focus on collaborative knowledge building. The organization includes a series of working groups that target everything from roaming to security algorithms. The groups serve to pool experts to increase overall collaboration, a process that allows each group to “liaise with and act as point[s] of contact for external organizations in

²⁷⁹ *Director General*, GSMA <https://www.gsma.com/aboutus/leadership/director-general>.

²⁸⁰ Strengthen the means of implementation and revitalize the global partnership for sustainable development, GSMA <https://sustainabledevelopment.un.org/sdg17>.

²⁸¹ *The Mobile Gender Gap Report 2019*, GSMA <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA-Connected-Women-The-Mobile-Gender-Gap-Report-2019.pdf>.

²⁸² Catherine Cheney, *Q&A: GSMA director general on how to partner with the mobile industry*, DEVEX (Mar. 11, 2019) <https://www.devex.com/news/q-a-gsma-director-general-on-how-to-partner-with-the-mobile-industry-94452>.

relation to matters within their remit.”²⁸³ These partnerships allow for accurate recommendations to be generated, and improve GSMA’s power to create positive change.

The recommended actions are varied, accounting for women’s diverse needs ranging from changing public policy, shifting private-sector manufacturing and marketing agendas, and altering societal norms. Furthermore, with the understanding that the private sector can only be successful if they are supported by policy makers and the development community, each barrier must have a targeted and granular recommendation for each sector in each community. The GSMA research recognizes what should be recognized by all those working to achieve the SDGs that success requires the combined, concerted efforts of varied stakeholders.

Despite the innovations and collaborations that GSMA has sparked across the entire mobile industry ecosystem, there is still a considerable mobile gender gap in low and middle income countries. In Granryd’s position as a leader, there is much more needs to happen to make the strides that are required to fast tracking and scaleup of the SDGs. Scaling up the mobile-enabled products and services provide real-world solutions to developmental challenges. As the reach of mobile grows, it is becoming an increasingly powerful tool for delivering information, services and connectivity and opportunities to those who need it the most. While mobile phone ownership and mobile internet use have grown among women, there is still a big gender gap. Women’s lower levels of mobile ownership and use not only reflect existing gender inequalities, but also further reinforce them and exacerbate them. If the mobile gender gap is not addressed, women risk being left behind as societies and economies digitize.

²⁸³ *Working Groups*, GSMA <https://www.gsma.com/aboutus/workinggroups/>.

Diversity is Our Core Value; it is a Moral and a Business Imperative: Mitch Zuklie

“Gender diversity in business is directly linked to increased creativity, collective intelligence and financial performance. ... It’s no surprise then that many of our country’s most innovative companies are instituting new policies to invest in women leaders,” - Mitch Zuklie, Chairman of Orrick in a [Fortune op-ed](#) about Orrick’s industry-leading parental leave program.

As part of our broader study on the role of innovation and inclusion in accelerating the SDGs, we look at leadership, inclusion and innovation at Orrick, a global law firm that counsels some of the leading tech firms around the world. Embracing innovation is a key product of the age of the SDGs, and although the firm’s stated mission does not include the SDGs, its disruptive vision within the traditional culture of law firms is deeply embedded in the innovations that are so fundamental to the acceleration of the SDGs.

Orrick counsels over 2,700 startups, including more than 30 unicorns, as well as global leaders such as Microsoft, Oracle, Facebook, Netflix, Baidu, and JD.com, China’s largest e-commerce company.²⁸⁴ The firm’s practice is on the leading edge of emerging issues in cyber and privacy, intellectual property, fintech, AI, and autonomous vehicles. It’s also among the very top advisors to the renewable energy markets globally.

Not only does the firm advise disruptive companies, it is also disrupting the legal services model itself. For three years in a row, the Financial Times named Orrick as North America’s Most Innovative Law Firm (2016, 2017 and 2018) pointing to the firm’s innovations in legal advice, talent development, use of technology and process transformation. Driving the firm’s transformation is Zuklie, the Chairman and CEO of Orrick, who, not surprisingly draws inspiration from decades of practicing as a leading advisory to Silicon Valley’s tech ecosystem. While he has taken a holistic approach to innovation, it’s his focus on changing the law firm talent model and embracing gender equality that interests us most from an SDG perspective.²⁸⁵

“When companies like Microsoft make it clear that they factor diversity and inclusion in their hiring efforts, and will reward performance, it changes the way firms approach the work and the issue. For Orrick, it reinforces and accelerates our own work, and makes it clear that there’s a business case for diversity and inclusion.”

²⁸⁴ *Orrick and the Large Technology Enterprise*, Orrick

<https://media.orrick.com/Media%20Library/public/files/p/public-companies-brochure-pdf.pdf>.

²⁸⁵ *Financial Times Names Orrick North America’s Most Innovative Law Firm for Unprecedented 3rd Year in a Row*, ORRICK (Dec. 11, 2018) <https://www.orrick.com/en/News/2018/12/Financial-Times-Names-Orrick-North-Americas-Most-Innovative-Law-Firm-for-Unprecedented-3rd-Year>.

Anthony Kronman, the former Dean of Yale School in the “*Lost Lawyer*” writes that “statesman is a term of praise, a word that we use to express our admiration for those men and women who lead their communities with exceptional wisdom and skill.” To Kronman, statesmanship is akin to a skill at making judgments about the public good and creating solutions for the preservation of the collective enterprise and the lawyers-statesman role is defined by excellence, leadership, judgment, wisdom, and character. Although Kronman bemoans the fact that this idea no longer commands the authority it once did, Zuklie is the modernist reconstruction of a Lawyer-statesman ideal, one who uses his skill to understand the public good and the collective enterprise to achieve those goals. Zuklie’s excellence as a lawyer is linked to his leadership characteristics. Kronman asserts that:

“The ideal of the lawyer statesman was an ideal of character. This meant that as one moved toward it, one became not just an accomplished technician but a distinctive and estimable type of human being- a person of practical wisdom.”

For Kronman, this ennobling thought of the outstanding lawyer, as this ideal presents him, is, “to begin with a devoted citizen. He cares about the public good...He is distinguished, too, by his special talent for discovering where the public good lies and for fashioning those arrangements needed to secure it.” Zuklie has identified diversity as a public good and created structural arrangements that aspire to achieve those ends.²⁸⁶

Against this backdrop of a nation’s continuing struggle for diversity and gender equality, and a profession that is known for its historical patterns of exclusion, one of the most important leadership qualities of the 21st century is the capacity to advance diversity and inclusion in every realm of life. The pervasive nature of gender bias and the strategic acumen needed to address those biases demand leadership at the highest levels. And Mitch Zuklie seems to understand this intuitively.

Martin Luther King famously said: “There comes a time when time itself is ready for change.” One of the key characteristics of leadership is the ability to mine the conditions that are supportive of transformative change. Orrick has anticipated change and is riding the wave of transformation in innovation and inclusion. Firms like Orrick are combining strong leadership with innovative workplace strategies to change this paradigm. Orrick is one of these firms, and Zuklie is leading a revolution in the legal profession to bring the values of inclusion and innovation to the law firm culture and thereby aligning the law firm’s goals with several of the objectives of the SDGs both in the office and outside. Social change happens through a complex interrelationship of social,

²⁸⁶ ANTHONY T. KRONMAN, *THE LOST LAWYER* (1995).

economic and political forces. Leaders both inform and are informed by those forces. Zuklie is responsive to change while shaping the change necessary for the achievement of the SDGs. As a leader, he plays a role in building an organization that is based on shared values and interacts with innovation industries around the world. It takes a leader as against a manager to a transformative sense of common cause. Orrick has made efforts to create a compelling public purpose and a commitment to the public good through its efforts on inclusion.²⁸⁷

Given that inclusion is both a business and moral imperative, 21st century leaders are judged by what they do to create diverse and inclusive legal institutions. In the US, until the past half century, almost no women or minorities reached leadership positions in law and almost no one saw it as a problem. The future of the legal profession is now undoubtedly inclusive. In a world where women were seen to be a distraction from the competitive edge, debiasing the workplace is about the competitive edge.

Rosabeth Moss Kanter argues that leaders must get ready for the future. She calls this skill the “imagination to innovate.” To create conditions that make productive change a natural way of life. The impact of projects must go beyond departures from the past and must include a fitness for the future. This fitness for the future is what Mitch Zuklie aspires to build. Given that Orrick is the leading law firm technology and innovation, it is important that Orrick leads the way. Zuklie understands that action today will help women lead both in law and innovation.²⁸⁸

Mitch Zuklie’s enduring legacy at Orrick might very well be the initiatives for women’s leadership that he has put in place. This is important because Orrick is the leading law firm for technology- related corporations and will therefore have much impact on the role of women in the tech industry and the future of work.

It is ironic that the legal profession most responsible for producing America’s leaders has focused so little attention on that role, asks Deborah Rhode. “Lawyers lead teams, committees, task forces and major initiatives, but they have no training.” Her central claim in *Lawyers as Leaders* is that the legal profession is a magnet to those with ambition and analytic capabilities to be leaders but fail to develop other qualities that are critical to effectiveness. The question, “What is a leader?” is really the question “What is a good leader?”, with good

²⁸⁷ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

²⁸⁸ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

including both a morally commendable, normative component as well as a pragmatic, performance-oriented component.²⁸⁹ James MacGregor Burns suggests that many leaders – transactional ones – are competent in that they promote exchanges among subordinates in their pursuit of collective outcomes, but that only transformational leaders are leaders with a vision to change the course of history that is larger than their institutions. Aristotle would agree with James MacGregor Burns’ idea that transforming leaders elevate the values of followers. Zuklie’s colleagues at Orrick and his clients agree that Zuklie’s brand of leadership creates the momentum for large scale social change. In very concrete ways, he understands that women’s full inclusion is both a moral and business imperative.²⁹⁰

Zuklie’s greatest skill is to elevate people by aspiring in them a sense of purpose and possibility, a belief that broader social change must happen while each individual, man and woman is developing to his or her full potential – both professionally and personally. His philosophy is one in which there is a collective responsibility to make change. And this change happens from the ground up. In his way of thinking, it is not the great man or woman who makes history, but the collective achievement of a great people.²⁹¹

SDG 5: Orrick and Gender Equality

Women have historically been excluded from the legal profession and denied opportunities to advance, a problem directly conflicting with SDG 5’s objective of gender equality. The problem is especially acute in large law firms. While half of today’s law school graduates are female, that percentage slips to 19% in large law firm partnerships and slips even farther behind in the senior partner ranks.²⁹² While Goal 5, Target 5.2 calls for work family reconciliation policies, law is an intensive service profession and firms have been lax in making an authentic commitment to meet women’s and men’s need for care giving. Within Orrick itself, the firm helps achieve SDG 5 by developing policies that allow women to both seek leadership as well as balance family responsibilities which are often designed to boost women’s



Goal 5: Achieve gender equality and empower all women and girls

²⁸⁹ Deborah L. Rhode, *LAWYERS AS LEADERS* 207 (2013)

²⁹⁰ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

²⁹¹ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

²⁹² *Women in Law: Quick Take*, CATALYST (Oct. 2, 2018) <https://www.catalyst.org/research/women-in-law/>.

participation in historically male dominated fields.²⁹³ Child care policies unless structured in gender neutral terms, unfortunately, though intended to help women, indirectly reify social expectations and help crystallize historically embedded gender norms including the notion that women are primary caregivers and thus best suited to play a leading role in the private sphere of the family rather than in the business worlds.

Orrick understands the way in which the time off from work can be a double-edged sword for women and provides parental leave for both sexes and offer suggestions on how to design leave so that the outcomes are more egalitarian. This includes 16 weeks of paid leave for caregivers (the firm does not distinguish between paid and unpaid leave) and with additional time for the birth parent out of recognition that giving birth is a medical disability. The leave may be taken any time in the first 12 months after the child arrives, enabling parents to share responsibilities flexibly.²⁹⁴ Moreover, Orrick recognizes that the challenges of parenting are really felt upon returning to the office. So, the firm offers onramping (flexible hours at full pay) and guardrails (predictable hours) to help those returning. And, the firm offers a comprehensive set of Agile Working options, ranging from flexible hours to work from home to remote working (in a location where the firm does not have an office). One hundred and seventy-five of the firm's lawyers took advantage of these Agile Working options during 2018. As one indicator that these arrangements are helping the firm retain great talent and there is no stigma around using them, a fifth of the lawyers promoted to partnership in 2019 used Agile Working, including a father who was out on caregiver leave during the induction ceremony. Only when gender neutral work family reconciliation policies enable men to share caregiving duties will the playing field be equalized, and a more egalitarian model be achieved. Orrick's reconceptualization of equality norms is a strong step in that direction.²⁹⁵

The firm has also helped launch two community programs to help women who have taken time off to raise families to return to the profession. In the US, this program is sponsored by the Diversity Lab and is known as the OnRamp Fellowship. In London, it was created by the organization She's Back and is known as Reignite

²⁹³ *Achieve gender equality and empower all women and girls*, U.N. DEPAR'T OF ECON. AND SOC. AFF. <https://sdgs.un.org/goals/goal5>.

²⁹⁴ *Fortune Recognizes Orrick's Holistic Approach to Supporting Parents*, ORRICK (Nov. 27, 2019) <https://www.orrick.com/en/News/2019/11/Fortune-Recognizes-Orricks-Holistic-Approach-to-Supporting-Parents>.

²⁹⁵ *See generally, The one-size-fits-all approach to legal careers is outdated*, ORRICK <https://www.orrick.com/en/Careers/Agile-Working>.

Academy.²⁹⁶ This includes benefits such as one-on-one coaching and paid internships to ease the return process.

According to Zuklie, “These programs are focused on retaining, advancing and, hopefully, inspiring the best rising talent at our firm. We have an unprecedented talent drain in our profession. As a result, clients are sometimes frustrated with the high turnover rate on their law firm teams.”²⁹⁷ By focusing on supporting parents, Orrick can help stop talent drain early.

The parenting programs at Orrick are not limited to women, a vital step towards reaching SDG 5. It is not enough for women in the legal profession to be given access to childcare if their male counterparts are not participating on the same level, as this allows for a system where male leadership may stigmatize women who do take time away from work. Orrick Chief Talent Officer Siobhan Handley has stated that “In designing these programs, our focus is on listening to new parents [not just mothers] to understand how we can help them be successful both at Orrick and in their family lives.”²⁹⁸

To achieve change at scale, national laws and policies have a critical role to play in implementing the SDGs’ commitments over the coming years. Identifying approaches that have cross-cutting effects across a range of the goals would accelerate progress. Family leave policies across high- and low-income countries alike have the potential to have impact on family leave policies.

One of the important legal and policy reforms focus on paid parental leave, which enables women and men to take time off work following the birth of a child while maintaining their jobs and at least partial income. Paid parental leave has the potential to benefit children and families and may also reduce economic and gender inequality in employment. Paid parental leave advances employment and gender equality, two social determinants of health that are central to Goal 1, 5, 8, and 10. Gender specific leave policies result in women doing most of the unpaid care work. The impact of family leave policies depends on the duration of leave, the wage replacement rate, and whether leave is made available to both parents.

²⁹⁶ *Orrick Signs on as Founding Member of Reignite Academy*, ORRICK (Sept. 5, 2018)

<https://www.orrick.com/News/2018/09/Orrick-Signs-on-as-Founding-Member-of-Reignite-Academy>,

²⁹⁷ *Orrick Again Takes the Lead in Supporting Parents*, ORRICK (June 19, 2017) <https://www.orrick.com/ja-JP/News/2017/06/Orrick-Again-Takes-the-Lead-in-Supporting-Parents>.

²⁹⁸ *Id.*

While Orrick's policies are to be lauded, the question remains as to how other organizations can better replicate these policies.

Target 5.5 calls for women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. According to UN Women data, around the world, women remain underrepresented in leadership roles in the private and public spheres: less than 1/3rd of senior and middle management roles are held by women.

Not only does Orrick have a clear vision for promoting women, they have also taken definitive steps to promote and value female leadership. Women serve in key roles such as co-leader of the Tech Companies practice, the Employment practice, and the Innovation Team.

To provide input on the firm's gender diversity efforts and to promote a dialogue about the issue more broadly in the profession, Zuklie has formed a Women's Advisory Board. The Board includes senior leaders from top corporate legal departments and firm clients, such as Oracle, and Facebook. They serve as a sounding board for new policies and approaches and give Zuklie and his colleagues another way of listening to the best ideas in the market.²⁹⁹

Orrick understands that law firm leadership tracks are simply too linear and rigid for women with families and while leadership programs for women are important, the imbalances created by childcare are perhaps the most significant challenge faced by women in the legal profession. Target 5.4 outlines this problem on a macro level and calls on leadership to "recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate."³⁰⁰

While Orrick has been recognized by Yale Law Women in their list of "Top 10 Family Friendly Firms," the seventh time the firm was awarded the honor,³⁰¹ it is important to note that needs to be done towards increasing women's involvement in firm leadership, there is still much ground that needs to be covered before gender parity is reached. Although Orrick is providing senior-leadership support to advance attorneys' careers and offering programs that provide flexibility and address major work-life balance issues, in 2018, 25

²⁹⁹ See generally, *Women @Orrick*, ORRICK <https://www.orrick.com/en/Community/Women>.

³⁰⁰ *Achieve gender equality and empower all women and girls*, U.N. DEPAR'T OF ECON. AND SOC. AFF. <https://sdgs.un.org/goals/goal5>.

³⁰¹ *The Top Ten Firms for Gender Equity & Family Friendliness in 2019*, YALE LAW WOMEN <https://ylw.yale.edu/top-ten-list/>.

percent of partners at Orrick were female which means that the gender gap still remains.³⁰² This is still higher than the national average where according to McKinsey, only 19 percent of equity partners are women.

Perhaps one of the most exciting and promising developments in the legal profession is the increased collaboration between law firms and corporate legal departments to address diversity. A leading example is the Mansfield Rule – for which Orrick was one of the founding firms. Named after Arabella Mansfield, the first woman admitted to practice in the US, the Mansfield Rule incubated at the 2016 Women in Law Hackathon hosted by the Diversity Law in collaboration with Bloomberg Law and Stanford Law, and often referred to as next the generation of the Rooney Rule- certifies that law firms consider at least 30 percent of women, LGBTQ+ and minority lawyers for significant leadership roles.

Participating law firms are called upon to consider a diverse slate of candidates for committees, and leadership activities. They are also encouraged to generate and post job descriptions for these leadership roles and ensure that the processes for election and/or appointment to these roles are transparent and accessible to all lawyers. The Mansfield Rule is a measurement tool as to whether law firms have considered women and attorneys of color — at least 30 percent of the candidate pool — for leadership and governance roles, equity partner promotions, and lateral positions. Zuklie has said that “Systemic problems require systemic solutions.” Firms like Orrick that qualify as “Mansfield Plus” by exceeding these standards, have the opportunity to send their women partners to pitch the firm’s work to a group of participating clients.

As another example of collaboration, Orrick, four other law firms and two dozen legal departments are collaborating with the Diversity Lab to create the Move the Needle Fund in 2019. The fund is a precedent-setting 5-year collaboration design to advance women and diverse lawyers, with \$5 million of funding. Each law firm has identified a goal (Orrick’s focuses on the diversity and inclusion of its client teams and team leadership) and will test research-backed methods to achieve those goals, with the support of the participating corporate legal departments. The hope is not only to help the firms make progress but also generate learning about how to move the needle that will be helpful to the profession.³⁰³

Transformative leaders work outside of their organizations to advance the public good. Zuklie and Orrick work outside the Firm to help connect women in areas where female representation is lacking. This involves

³⁰² *Fortune Names Orrick a Best Workplace for Women*, ORRICK (Nov. 1, 2018)

<https://www.orrick.com/News/2018/11/Fortune-Names-Orrick-a-Best-Workplace-for-Women>.

³⁰³ *Move the Needle Fund*, DIVERSITY LAB <https://www.diversitylab.com/pilot-projects/move-the-needle-fund/>

collaboration with the organization ChIPs, a non-profit group formed by tech companies that aims to help women lawyers thrive in the tech industry.³⁰⁴ Zuklie himself uses his position to serve as a mentor for women in the community, particularly those seeking to engage in industries that have historically been difficult for women to penetrate. Female entrepreneur Meeta Vengapally and CEO of Garnysh, a startup that uses analytics to support fitness goals, described Zuklie as an important supporter and mentor during the startup process.³⁰⁵ This kind of individual support is needed for women to innovate and contribute on the same level as men, a necessary change towards reaching Goal 5.

The business case for diversity clearly establishes that while correlation does not equal causation, the correlation does indicate that when businesses commit themselves to diverse leadership, they are more successful. McKinsey has been examining diversity in the workplace for several years. Companies in the top quartile for racial and ethnic diversity are 35 percent more likely to have financial returns above their respective national industry medians. Companies in the top quartile for gender diversity are 15 percent more likely to have financial returns above their respective national industry medians. Research reinforces the link between diversity and company financial performance—and suggests how organizations can create better inclusion strategies for a competitive advantage.³⁰⁶

While social justice was the initial impetus behind these efforts, Orrick has increasingly begun to regard inclusion and diversity as a source of competitive advantage, and specifically as a key driver of growth. The diversity work reaffirms the global correlation between diversity—and company financial outperformance. This strategy included attracting and retaining the right talent and strengthening women's leadership and decision-making capabilities.³⁰⁷

In yet another example of collaboration between corporate legal departments and law firms, Orrick works in tandem with Microsoft to create a dialectic which challenges both sectors to aspire to the highest ideas of inclusion. The core belief rest on the fact that diversity in our legal teams is a business necessity and delivers better business results; when law firms and their clients work together there is shared accountability. Through

³⁰⁴ *Orrick Partners with ChIPs Network to Host Program for Young Women Exploring Careers in Tech Law*, ORRICK (June 15, 2018) <https://www.orrick.com/News/2018/06/Orrick-Partners-with-ChIPs-Network-to-Host-Program-for-Young-Women-Exploring-Careers-in-Tech-Law>.

³⁰⁵ Meeta Vengapally, *How I Navigate Silicon Valley as a Female Entrepreneur*, ENTREPRENEUR (June 14, 2018) <https://www.entrepreneur.com/article/312194>.

³⁰⁶ Vivian Hunt, Dennis Layton & Sara Prince, *Why Diversity Matters*, MCKINSEY & COMPANY (Jan. 1, 2015) <https://www.mckinsey.com/business-functions/organization/our-insights/why-diversity-matters#>.

³⁰⁷ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

annual bonuses, Microsoft incentivize their partner firms to focus on and improve the diversity. This approach makes it clear that Microsoft not only values diversity and pays attention to this when it hires firms, but also that there is a duty to improve together.

Mark Parris, a partner at Orrick says: “diversity and inclusion is a core value, and an imperative for Orrick for three reasons. It’s important to our clients, like Microsoft, so it’s a client imperative. We believe it’s a business imperative, in that to be successful in a global market, you need to bring diverse perspectives to the issues and the solutions. And finally, we believe that in addition to making our clients and business stronger, fostering diversity and inclusion in the workplace and across the legal profession is a moral imperative and the right thing to do. It makes us better and stronger as a firm. All of our work is linked to and built on that foundation.”³⁰⁸

What can we learn from the Orrick case on diversity?

When we asked Zuklie this question, he mentioned that “while a mission statement can mobilize people around it and can builds common cause,” clear, defined and measurable goals are important. “The phrase, “if you can’t measure it, you can’t manage it” comes to mind.

“Setting measurable goals allows you to track progress over time and hold leaders accountable for that progress,” Zuklie says.

Having external pressures from clients is a valuable incentive. “When companies like Microsoft make it clear that they factor diversity and inclusion in their hiring efforts, and will reward performance, it changes the way firms approach the work and the issue. For Orrick, it reinforces and accelerates our own work, and makes it clear that there’s a business case for diversity and inclusion.”³⁰⁹

The research on opportunity costs is now firmly established. Diverse teams, including those with greater gender diversity, are on average more creative, innovative, and, ultimately, are associated with greater profitability. There are other costs including, immediate costs that result from a lack of inclusion and

³⁰⁸ David Howard, *Recognizing this year’s top performer in Microsoft’s Law Firm Diversity Program*, MICROSOFT (Nov. 30, 2017) <https://blogs.microsoft.com/on-the-issues/2017/11/30/recognizing-years-top-performer-microsofts-law-firm-diversity-program/>.

³⁰⁹ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

diversity—lost stock value, lower market share, human resource costs, and public relations costs, among others.

Orrick and Innovation

Goal 9 strives to generate inclusive trade as well as sustainable industrialization across the globe. Companies need to raise their sustainability ambitions and build new business models and develop and deploy disruptive technologies. These actions are how we define “breakthrough innovation” and will position companies to overcome market disruptions and pursue growth opportunities, while at the same time helping to advance sustainability and radically improve lives.

Given Orrick’s longstanding position as a global leader in innovative renewable energy and public infrastructure finance, the firm’s practice is aligned with the objectives of Goal 9. Most recently, the firm has helped companies like Microsoft achieve sustainability objectives through new techniques for mitigating the financial risk inherent in renewable power purchase agreements. The firm is also active in corporate PPAs in Europe recently advised on the first climate action bond in Europe on behalf of Italy’s SNAM.



Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Case Study 1 – Reengineering the Power Purchase Agreement to Advance Sustainability Goals

The CEO of Google Sundar Pichai in his conversation with Under Secretary General Phumzile Mlambo-Ngcuka discussed Google’s commitment to renewable energy and carbon neutrality as one of the largest purchases of renewable energy. Often lawyers provide the service to make this a responsible choice.

While renewable energy is increasingly central to corporate sustainability programs, corporate purchasers are less equipped to manage weather-related variability in renewable energy supply, which creates pricing swings. These swings can wreak havoc on a corporation’s balance sheet, and the traditional power purchase model didn’t address this risk. Orrick worked with Microsoft, Allianz, Nephila Capital and Resurety on a novel framework for purchasing renewable energy – the Proxy Generation power purchase agreement (PPA) and the companion Volume Firming Agreement (VFA). This framework makes purchasing renewable energy both environmentally and fiscally responsible by shifting balance sheet risk away from buyers to insurance companies – something that had never been done before in this context. The Orrick team helped execute Microsoft’s vision of the Proxy Generation PPA and VFA because of its deep experience in both renewables and energy swaps, representing parties across the spectrum.

Case Study 2 – The Observatory: A Peer-to-Peer Innovation Portal

Orrick is also investing in platforms to engage the firm's lawyers, and the profession more broadly, in innovation. With legal tech companies attracting \$1.7B in capital in 2018, and Orrick's team members leading more than 150 of their own innovation projects, Orrick s launched The Observatory, a custom-built crowdsourced technology and innovation portal that today monitors 600+ legal technologies and tracks homegrown Orrick innovation projects. The Observatory allows Orrick's entire team and clients to learn about available and forthcoming technologies, read user reviews, and leverage one another's ideas. Because of this tool, lawyers thinking about innovating turn to The Observatory for inspiration. And, the firm and its clients are having more informed conversations about the latest innovations in legal service delivery, helping to advance change in the profession. By creating an independent digital unit or outpost to spark innovation, Orrick has developed the agility of a start-up and acquired a digital DNA to seize the full advantages of a digital era. With an ambitious agenda and autonomy, the lab has come up with ideas and initiatives that build synergy across Orrick's ecosystem. The challenge now is to make SDGs an integral part of the overall technology strategy.³¹⁰

But the firm is also investing in sustainable development in a very direct way. In 2002, Orrick launched a global operations center in Wheeling, West Virginia. While others have since followed, it was the first global insourcing center within a U.S. law firm. Since the launch of the center, the firm has continued to invest in West Virginia talent pool and infrastructure so that today it is a center for innovation. In that time, technology has enabled the disaggregation of process-based tasks within complex legal work. The firm has leveraged that opportunity to build the most sophisticated analytics operation in Big Law and to develop a powerful project management platform. This includes new kinds of jobs for lawyers and new roles in delivery of legal services for technologists, project managers and business analysts. This team, working with lawyers in markets worldwide, is transforming the delivery of legal services.³¹¹ They have helped the firm earn the Financial Times' Most Innovative Law Firm in North America Award three years in a row.

Innovation at Orrick is not limited to the innovation center. Under Zuklie's leadership, the firm has engaged all of its team members in innovating. The firm invites partners to do so through "2% Time" – devoting a portion of their time each year to a project to make the firm stronger. This can be as complex as a new online client service or as simple as mentoring the next generation of Orrick talent. Orrick's associates get 50 hours each year to work on their own innovation project – time that counts just like client work in evaluating their contribution. And hundreds of Orrick lawyers and staff participate in hackathons each year to crowdsource

³¹⁰ Interview by authors with Mitch Zuklie, CEO Orrick (interviews conducted between February 2019 and July 2020).

³¹¹ *Wheeling, W.V. (GOIC), ORRICK* <https://www.orrick.com/Locations/Wheeling>.

solutions to common problems. Led by the firm's Chief Innovation Officer Wendy Curtis, these hackathons draw on a human-centered design thinking approach the firm developed in collaboration with Stanford and Indiana universities. This approach was inspired by some of the most innovative companies, like Google and Amazon, for example, that seek ideas from all corners of their organizations. One of the best examples is Google's famed "20% time", which encouraged employees to spend one day a week working on side projects that are outside the scope of their normal duties.³¹²

Zuklie's transformative leadership style helps to spark innovative in a profession known for its rigid nature. Part of Zuklie's vision as CEO was to build a better business model that would allow employees to seek out their own individual goals. He promotes leadership and encourages lawyers at Orrick to take on their own innovation and development, so every employee becomes an "owner" of the culture and direction of the firm. The challenge now is to focus on scaling up business impact on the SDGs. How can Orrick's template of innovation and inclusion shape the leadership of other industries and organizations around the world? Innovators like Orrick need to embed the SDGs into core business strategy and actions as a lodestar to others in the field. A UN survey shows that while 92 percent of business leaders support the SDGs, less than 20 percent have plans or policies to achieve them. Under Zuklie, Orrick could establish a concrete SDG strategy that not only invests in the firm but sees itself as a global leader in achieving the SDGs.

³¹² *FT Names Orrick Most Innovative US Law Firm*, ORRICK (Dec. 6, 2016) <https://www.orrick.com/en/News/2016/12/FT-Names-Orrick-Most-Innovative-US-Law-Firm>.

“A Beginners Mindset for Innovation - To Create What Wants to Be, Not What Was”: Marc Benioff

On November 18, 2019 Salesforce, led by co-founder and CEO Marc Benioff, committed \$17 million dollars in grants and one million volunteer hours to the advancement of the Sustainable Development Goals (SDGs). As part of this pledge, Benioff's company joined the UN Global Compact, endorsed the UN Women's Empowerment Principles, and developed new greenhouse gas emission reduction targets with the approval of the Science Based Targets initiative. Yet these significant moves represent just a fraction of Salesforce's support of the SDGs and the efforts Benioff and his team have made over two decades towards developing a novel vision of social enterprise in the information age.³¹³

Founded in 1999, Salesforce is a megalith within the enterprise software market. 150,000 companies use its suite of products and services to manage their relationships with their customers. Guided by Benioff since its inception, Salesforce has become the largest private employer in San Francisco, employing over 35,000 globally. Salesforce pioneered the software-as-a-service model, developing cloud-based applications that allow clients to perform complex tasks without having to worry about expensive computing resources, essentially democratizing enterprise software.³¹⁴

However, for Benioff, the wild financial success is perhaps the least important part of Salesforce's blossoming legacy. His goal is to create a business capable of meaningful social change, a model that can be replicated around the world. And thus far, he's met his lofty ambitions.³¹⁵

At the launch of Salesforce in 1999, Benioff was determined to dedicate 1% of Salesforce's products and services, 1% of its equity, and 1% of its employees' time to philanthropic causes and the non-profit sector. Inspired by the eBay foundation, Benioff thought that corporate philanthropy should be stakeholder-oriented, engaged with all of the various vital stakeholders inside and outside the company. This vision is the basis of

³¹³ *Salesforce Continues Commitment to the Sustainable Development Goals at Dreamforce 2019, Commits \$17 Million and One Million Volunteer Hours to Address the World's Most Pressing Problems*, SALESFORCE (Nov. 18, 2019) <https://investor.salesforce.com/press-releases/press-release-details/2019/Salesforce-Continues-Commitment-to-the-Sustainable-Development-Goals-at-Dreamforce-2019-Commits-17-Million-and-One-Million-Volunteer-Hours-to-Address-the-Worlds-Most-Pressing-Problems/default.aspx>.

³¹⁴ *We believe everyone can be a Trailblazer, and we're building the technology to make it happen*, SALESFORCE <https://www.salesforce.com/company/about-us/>.

³¹⁵ Interview by authors with Marc Benioff, CEO Salesforce (interviews conducted between February 2019 and July 2020).

the revolutionary 1-1-1 model of philanthropy, which Benioff has tirelessly promoted throughout the tech industry.³¹⁶

Salesforce's results of the 1-1-1 model have been tremendous. Salesforce has provided its software for free or at reduced cost to over 32,000 nonprofit institutions, given over \$300 million in grants, and empowered its employees to volunteer over 4 million hours.

Moreover, Benioff's Pledge 1% movement – a global coalition of companies who have committed to the 1-1-1 model – has grown to more than 9,000 companies in 100 countries.³¹⁷

The influential political scientist and international relations scholar Joseph Nye wrote in his 2008 book *The Powers to Lead* that leaders are judged not only on their capacity to achieve goals but on the meaning that they create and imbue in their followers. Benioff bases his power to lead on the meaning that he has created in his higher purpose both in the company and out. A leader is judged by a vision – a sense of personal vocation and the legacy of empowering the leader's followers. While good managers are driven by effective strategy and capacity to get things done, leaders are defined by their principles and ideas.³¹⁸

Benioff's key innovation is seeing emergent and disruptive technology as a catalyst for growth within the nonprofit sector; instead of maintaining siloed foundations, donating at arm's length to distant causes, Benioff attempts to integrate social activism into the fabric of business, inspiring action that would be previously impossible. As Benioff argues, "There's no reason why your business, your personal philanthropy and your corporate philanthropy can't be integrated. On the contrary: If you can get all the wood behind one arrow, that's how you're going to increase your impact."³¹⁹ The appeal of this model is that it's applicable to all sizes of business: from the most nascent start-up to the largest corporate empire.

The transformational philosophy of Benioff is a model for the age of the SDGs, an age that provides all businesses with a new framework through which to translate the global ambitions on sustainable and inclusive developments into business solutions. At the foundation of a transformative approach to leadership is the notion that moral concerns must extend well beyond group members to include all of society. McGregor Burns argues these transforming leaders are distinguished by the fact that they are more concerned with end

³¹⁶ *Pledge 1%*, SALESFORCE <https://www.salesforce.org/pledge-1/>.

³¹⁷ *See generally, Pledge 1%* <https://pledge1percent.org/>.

³¹⁸ JOSEPH NYE, *THE POWERS TO LEAD* (2010).

³¹⁹ Marc Benioff, *Act Charitably Now, Not Later*, SALESFORCE (Oct. 19, 2012) <https://www.salesforce.com/blog/2012/10/billionaires-to-act-charitably-now-not-later.html>.

values such as justice and equality than with transactional values of the day-to-day operations of a business or organization.

Salesforce personifies the idea that if a company wants to grow in the long-term, it is critical to locate sustainability at the heart of its business model.

The Humanism of Marc Benioff

For those embedded within the world of corporate philanthropy, Benioff's approach is not exactly new. In many ways, it harkens back to the post-war corporate stylings of giving back to all levels of the community. However, Benioff does not hide the fact that his philosophy is steeped in the lessons of the past. It is precisely the synthesis of the old and new that drives Salesforce's 1-1-1 model and explains their leadership in the field.

The beating heart of Salesforces' humanist culture is the Hawaiian notion "Ohana" – which Benioff defines as "any group of people bound by a responsibility for one another, and by their shared values."³²⁰ The Ohana philosophy defines the connection and responsibility each has to another. This philosophy of working together to leave the world a better place is in the company's foundation starting with its creation in 1999. It was one that Benioff learned as a child during family vacations to Hawaii, and one that advances the inclusivity embodied by the SDGs.³²¹

Community service is the part of the day-one orientation of a new Salesforce employee and metaphorically reflects the Ohana values of the company. Salesforce gives each employee seven paid days off to volunteer with a nonprofit of their choice and matches employee donations up to \$5,000 dollars. While other firms boast of similar programs, few have matched the engagement of Salesforce: 88 percent of employees give back.³²²

When discussing his public efforts to address homelessness in the San Francisco Bay-area, Benioff frames them in the context of social responsibility:

That fall in 2018, I saw my chance to do something that not only had the potential to make a real impact, but would also send a powerful message about the role of business in addressing social

³²⁰ Marc Benioff, *Trailblazer*, 131.

³²¹ Interview by authors with Marc Benioff, CEO Salesforce (interviews conducted between February 2019 and July 2020).

³²² *Circle of Good*, SALESFORCE <https://www.salesforce.org/philanthropic-programs/>.

*problems. With my visible position as a Fortune 500 CEO, I believed it was my responsibility not only to tackle this issue with every tool I could muster, but to do it publicly. It's imperative to show all our employees, customers, and peers that activism is not just the purview of patron saints, philanthropists, or nonprofits. Everyone in the workplace today has both the responsibility and the ability to improve the state of the world.*³²³

Leaders are those who often lead by vision and can motivate others to embrace that vision. Benioff has established a clear vision for Salesforce's culture that both leaders and employees carry forward.

Salesforce: Taking the Mantle of the Sustainable Development Goals

After years of spearheading the 1-1-1 model of philanthropy, Salesforce made the additional step of evolving the model to include a self-sustaining foundation, Salesforce.org, which functions as a true social enterprise non-profit. Salesforce.org acts as a coordination arm for the 1-1-1 model, driving Salesforce's overall giving back efforts and reinvesting generated profit back into the nonprofit community.

Salesforce's role as an accelerator of the SDGs through transformative technology is the first pillar of their commitment the SDGs. Thousands of nonprofits benefit from Salesforce's technology, ecosystem, and knowledge – and Salesforce.org estimates that the 2019 annual value their giving totaled over \$1 billion dollars.³²⁴

Salesforce helps enhance the work of nonprofits, and in turn the SDGs, by democratizing their software and supplementing nonprofit organizational capacity to take advantage of those tools. As noted previously, Salesforce provides nonprofits a suite of software free of charge, allowing even the smallest initiatives to use some of the most advanced technology on the market. Importantly, Salesforce encourages employees to collaborate with nonprofits to ensure that nonprofits are able to effectively use Salesforce tech. Finally, through management mentorship and consulting, Salesforce can help develop an organizational structure that is excited and interested in spurring growth through innovation.

³²³ *Trailblazer*, 208.

³²⁴ *Fiscal Year 2019 Results*, SALESFORCE, <https://investor.salesforce.com/financials/default.aspx>.

The outcomes of Salesforce’s wide-ranging efforts include improving civil society effectiveness and efficiency, investing in novel approaches to family housing, and developing a generation of engaged citizen philanthropists.

As Salesforce accelerates progress towards the SDGs through its external philanthropic efforts, it has also served as a model for how companies can internally embody the SDGs in their corporate structure. Both the efforts of Salesforce and Benioff represent the future of companies integrated with the norms of the SDGs.³²⁵

SDG 3: Good Health and Well-being

Marc and Lynne have pledged more than \$389 million to UCSF, including \$200 million to support the Benioff Children’s Hospitals in San Francisco and Oakland, \$50 million to launch the UCSF Benioff Children’s Hospitals Preterm Birth Initiative in partnership with the Bill and Melinda Gates Foundation, and \$35 million to launch the Benioff Initiative for Prostate Cancer Research. In addition, the Benioffs gave \$35 million to UCSF and Stanford University to advance the science of the human microbiome.³²⁶

More generally, Benioff’s efforts to foster well-being in the workplace serves as a model for companies seeking to promote mental health, as described in Goal 3, Target 4.



Goal 3: Ensure healthy lives and promote well-being

³²⁵ Naolmi Morenzoni, *The Sustainable Development Goals Will Be Front and Center at Dreamforce '19*, SALESFORCE (Nov. 2, 2019) <https://www.salesforce.com/blog/2019/11/dreamforce-sustainable-development-goals.html>.

³²⁶ Laura Kurtzman, *UCSF Launches New Benioff Homelessness and Housing Initiative with \$30M Gift*, SALESFORCE (May 1, 2019) <https://www.ucsf.edu/news/2019/05/414316/ucsf-launches-new-benioff-homelessness-and-housing-initiative-30m-gift>.

SDG 5: Gender Equality, Empowering Women and Girls

Unequal pay between men and women is a persistent problem in the world. Salesforce is a standard bearer in closing the pay gap.

Identifying and eliminating the gender pay gap has defined Benioff's leadership. In 2017, at the World Economic Forum, he has said that: "Every CEO needs to look at if they're paying men and woman the same." Issuing a charge to other leaders, he said, "that is something that every single CEO can do today."³²⁷



Goal 5: Achieve gender equality and empower all women and girls

The story opened in 2015. With 30,000 employees, and over \$10 billion in annual revenue - and ranked by Fortune as the number one best place to work among big companies, Benioff was willing to disrupt his own complacency when the head of human resources came to talk to him about her concerns about unequal pay. In response he ordered an audit.

Salesforce's commitment to eliminating the gender pay gap is continuing and on-going effort, especially in the wake of Salesforce's acquisition of new companies and the adjustment of the salary structures of those companies.

In that audit conducted in 2015, Salesforce analyzed salaries by pay, job function, level, and location and made salary adjustments accordingly. The adjustments affected 6% of the company's 17,000 salaries and became a clarion call to all companies to conduct similar audits and make similar salary adjustments. To date, Salesforce has spent a total of \$10.3 million to ensure equal pay for equal work.

Yet, Benioff recognizes that equal pay for equal work is just the first step: "You know, you can say equal opportunity is one critical part of gender equality. Then you can say equal advancement, that's a critical part of gender equality. Then you can say equal pay, that's the third door. And the fourth door is preventing sexual harassment. All of these things together is gender equality."³²⁸

³²⁷ Claire Zillman, *Salesforce's Marc Benioff Urges His Fellow CEOs to Close the Gender Pay Gap*, FORTUNE (Jan. 18, 2017) <https://fortune.com/2017/01/18/salesforce-ceo-marc-benioff-gender-pay-gap/>

³²⁸ Lesley Stahl, *Leading by example to close the gender pay gap*, CBS (Apr. 15, 2018) <https://www.cbsnews.com/news/salesforce-ceo-marc-benioff-leading-by-example-to-close-the-gender-pay-gap/>

The 30 percent Rule:

A growing body of research shows companies with more women in top tier roles perform better. According to Catalyst, companies with more women board directors outperform those with the least women when it comes to return on equity, return on sales and return on investment. Among companies with the highest representation of women in senior leadership positions there is a 35 percent higher return on equity and 34 percent higher total return to shareholders than companies with the lowest representation of women.³²⁹

Despite this data, many organizations lack – or struggle to achieve – gender diversity at the top. Benioff has made women’s leadership both a fairness issue and a business imperative.

Apart from mandating the equal pay principle, he created a bold new policy that forces Salesforce to ensure increasing gender equity in management: Benioff will not host a meeting unless 30 percent of the participants are women.

Furthermore, Salesforce was one of the first major tech companies to have a chief Equality Officer, a position that reports directly to the CEO and partners across the company to drive change. As equality is being integrated into every step of our employee experience, Salesforce is using a data driven strategic approach with a monthly scorecard to measure the head count, hiring attrition, and promotion.³³⁰

Salesforce has created innovative new offices across the organization to ensure equality and diversity. This includes the Equality Board, Equality Mentorship program and a partnership with the Executive Leadership Council on an in-house program focused on underrepresented minorities.

To evaluate and measure progress, Salesforce publishes its diversity data in an annual. The data helps to create new goals and strategies to accelerate growth and drive change within the company. The goal by 2023

³²⁹ *Report: The Bottom Line: Corporate Performance and Women’s Representation on Boards (2004–2008)*, CATALYST (Mar. 1, 2011) <https://www.catalyst.org/research/the-bottom-line-corporate-performance-and-womens-representation-on-boards-2004-2008/>.

³³⁰ Marcel Schwantes, *The CEO of Salesforce Found Out His Female Employees Were Paid Less Than Men. His Response Is a Priceless Leadership Lesson*, INC (Jul. 26, 2018) <https://www.inc.com/marcel-schwantes/the-ceo-of-salesforce-found-out-female-employees-are-paid-less-than-men-his-response-is-a-priceless-leadership-lesson.html>.

is to aspire to 50 percent of its U.S. workforce to be made up of underrepresented groups (Women, Black, Latinx, Indigenous, Multiracial, LGBTQ+, People with Disabilities, and Veterans).³³¹

SDG 10: Reduced Inequality

In 2018, Marc and Salesforce led the fight to pass Proposition C in San Francisco, which would raise taxes on San Francisco companies in order to fund homelessness programs. Salesforce contributed \$6.2 million to the Yes on C Campaign.³³² The Benioffs have made significant gifts in order to address homelessness in San Francisco, including \$30 million to establish the UCSF Benioff Homelessness and Housing Initiative, \$6.1 million to fund the Bristol Hotel housing project, \$11.5 million to San Francisco's Heading Home Campaign to end family homelessness, and additional support for organizations including Star Community Home, Raphael House, Larkin Street Youth Services and Catholic Charities.³³³



Goal 10: Reduce inequality within and among countries

SDG 13: Addressing the Harmful Impacts of Climate Change

The Benioffs gave \$10 million to University of California at Santa Barbara to establish the Benioff Ocean Initiative, and have supported organizations



Goal 13: Take urgent action to combat climate change and its impacts

³³¹ Tony Prophet, *Our Path to Equality: The Salesforce Annual Update*, SALESFORCE (Nov. 13, 2019) <https://www.salesforce.com/blog/2019/11/equality-annual-update.html>.

³³² Interview by authors with Marc Benioff, CEO Salesforce (interviews conducted between February 2019 and July 2020).

³³³ Laura Kurtzman, *UCSF Launches New Benioff Homelessness and Housing Initiative with \$30M Gift*, SALESFORCE (May 1, 2019) <https://www.ucsf.edu/news/2019/05/414316/ucsf-launches-new-benioff-homelessness-and-housing-initiative-30m-gift>.

including the Sustainable Oceans Alliance, WEF Friends of Ocean Action, and The Ocean Cleanup.³³⁴

In 2018, Salesforce announced its leadership in the creation of the Step Up Declaration, a new alliance committed to harnessing technology to reduce emissions across all economic sectors.³³⁵

SDG 16: Peaceful and Inclusive Societies

In 2018, Salesforce established the first-ever Office of Ethical and Humane Use of Technology. The office merges law, policy, and ethics to develop and implement a strategic framework for the ethical and humane use of technology across Salesforce. In creating the Office, Benioff claimed “We know that technology is not inherently good or bad; it's what we do with it that matters. And that's why we're making the ethical and humane use of technology a strategic focus at Salesforce.”³³⁶

Benioff has also made waves with his remarks on the need for regulation of social media sites like Facebook, which he claimed “is the new cigarettes. It should be regulated.” The solution Benioff advocates for is for a national privacy law in the United States, reflecting a growing movement to increase accountability and transparency not just in public institutions but in private as well.³³⁷



Goal 16: Promote peaceful and inclusive societies, provide access to justice for all and build effective, accountable and inclusive institutions

While Salesforce's work has long aligned with the SDGs, this year the company has started the process of explicitly incorporating the SDGs within its organization framework. A special dedicated Social Impact team at Salesforce.org is working to develop innovative strategies for Salesforce to even better accelerate progress towards the SDGs. With only a decade left to achieve the SDGs, Salesforce must accelerate greater progress in closing the global development divide.

³³⁴ *Sustainable Ocean Alliance Announces \$1.5M in funding and releases First State of Our Ocean Annual Report*, SUSTAINABLE OCEANS ALLIANCE (Jan. 23, 2019) <https://www.soalliance.org/davos2019/>.

³³⁵ *Salesforce, STEP UP DECLARATION* <https://stepupdeclaration.org/salesforce>.

³³⁶ *See generally, Ethical and Humane Use*, SALESFORCE <https://www.salesforce.com/company/ethical-and-humane-use/>.

³³⁷ Mike Murphy, 'Facebook is the new cigarettes for our society,' Marc Benioff says, calling for regulation, MARKETWATCH (Jan. 4, 2020) <https://www.marketwatch.com/story/facebook-is-the-new-cigarettes-for-our-society-marc-benioff-says-calling-for-regulation-2019-12-29>.

Looking Forward: A “State of the Union” for The Future of Work- A Conversation with Cognizant

“...We want technology to help us, as a tool, but we don’t want technology for technology’s sake. The jobs in our report ...point not to a cyber dystopia — a grim, dark singularity — but to a recognizable world in which technology has improved things for humans, not robbed us of what we value most: our very humanity.”

“Don’t underestimate human imagination or ingenuity. Our greatest quality is our curiosity. We want to know what’s around the riverbend. How it works. What it means.” – “21 Jobs of the Future” Cognizant Report

The fear of a “jobless future” has never been greater. Seemingly every day, an academic, researcher or technology leader suggests that in a world of automation and AI, workers will increasingly be a surplus to what businesses need. So how can the power of technology be harnessed to accelerate the SDGs? There are a growing number of use cases for AI and IoT enabling the SDGs. For example, preventative healthcare programs and diagnostics are significantly improved through AI leading to new scientific breakthroughs. There are 8 billion mobile devices with smartphone cameras being used to diagnose heart, eye and blood disorders; microphone and motion sensors yielding insights into bone density and osteoporosis — and managing cancer, diabetes and chronic illness remote care. Despite legitimate concerns about automation replacing jobs, AI augmentation and targeted automation with intelligent devices can improve the work environment, increase productivity, and be a significant driver of economic growth. As strong as the potential is for good, however, AI also carries with it some significant challenges. From disease diagnostics to crop production, machine learning and AI have the capacity to address critical global challenges. Yet this is only possible if inclusive strategies and frameworks are used in these massive transformations.

In this final section, we look at ways in which leaders in the private sector are currently leveraging existing technologies. We speak with the leaders of Cognizant, the fastest growing technology services in the world to understand the future of jobs and the opportunities and threats that technology poses for the future. As the largest technology service provider and creator of digital infrastructure whose clients range from 3M and Prudential Insurance to 16 out of the top 20 North American financial institutions, Cognizant’s mission is to be at the forefront of innovation and anticipate change. Its recent report on the “Shape of Work to Come: 42 Things to Know About the Future of Your Work” released in July 2019 is referred to as a State of the Union for the future of work. We talk to both Kumar Mahadeva the founder of Cognizant Technology Solutions and Brian Humphries, the current CEO and the former CEO of Vodafone Plc. From Environment, Social and Governance (ESG) to allyships, clear targets, to collaborations, these conversations provide insights into initiatives that can scale up the SDGs.

In their much quoted 2017 study on “21 Jobs of the Future” Cognizant examines the impact of AI on employment and AI’s potential to take on a variety of tasks traditionally performed by people. But just how AI will affect the labor market is not that easy to predict. The Study argues that although AI will eliminate some jobs, others will emerge. Over the next 10 to 15 years, nearly 21 million new jobs will be created by the advent of AI. To a great extent, the future of work will see AI to augment and complement human skills. Collaboration will include not just human to human but human-machine collaboration. AI is an inflection point for humankind and the SDGs and is the ultimate breakthrough technology, which is realized today in intelligent agents, augmented reality, and rapid advancements in deep neural nets providing fundamental human-like perception.

Our Question and Answer with Cognizant, showcases some of the ways in which AI and Machines Learning can have a profoundly transformative impact on development while also underscoring some of the ways in which they can polarize communities.

SDG 5: Some of the biases in AI can be addressed by including more women with skills in AI

How can Cognizant helps address gender inequalities?

“Our company is acutely aware of the ever-growing need for qualified talent—talent to help businesses succeed and communities thrive in a digital economy. In May 2018, we launched the Cognizant U.S. Foundation, a 501(c)(3) nonprofit, private foundation formed with an initial \$100 million grant to support science, technology, engineering and math (“STEM”) education and skills training across the United States. Since its inception, the foundation has awarded \$12 million to organizations working to educate and train the next generation of talent in a diversity of communities—from Charlotte to Chicago to women and veterans in many parts of the country.”



Goal 5: Achieve gender equality and empower all women and girls

Cognizant also works to promote women with AI skills within the company. According to them: “One of the ways we are elevating the experience of work for women is through our global Women Empowered (“WE”) program. WE is committed to developing more women leaders at all levels of our company, providing career growth and leadership development opportunities, and building a community of women focused across all industries in business and technology...We are proud to have been named to the top quadrant of Forbes list of Best Employers for Women 2018.”³³⁸

Target 5.5: Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life.

What role do you believe technology industries like AI and the private sector can play in achieving SDG 5 - closing the gender gap and elevating women? How do you get more women to participate and stay in the industry, while fighting male attitudes?

Having a well thought through strategy on building and accelerating deliberate male allyship through sensitization, dialogues at the leadership levels and subsequently cascading to levels below. This is supported by appropriate org processes that further facilitates this allyship. More recently, gender goals having a place in our Annual Operating Plan is a significant shift that has led to multiple meaningful initiatives globally.³³⁹

How is Cognizant’s commitment to elevating the experience of work for women reflected in the leadership?

We have set a clear tone from the top that diversity and inclusion are a business imperative. In fact, we now measure our senior leaders on hiring and retaining women in leadership levels to ensure continuous improvement to our overall gender mix at senior levels.³⁴⁰

What was the inspiration behind Cognizant’s Women Empowered initiative? Have you faced any backlash to this initiative?

The need for it came as we observed the best practices at our client organizations. Over the years, it has helped build a community of voices that further our organization commitment to a gender equal work and

³³⁸ Interview by authors with Cognizant leadership (interviews conducted between February 2019 and July 2020).

³³⁹ *Id.*

³⁴⁰ *Id.*

opportunities culture. We have received phenomenal support for this initiative from both men and women across all geographies.³⁴¹

At the 2019 MAKERS conference, Cognizant pledged to employ at least 100,000 women around the world by 2020. What are some of the challenges you think Cognizant will face in achieving this goal?

Cognizant continues to be highly committed to a diverse and inclusive workforce. Not only because it is the right thing to do, but also because it gives us the best available talent out there. When we made this pledge, we meant it and have stayed the course. I am really pleased with our progress to date and we are on track to hitting this big milestone in Cognizant history.³⁴²

What steps do you think the private sector, and companies like Cognizant, can take to hold the sector as a whole, and other companies, accountable for fair gender policies and elevating gender empowerment?

Acknowledging the benefits and importance of a gender diverse work force and accordingly making the necessary adaptations to their talent acquisition, development and retention strategies.³⁴³

SDG 10: Cognizant has been at the forefront of using AI to reduce inequalities around the world

What is it about AI and IoT that is most transformative to achieve the promotion of inclusive and sustainable industrialization?

- The ability to augment labor productivity and innovation through human-machine collaboration is the most transformative element of AI & IoT. Some of these are already in play in the form of smart factories where humans and smart machines are working side by side to improve outcomes.



Goal 10: Reduce inequality within and among countries

³⁴¹ *Id.*

³⁴² *Id.*

³⁴³ *Id.*

- On one extreme, it will help humans focus more on complex, judgement-based tasks and customer service elements while machines do repetitive and mundane tasks while on the other extreme is the ability of machines to simplifying the complexities by taking up the responsibility of more complex, compute intensive, massive data churning type of activities thereby allowing scaling of human workforce available for such tasks.
- These will lead to new opportunities through innovation spillovers – for instance Google Maps as an innovation, led to growing cab share services like Uber. This revolutionized personal transport while creating higher employment and inclusivity of more people into the transportation industry. It further created a ripple effect by hyper-localization services and in developing economies like India, the inclusion of unskilled/unemployed labor into services like Uber Eats or Swiggy in India has generated increased employment.
- Across industries, this will create a ripple effect of human-machine collaboration made possible by AI & IoT to promote more inclusivity and sustainability. Having said that, this transformation will need to be enabled by an effective reskilling/skill augmentation engine.³⁴⁴

Target 10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

Target 10.3: Ensure equal opportunity and reduce inequalities of outcome,

What is the largest challenge in applying AI and IoT in emerging and developing economies?

There are three key challenges in emerging and developing economies as listed below:

- **Skilled workforce:** While many leading technical universities are pioneering research in AI, there are a large number of graduates in STEM areas in developing economies like India who lag in practical proficiency levels. This is an area, which needs attention so that the emerging workforce is able to apply AI & IoT practically. There is also a shortage of expertise and talent in AI, ML and high tech like IoT.
- **Funding of research and funding of startups:** is another area of challenge in emerging the developing economies. There is a large difference in investments when compared to developed economies. In addition, the gestation period for returns is larger with AI and IOT deployments. Companies are also

³⁴⁴ *Id.*

not willing to take risks with investments in AI in emerging and developing economies. Technology also needs to mature - as explainable AI kicks in - mitigation of these risks become easier.

- Data Protection & Privacy: AI, ML and robotics are largely dependent on volumes of data. As a result, devices and applications making use of these technologies are designed to continuously capture and relay user information. In such a scenario, it becomes imperative to have strong and transparent policies for data protection and privacy while not blocking the sharing of data. When such laws and policies are not in place, it increases the risks of companies operating in such economies.³⁴⁵

Cognizant is a leader in the automating processes. How do you think the current skills of workers need to change to promote innovation in emerging markets?

The skill sets expected of the workforce of future can be broadly classified into the following categories:

- Technology, algorithmic and programmatic know-how: This is required to conceptualize, design and implement systems and applications that make use of either one or more areas within AI (ML, natural language processing and generation, video and speech analytics, etc.) to transform business processes and workflows
- Strategic and operational decision making: This would be required to put into action insights gained from applications using AI for enhancing performance, reducing costs, gaining competitive advantages and furthering social causes.
- Frugal Engineering practices: Given the lower amount of investments and the need to show ROI faster, frugal engineering practices and ability to prototype and pilot fast will help the workforce add more value to what organizations will look for.³⁴⁶

This will mean going beyond repetitive task-based skills and changing to be higher up the value chain in the above areas.

³⁴⁵ *Id.*

³⁴⁶ *Id.*

SDG 12: As Cognizant has shown, AI technology can also be used to protect the environment and reduce consumption.

Cognizant has several corporate sustainability strategies aimed at protecting the environment through innovative technology. Could you speak about your favorite project?

As an organization, we are constantly looking for ways to reduce our environmental impact. There are numerous programs within the company focused on conserving energy, reducing and disposing of waste, and recycling. My favorite project would have to be the one where we proactively encourage and work with our employees to foster a mindset of conserving energy and shrinking individual carbon footprints (carpooling, bicycling, optimizing energy consumption, embracing greener lifestyles, et al). We can make unimaginable difference to the cause of a cleaner and greener environment if we all begin with ourselves.³⁴⁷



Goal 12: Ensure sustainable consumption and production patterns

What role do you see the private sector playing in the protection of the environment?

The role of the private sector in environmental stewardship has changed dramatically in the past decade or so, spanning environmental protection to driving research, innovation and best practices. The environmental role of the private sector must go far beyond pollution control mandated by regulations. The private sector must apply its expertise and resources to modifying and developing products, services, processes and technologies that reduce exposure to toxic chemicals, prevent waste, encourage recycling, reduce energy consumption and greenhouse gas emissions, driving occupational health and safety for its employees and contractors, ensure good environmental performance by suppliers, work closely with industry and academia in driving research and contributing to sustainability through innovation, and most importantly, bring in utmost transparency and objectivity to environmental disclosures.³⁴⁸

Cognizant's was named the #16 on Barron's 100 Most Sustainable Companies for 2018. What are the programs you would like to highlight?

³⁴⁷ *Id.*

³⁴⁸ *Id.*

Cognizant endeavors to advance sustainability by considering environmental, social and governance (“ESG”) matters throughout our business and operations. Our ESG initiatives are overseen by our Governance Committee and reported on to the board. Our executive management is responsible for developing and carrying out our ESG undertakings, with the Governance Committee regularly receiving progress reports from various leaders within our organization on our ESG efforts.

At Cognizant, our commitment to sustainability grows out of our core values and purpose. Our company’s purpose is to not just help clients around the world create new sources of value in today’s digital era, but also shape a better world through technology and talent.

With disruptive digital technologies impacting governments, industries and each one of us, we are uniquely positioned to leverage our 25 years of global technology leadership and our more than 280,000 employees worldwide to elevate humanity through technology and talent. We believe it is our responsibility to apply our technology expertise, passion for innovation, and the energy of our global teams to the evolving needs of our communities and environment.³⁴⁹

³⁴⁹ *Id.*

CEO of IBM—Ginni Rometty: We Are at an Exponential Time in History

We now stand at the cusp of a revolution. A new revolution is creating exponential learning—to outlearn competition. - Ginni Rometty, 2018

IBM AND THE SDGS: USING TECHNOLOGY TO ADVANCE SOCIETY

A hallmark of a leader is the capacity for big and transformative thinking. President Ellen Johnson Sirleaf advised the graduating class at Harvard in 2011 to think big: "The size of your dreams must always exceed your current capacity to achieve them. If your dreams do not scare you, they are not big enough."³⁵⁰ Ginni Rometty's ambition for learning creates in her words, "a moment of exponential impact."³⁵¹

IBM, under the leadership of its CEO Ginni Rometty is showing the world how businesses have a responsibility towards society. This company is not only leading the newest applications of artificial intelligence, blockchain and quantum computing for its business clients, but it is offering its tech power and expertise to solve some of the world most complicated problems related to health, environment and social mobility. In the words of Ginni Rometty, there is a real obligation of business and governments towards society and "companies who are bringing new technologies to the world need to lead by a set of value principles."

Rometty is the adaptive leaders—constantly in search of new solutions to unresolved challenges. Ronald Heifetz describes adaptive leadership as an approach to making progress on the most important challenges of the world. Heifetz defines problems as technical or adaptive. Adaptive challenges go beyond routine problem solving to take on the challenges of our time. Moreover, it calls for changes in the value systems.

Two major initiatives that showcase Rometty's adaptive leadership philosophy include: The Call for Code and the P-Tech initiative.

When IBM launched Call for Code in 2017, the goal was to inspire developers to build technology solutions that would help our society prepare for, respond to, and recover from natural disasters.³⁵² The response from

³⁵⁰ Harvard Commencement Remarks by President Ellen Johnson Sirleaf, May 26, 2011

³⁵¹ VivaTechnology 2018 Speech by Ginni Rometty, May 24, 2018

³⁵² Call for Code <https://callforcode.org/>.

developer communities across the globe was overwhelming and the Call for Code transformed into a call to action.

In 2018, more than 100,000 developers from 156 nations donated their time and talent to create original code and IoT solutions. These tackled everything from the California wildfires, earthquakes in South America, hurricanes and typhoons around the world, and flooding in Kerala, India.

This call to action transformed IBM. Rometty says, “From virtually every corner of the company, we heard, ‘How can I help?’”³⁵³

To that end, IBM is continuing its partnership with Call for Code in 2019, and launching a new initiative, Code and Response, which provides a framework for putting top projects from Call for Code and similar challenges into production.

Anthony Kronman in the “Lost Lawyer” writes that, “statesman is a term of praise, a word that we use to express our admiration for those men and women who lead their communities with exceptional wisdom and skill.”³⁵⁴ To Kronman, statesmanship is about a kind of skill at making judgments about the public good and creating solutions for the preservation of the collective enterprise.

Rometty looks at contemporary history through the lenses of waves of development in technology: every 25 years profound changes of great consequence take place. Today she sees great potential or to change the ecosystem by combining government and business to do good.

Rosabeth Moss Kanter argues that leaders must get ready for the future.³⁵⁵ She calls this skill the “imagination to innovate.” To create conditions that make productive change a natural way of life. The impact of projects must go beyond departures from the past and must include a fitness for the future.

³⁵³ *Code and Response puts solutions to work saving lives*, Medium <https://medium.com/@IBMDeveloper/code-and-response-puts-solutions-to-work-saving-lives-457f06ab0689>.

³⁵⁴ Anthony Kronman, *The Lost Lawyer: Failing Ideals of the Legal Profession*.

³⁵⁵ Rosabeth Moss Kanter, *Think Outside the Building: How Advanced Leaders Can Change the World One Smart Innovation at a Time*.

One way in which Rometty reimagines the world is through New Collar Jobs.³⁵⁶ Given the fears that AI will create a digital divide, IBM is envisioning a whole new world of New Collar Jobs—to create a work force that can address a changing work world. IBM calls it pathway to technology—creating a six-year high school degree that combines high school and an associate degree, including mentorship and apprenticeship. After graduation new collar workers start working at IBM and other partner companies. This pathway to technology has the potential to revolutionize education in developing economies. Currently, 15 countries have joined this new call to action. More needs to be done to bring this initiative to scale.

The “Returnship” program for women, described later in this chapter, is another example of the way in which Rometty adapts change.³⁵⁷ While all changes involve closing a gap, innovation requires courage as well as imagination. Leaders like Rometty are idea scouts and alliances builders between and across companies and internationally.

No Poverty – SDG 1

IBM created Corporate Service Corps (CSC) to dispatch its top talent to strategic markets around the world.³⁵⁸ The CSC program groups IBM employees from different countries into cross-functional teams that assist community organizations in high-priority issues such as education, the environment, health and economic development.

Since its inception in 2008, the CSC program has contributed over 4,000 participants on over 350 teams to 40 countries around the world, delivering over \$80 million in donated intellectual capital on over 1,400 projects. In 2017, CSC deployed 402 top- talent IBM employees from 49 countries to 31 cities in 18 countries, and extended our partnership with the Peace Corps.

Highlights from CSC’s engagements include:

- A CSC team worked with the Society for Elimination of Rural Poverty (SERP) in Vijayawada, India, to develop recommendations for an integrated management information system (IMIS) to help people in rural areas, living below the poverty line, to improve their standard of living.



SUSTAINABLE DEVELOPMENT GOAL 1 *No poverty*

Target 1.2: By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

³⁵⁶ IBM New Collar Programs <https://www.ibm.com/us-en/employment/newcollar/index.html>.

³⁵⁷ IBM Tech Re-Entry Program <https://www.ibm.com/employment/techreentry/>.

³⁵⁸ IBM Service Corps <https://www.ibm.org/initiatives/ibm-service-corps>

- A CSC team worked with the Global Food Banking Network (GFN) in Toluca, Mexico, and helped increase the number of food donors by 41 percent and the number of people fed by 15,000 each month. Following this success, the CSC assigned additional teams to work with GFN in Merida and Monterrey, Mexico; Guayaquil, Ecuador; Barranquilla and Cali, Colombia; and Mendoza and Cordoba, Argentina.
- An IBM CSC team helped formulate a national supply chain for medicine in Ghana.
- In Ghana, an IBM CSC team supported girls' education by enabling TECHAiDE, a social enterprise, through information and communications technology- enabled solutions, and by advising the Ministry of Gender, Children and Social Protection and the Ministry of Education on information management systems to support an extensive female mentorship strategy.
- In Kenya, a CSC team helped enable the Women's Enterprise Fund to deliver entrepreneurial training to 89,000 women and to launch 25 new business clubs.
- In Ethiopia, teams working with International Medical Corps helped 46,000 Ethiopians become more resilient through improved water, sanitation and hygiene practices.
- In Brazil, a CSC team worked with The Nature Conservancy to improve a tool it had created to enable municipal, state and the central government to monitor tree cutting activities — with a goal of slowing illegal deforestation in the Amazon basin and helping to address climate change.

Zero Hunger – SDG 2

IBM is playing an active role in the achievement of enhanced food security and improved nutrition. By using blockchain, IBM developed a model that provides transparency and end-to-end traceability for supply chains. A pilot was carried out in China with IBM, Walmart, China's Tsinghua University that allowed retailers to have access to better and immutable data on the origin of the products and quality inspections just from a single receipt.³⁵⁹ This technology will therefore allow to detect contamination sources easier and to act faster.



SUSTAINABLE DEVELOPMENT GOAL 2
Zero Hunger: Food Security

³⁵⁹ *IBM & Walmart Launching Blockchain Food Safety Alliance In China With Fortune 500's JD.com*, Roger Aitken <https://www.forbes.com/sites/rogeraitken/2017/12/14/ibm-walmart-launching-blockchain-food-safety-alliance-in-china-with-fortune-500s-jd-com/#69cd753c7d9c>

IBM is contributing to agriculture sustainability through the analysis of localized meteorological data by its enterprise artificial intelligence solution, Watson. IBM worked with AgroStar to help farmers in Maharashtra and Gujarat in India, putting in-field weather sensors that collected data that helped farmers make more informed decisions on times for harvesting, operations and soil needs and nutrient requirements.

Good Health and Well-Being – SDG 3

IBM is also exploring the potential of blockchain technology to help improve drug research and public health.

IBM helped the Shenzhen Center for Disease Control, China, build a self-adaptive online machine-learning module using Watson technology to better predict and control infectious diseases. In addition, IBM Research Africa is working with Oxford University developing artificial intelligence algorithms to develop scenarios and the most effective malaria intervention strategies.

Furthermore, IBM employees contribute to goal 3 with other social impact programs such as IBM Impact Grants and IBM Health Corps. Three employees obtained an IBM Impact Grant to devise a social media strategy for the Malaysian Mental Health Association (MMHA) that ended up increasing engagement with at-risk young people dramatically. Moreover, through IBM Corps, the company partners with health organizations to address urgent public health needs.³⁶⁰ For example:

- IBM Health Corps developed a mobile disease surveillance system with the Gorgas Memorial Institute for Health

Target 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.



SUSTAINABLE DEVELOPMENT GOAL 3
Good Health and well-being

³⁶⁰ IBM Health Corps <https://www.ibmhealthcorps.org>

Studies in Panama, to connect public health investigators tracking Zika and dengue mosquitos with epidemiologists and policy makers.

- IBM Health Corps helped the American Cancer Society, the National Comprehensive Cancer Network (NCCN) and the African Cancer Coalition (ACC) to create a tool that oncologists can use to reference and identify evidence-based treatment options.
- IBM Health Corps worked with Duke Health in Durham, North Carolina, to design a solution for sharing and mapping community health information among dozens of local clinics and agencies.

IBM also created the World Community Grid, that crowdsources processing computer power from volunteers globally to tackle scientific projects that benefit humanity research.³⁶¹ For example, the crowdsourced computer power allows to run virtual chemistry experiments to test the effectiveness of chemical compounds to treat childhood cancer. Since 2004, World Community Grid volunteers have provided more than 1.6 million years of computing time to support 29 projects, including research into treatments for AIDS, Ebola, Zika virus, cancer, and tuberculosis. IBM's artificial intelligence solution Watson helps understand medical data and uncover novel patterns and connections more quickly. One of the major accomplishments in this area is the use of Watson for Drug Discovery by the Barrow Neurological Institute used to explore unidentified genes and proteins that may be linked to amyotrophic lateral sclerosis (ALS). In just a few months, Watson not only found eight of the 10 top ranked proteins but also uncovered five new. Also, IBM is using Watson to develop insights and early warning systems to help curb the opioid epidemic.

In addition to uncover relations among data, IBM also helps generating automated hypothesis based on mining scientific literature. IBM's KnIT mined the published literature on protein kinases that phosphorylate the protein tumor suppressor p53 with high accuracy. Moreover, Watson was used at Manipal Hospitals in India, where their tumor board found that Watson was concordant with their recommended treatment decisions in 93 percent of breast cancer cases. At the University of North Carolina Lineberger Cancer Center a test was

Target 3.B: Support the research and development of vaccines and medicines for the communicable and noncommunicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.

Target 3.D: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

³⁶¹ World Community Grid <https://www.worldcommunitygrid.org/>.

carried out that confirmed that cognitive computing was as effective as a panel of cancer experts in identifying therapeutic options for tumors with specific genetic abnormalities.

Finally, IBM signed a research initiative with the U.S. Food and Drug Administration (FDA) in January 2017 to meet global challenges in the secure and efficient exchange of health data.³⁶²

Quality of Education – SDG 4

IBM launched SkillsBuild initiative within its the On Demand Community program to provide students with 21st-century skills and technologies.³⁶³ The goal of this initiative is to reach 1 million students every year for the next five years with free-of-charge engaging, hands-on activities on coding, AI and robotics. More specifically, in 2017, IBM University Relations program launched “Digital — Nation Africa” to build digital skills in Africa, a program that has been joined already by more than 60 organizations.

One of IBM’s most famous programs that contributes to goal 4 is IBM P-TECH 914, which teaches 21st century skills to socioeconomically disadvantaged backgrounds. Since its launch, P-TECH has scaled to 110 schools across the U.S., Australia, Morocco, and Taiwan. Students graduated to “new collar” jobs with IBM or used their associate degree to transition to four-year colleges or universities.

To increase the supply of qualified teachers, IBM developed Teacher Advisor, a free Watson-powered web tool that is intended to support teachers as they plan effective lessons to increase student

Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

Target 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

Target 3.5: Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.



SUSTAINABLE DEVELOPMENT GOAL 4

Inclusive and equitable quality of education and life-long learning

³⁶² IBM Watson Health Announces Collaboration to Study the Use of Blockchain Technology for Secure Exchange of Healthcare Data, IBM <https://www-03.ibm.com/press/us/en/pressrelease/51394.wss>.

³⁶³ SkillsBuild <https://skillsbuild.org/>.

achievement. The tool has currently over 8,000 quality lesson plans, activities and classroom strategies. In addition, IBM collaborates in Teachers TryScience to help teachers strengthen their instruction in STEM.³⁶⁴ This global initiative, developed in collaboration with the New York Hall of Science and teachengineering.org, has grown to serve 28,000 registered users with 617 lessons and pedagogic resources in 21 languages. Users include teachers in emerging countries such as India, Malaysia, Thailand and Vietnam. In Malaysia, for example, the Ministry of Science, Technology and Innovation announced plans to use the website to train 4,400 special-needs educators across the country over two years.

In addition, IBM refreshed IBM Ph.D. Fellowship awards program to cover the studies and provide IBM mentorship to Ph.D. students in artificial intelligence, block-chain, security and quantum computing.³⁶⁵ Also, IBM created its Veterans Employment Accelerator Impact Grant program to provide software training, certification and job placement assistance for veterans.³⁶⁶

Finally, IBM employees have also contributed towards this goal through IBM grants and IBM Excellence Awards.³⁶⁷ In 2015, an IBM employee co-founded an initiative in Israel that each year delivers workshops on app development to more than 2,000 ninth-grade girls from 70 schools. Another IBM employee recruited a volunteer team to develop a system for a social services organization in Denmark that pairs adult mentors with disadvantaged children. In Turkey, another employee delivered a technology roadmap grant to the country's only NGO focused on teacher development.

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Target 4.5: By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.C: By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

³⁶⁴ Teachers TryScience <http://teacherstryscience.org/>.

³⁶⁵ IBM Academic Awards <https://www.research.ibm.com/university/awards/phdfellowship.shtml>.

³⁶⁶ Veteran Employment Accelerator

<https://www.research.ibm.com/university/awards/phdfellowship.shtml>.

³⁶⁷ IBM Volunteer Excellence Awards <https://www.ibm.org/initiatives/ibm-volunteers/stories>.

Gender Equality – SDG 5

IBM has made numerous achievements towards providing a gender equal workplace and received the Catalyst Award in 2018.

The most famous IBM program in this started Tech Re-Entry, a 12-week "returnship" program for skilled women re-entering the workforce after a break. The program provides an opportunity to work as an intern on high-level projects with a senior level mentor for 12 weeks when re-entering the workforce.

Other important programs include, IBM Elevate leadership development program, to promote women's advancement from middle-management positions into senior leadership roles, and other initiatives such as career development activities, mentorship sponsorship, and support structures. Finally, another IBM employee used an IBM Impact Grant has to help Nigeria's National Association of Women Entrepreneurs provide business planning training for small businesses.



SUSTAINABLE DEVELOPMENT GOAL 5
Gender equality

Target 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life.

Clean Water and Sanitation – SDG 6

IBM has set stringent standards to monitor and control water discharges that are generated from its operations, including industrial wastewater and sanitary wastewater discharges. In addition, in 2016, IBM identified 45 data centers and other large locations located in water-stressed regions and established a goal to achieve year-to-year reductions in water withdrawals. In one year, IBM reduced water withdrawals at these regions by 2.9 percent.



SUSTAINABLE DEVELOPMENT GOAL 6
Clean water and sanitation

IBM's World Community Grid was used for the Computing for Clean Water project which simulated water flow through carbon nanotubes to find processes that could lead to improved global access to clean water. The groundbreaking findings of this project have many possible applications, including the potential to improve water filtration technology and more efficient desalination, as well as possible applications in clean energy and medicine.

Finally, as a member of the U.S. Water Partnership, IBM helps to unite and mobilize US expertise and resources to help address global water challenges, with a special focus on those developing countries with greater needs.

Affordable and Clean Energy – SDG 7

IBM achieved its goal to purchase 20 percent of our electricity consumption from renewable sources by 2020. By 2017, IBM's suppliers purchased approximately 779,000 MWh of renewable electricity, representing 22.9 percent of IBM's global electricity consumption and avoiding 275,000 metric tons of CO2 emissions.

Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.

Target 7.3: By 2030, double the global rate of improvement in energy efficiency.

Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing.

Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes recycling and safe reuse globally.



SUSTAINABLE DEVELOPMENT GOAL 7
Affordable and clean energy

Decent Work and Economic Growth – SDG 8

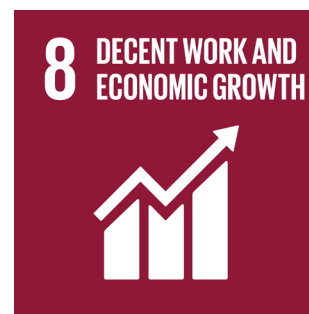
IBM created its supplier diversity program in 1968 to provide opportunities to suppliers that are at least 51 percent owned by people from an ethnic minority, women, military veterans, people with disabilities or LGBT individuals. In 2000, IBM joined the

Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

Target 8.7: Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.

Billion Dollar Roundtable, an organization that encourages businesses to work with diverse suppliers and since then, IBM has annually conducted more than \$2 billion in business globally. In addition, IBM also extended its requirements of diversity to second-tier suppliers.

An IBM employee is using an IBM Impact Grant to help DeliverFund, a U.S. NGO, use cyber-intelligence to identify and track fight human trafficking networks through their online activity.



SUSTAINABLE DEVELOPMENT GOAL 8
Decent work and economic growth

Industry Innovation and Infrastructure – SDG 9

In 2004, IBM established IBM's Supplier Conduct Principles, which are environmental and social requirements for IBM suppliers, and, since then, has tracked compliance through an audit program. Its objective is to help suppliers build their own capability and establishing voluntary, quantifiable environmental goals in the



SUSTAINABLE DEVELOPMENT GOAL 9
Industry, innovation and infrastructure

areas of waste, energy and GHG emissions³⁶⁸. IBM suppliers are also required to publish their achievements and to communicate these requirements to their own suppliers.

In addition, IBM was one of the founding members of the Responsible Business Alliance (RBA), and assisted them develop their supplier code of conduct. The RBA Code establishes standards to ensure that working conditions in the electronics industry supply chain are safe, that workers are treated with respect and dignity, and that business operations are environmentally responsible and conducted ethically.

Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Reduced Inequalities – SDG 10

Inclusion of diversity is anchored in IBM's principles and Human Resource strategy. In 2017, IBM fought the transgender bathroom bill in Texas by engaging in an awareness campaign and signing a joint letter with other technology companies that was sent to state legislators. In 2017, IBM also took a stand for immigrants' children by urging the U.S. Congress to find a permanent legislative solution to stay in the U.S. to "dreamers", children raised in the U.S. after their parents brought them without legal immigration status.



SUSTAINABLE DEVELOPMENT GOAL 10
Reduced inequalities

Internally, IBM created eight executive task forces to welcome focus groups (Asian, Black, Hispanic, Lesbian/Gay/Bisexual/Transgender (LGBT), Men, Native American, People with Disabilities, and Women), to help them maximize productivity, and to advocate for them. In addition, IBM has Business Resource Groups (BRGs) to engage and achieve the full potential of these minority groups. As of 2017, IBM has 50,000 employees who belong to 300 BRG chapters registered in 50+ countries, including LGBT+ BRG chapter in Russia and the first Women's BRG chapter in Saudi Arabia and Pakistan.

³⁶⁸ These goals also include the use paper and paper/wood- based packaging. IBM requires these materials to be procured from suppliers that source from sustainably managed forests, where such sources exist. Continued focus on this objective by IBM and our suppliers over the years has allowed IBM to attain this goal for 98 percent of paper and paper/wood-based packaging that IBM currently acquires.

For more than 100 years, IBM has created accessible solutions designed to adapt to people with disabilities, the aging population, novice technology users and, people with language, learning and literacy challenges. Some early innovations included a Braille printer, a talking typewriter, and the first commercially-viable screen reader. Lately, IBM launched an automated solution to check and ensure that mobile apps and their content adhere to accessibility standards and regulations.

Target 10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

Target 10.3: Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.

Sustainable Cities and Communities – SDG 11

One of IBM's largest philanthropic initiatives is the Smarter Cities Challenge (SCC), a program that provides cities around the world with grants of IBM expertise and technology to address their top strategic challenges.³⁶⁹ The program involves working with city authorities to devise strategies to manage congestion, pollution, poverty and other urban challenges to foster social equity, economic development, emergency management and the conservation of the environment. In the program's eight-year history, IBM has deployed more than 800 high-performing IBM experts to help leaders of over 138 cities worldwide.



SUSTAINABLE DEVELOPMENT GOAL 11 *Sustainable cities and communities*

Some highlights of SCC engagements include:

- A mobile food market program for Alabama: IBM used data analytics to design efficient delivery routes.
- A communications plan for emergencies for Melbourne Australia: In partnership with Twitter, IBM helped the Australian government understand how their citizens were receiving and disseminating information during emergency events.
- An assessment of the business potential for municipally owned and distributed solar energy for Dublin, Ireland.

³⁶⁹ IBM Smarter Cities Challenge

<http://www.smartercitieschallenge.org/#:~:text=Welcome%20to%20the%20IBM%20Smarter%20Cities%20Challenge&text=Teams%20leverage%20IBM%20cognitive%20computing,and%20decision%20making%20in%20cities..>

- Web applications and data analytic tools to address the affordable housing crisis for San Jose, California: These tools assisted residents in finding available affordable housing units.
- Strategies for prevention and remediation of natural disasters for Busan, South Korea: IBM recommended expanding the scope of disaster management systems to include cognitive and predictive analytics capabilities, embedding blockchain into a collaborative platform for use by all stakeholders including citizens, and upgrading existing sensor infrastructure to support video analysis and an Internet of Things (IoT) platform.

Furthermore, IBM Impact Grants helped Peru and India in environmental disasters and are assisting Colombia in developing an open-data air quality initiative. In the case of Peru, IBM developed a chatbot using Watson that responded to over 3,600 public inquiries across 16 topics in the first month following mudslides in 2017. As a result, government and local organizations could more quickly and efficiently answer an influx of disaster-related questions, freeing critical staff to handle other tasks. In the case of India, IBM provided state and local government innovative capabilities to integrate, visualize and communicate the status of emergency conditions and operations. In the case of Colombia, two grants to Corporacion Makaia Asesoria Internacional are used to analyze air quality data at six city locations.

Target 11.B: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

In addition, IBM helps forecast air pollution and achieve emissions reductions through its Green Horizons powered by Watson. In partnership with IBM, the city of Beijing achieved a 35 percent reduction in fine particulate matter (PM2.5) emissions between 2013 and 2017. Now, IBM has taken the initiative global with new commercial and research engagements across four continents including those in India, South Africa, Japan, the United Kingdom and the United States.

Moreover, IBM is researching about silicon nanophotonics which are able to detect minuscule amounts of methane, the gas that is estimated to be the second-largest contributor to global warming after carbon dioxide. These chips can be embedded in a network of sensors on the ground, or fly on autonomous drones to gather data that combined with real-time wind data, satellite data

Target 11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

Target 11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

and other historical sources, can be used to build environmental models able to detect the origin and quantity of pollutants as they occur.

Responsible Consumption and Production – SDG 12

IBM is using IoT technology to provide services and solutions to help building managers and operators make smarter decisions to reduce their energy use. IBM IoT Building Insights connects sensors, meters and the data coming from the building management system to learn the behavior of the things and people in the building with respect to energy usage. The analysis of this data with AI creates a baseline for each building, identifies anomalies, predicts energy consumption and identifies waste.

In addition, Watson IoT data could be combined with the local weather forecast, allowing the anticipation of weather conditions and the possibility of adjusting the building's temperature, lighting, heating, and cooling to avoid wasting energy. This solution can save up to 50 percent of heating costs.

Also, IBM assisted E. & J. Gallo Winery in California calculating the exact amount of water needed to be dispensed to each grapevine via irrigation. This quantity changes depending on weather conditions that are captured through remote sensor data. The Watson IoT solution resulted in a 26 percent improvement in yield quantity, a 50 percent improvement in uniformity, and a 25 percent reduction in water use required.

Internally, IBM has strong internal environmental policy and periodic goals that aim to reduce energy consumption, CO2 emissions and increased renewable sources. The results of this strategy have been:



SUSTAINABLE DEVELOPMENT GOAL 12 *Responsible consumption and production*

Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources.

Target 12.4: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

- 4.2 percent savings from energy conservation projects, a result higher than its goal of 3.5 percent³⁷⁰.
- 42.9 percent reduction in CO2 emissions since 2005, surpassing several annual targets.
- 22.9 percent of purchases of electricity consumption come from renewable sources (wind, large and small hydro, biomass, and solar electricity suppliers) from 20 countries, exceeding its 20 percent objective.

[GRAPHS]

Moreover, in 1991, IBM established its Product Stewardship program, which is forcing to develop, manufacture and market products that are increasingly energy efficient over the years and to manufacture products that can be upgraded and reused to extend product life and can recycled and disposed safely.³⁷¹ Some results of this program include:

- IBM is improving the computing power delivered for each kilowatt-hour of electricity used for each new generation of servers.
- IBM product waste sent by our product end-of-life management (PELM) operations to landfills or to treatment by incineration does not 0.7 percent.
- In 2017, IBM recovered and sent 87.8 percent of nonhazardous waste (paper, wood, metals, glass, plastics and nonhazardous chemical substances) to be recycled.

Finally, IBM is mobilizing entrepreneurs from the world's poorer communities to recycle plastic. IBM developed a blockchain-powered token reward for Plastic Bank to increase the recycling of plastic waste. These tokens can be exchanged for valuable commodities and the blockchain technology tracks the plastic recycling process, from waste collection, credit and compensation through delivery to companies for reuse. As of end-2017, Plastic Bank collected over 8 million pounds of plastic waste, equivalent to 144 million plastic bottles, from its first recycling centers in Haiti.

³⁷⁰ *Energy efficient products, services and solutions*, IBM

<https://www.ibm.com/ibm/environment/climate/productenergy.shtml>.

³⁷¹ *Product Stewardship*, IBM <https://www.ibm.com/ibm/environment/products/>.

Climate Action – SDG 13

IBM's Green Horizons initiative is also supporting the global shift from fossil fuels to renewable energy.³⁷² Watson can predict the performance of wind and solar energy farms with 90 percent accuracy several days ahead by using information on solar farm and wind turbine locations and sizes together with weather forecasting data. These forecasts lead to energy savings by better integrating the energy into the grid and enabling its utilization. Green Horizons is already being used by the Zhangbei Demonstration Project in China, where is integrating 10 percent more renewable energy into the national grid.



SUSTAINABLE DEVELOPMENT GOAL 13
Climate action

More specifically, the IBM Peru team worked with Peru's Minister of Environment to get Peruvians involved in making environmentally friendly decisions daily. A digital campaign, called "Pon de tu parte" or "Do your part." Was developed to obtain positive environmental commitments from one million citizens. The campaign was cited as a best practice for planners working on the 2016 United Nations COP21 summit.

Target 13.2: Integrate climate change measures into national policies, strategies and planning.

Apart from individual projects, IBM has a long-standing commitment to environmental leadership and protection with its collaboration with governments, nongovernmental organizations, leading companies, thought leaders and citizens:

Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

- In 1992, IBM became a charter member of the U.S. Environmental Protection Agency's (EPA) ENERGY STAR Computer Program and helped EPA define criteria for computers and monitors.
- IBM was also one of two industry founding partners that worked in 2000 with World Wildlife Fund to create Climate Savers, a climate leadership program that seeks to transform businesses into leaders of the low-carbon economy.

³⁷² IBM Green Horizons <https://www.research.ibm.com/green-horizons/interactive/>.

Life Below Water – SDG 14

IBM's Watson IoT technology is being used to strengthen the resilience of water ecosystems. In June 2013, IBM, Rensselaer Polytechnic Institute, and the FUND for Lake George announced "The Jefferson Project at Lake George," with the goal to monitor, understand, and predict environmental stressors associated with this natural ecosystem.³⁷³ This multi-year collaboration consists in the creation of a resiliency model by using millions of measurements collected from IoT sensor platforms distributed around the lake. The model and the continuous feed of information allows scientists to identify problems and intervene before they become major environmental issues. In 2017, IBM launched a similar program in Ireland with the Dublin City University (DCU) Water Institute.

Additionally, IBM provided a grant to the Smithsonian Environmental Research Center (SERC) to improve their data acquisition and management methods the SERC's Chesapeake Bay property. Results from the Jefferson Project and the SERC's work are available to any organization globally helping in assisting efforts to protect freshwater sources and sustain water ecosystems.



SUSTAINABLE DEVELOPMENT GOAL 14

Life below water

Target 14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

³⁷³ Jefferson Project at Lake George, Rensselaer <https://jeffersonproject.rpi.edu/>.

Life on Land – SDG 15

In 2017, IBM joined forces with Wageningen University in the Netherlands, India IT provider Prodapt, and MTN, a leading African telecommunications provider, to protect endangered rhinos at South Africa's Welgevonden Game Reserve. The goal was to help the wildlife managers to understand and predict possible threats of poaching and act ahead. For this purpose, fitting collars with sensors providing geospatial information were fitted onto prey animals including zebra, wildebeest, eland and impala. The data collected showed the the animals' response to threats and exhibited patterns. Knowing the patterns, therefore, animals such as zebras will act as sentinels and an early warning system to indicate the presence of poachers and protect the rhinos.



SUSTAINABLE DEVELOPMENT GOAL 15

Life on land

Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

Peace, Justice and Strong Institutions – SDG 16

IBM is a member of many Minority Supplier Associations and it interacts with many international affiliates of the National Minority Supplier Development Council, including the Canadian Aboriginal and Minority Supplier Council, Minority Supplier Development China, Minority Supplier Development U.K., South Africa Supplier Development Council and Supply Nation. These organizations certify minority owned businesses in their respective regions.

In addition, IBM is a founding corporate member of WEConnect

Target 16B: Promote and enforce non-discriminatory laws and policies for sustainable development.

International which certifies women-owned businesses in 24 countries.



SUSTAINABLE DEVELOPMENT GOAL 16

Peace, justice and strong institutions

Partnerships For the Goals – SDG 17

In addition, IBM has helped other companies put together similar programs, including FedEx, John Deere and JPMorgan Chase, and collaborated on engagements with other corporations, including GSK, Dow Chemical and BD. Also, IBM joined Ritz-Carlton, SAP and UPS as founding members of IMPACT 2030, a global, private-sector- led initiative to mobilize corporate volunteers to directly contribute to achieving the UN SDGs by 2030. IMPACT 2030 aligns companies and their employee volunteer efforts with the SDGs by committing to apply its employee volunteer actions towards one or more of the SDGs.



SUSTAINABLE DEVELOPMENT GOAL 17
Partnerships for the goals

Additionally, IBM has formed strategic partnerships with government and nongovernmental organizations such as USAID, International Medical Corps, The Nature Conservancy, and The Global Food Banking Network, in addition to the Peace Corps.

IBM created SafetyNet, a cloud-based data management solution that helps not-for-profit organizations aggregate and quickly analyze client data, pinpoint and address possible gaps in services, and support clients better.³⁷⁴ In addition, simplifying compliance and reporting requirements also helps the organizations in their funding requests. In 2017, SafetyNet grants were awarded to four not-for-profit organizations: United Way California Capital Region (Sacramento), Aspiranet (which provides children and family services throughout California), and two in New York City: Grand Street Settlement and the Chinese-American Planning Council (CPC).

³⁷⁴ *The New Safety Net IT Ecosystem: An Integrated Solution for Sonoma County—Partnering with IBM and SimpliGov*, SimpliGov <https://simpligov.com/form/sonoma-ibm-simpligov-whole-person-care/>.

CEO of Microsoft Satya Nadella on Unlocking the Unimaginable to Solve the Impossible: Microsoft Advances the SDGs

“The Soul like the square root of minus 1, is an impossibility that has its uses. It definitely does.... We all seek to unlock the unimaginable and solve the impossible. That’s the quest we are on.” - Satya Nadella

For several decades, Milton Friedman’s charge prevailed in business: “There is one and only one social responsibility of business,” the Nobel economist wrote in 1970: to “engage in activities designed to increase its profits.”³⁷⁵ Shareholder profitability was the mission of business. However, in the last few years, Satya Nadella, the CEO of Microsoft and other business leaders have embraced a value system based on the advancement of all stakeholders, and not just the notion of shareholder profitability.

At Microsoft Ignite, a tech conference, In 2017, Satya Nadella quoted the Pulitzer Prize-winning poet Vijay Seshadri “ Imaginary Number,” in a charge to developers to democratize access to technology.³⁷⁶ This bold quest to transform human enterprise can be seen in his challenge to Microsoft to use technology as a tool of empowerment. In 2015, Satya Nadella, then newly appointed as CEO, unveiled Microsoft’s new mission statement to the Microsoft team “Every great company has an enduring mission. Our mission is to empower every person and every organization on the planet to achieve more.”³⁷⁷

Nadella’s leadership philosophy was directly influential in Microsoft’s transformation in the last five years to a company embracing cutting edge innovation. As he has said, “our industry does not respect tradition; we respect innovation.”³⁷⁸ The organizational effectiveness at Microsoft can be attributed to Nadella’s efforts to elevate Microsoft’s employees to a higher moral level based on values and culture change. His leadership philosophy is based on a set of guiding principles that he has adopted from his own role as a father with two differently abled children.³⁷⁹ Empathy, to Nadella, is a hallmark of leadership. He has often said that he learned

³⁷⁵Milton Friedman, *The Social Responsibility of Business is to Increase Its Profits*, N.Y. TIMES Magazine(September 13, 1970)

³⁷⁶Microsoft Ignite, *Keynote Address* available at <https://news.microsoft.com/uploads/2017/09/Satya-Nadella-transcript-Ignite-2017.pdf>

³⁷⁷*Id.*

³⁷⁸Richard Hay, *Satya Nadella Lays Out New Mission And Vision For Microsoft*, IT PRO TODAY (June 25, 2015) available at <https://www.itprotoday.com/windows-server/satya-nadella-lays-out-new-mission-and-vision-microsoft>

³⁷⁹GREG SHAW, JILL TRACIE NICHOLS & SATYA NADELLA, *HIT REFRESH: THE QUEST TO REDISCOVER MICROSOFT'S SOUL AND IMAGINE A BETTER FUTURE FOR EVERYONE*, Ch. 1 (2017) available online in EPUB at <http://link.overdrive.com/?websiteID=350014&titleID=3041899>

empathy from caring for his son born with cerebral palsy.³⁸⁰ Curiosity— is another attribute of Nadella’s leadership, and one which he used to change the Microsoft culture from a “ know it all culture to a learn it all culture.”³⁸¹ Another central pillar of his leadership is his commitment to diversity and inclusion.³⁸² He has said: “If we are going to serve the planet as our mission states, we need to reflect the planet.”³⁸³

Diversity is now both a business and moral principle at Microsoft and has gained a sense of higher purpose and urgency during a time of racial tensions in the United States. In fact, one-sixth of Nadella’s cash bonus (that totaled 10.8 million USD in 2019) is linked to the fulfillment of Microsoft’s diversity goals.³⁸⁴ A company statement mentioned “This is an important demonstration of executive commitment to creating an inclusive workplace, and we find this helps ensure there is shared accountability to make progress.”³⁸⁵ At a time when the US is facing a moment in history that has pushed the entire world into a global reckoning on systemic racism, several business leaders are developing measures to address structural bias and advance race relations. Recently, Satya Nadella announced a 150 million dollar initiative to increase diversity and address racial inequality and disparity among leadership at Microsoft.³⁸⁶ By 2025, Microsoft hopes to double black leadership.³⁸⁷ Furthermore, Microsoft has pledged to support the wellbeing of black-owned firms and black communities and has rededicated its efforts to a commitment to racial justice.³⁸⁸ Microsoft believes that driving inclusion starts with inclusion and the cooperation of a diverse array of stakeholders. It bases this on the UN Secretary General’s High-Level Panel Reporter on Digital Cooperation which underscored that “global problems are so vast that solutions require a level of cooperation that involves not only governments but a far more diverse spectrum of stakeholders and voices such as civil society, academics, technologists, the private sector, and traditionally marginalized groups.”³⁸⁹

³⁸⁰ Satya Nadella email to employees on first day as CEO (February 4, 2014) available at

<https://news.microsoft.com/2014/02/04/satya-nadella-email-to-employees-on-first-day-as-ceo/>

³⁸¹ GREG SHAW, JILL TRACIE NICHOLS & SATYA NADELLA, HIT REFRESH: THE QUEST TO REDISCOVER MICROSOFT’S SOUL AND IMAGINE A BETTER FUTURE FOR EVERYONE, Ch. 1 (2017) available online in EPUB at

<http://link.overdrive.com/?websiteID=350014&titleID=3041899>

³⁸² *Id.* at Chapter 4.

³⁸³ *Id.* at Chapter 4.

³⁸⁴ Peter Eavis, Want More Diversity? Some Experts Say Reward C.E.O.s for It, The New York Times (July 14, 2020) at <https://www.nytimes.com/2020/07/14/business/economy/corporate-diversity-pay-compensation.html?smid=tw-share>

³⁸⁵ *Id.*

³⁸⁶ Addressing Racial Injustice (June 23, 2020) available at

<https://blogs.microsoft.com/blog/2020/06/23/addressing-racial-injustice/>

³⁸⁷ *Id.*

³⁸⁸ *Id.*

³⁸⁹ *Id.*

Both COVID and racial tensions have pushed certain business leaders on a path to a mission-driven leadership. This purpose-driven leadership seeks the importance of stakeholder accountability rather than a limited shareholder accountability. Even before this moment of intersecting crisis, the influential Business Roundtable has put shareholders first. In an atmosphere of widening economic inequality and deepening distrust of business, the powerful group has redefined its mission.



Nadella has said, “First, I believe that at its most powerful, technology can be a force for good in the world.”³⁹⁰ His ambition is to see future technologies advancing in powerful transformative ways. According to him technologies hold enormous potential to help solve some of the world’s most pressing problems, such as tackling climate change, eradicating hunger and curing disease.³⁹¹ Nadella’s mission to use technology as a tool of empowerment sees a new urgency in a post-COVID world. COVID has exposed deep-seated inequalities rooted in structural racism. Nadella has helped to spark a wave of introspection among business leaders across the globe.

Microsoft approaches fulfilling Nadella’s goals through initiatives run by the Sustainable Development Governance Team.³⁹² Microsoft is working to provide technologies and promote approaches that have lasting positive impacts and remove barriers to adoption so everyone can experience the transformational benefits of the digital economy. To amplify its impact in pursuing SDG goals, Microsoft has identified three areas of concentration for itself and its partners: supporting humanitarian action and rights to build stronger communities, using technology to protect our planet, and addressing digital inclusion and the digital skills divide, especially for displaced youth. The following are examples of how Microsoft has aggressively worked to help realize the same.

SDG 4: Quality Education

Microsoft is working in a broad partnership with educators and others to help redefine learning in and out of the classroom with immersive and inclusive learning experiences.³⁹³ Through their products, services, and

³⁹⁰Aine Doris, *Changemakers: Satya Nadella* (May 30, 2019) available at <https://www.london.edu/think/changemakers-satya-nadella>.

³⁹¹ GREG SHAW, JILL TRACIE NICHOLS & SATYA NADELLA, *HIT REFRESH: THE QUEST TO REDISCOVER MICROSOFT'S SOUL AND IMAGINE A BETTER FUTURE FOR EVERYONE*, Ch. 1 (2017) available online in EPUB at <http://link.overdrive.com/?websiteID=350014&titleID=3041899>

³⁹² Microsoft – About Us available at <https://www.microsoft.com/en-us/about>

³⁹³ Microsoft, *Microsoft, and the UN Sustainable Development Goals* (September 2016).

programs, they are aiming to empower teachers and students to create and share in entirely new ways, to teach and learn through doing and exploring, and to accommodate all learning styles.³⁹⁴

One of the main ways by which Microsoft is ensuring this is through their YouthSpark Program. The focus of the YouthSpark program is to work “in partnership with governments, nonprofit organizations, and businesses to concentrate on providing opportunities for all youth to learn computer science”.³⁹⁵ Through the YouthSpark program, Microsoft is creating opportunities for young people to learn computer science by partnering to build the capacity of teachers, trainers, and nonprofit organizations.³⁹⁶ The YouthSpark program has also provided cash grants to more than 100 nonprofit organizations in more than 70 countries around the world to help them build capacity to offer computer science education courses broadly in their communities, especially to young people who, otherwise, would not have access to a computer education.³⁹⁷ Microsoft has also initiated a program called TEALS, which pairs volunteers from across the technology industry with classroom teachers to bring computer science courses into 170+ high schools across the United States.³⁹⁸

Other ways in which Microsoft has sought to inspire young people to pursue SDG Goal 4 is through its partnership with UNICEF for the launch of the *Learning Passport* platform which is providing children worldwide with access to remote education.³⁹⁹ With 1.57 billion students out of school, the Learning Passport has digitized curriculums from Kosovo, Timor-Leste, and Ukraine. Students can use the platform to access online books and videos, and parent of children with learning disabilities have access to additional support.⁴⁰⁰ Each country-specific platform provided access to textbooks and supplemental content in the national languages and captures a record as students learn, guiding them through the curriculum.⁴⁰¹

In the times of COVID-19 and with schools closed, the Learning Passport provides a scalable, innovative solution that keeps education accessible for children worldwide. Already the platform has undergone a massive expansion. Originally designed to provide education for displaced and refugee children, the platform was

³⁹⁴ *Id.*

³⁹⁵ Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

³⁹⁶ *Id.*

³⁹⁷ Microsoft YouthSpark available at <https://educationblog.microsoft.com/en-us/tag/youthspark/>.

³⁹⁸ Microsoft TEALS available at <https://www.microsoft.com/en-us/teals>.

³⁹⁹ UNICEF and Microsoft launch global learning platform to help address COVID-19 education crisis (April 20, 2020) available at <https://www.unicef.org/press-releases/unicef-and-microsoft-launch-global-learning-platform-help-address-covid-19-education>.

⁴⁰⁰ *Id.*

⁴⁰¹ *Id.*

quickly scaled up to accommodate country-level curricula.⁴⁰² Microsoft actively works to expand access to technological skills and opportunities. Microsoft believes that diverse teams foster greater innovation with more diverse approaches, questions, and ideas.

As part of its affordable access initiative, Microsoft works with partners around the world to deploy cost-effective connectivity solutions for schools and communities to address this problem. Through these projects 104 k-12 schools and 9 universities on 5 continents have been connected to the Internet, covering a population of over 400,000 people.⁴⁰³ This problem is not only in developing countries. For example, in Virginia, USA, even though schools are connected many students have no connectivity at home to help with homework. The Virginia Project is focused on extending the coverage from the schools into the surrounding community.⁴⁰⁴

The 2030 Agenda pledges to leave no one behind, including persons with disabilities and has recognized disability as a cross-cutting issue, to be considered in the 1 implementation of all of its goals.⁴⁰⁵ The Agenda also includes seven targets and 11 indicators explicitly referring to persons with disabilities, covering access to education and employment, availability of schools that are sensitive to students with disabilities, inclusion, and empowerment of persons with disabilities. The 2018, UN Flagship Report on Disability reveals that despite the progress made in recent years, persons with disabilities continue to face numerous barriers to their full inclusion and participation in the life of their communities.⁴⁰⁶ It sheds light on the lack of access to assistive technology was a critical barrier for the full and equal participation of persons with disabilities as agents of change and beneficiaries of development. Persons with disabilities have limited access to information and communications technology. According to the UN flagship report on disability 2018, among 14 countries, only 19 per cent of persons with disabilities compared to 36 per cent of persons without disabilities use the Internet. For instance, more than 60 per cent of online national portals include features that are not accessible for persons with disabilities.⁴⁰⁷

Microsoft's journey to reimagine a world that is more accessible starts with understanding that technology can be a powerful voice for inclusion. Reshaping and adapting Microsoft and its products while also influencing change inside industries near and abroad is consistent with a new business culture fostered by Satya Nadella

⁴⁰² Learning Passport available at <https://www.learningpassport.org/>.

⁴⁰³ Business for 2030 available at <http://www.businessfor2030.org/Microsoft>.

⁴⁰⁴ Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016)

⁴⁰⁵ UN Flagship Report on Disability (2018) available at <https://www.un.org/development/desa/disabilities/publication-disability-sdgs.html>.

⁴⁰⁶ *Id.*

⁴⁰⁷ *Id.*

– a culture that “needed to be about realizing our personal passions and using Microsoft as a platform to pursue that passion,” as he stated in his book “Hit Refresh.”⁴⁰⁸ Microsoft’s goals are aligned to the 2030 Agenda to “leave no one behind”. Microsoft recognizes the importance of fully empowering the differently abled and the role of technologies to ignite the skills that will enable them to achieve more.⁴⁰⁹ The first Assistive Technology Hackathon in the United Arab Emirates (UAE) in 2017 in partnership with [Al Noor Training Centre](#), brought together companies, students, families and people living with disabilities to develop the technology they need at an affordable price.⁴¹⁰ Further, as part of Microsoft’s [WE Are One campaign](#) educators can make their classrooms more accessible and inclusive through the use of Microsoft technologies such as Immersive Reader, ease of access tools, Microsoft Translator, and more. Additionally, the [Accessibility Checker](#) runs on Word, Excel, PowerPoint, OneNote, Outlook, and Visio, to find and fix any issues that might make your content difficult for people with disabilities to use.⁴¹¹ To ensure the Middle East and Africa region benefits from the advancements being made in the fields of accessibility, technology and inclusive education, Microsoft recently collaborated with InAble and the Global Initiative for Inclusive ICTs ([G3ict](#)).⁴¹²

SDG 5: Gender Equality

Globally, almost half of the youth who benefit Microsoft-funded STEM education programs are female.⁴¹³ Microsoft is investing in efforts to promote diversity and inclusion within their workforce and the broader technology field. Through its Microsoft Philanthropies, Microsoft funds and partners with a number of organizations aimed at “sparking girls’ interest in technology careers and computer science fields.” These partner organizations include nonprofits such as Girls Who Code, Black Girls Code, Reboot Representation Tech Coalition and Code.org; government leaders, and Microsoft’s own in-house programs such as DigiGirlz and TEALS. These programs work to expand access to computer science education, with the goal of making it accessible and inclusive for youth world-wide. Microsoft also “strives to be a leader in attracting, recruiting, retaining, and developing women from around



⁴⁰⁸ GREG SHAW, JILL TRACIE NICHOLS & SATYA NADELLA, HIT REFRESH: THE QUEST TO REDISCOVER MICROSOFT'S SOUL AND IMAGINE A BETTER FUTURE FOR EVERYONE, Afterword. (2017) available online in EPUB at <http://link.overdrive.com/?websiteID=350014&titleID=3041899>.

⁴⁰⁹ Creating accessibility for all: Empowering persons with disabilities (December 3, 2018) available at <https://news.microsoft.com/en-xm/2018/12/03/creating-accessibility-for-all-empowering-persons-with-disabilities/>

⁴¹⁰ *Id.*

⁴¹¹ *Id.*

⁴¹² *Id.*

⁴¹³ Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

the world” by investing “in women-focused organizations, seek out women-owned suppliers, and provide support to women once they are employees at Microsoft.”⁴¹⁴

Microsoft’s Make What’s Next Campaign is designed to educate girls about female inventors and encourage them to pursue careers in science and technology.⁴¹⁵ Microsoft has also championed DigiGirlz, which gives girls aged 14 to 18 the opportunity to learn about careers in technology, connect with Microsoft employees, and participate in hands-on computer science or computer science enabled fields. DigiGirlz programs now span 16 countries and have reached 26,000 participants.⁴¹⁶ A key sign that this program is having a positive impact is that some of the early participants have now graduated from college and joined Microsoft as employees.⁴¹⁷

Microsoft recently expanded their Explore Microsoft 12-week summer internship program that strives to attract women and minorities into technical fields and to Microsoft.⁴¹⁸ This program is specifically designed to expose first- and second-year college students to software development and encourage students to pursue degrees in this and other related fields of study.⁴¹⁹ Microsoft also host targeted recruiting events to encourage young women to become interested in STEM and to encourage corporate women to work at Microsoft.⁴²⁰ They have ongoing partnerships with national organizations, such as the Anita Borg Institute, National Center for Women & Information Technology (NCWIT), and MentorNet.⁴²¹ Microsoft runs the Microsoft Research Women’s Fellowship Program to provide women pursuing PhDs with opportunities to engage with Microsoft researchers and connect with each other in a collaborative community.⁴²² For the past eight years, Microsoft has held a Global Women’s Conference at the Microsoft Conference Center at their headquarters and on-demand via regional hubs in multiple locations worldwide.⁴²³

Further, through YouthSpark initiative, Microsoft is working to increase access to computer science education and opportunities for youth around the world, including a number of initiatives focused on encouraging girls

⁴¹⁴ Microsoft Diversity and Inclusion Report (2019)

⁴¹⁵ Microsoft and the UN Sustainable Development Goals, *supra* note 19.

⁴¹⁶ *Id.*

⁴¹⁷ *Id.*

⁴¹⁸ Explore Microsoft available at

<https://careers.microsoft.com/students/us/en/usexploremicrosoftprogram>

⁴¹⁹ *Id.*

⁴²⁰ Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

⁴²¹ *Id.*

⁴²² *Id.*

⁴²³ *Id.*

and women to explore and pursue careers in with a particular focus on encouraging girls' interest in STEM. As examples

- The African Center for Women, Information & Communication Technology⁴²⁴ is providing opportunities for youth to learn computer science skills. Underserved youth, with a strong focus on young women, are introduced to computer science through in-person training, internships, and continued learning opportunities to advance their technical knowledge and skills.
- The Anupdir Foundation for Social Welfare's DREAM for Women Program⁴²⁵, which has established women-run cooperatives in rural India and providing them technology and business skills training.
- The POETA YouthSpark 2016 Project⁴²⁶ which seeks to strengthen employability skills for at-risk youth particularly young women, through the development of employability and technology skills. The POETA YouthSpark project is available in Argentina, Brazil, Chile, Colombia, Mexico, and Peru.
- UNDP Egypt is establishing the first innovation center for women in Egypt⁴²⁷ to provide young women the skills needed to become successful developers and entrepreneurs. The innovation center will provide 1,000 young women with computer science & entrepreneurship skills, mentorship matching with industry professionals, as well as resources for further entrepreneurship and employment opportunities. Also, the innovation center will promote & provide access to computer science & coding instruction for 5,000 young girls from underserved communities through coding campaigns in their native language.

Microsoft has also worked to ensure the achievement of SDG Goal 5 within its own walls.⁴²⁸ It has required its factories to implement nondiscrimination policies.⁴²⁹ In order to do so it has audited factories to ensure adherence to fair payment of wages requirement and enforced corrective action when applicable.⁴³⁰ It has further implemented an independent grievance hotline for reporting of issues or abuses in Tier 1 factories. Microsoft has also provided training to workers regarding women's health Microsoft has longstanding and

⁴²⁴ *Id.*

⁴²⁵ *Id.*

⁴²⁶ *Id.*

⁴²⁷ *Id.*

⁴²⁸ Microsoft, Our FY17 contribution toward achieving the UN Sustainable Development Goals (2017) available at https://www.microsoft.com/en-us/CMSFiles/DSC_Contributions_to_Achieving_Select_UN-SDGs%202017.pdf?version=9357d676-7804-5660-fe44-c58cbc8f1c3d.

⁴²⁹ *Id.*

⁴³⁰ *Id.*

growing investments in programs encouraging girls and women to pursue learning and careers in fields of science, technology, engineering, and mathematics (STEM).⁴³¹

SDG 9: Industry, Innovation, and Infrastructure

Microsoft works with governments, development agencies, business, and NGOs around the world in ways that advance the UN's targets under SDG9 on the development of industry, innovation, and infrastructure.⁴³² In addition, Microsoft and its partners provide solutions to transform industry and manufacturing through the power of digital technology from streamlining existing processes and products to delivering new services and transforming business models.⁴³³



Microsoft Affordable Access Initiative aims to empower the billions of people worldwide who do not have affordable access to the Internet. Microsoft's 4Afrika Initiative focuses on helping provide three critical areas of development for the continent – delivering affordable access to the internet, developing skilled workforces and investing in local technology solutions.⁴³⁴ The 4Afrika initiative provides a set of programs to empower African youth, entrepreneurs, developers and business and civic leaders.⁴³⁵ The MySkills4Afrika program invites Microsoft employees from all over the world to contribute their time, talent, and expertise to help build a prosperous, promising future for Africa by working with new businesses, students, NGOs, Microsoft partners and governments across the continent.⁴³⁶ Since 2013, 4Afrika has reached over 1.7 million SMEs, bringing over half a million of them online to reach new markets and grow their businesses.⁴³⁷

Through CityNext Microsoft and its partners are empowering cities and citizens to unlock their potential by delivering innovative digital services that can help them lead safer and healthier lives, enriched by high-quality education.⁴³⁸ CityNext helps cities engage their citizens, empower city employees, optimize city operations and infrastructure, and transform and accelerate innovation and opportunity.⁴³⁹

⁴³¹*Id.*

⁴³²Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

⁴³³*Id.*

⁴³⁴Microsoft 4Afrika About US available at <https://www.microsoft.com/africa/4afrika/about-us.aspx>

⁴³⁵Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

⁴³⁶*Id.*

⁴³⁷Microsoft 4Afrika About US available at <https://www.microsoft.com/africa/4afrika/about-us.aspx>

⁴³⁸Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

⁴³⁹*Id.*

Artificial Intelligence plays a key role in Microsoft's commitment to sustainable development through its AI for Good initiative. The initiative consists of five programs- AI for Earth, AI for Accessibility, AI for Humanitarian Action, AI for Health and AI for Cultural Heritage.⁴⁴⁰ Each program is a part of Microsoft's effort to meet the needs of society today and advance it for tomorrow. The AI for Good Initiative extends access to the Microsoft cloud and AI technologies to the people working to address society's challenges. The Initiative allows a person with an idea to accelerate it and create change-AI for Earth may be used to help save a species, AI for Accessibility may transform the visual world into an audible experience, and AI for Humanitarian Action can assist first responders in targeting their efforts faster than ever before. Microsoft believes that its success is measured by the success of its partners working with AI to empower more people and impact our world.

Since launching AI for Health on January 29, 2020, the world has changed. Given the urgency, Microsoft is mobilizing AI for Health initiative to focus on helping those on the front lines of research of COVID-19. Microsoft is immediately dedicating \$20 million to this specific effort and will focus on five areas where they think data, analysis, and the skills of their data scientists can have the biggest impact:⁴⁴¹

- (1) Data and insights to inform for people's safety and economic impacts
- (2) Treatment and diagnostics, enabling research to further the development of vaccines, diagnostics, and therapeutics
- (3) Allocation of resources, including recommendations on the allocation of limited assets, such as hospital space and medical supplies
- (4) Dissemination of accurate information to minimize misinformation sharing
- (5) Scientific research to study and understand COVID-19.

SDG 13: Climate Action

Microsoft uses its technology, focusing on the areas where it can have the greatest impact, to

solve urgent environmental issues such as carbon, energy, water, and waste.⁴⁴²

Microsoft is also committed to being carbon negative by 2030 and by 2050 removing



⁴⁴⁰ AI For Good available at <https://www.microsoft.com/en-us/ai/ai-for-good>.

⁴⁴¹ Mobilizing AI for Health to fight against COVID-19 (April 9, 2020) available at <https://blogs.microsoft.com/on-the-issues/2020/04/09/ai-for-health-covid-19/>.

⁴⁴² Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

from the environment the equivalent of all of the carbon the company has emitted “either directly or by electrical consumption since it was founded in 1975.”⁴⁴³ It has announced a \$1 billion investment fund which aims to finance new technologies for carbon reduction and removal, including new product development for customers and advocating for policy changes to “remove barriers and create new incentives for change.”⁴⁴⁴ Microsoft has “committed to creating new opportunities for employees to contribute to these efforts, emphasizing a collective effort to move to global net-zero carbon emissions”.⁴⁴⁵

Since July 1, 2012, Microsoft has achieved carbon neutrality across their global operations, spanning more than 100 countries, for their data centers, software development labs, offices, business air travel, and Microsoft-owned manufacturing operations.⁴⁴⁶ Microsoft’s carbon neutral strategy hinges on company-wide accountability achieved through an internal carbon fee cascaded globally to their business groups.⁴⁴⁷ This chargeback model puts a price on carbon and makes the company’s business divisions responsible for the cost of reducing and compensating for the carbon emissions associated with their electricity use and air travel.⁴⁴⁸ The carbon fee funds energy efficiency investments. The funds enable purchasing renewable energy equal to 100 percent of Microsoft’s energy consumption (with the green power purchases in the same markets as their operations wherever possible) and externally certified carbon offset projects.⁴⁴⁹

Microsoft CityNext Sustainable Cities helps improve cities’ sustainability with solutions that span energy, water, building energy management, transportation, resource efficiency, and ecosystem services.⁴⁵⁰ As examples of CityNext projects that cut carbon emissions

- (1) The City of Seattle’s Smart Building program to reduce downtown energy usage by 25% with cloud-based solutions provided by Microsoft and its partners.⁴⁵¹
- (2) Carnegie Mellon University (CMU) uses Microsoft Azure, Cortana Intelligence, Power BI, and the PI System™ from Microsoft Global ISV partner OSIsoft to reduce campus building maintenance and energy costs. Cortana Intelligence enables better fault detection, diagnosis, and more efficient

⁴⁴³*Id.*

⁴⁴⁴*Id.*

⁴⁴⁵*Id.*

⁴⁴⁶*Id.*

⁴⁴⁷*Id.*

⁴⁴⁸*Id.*

⁴⁴⁹*Id.*

⁴⁵⁰*Id.*

⁴⁵¹*Id.*

operations. With these capabilities, CMU personnel gain advanced analytics for improved operational insights and decisions, and CMU advances a way to cut energy use by 30 percent.⁴⁵²

- (3) Video of the Growing Underground project uses cloud services to grow food efficiently and with fewer distribution impacts in an old underground bomb shelter below the City of London.⁴⁵³

Microsoft has also supported industry and multi-stakeholder initiatives to address climate policy.

Among these Microsoft is a strong proponent of the Paris Agreement on climate change and strongly urged the U.S. government to remain part of the agreement. They are also a signatory to the Climate Declaration, a nonpartisan statement from the business community developed by Ceres and its Business for Innovative Climate & Energy Policy (BICEP) coalition, which notes that “tackling climate change is one of America’s greatest economic opportunities of the 21st century.”⁴⁵⁴ Microsoft also serves on the board of the Global e-Sustainability Initiative (GeSI), a collaborative effort between leading IT companies and the United Nations Environment Programme and the International Telecommunication Union.⁴⁵⁵ Microsoft has played a leadership role in the development of GeSI series of reports on how the ICT can address climate change (Smart 2020, Smarter 2020, and Smarter 2030).⁴⁵⁶ The latest Smarter 2030 GeSI report identifies ways that ICT can enable a 20 percent reduction of global CO2 emissions by 2030.⁴⁵⁷ The report also identifies how ICT can integrate renewables into the grid, boost agricultural crop yields by 30 percent, save over 300 trillion liters of water and save 25 billion barrels of oil a year.⁴⁵⁸

SDG 16: Peace, Justice, and Strong Institutions

Microsoft and its partner humanitarian organizations provide aid and work to support displaced people world-wide including leveraging its own voice and the voices of its partners to raise awareness of the global refugee crisis. Microsoft has partnered with UNICEF “to ensure that the more than 30 million displaced children and young people around the world have access to quality education and learning” through its mobile learning platform. Through its partnership with UNHCR, Microsoft



⁴⁵²*Id.*

⁴⁵³*Id.*

⁴⁵⁴*Id.*

⁴⁵⁵*Id.*

⁴⁵⁶*Id.*

⁴⁵⁷Global E-Sustainability Initiative, #SMARTer2030 Report (2016).

⁴⁵⁸*Id.*

works to empower refugees and youth from surrounding communities by helping them with digital skills. With its goal of reaching 25,000 refugee and host community youth, including 50% women, by the end of 2020, Microsoft aspires to prepare the youth of today with livelihood skills for tomorrow. Its partnerships are what Microsoft believes offer the path to sustainable and lasting solutions “that spark economic opportunity, promoting social inclusion, and driving progress.”

Microsoft is joining organizations in the public and private sector to raise awareness of social issues like human trafficking and the plight of refugees, and how organizations in the public and private sector can help.⁴⁵⁹ Through a variety of international partnerships, programs, and initiatives, Microsoft endeavors to work toward a world where all people live with opportunity, freedom, dignity, and equality.

Microsoft has strong policies and systems in place to prevent corruption and bribery their employees, their suppliers, and their third-party agents.⁴⁶⁰ Microsoft’s Anti-Corruption Program Management Office helped lead the US Technical Advisory Group to create and represent the US position in the development of the proposed International Standards Organization (ISO) Anti-Bribery Standard.⁴⁶¹ Microsoft is also engaged in promoting anticorruption initiatives among intergovernmental organizations and multinational companies through Microsoft’s membership in the World Economic Forum Partnership Against Corruption Initiative (PACI) as an industry partner.⁴⁶² Microsoft and The Office of the UN High Commissioner for Human Rights also entered into a five-year partnership wherein Microsoft is providing a \$5 million grant to support the work of the UN Human Rights Office.⁴⁶³ The partnership focuses on the development and use of advanced technology designed to better predict, analyze and respond to critical human rights situations around the world.

In FY17, Microsoft Philanthropies provided more than \$30 million in technology and cash donations to emergency response organizations and organizations serving refugees and displaced people including Mercy

⁴⁵⁹ Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

⁴⁶⁰ Microsoft Anti-Corruption Policies available at <https://www.microsoft.com/en-us/Legal/Compliance/anticorruption/Default.aspx>

⁴⁶¹ *Id.*

⁴⁶² Microsoft Citizenship Report (2015).

⁴⁶³ Technology for human rights: Microsoft and UN Human Rights Office announce ground-breaking partnership, (May 16, 2017) available at <https://news.microsoft.com/europe/2017/05/16/protecting-humanity-with-technology-microsoft-and-un-human-rights-office-announce-ground-breaking-partnership/>

Corps, CARE, the International Rescue Committee, and NetHope.⁴⁶⁴ Microsoft also provide digital skills resources for nonprofits working with refugees.⁴⁶⁵

Further, applications Microsoft and its partners provide to customers advance the cause of justice and the rule of law. These include

- (1) VIEVU, a body camera company serving law enforcement agencies, partnered with Microsoft to implement a secure data storage solution uses the Microsoft Azure Government Cloud platform that complies with the U.S. Federal Bureau of Investigation's Criminal Justice Information Services (CJIS).⁴⁶⁶ Law enforcement agencies have seen reductions in use-of-force incidents by as much as 70% with the use of body cameras. The Microsoft cloud storage solution increases the practicability of greater quality of 20 policing and lowers the cost of maintaining a body camera system for law enforcement agencies by reducing the onsite data storage needs, and the IT support required to maintain the data.
- (2) The Ivorian Commission Electorale Independante (CEI) (Independent Electoral Commission)⁴⁶⁷ deployed Microsoft Office 365 to achieve greater security and more mobility during elections. On top of this, they are now able to keep track of events in real time and comment on election developments instantly, have considerably more document storage space, and can communicate much more easily with colleagues around the country with greater security. After implementation of Office 365, the CEI reported improved security, greater flexibility in day-to-day operations and increased mobility.
- (3) Microsoft provided the Supreme Court of Buenos Aires⁴⁶⁸ with a cloud-based media portal that provides faster, digitized service to citizens. The Supreme Court of Buenos Aires serves the most populated province in Argentina. The court wanted to speed up legal proceedings for its citizens and streamline processes for lawyers and judges. The IT team helped develop a customized media portal built on Microsoft.NET where residents can access the cases that have been registered electronically and view video recordings through integration with Azure Media Services. Now the court is processing cases more quickly.

Further, Microsoft is a member of the Global Business Coalition Against Trafficking and is also working with the White House Office of Science and Technology Policy, as well as the United Nations, local police agencies,

⁴⁶⁴ Microsoft, Microsoft, and the UN Sustainable Development Goals (September 2016).

⁴⁶⁵ *Id.*

⁴⁶⁶ *Id.*

⁴⁶⁷ *Id.*

⁴⁶⁸ *Id.*

and other organizations on a variety of initiatives that address human trafficking in all its forms. Among the initiatives Microsoft supports that address human trafficking:⁴⁶⁹

- (1) 6degree.org: a cloud-based portal that uses crowdfunding to help victims of trafficking successfully and voluntarily reenters society, created in partnership with the International Organization for Migration (IoM) & Microsoft.⁴⁷⁰
- (2) Microsoft PhotoDNA: a technology that aids in finding and removing known images of child exploitation. Today, PhotoDNA is used by organizations around the world and has assisted in the detection, disruption, and reporting of millions of child exploitation images.⁴⁷¹
- (3) Child Exploitation Tracking System (CETS): a Microsoft software-based solution developed in collaboration with Canadian law enforcement. CETS, assists law-enforcement officials in their work to stop the exploitation of children on the Internet by enabling effective collaboration and providing a set of advanced software tools and technologies for use by investigators.⁴⁷²

⁴⁶⁹*Id.*

⁴⁷⁰*Id.*

⁴⁷¹Microsoft Photo DNA available at <https://www.microsoft.com/en-us/PhotoDNA/>

⁴⁷²Tool Thwarts Online Child Predators (April 7th, 2005) available at <https://news.microsoft.com/2005/04/07/tool-thwarts-online-child-predators/>

CONCLUSION

The innovations driven forward by the leaders profiled in this study are important first steps in the achievement of the 2030 Agenda. According to OECD, time is running out to fill the huge gaps in achieving the SDGs. The SDGs – with their large breadth and no-one-left-behind objective – present a novel challenge to the development community. It is becoming increasingly clear that unprecedented collaboration and engagement with new actors will be necessary to meet the ambitions of the SDGs. It's no longer sufficient to just expand development to overlooked communities; innovation must accelerate progress and must do so on an increasing scale. The only feasible methodology for acceleration is through collaboration, especially between the private and public sectors.⁴⁷³ Finally, significant foresight is necessary to ensure the sustainability of innovation, meaning a focus on public safe-guards and inequality, especially in the area of “Big Data.” Accelerating development in a manner that is inclusive, equitable, and sustainable is perhaps *the* challenge of the 21st century. The innovations examined in this study must not be seen as the paradigmatic apogee of development initiatives, but as launching points for new methods of private sector investment in the achievement of the SDGs.

Scaling Up

In an age of global crises – ranging from climate change, to affordable access to health care, to the refugee crisis – pilot programs and narrowly tailored investment are not enough. More must be done to either translate these early programs to the national and international scale. In addition, scaling must be met with a strong set of good practices to provide a stable platform for innovation. Ultimately, scaling innovation means navigating a complex web of interconnected factors which impact scaling in unpredictable manners.

Scaling, as a jargon term, has its roots in business and has a series of important connotations: increasing growth and profit in proportion. The aim of scaling is to reach more people sustainably, or in other words, to grow without collapsing under the weight of the project. The business community has developed its own model for scaling, which involves research and development, testing the product, bringing the product to the market, and then reproducing and adapting the product to new markets. This model has generally been applied to development as well, with pilot programs taking the place of the traditional product. The goal is to

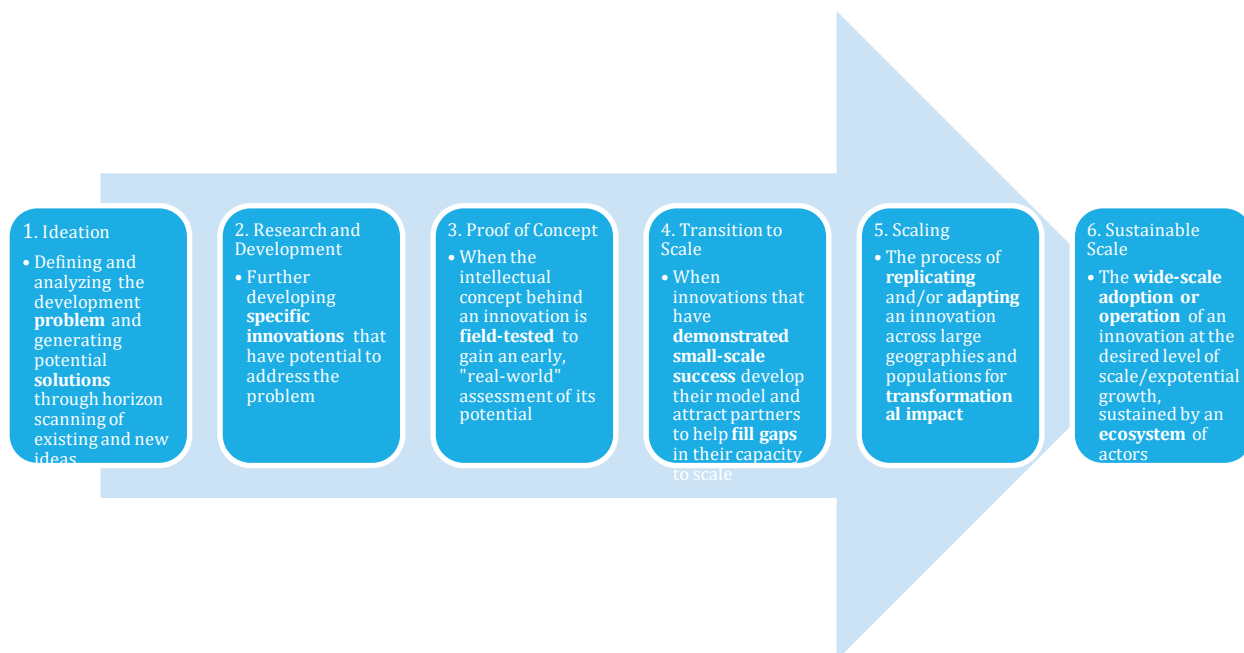
⁴⁷³ *Measuring Distance to the SDG Targets*, OECD (2019) <https://www.oecd.org/sdd/measuring-distance-to-the-sdgs-targets.htm>.

determine efficacy of a pilot project and then transition the project to scale through replication and modification.

However, the development framework for scaling requires significantly more collaboration than the typical business notion of scaling. Each step of the scaling process requires input from a diverse set of actors throughout society. While businesses can be highly specific in their approach, targeting slivers of a market, development must impact as many as possible, either directly or indirectly. One role of partners in developing innovation is in identifying gaps and allowing flexibility in scaling. Yet perhaps the most important role of partner groups is in sustaining the impact of innovation by supporting their adoption and integration across large geographies and populations. In order to truly scale innovation, efforts must be distributed through an ecosystem of actors.

Collaboration for scale is, of course, not alien to the private sector. Globalization has allowed for the creation of intricate supply-chains that cross continents, involve a diverse set of participants, and demand enmeshed collaboration. The skills, techniques, and lessons learned by international business are invaluable to effectively bring development innovation to all.

Sustainable growth of innovation means adopting a set of interlocked good practices as well. First, leaders must be aware of alternative options. Innovation rarely moves from ideation to actualization unchanged. Often times, initial ideas are insufficient and require wholesale change. Leaders must be able to validate and explore new options for achieving impact and let go of those that are ineffective or unfeasible.



High Level Architecture for Innovation:

Source: adapted from "Insights On Scaling For Innovation"

Second, leaders must constantly be analyzing the pathways for scale. Selecting appropriate partners, in either the public or private sectors, is only the first step. There are numerous methods of scaling that leaders must sift through and identify as best for the particular innovation. Horizontal scaling expands by replicating programs in new geographies and populations. Vertical scaling attempts to increase impact by changing high level policy or institutional environment to create top-down change. Functional scaling attempts to increase the functional scope of innovations, such as innovating in sickle cell disease treatment by promoting better general nutrition alongside researching low-cost treatments. Selecting one, or a hybrid, of these approaches is key to scaling.

Next, leaders must understand their role in scaling innovation. One aspect of this leadership role is in determining how they can eliminate constraints for their innovations. For example, financial partners can also play a non-financial role by using their position to influence key actors and ease open bottlenecks. Perhaps the most difficult part of understanding the role of leaders is in determining when further engagement is needed. When is it best to hands-on with an innovative program, and when is it best to hand off the program to partners? It's not enough to develop a new program, scale it up, and then watch from a

distance. Leadership in the age of the SDGs requires long-term advice and input from partners over the course of the lifetime of the project.

Finally, leaders must ensure transparency. In the context of innovations for the achievement of the SDGs, transparency means ensuring accountability and comparability. Transparency forms the bedrock for collaboration, as partners must be aware and informed. In addition, transparency aids public adoption of innovation, as public perceptions rely on transparent communication of objectives and efficacy. A recent consideration in transparency is comparability, ensuring that data is standardized and capable of being compared to the data of other initiatives. Comparability makes engagement in international multi-stakeholder programs easier and more efficient, furthering the goal of impact through collaboration.

Sustainable Technology – Inclusion, Responsibility, and Safeguards

Inclusion:

The 2030 Agenda places inclusion at its heart: “As we embark on this great collective journey, we pledge that no one will be left behind. Recognizing that the dignity of the human person is fundamental, we wish to see the Goals and targets met for all nations and peoples and for all segments of society. And we will endeavor to reach the furthest behind first.”⁴⁷⁴

While innovations in Science, Technology and Innovation (STI) have the potential to raise the quality of life for all members of society, the technological transformations of the 21st century have largely had an asymmetric impact. This imbalance is evident in the vast geographical disparities in economic growth and social development around the world, much of which has been fueled by access to new developments in STI.

When discussing and evolving “delivery through technology,” it’s not enough to use innovative technology to open up new markets and potential client bases. Underserved segments of society and communities need to become copartners in development; catch-up economic growth is only possible when technology is integrated through bottom-up approaches that build an inclusive foundation for society.

The work of the Tata Group, in partnership with Google, to bring ICT literacy to rural India with the Internet Saathi Initiative and the efforts of GSMA serve as important role models to inclusive development. Both

⁴⁷⁴ *Transforming our world: the 2030 Agenda for Sustainable Development*, SUSTAINABLE DEVELOPMENT GOALS KNOWLEDGE PLATFORM (2015) <https://sustainabledevelopment.un.org/post2015/transformingourworld>.

Internet Saathi and GSMA address two common sore spots for technological inclusion: the urban/rural divide and the persistent gender gap. While there is an ethical texture to these inclusive aims – it's the right thing to do – there are significant practical implications as well. Focusing on access for women and girls is an impact multiplier: according to research, women reinvest 90 percent of every dollar made back into her family, compared to only 30 to 40 percent for men.⁴⁷⁵ Numerous studies have demonstrated that women earners are more likely to support educational attainment of their children than men, and that each additional year of schooling for children is directly correlated with improved potential earnings.⁴⁷⁶ The result is a cumulative set of impact multipliers that can dramatically accelerate the economic growth of a society. Unlocking these multipliers is one of the goals of inclusive development.

Girls and women spend **90%** of their **earned income**
on their families, while men spend only **30-40%**



However, while impact assessment is essential, it is far too easy to get lost in analysis of expected efficiency. The benefits of certain sectors of inclusive development were for a long time not immediately clear, but in recent years, have come to light. For example, accessibility was long considered expensive and inefficient. While the ILO estimates that one in seven of the world's population have disabilities, many businesses historically ignored accessibility issues. ICT companies that pioneered accessibility principles and guidelines have recently reaped the rewards through huge value-add innovations. Technologies like predictive text, text-to-speech, and voice control have not just improved accessibility for millions with disabilities but have found much broader application. In early 2019, Amazon announced that it had sold over 100 million devices with its voice user interface, Alexa.⁴⁷⁷ Many top technology companies are now focusing on accessibility to move beyond conventional interaction approaches and to become more human-centric. Importantly, the impact of these accessibility innovations was not immediately apparent when they first entered the market. Technology firms need to start thinking about inclusive design and development as innovation locations that serve as long-term investment opportunities, even when initial impact is relatively opaque.

⁴⁷⁵ WOMEN'S HEALTH AND THE WORLD'S CITIES, 36 (Afaf Ibrahim Meleis, Eugenie L. Birch & Susan M. Waxhter eds., 2013).

⁴⁷⁶ 10.1080/09645292.2018.1484426/ 10.1162/qjec.2008.123.3.1251.

⁴⁷⁷ Abrar A-Heeti, *Amazon has sold more than 100 million Alexa devices*, CNET (Jan. 4, 2019) <https://www.cnet.com/news/amazon-has-sold-more-than-100-million-alexa-devices/>.

Responsibly using Big Data:

We are in the midst of a data revolution. The Cape Town Global Action Plan for Sustainable Development Data was launched in 2017 at the inaugural United Nations World Data Forum, and it calls for a commitment by governments, policy leaders, and the international community to undertake key actions under six strategic areas of data for sustainable development: its dissemination and use; coordination and strategic leadership; innovation and modernization of national statistical systems; strengthening of basic statistical activities and programs; multi-stakeholder partnerships; and mobilizing resources and coordinating efforts for capacity building. Big data can provide essential insights to inform policy and CSR efforts, and it is a vital tool that needs to be embraced by more development stakeholders.⁴⁷⁸

Key Principles of the *Cape Town Global Action Plan for Sustainable Development Data*

Completeness of scope. The Plan shall address all aspects of coordination, production and use of data for sustainable development. The plan shall describe necessary steps to modernize and strengthen statistical systems. The plan shall address short, middle and long-term actions, with particular focus on building the infrastructure and the capacity needed to support local, national, regional and global statistical requirements. The plan is to be perceived as a living document, open to potential adjustments at a later stage to account for future development.

Accountability. The modern production of statistics requires comprehensive interaction among data providers, producers and users. Therefore, trust among data providers, producers and users of statistics is key for the effective functioning of the national, regional, and global statistical systems in full adherence with the UN Fundamental Principles of Official Statistics. Accordingly, the plan identifies national statistical systems, under the leadership of National Statistical Offices as the necessary and appropriate leaders of this effort.

Cooperation. The Plan recognizes the crucial role of cooperation among countries, regional organizations, and other international organizations and stakeholders in supporting countries' plans and efforts in capacity building. The Plan recognizes the expertise and abilities of these key stakeholders as essential resources for progress and modernization. Indeed, they have a crucial role in capacity building exercises and in carrying out statistical capacity building efforts in their areas of work. Nonetheless, the role of international

⁴⁷⁸ *Cape Town Global Action Plan for Sustainable Development Data*, SUSTAINABLE DEVELOPMENT GOALS, <https://unstats.un.org/sdgs/hlg/cape-town-global-action-plan/>.

organizations and regional entities to the development of methodologies and data in their respective programmes must be conducted in full consultation and coordination with National Statistical Offices. Coordination and streamlining of these activities are necessary to avoid duplication of efforts and channel effort to furthering the Agenda.

However, big data is not an infallible panacea. To ensure that global sustainable development goals are realized and that progress is appropriately and responsibly tracked using big data, applications of big data analytics should respect individual privacy and the highest norms of ethical conduct. While the use of big data has many benefits, especially in the context of the SDGs, this use raises questions about the potential harms posed to individuals and to identifiable groups or populations. The key to ensuring that data is utilized responsibly is to properly assess the likelihood of risks and related harms in proportion to the expected benefits of data use. A balance needs to be struck between protecting privacy and maximizing the utility of big data for safe-guarding civil rights, ensuring fairness, and preventing discrimination.

Who owns data (e.g., governments, individual, or data collectors)? How and when it should be used? Who has power to modify, package, derive benefit from, or assign access to it— many questions that arise with the use of big data analytics remain yet to be answered.

Development partners using big data need to assess whether their data analytics approach is truly inclusive. Incomplete representation in datasets – due to the exclusion of certain populations – can lead to biases in conclusions or recommendations based on data analytics. This in turn can lead to unfair or discriminatory decision-making and magnify social inequalities. At the root of this issue is the “black box” nature of much data analysis and number-crunching algorithms. The opacity of big data can render it almost impossible for stakeholders to engage and critique data analysis in a meaningful manner. In addition, recent research has challenged the effectiveness of existing privacy protections. One of the most difficult challenges is the “de-anonymization” of big data: with just a few points identifiable information, individuals can be singled out of nominally anonymous data.⁴⁷⁹

To combat potential exploitation of big data, companies and country governments need to bake ethical guidelines and privacy into implementation from the very beginning. It is not enough to enshrine privacy as a general principle or to retrofit products with privacy protections as an afterthought. A few possible mitigation

⁴⁷⁹ Yves-Alexandre de Montjoye, César A. Hidalgo, Michel Verleysen & Vincent D. Blondel, *Unique in the Crowd: The privacy bounds of human mobility*, SCIENTIFIC REPORTS (Mar. 25, 2013) available at: <https://www.nature.com/articles/srep01376>.

strategies have already been offered by privacy and ethical frameworks that are adaptable to sustainable development and humanitarian contexts, such as the “UNDG Guidance Note on Big Data for SDGs: Data Privacy, Data Protection and Data Ethics” and the “UN Global Pulse Data Privacy and Data Protection Principles.”⁴⁸⁰

ICTs and Social Safeguards

The unprecedented adoption of social media and messaging platforms across developed and developing countries has connected people and communities to each other and the rest of the world as never before. Internet penetration is far from universal but, in 2018, more than 4 billion people—over half the world’s population—are connected to the Internet. The number of social media users rose by 13 percent between 2017 and 2018, and now stands at 3 billion people.⁴⁸¹ And for many, social media and messaging platforms have increasingly come to supplant traditional media outlets as the most up-to-date sources of news and information on current affairs.

As is often noted, these dramatic transformations in communications technologies and the proliferation of social media platforms hold tremendous power and promise. Many of the case studies above have demonstrated that new media can democratize access to information and knowledge, establish new spaces and practices of dialogue and discussion and enable the rapid mobilization of public forces for social change.

The same systems, however, have also given rise to serious social challenges, foremost among which is the phenomenon of fake news—the accidental or deliberate spread of misinformation. Rumors and deception campaigns are not necessarily new, but what is new is the speed at which this information can circulate online and across social networks and the damaging impact it can have. The proliferation of potential sources of information online has also made it increasingly difficult for many people to distinguish between what is credible and what is not. Deliberate disinformation campaigns have been used to stoke hatred and manipulate citizens for political gain. Moreover, the phenomenon itself has more recently been

⁴⁸⁰ *Data Privacy, Ethics and Protection: Guidance Note on Big Data for Achievement of the 2030 Agenda*, U.N. SUSTAINABLE DEVELOPMENT GROUP (Nov. 2017) <https://undg.org/document/data-privacy-ethics-and-protection-guidance-note-on-big-data-for-achievement-of-the-2030-agenda/>; *Data Privacy, Ethics and Protection Principles*, U.N. DEVELOPMENT GROUP <https://www.unglobalpulse.org/privacy-and-data-protection-principles>.

⁴⁸¹ *The Global State of Digital in 2019 Report*, <https://hootsuite.com/pages/digital-in-2019>.

instrumentalized by some politicians to sow confusion by using the label “fake news” to attack professional and independent news outlets that produce critical or negative coverage.

Exhibit: Facebook’s WhatsApp in India

India has rapidly outpaced the United States as the largest global market for Facebook and it’s growing faster each day. As of 2018, there are over 225 million users of Facebook’s encrypted messaging app WhatsApp in India. In 2018, a clip from a Pakistani anti-kidnapping public service ad was edited to appear as a real kidnapping and went viral on the WhatsApp platform. Users circulated the video along with rumors that hundreds of child kidnappers were invading Indian cities. By the time news media and the police were able to debunk the viral fake news, at least two dozen were killed in mob attacks.⁴⁸² In the first three months of 2019, Facebook removed 5.4 million pieces of content that included child sexual exploitation, 4 million pieces of hate speech, 6.4 million pieces of terrorist propaganda, and 1.76 billion pieces of spam, among other banned content.⁴⁸³ However, the child-kidnapping mob violence in India demonstrates the deadly stakes facing ICT companies around the world. Despite the volume of Facebook’s recent moderation efforts, small errors can have dramatic impacts on vulnerable communities around the world.

The fake news phenomenon is not just a concern for ICT firms, as rumors, hoaxes, and disinformation have clear ramifications for every sector of industry. Fake news has been particularly damaging to public health efforts around the world, including developed countries with digitally literate populations. “Disinformation and unfounded allegations of harm from vaccines, or from food fortification are directed through abuse of the social media reaching at hundreds of millions of people with enormous success and resulting in economically damaging and costly care for preventable diseases.”⁴⁸⁴ Pharmaceutical companies like Novartis may soon need to become central partners in addressing fake news on social media.

Policy makers and experts are still grappling with solutions to rampant fake news. In the developing world, the best approach seems to be through media literacy to develop the capacity of the public and key stakeholders to seek credible news sources and detect and stop the spread of fake news. Media literacy

⁴⁸² Shashank Bengali, *How WhatsApp is battling misinformation in India, where ‘fake news is part of our culture’*, L.A. TIMES (Feb. 4, 2019) <https://www.latimes.com/world/la-fg-india-whatsapp-2019-story.html>.

⁴⁸³ Ben Bradford et. al., *Report of the Facebook Data Transparency Advisory Group*, THE JUSTICE COLLABORATORY (April 2019) https://law.yale.edu/system/files/area/center/justice/document/dtag_report_5.22.2019.pdf

⁴⁸⁴ THEODORE TULCHINSKY, CASE STUDIES IN PUBLIC HEALTH, 26 (2018).

efforts are just the first step, and industry leaders need to work closely with ICT and local governments to develop holistic solutions.

The rise of fake news holds an important lesson to innovators in every field: do not think ground-breaking technology will immediately erase harmful human behavior. Rumors and hoaxes have existed as long as humanity, and although people have access to more information and research than ever before, social media has simply magnified existing human tendencies toward psychologically shocking content. Careful effort must be made by innovators to integrate social safeguards into every aspect of new technology.

Public/ Private Partnerships to Help the Furthest Left Behind

There is a growing realization on how adapting core business practices and value chains towards sustainability can lead to new business opportunities and greater competitiveness in a fast-changing global economy. It can also help those furthest left behind.

The Business and Sustainable Development Commission which is a group of CEO's and civic leaders that were convened by the UN recently put out a report identifying twelve trillion dollars of opportunities that can be created through achieving the SDGs.⁴⁸⁵

Public-private partnerships have the capacity to promote and spur innovation and leverage new technologies that can then be scaled up or replicated for wider impact. For instance, GSMA has shown some great examples not only of innovation for development through mobile cash transfers and the use of mobile technology to advance health and education, but also of partnerships with governments to widen the scale of these efforts and then replicating these models in other African countries.

According to World Bank data, 1.06 billion people live without electricity; 4.5 billion still lack access to safely managed sanitation; and 2.1 billion lack access to safely managed drinking water. In 2016, more than 300,000 children under five years of age died from washing-related diarrheal diseases. Public-private partnerships (PPPs) can be a tool to meet these needs for infrastructure services. In a well thought out regulatory environment, Public Private Partnerships can bring greater efficiency and sustainability to the provision of

⁴⁸⁵ Nazila Vali, More than philanthropy: SDGs are a \$12 trillion opportunity for the private sector, U.N.D.P. (Aug. 25, 2017) <https://www.undp.org/content/undp/en/home/blog/2017/8/25/More-than-philanthropy-SDGs-present-an-estimated-US-12-trillion-in-market-opportunities-for-private-sector-through-inclusive-business.html>.

public services. Several criteria have been taken into account in designing programs engaging public private partnerships including whether the project promote entrepreneurial activities of disadvantaged or low-income persons?⁴⁸⁶

Recognizing the opportunities that effective private sector engagement through development co-operation provides, and in addressing the concerns of all stakeholders through an inclusive process, the Global Partnership for Effective Development Co-operation (GPEDC) developed the “Kampala Principles” which were launched in July 2019. The Principles are a set of strategic priorities for private sector engagement through development co-operation.⁴⁸⁷



OECD Kampala Principles

⁴⁸⁶ 2.1 billion people lack safe drinking water at home, more than twice as many lack safe sanitation, WHO (July 12, 2017) <https://www.who.int/news-room/detail/12-07-2017-2-1-billion-people-lack-safe-drinking-water-at-home-more-than-twice-as-many-lack-safe-sanitation>.

⁴⁸⁷ Kampala Principles, OECD (July 13, 2019) <http://www.oecd.org/2Fdac%2Feffectiveness%2FKampala-Principles-on-effective-private-sector-engagement-development-cooperation.pdf&usg=AOvVaw3stLiIDs4MwK-alxdewiiX>.

The five principles promote ownership of private sector engagement (PSE) through development co-operation by partner countries and ensure the alignment of PSE projects and programs with national sustainable development priorities. They focus on realizing sustainable development results and serve as a basis for inclusive dialogue and more effective partnerships. The principles support greater transparency and accountability and

The Kampala Principles call for at the policy level there is a need to identify key sectors, markets and populations where increased private investment and entrepreneurial activity to support sectoral, national and international sustainable development priorities and efforts to leave no one behind. Ensure sustainable results by aligning core business and development interests.⁴⁸⁸

Financial Inclusion: “The JP Morgan model is outdated”

Some of the most vibrant public and private partnerships have included financial inclusion models and this model has been identified as an enabler for 7 of the 17 SDGs.

UN Secretary-General António Guterres recently called for ‘more action, more ambition and more political will’ to ensure the SDGs would be met, urging business leaders to use their leadership positions and platforms to galvanize the global community to take action on the issues. At the end of 2018, he launched a global task force charged with recommending strategies to harness the potential of financial technology to advance the Sustainable Development Goals. The Task Force on Digital Financing consists of leaders from a range of sectors from both developed and developing countries.

“We have already seen how technology has helped expand financial inclusion—itself an important goal—by 1.2 billion people in just six years,” said Secretary Guterres. “But we have only just begun to tap the potential of digital finance and investment to meet the broader agenda set forth in the Sustainable Development Goals and the Paris Agreement on climate change.” “Digitization makes it possible to process financial data much faster, more accurately, and in exponentially greater volumes,” said co-Chair Maria Ramos. “Not just financial

⁴⁸⁸ *Id.*

institutions, but entire financial systems are being transformed by the digital revolution. We have an historic opportunity to ensure that what emerges are financial systems that put people at the centre.”⁴⁸⁹

Our study indicates that strategic approaches towards developing national financial inclusion strategies bringing together financial regulators, telecommunications, competition and education ministries increase the pace and impact of reforms, but most of all what is needed are new and imaginative models of financial inclusion.

Kumar Mahadeva, the visionary founder of Cognizant says that that the JP Morgan model is “outdated” and cannot solve the challenges of emerging markets. Although JP Morgan has often been characterized as the “greatest banker” of the United States, financial models such as ANT are remaking the world.⁴⁹⁰

The most valuable FinTech company in the world – Ant Services Financial Group highlights the role of financial inclusion in development. SDG Advocate Jack Ma founded Ant Financial via his Alibaba Group. With a valuation of \$150 billion, Ant Financial Services Group is the highest valued TechFin company in the world, and the world's most valuable Unicorn company. Ant's flagship Tianhong Yu'e Bao money-market fund is the biggest in the world, with over 588 million users of Ant's mobile payments network, Alipay, contributing, more than a third of China's population. Yue'bao's mobile money market fund has a minimum investment threshold of Rmb1 (\$0.15), making it accessible as an investment tool to anyone with a smartphone. Yue'bao is now the world's largest money market fund with about \$200bn in assets under management. The SDGs cannot be achieved without bringing those who were previously unbankable to the banking system. The role of financial inclusion in development highlights the role financial inclusion in attaining many SDGs.⁴⁹¹

Ant's technology and innovation for social good – share many of the same values of targeting rural poverty and gender equality as the SDGs. Ants are small and represent the little people, to provide access to financial inclusion to the underserved or unserved.

⁴⁸⁹ *Task Force on Digital Financing of Sustainable Development Goals*, U.N. SEC. GEN. (Nov. 29, 2018) <https://www.un.org/sg/en/content/sg/personnel-appointments/2018-11-29/task-force-digital-financing-sustainable-development>.

⁴⁹⁰ Interview by authors with Kumar Mahadeva, Founder, Cognizant (interviews conducted between February 2019 and July 2020).

⁴⁹¹ Stella Yifan Xie, *More Than a Third of China Is Now Invested in One Giant Mutual Fund*, WALL ST. J. (Mar. 27, 2019) <https://www.wsj.com/articles/more-than-a-third-of-china-is-now-invested-in-one-giant-mutual-fund-11553682785>.

Building Partnerships is Important for Scale

From B-Kash in Bangladesh to G-Cash in the Philippines, Ant Financial is forming joint venture to bring digital wallet services around the world to serve the underserved. In Hong Kong, working the with Li Kashing company, Ant Financial launched a blockchain-powered cash remittance service that will allow real-time transfers of cash between individuals in Hong Kong and the Philippines.

Ant has an open stated intention to reach two billion users by 2025. The way in which they'll achieve that is through local partnerships, and many of those have been started already from Thailand to Korea to Indonesia.⁴⁹²

Financial inclusion is key to helping to and achieving the SDGs. Digital financial payment products – a mobile phone linked to a bank account – allow people to get money from far-flung relatives and friends in a crisis, reducing the odds they'll fall into poverty. There's growing evidence that digitizing payments—for health, education or other social safety nets – yields big benefits for individuals, in addition to improving efficiency for governments and aid agencies by reducing transaction costs and leakage. Still women continue to be left behind from these services and partnerships must be bolder and more ambitious involving multilaterals and big business like IFC and Ant.

The IFC estimates that the microfinance sector reaches less than 20 percent of its potential market among the world's 3 billion poor people. Digital financial services such as loans, savings, and money transfers help small and medium sized businesses run by women. To help address a gap, Ant Financial and IFC partner to use Internet-based financing to expand lending to more Chinese micro and small enterprises and women-owned businesses.⁴⁹³

IFC has provided Ant Financial subsidiary, Ant Credit, about 1.5 billion yuan (\$245 million) in financing. This arrangement includes 500 million yuan (\$80 million) specifically looking at women entrepreneurs through

⁴⁹² Hu Yue et al. *As Ant Group Saturates Its Home Market, Overseas Expansion Becomes Priority*, CAIXIN (Aug. 4, 2020) <https://www.caixinglobal.com/2020-08-04/as-ant-group-saturates-its-home-market-overseas-expansion-becomes-priority-101588700.html>.

⁴⁹³ *IFC Microfinance -- Creating Opportunity in Emerging Markets*, INT'L FIN. CORP. (2018) https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/financial+institutions/resources/ifc+microfinance+---creating+opportunity+in+emerging+markets.

the IFC/Goldman Sachs 10,000 Women Entrepreneurs Opportunity Facility, that provides financing to women-owned SMEs in developing countries.⁴⁹⁴

Information that establishes creditworthiness, collected with the help of big data technologies and cloud computing, allow Ant Financial to lend without having to take securities and assets such as buildings or inventories as guarantees for loans. This lowers the threshold for loan disbursements and helps to provide financing to clients who previously stood no chance of obtaining loans.

Ant Credit is able to provide microloans to small businesses and individual entrepreneurs over the Internet. It evaluates small business owners creditworthiness based on transactional and behavioral data. Ant Credit's clients are disproportionately small businesses owned by women—on Alibaba Group's online marketplaces.

Given that women account for 1.1 billion of unbanked adults, or most of the financially excluded, Ant financial services can be a major tool of economic empowerment. Consider, Chen Yuanyuan, a small business owner who shortly after her loan application, received a text message telling her that the company had approved a \$67,000 loan. Her business now has a turnover exceeding \$8 million a year. Ant's digital-lending system has become a game-changer in financial inclusion in China.⁴⁹⁵

Kumar Mahadeva too states that globalization and the emerging economies have brought a new demographic that calls for financial inclusion in the model of Ant which has 300 billion in investments and uses the Base of the Pyramid (BoP) innovation. It has been estimated that 4.5 billion people represent a huge market of creative and resilient customers.⁴⁹⁶

“The Future of Work is Female: Many of the Future Innovations will come from the Minds of Women”

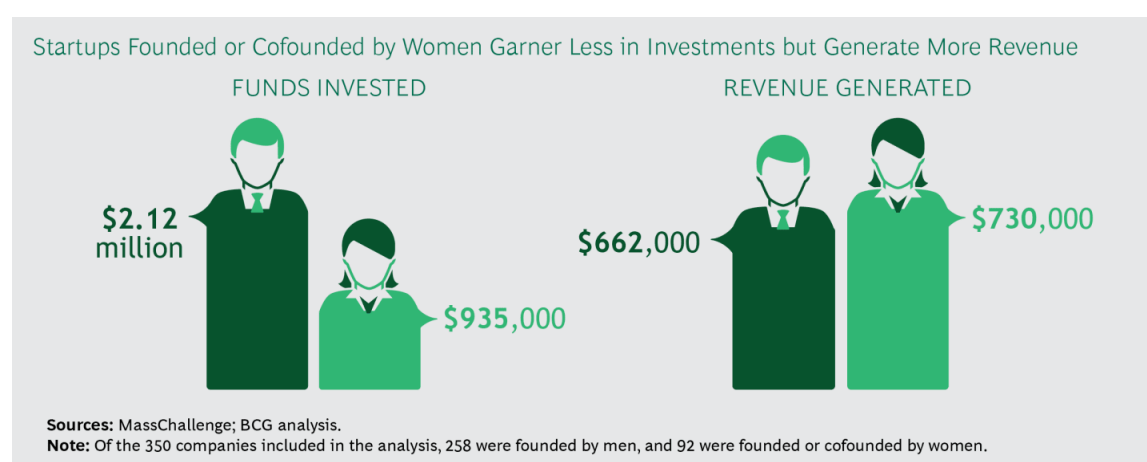
SDG 9 seeks to promote industrialization that is inclusive and resilient. Similar to how mechanization was the pillar of industrialization in the twentieth century, today's notion of the same is being defined by new frontiers in AI and Deep Learning. In keeping with SDG 9 and 5, the common thread of skewed gender

⁴⁹⁴ Using the Internet to Expand Microfinance in China, INT'L FIN. CORP.
https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/ifc%2C+ant+financial+use+internet+technologies+to+help+scale-up+microlending+for+chinese+msmes--women.

⁴⁹⁵ *Id.*

⁴⁹⁶ Interview by authors with Kumar Mahadeva, Founder, Cognizant (interviews conducted between February 2019 and July 2020).

participation in innovation needs to be changed to advance both innovation and inclusion. Women-led private technology companies achieve 35 percent higher return on investment, and when venture-backed, bring in 12 percent higher revenue than male-owned tech companies⁴⁹⁷. Other research shows similar results for venture-backed organizations that are the most inclusive of women in top management to the tune of 34 percent higher total return for shareholders. In a 2018 study by BCG and MassChallenge, a US-based global network of accelerators, the average investment amount in a company founded or cofounded by women averaged less than half the amount invested in companies founded by male entrepreneurs. However, startups founded and cofounded by women actually performed better over time, generating 10% more in cumulative revenue over a five-year period: \$730,000 compared with \$662,000.⁴⁹⁸ Despite these findings, a woman CEO and founder of a tech firm is a rarity even in Silicon Valley.



With the MeToo and #TimesUp movements targeting technology companies, the conspicuous absence of women leaders in technology has come to the forefront. In *Brotopia: Breaking Up the Boys' Club of Silicon Valley*, Emily Change, the Bloomberg anchor wrote that women are vastly underrepresented in technology, and they have to figure out how to navigate workplace discrimination despite research showing that diversity — and women, in particular — can make businesses more successful.

When we meet Kamakshi Sivaramakrishnan, one of the few women of color CEO/founders of a technology firm in Silicon Valley, she is in the midst of selling her company Drawbridge to LinkedIn/Microsoft. She makes

⁴⁹⁷ Karen E. Klein, *Women Who Run Tech Startups Are Catching Up*, BLOOMBERG, (Feb. 20, 2013) <https://www.bloomberg.com/news/articles/2013-02-20/women-who-run-tech-startups-are-catching-up>.

⁴⁹⁸ Katie Abouzahr et al., *Why Women-Owned Startups Are a Better Bet*, BCG (June 6, 2018) <https://www.bcg.com/en-us/publications/2018/why-women-owned-startups-are-better-bet.aspx>.

a bold prediction: “The Future of Work is Female.” She tells us, “I truly hope and expect that in my lifetime there will be a generation where the success of women in science and technology is not an exception – it is the norm. I hope that my entrepreneurial story – though just one such story – can serve as inspiration to empower other women and girls to follow, so we can achieve gender equality.”⁴⁹⁹

The twenty-first century has been defined predominantly by increasing interconnectedness, alliances and partnerships that were thought improbable before. However, women’s leadership in hard core engineering fields is still rare. Kamakshi’s path towards founding a groundbreaking tech company has been anything but conventional. According to Kamakshi, “I grew up having broken pretty much every rule in the book that I was given as a young woman or as a child.” She studied engineering in India before moving to the US, where she eventually went on to pursue a Ph.D. at Stanford University in information theory. Although Kamakshi and her tech company have not worked in the area of the SDGs, Kamakshi is the extraordinary unicorn in Silicon Valley who wants to and needs to align her innovations with the SDGs. The word unicorn was coined by Aileen Lee in 2013, she wrote an analysis of the start-up and tech ecosystem in which she called a group of billion-dollar start-ups as “unicorns”—a reference to their supposed rarity. Kamakshi is rare because she is a woman of color unicorn in Silicon Valley’s old boys club.⁵⁰⁰

Kamakshi’s challenge to the future of work is this: “I expect that many of the future innovations will come from the minds of women.”

As for future challenges, Kamakshi talks of the technology frameworks for AI and machine learning which are rapidly advancing, and as with any technology, there are risks, real or perceived. But these advancements are creating and revolutionizing practically every conceivable industry, and the value will only continue to grow and have an impact. Among possible risks, she remains concerned about the “subconscious bias that can be created by the vast gender asymmetry and under-representation of the female psychology, perspective style and even consciousness.”⁵⁰¹

To block the implicit biases that Kamakshi emphasizes, we need to challenge our assumptions. This is never so important as in the field of technology delivery for the SDGs. Diversity spurs innovation. In fact as Columbia Professor Katherine Phillips has said, diversity makes us smarter. In the era of the SDGs, we have to

⁴⁹⁹ Interview by authors with Kamakshi Sivaramakrishnan, CEO, Drawbridge (interviews conducted between February 2019 and July 2020).

⁵⁰⁰ *Id.*

⁵⁰¹ *Id.*

push ourselves harder to think of ways in which gender and global diversity in modes of thinking and analysis can accelerate the SDGs.

Transformative Leadership: Lessons from the Narratives

The SDGs provide a framework for leaders in the public and private sphere to anchor their activities upon a set of universal moral goals. In this Study, we see one unifying thread binding together the profiles: the centrality of cooperation. Ngozi Okonjo- Iweala's mantra is that "innovation is a collaborative process." Every era of creative ferment, whether it is the Enlightenment or the Industrial Revolution, the sharing of ideas was an important process for creation. The leaders of innovation then and now expand on the ideas that already exist but use them differently and for different purposes. Bringing everyone together and creating partnerships is important to the leaders we examine. Vas Narasimhan talked about his early training, "When I was working in Peru on a TB program, running a project with the Ministry of Health, I saw how difficult it is to get the various stakeholders from around the country together and align around a common goal."⁵⁰²

The leaders analyzed here all strive for innovation through inclusion. James MacGregor Burns, the famous leadership theorist, argued that the best leaders "raise one another to higher levels of motivation and morality." Our findings support his conclusion. The SDGs set a high bar, and contemporary leaders must be willing to collaborate for their achievement.

In the final analysis, Burns argues that "transforming leaders define public values that embrace the supreme and enduring principles of a people."⁵⁰³ These values are the shaping ideas behind human civilization. The SDGs are in the words of Mary Robinson the greatest diplomatic feat of the 21st century. At testing times such as now, during the life span of the 2030 Agenda, when people confront the possibilities – and threat- of great change, powerful values and transformative leaders from the public and private sphere must rise to the forefront. They are the motivation for women and men who seek to herald a renaissance through the 2030 Agenda; and they are the standard bearers for a new and inclusive age of economic growth for future generations to come."

No leader is perfect, and they often acknowledge missteps that help them learn, but transformative leaders have a vision for the common good. In Plato's Republic, Socrates tells us that leaders are fitted by nature to

⁵⁰² Julian Upton, *Emerging Pharma Leaders: Vas Narasimhan*, PHARMESEC (Oct. 3, 2016) <https://www.pharmexec.com/view/vas-narasimhan>.

⁵⁰³ JAMES MACGREGOR BURNS, *LEADERSHIP*, 23 (1978).

"engage in philosophy and to rule in a city." This philosophy or end values is what differentiates the leaders from another. A hall mark of a transformative leader is one who is engaged in end values of liberty, justice and equality than others. For James McGregor Burns, the notions of collective purpose and social change have moral priority in a normative theory of leadership. What distinguishes a transformative leader from others is that the former is concerned with a higher purpose that goes beyond, civility, tolerance, and openness. Although these are important values, a transforming leader operates at a value level higher than others to embrace a set of moral principles. The SDGs provide a unifying set of universal moral principles or virtues that offer leaders a framework within which to both align their work as well as unite their values.

Even at an early age, transforming leaders are concerned about a legacy. Even in her early 30's, Natalie Jabangwe has said, "I want to be remembered as a great contributor to the economic development of nations and a champion in developing the potential of others."⁵⁰⁴ Jabangwe's narrative shows that the social sciences are as relevant in the age of technology as ever before. Her creativity calls upon a rigorous respect for both the sciences and the humanities. Her work combines science and the humanities in what Ada Lovelace, the woman who pioneered computer programming in the 1840's and the daughter of the poet Lord Byron called the poetical science. Lovelace has said," human imagination must bring together facts, ideas, conceptions in new endless every- varying combinations."

Transforming leaders have the capacity to see into the future: seeing the connections that others do not see and they anticipate change. Ngozi Okonjo Iweala has said: "Mobile phone technology can help to bring financial services to the 80 percent of African women who do not have a bank account and bolster the growth of the world's poorest continent. It's not just about empowering women, it's about economic growth. Unless we can make access to finance easier for women in their businesses, we will be missing out on a significant portion of growth within our economies."⁵⁰⁵

Financial and Digital Exclusion:

Women's access to financial services, including mobile remittances, is less than half that of men in Chad, Niger, Morocco, Pakistan, and Yemen. The equivalent number in India is 66 percent. These regions are home to about 72 percent of all women who face constraints on access to financial services. Women's use of the Internet and mobile phones remains only 50 to 75 percent that of men in Bangladesh, India, Iran, Senegal, Turkey, and Uganda. Sub

⁵⁰⁴ Interview by authors with Ngozi Okonjo Iweala, (interviews conducted between February 2019 and July 2020).

⁵⁰⁵ *Id.*

Saharan Africa and the MENA region account for 52 percent of all women lacking access to the Internet. Mobile money and digitalization of financial services offer greater opportunities for women and could be a democratizing tool in these regions.

--Source: McKinsey Global Research on the Power of Parity, 2015

The leaders work for the broadest possible impact. Although Mats Granryd is committed to a "Business Plan for Sustainable Development," his higher purpose is the impact on the world and not necessarily business. He says: "I am inspired by individuals who are working to change the world for the better, in ways large and small. ... Not everyone will be a Malala, but we should all aspire to have that kind of impact."⁵⁰⁶

While Malala showed us the courage of the human spirit, we look back on the wisdom of Ada Lovelace who cautioned us that, "The Analytical Engine has no pretensions whatever to originate anything. It can do whatever we know how to order it to perform." Her idea was that augmented intelligence occurs when humans create a symbiotic relationship with technology. Artificial Intelligence cannot replace humans but instead become their partners. What leadership in the age of the SDGs and the digital revolution shows us is that purposeful leadership is imperative to sustainable change. In Leonardo da Vinci's words: "Human ingenuity will never devise any invention more beautiful, nor more to the purpose than Nature does."

Some Reflections: A Year Later- Leaders at the Forefront of the Covid Crisis

When we began the study, our world was very different from what it is now. Fast forward a year, and the world had inexorably changed. We are facing an existential crisis. The whole nature of life, the shape and future of humanity is at stake. The COVID-19 Pandemic has intensified and exacerbated existing inequalities and revealed the fault lines globally. Black swan events such as this gives us the opportunity to build back stronger and let us reimagine a world that guarantees the human rights of all. We are at a pivotal moment in the development of the SDGs, and there has never been a more urgent need to accelerate the SDGs both as a cause and a consequence of this unprecedented pandemic.

⁵⁰⁶ Interview by authors with Mats Granryd, Director General, GSMA (interviews conducted between February 2019 and July 2020).

“The future is unknowable, but the past should give us hope,” said Winston Churchill referring to human ingenuity and character to move us forward.

Nana Addo Dankwa Akufo- Addo, President of the Republic of Ghana and Co- Chair of the UN Secretary General’s Eminent Group of Advocates for the SDGs, and Erna Solberg, Prime Minister of Norway and Co- Chair of the UN Secretary General’s eminent Group of Advocates for the SDGs have argued that the SDGs are now more relevant than ever.

President Akufo-Addo believes that while the loss of human life to the pandemic is devastating, the economic impact of the virus will be felt on a much broader scale. Referencing statistics from the IMF, President Akufo-Addo has stated that the economic cost of the pandemic will top US \$2 trillion. This massive loss of jobs and economic productivity has exposed the weaknesses of the global system- that “poverty, weak health systems, lack of education, and . . . sub-optimal global cooperation” has exacerbated the crisis. But President Akufo-Addo also sees a path forward through the SDGs. It is now clearer than ever that the world faces common challenges and that the way forward is global cooperation to “meet people’s basic needs, to save our planet and to build a fairer and more secure world.”

Calling to build back better and stronger, they argue that the road to recovery lies in the SDGs.

During these testing times, leadership is more important than ever.

In this addendum, we look at a quiet revolution that is taking place in every corner of the world to fight back Covid-19 and build back stronger. In this addendum, we explore the work of Vas Narasimhan and his leadership at Novartis in leading a global consortium to develop a vaccine and Mats Granryd, and GSMA to provide connectivity in every corner of the world at a time when connectivity has become a life line in health, education and human security.

SDG 3: Ensure Healthy Lives and Promote Well-Being for All at All Ages

As a Physician-scientist and the CEO of one of the largest bio- pharma companies in the world, Vas Narasimhan will co-chair a consortium of companies in the race to develop a vaccine for Covid-19. The consortium is a part of his ongoing commitment to accelerate solutions to global health problems through the private sector. The 15 companies in the consortium will share the molecular compounds in their proprietary libraries to be scanned by an accelerator, to determine if any might be of potential use against Covid-19. Potential hits will then be moved into rapid trials. Narasimhan has also committed Novartis to donating up to 130 million doses of hydroxychloroquine, which is currently under evaluation as a potential treatment for Covid-19. Novartis has



also created a \$20 million Covid-19 Response Fund to provide “grants to support public health initiatives for communities affected by the pandemic.” recent years Novartis had moved out of the vaccine industry and no longer has the expertise in virology nor the laboratories to develop a vaccine itself.⁵⁰⁷

In addition to the vaccine consortium, Novartis will be expanding access to artificial intelligence to all of its employees through a partnership with Microsoft. This partnership will focus in three areas: “personalize[d] treatments for macular degeneration and irreversible blindness...; increase[d]... efficiency of cell and gene therapy manufacturing...; and expediting Novartis’ processes for designing and generating new therapeutic molecules.” The project aims to make Novartis’ scientific data available to all employees, creating “citizen data scientists.” The AI will also be used to aid the company in daily decision making by identifying patterns, targets, and biomarkers.⁵⁰⁸

Narasimhan recently said:

“As I recently shared in an [article on COVID-19](#), I believe we’re in the midst of by far the largest and fastest mobilization of global scientific capabilities against a public health crisis. As the pandemic continues to have a crippling effect on health systems, economies, and livelihoods—sadly taking many, many lives too soon—we are seeing a significant collective response across government, academia, the private sector, and philanthropy. There is an unparalleled willingness to openly share scientific data, trials are being initiated at record speeds, and businesses are offering up their resources to help in any way they can. The industry is truly coming together on this.”⁵⁰⁹

Narasimhan believes that people are resilient and “rise to the occasion when humanity is most in need.” He sees people and companies coming together to share information and testing, to collaborate where it is needed most. In this spirit, Novartis began a clinical trial of the drug hydroxychloroquine, which has been heralded as a potential treatment for Covid-19. The company is also assessing all of its clinical-stage investigational and approved medicines to determine if any have potential in the fight against Covid.⁵¹⁰

⁵⁰⁷ *Novartis steps up coronavirus fight as part of new collaboration*, SWISSINFO.CH, (Mar. 26, 2020) https://www.swissinfo.ch/eng/business/covid-19_novartis-steps-up-coronavirus-fight-as-part-of-new-collaboration/45644422.

⁵⁰⁸ Conor Hale, *Novartis to put AI on every employee's desk through Microsoft partnership*, FIERCE BIOTECH (Oct. 1, 2019) <https://www.fiercebiotech.com/medtech/novartis-to-put-ai-every-employee-s-desk-through-microsoft-partnership>.

⁵⁰⁹ Vas Narasimhan, *COVID-19: Answering your top questions*, NOVARTIS (Apr. 9, 2020) <https://www.novartis.com/stories/discovery/covid19-vas-narasimhan-answering-your-top-questions>.

⁵¹⁰ *COVID-19 Novartis response*, NOVARTIS <https://www.novartis.com/coronavirus/response>.

Another Novartis medicine, Ilaris, is being tested as a potential treatment for a side effect of Covid known as a cytokine storm, which can be life threatening. In the meantime, Novartis medication Jakafi (known as Jakavi in the U.S.) has entered phase 3 trials in the fight against Covid-induced cytokine storms.⁵¹¹ In addition, Novartis is at the head of a collaborative effort to create anti-viral compounds which fight the entire coronavirus family, a group which includes Covid-19 as well as SARS and MERS. Narasimhan is optimistic that the results of these trials will be available by the summer.⁵¹²

Though vaccines frequently take four years to complete, Narasimhan is optimistic that with the level of cooperation and pre-existing production networks a vaccine could be available in as little as 24 months, with testing beginning as soon as this fall.⁵¹³

As Narasimhan says it best:

As humanity continues to respond to this pandemic—as health care workers bravely care for patients on the front line, as researchers work around the clock to advance the science, and as all of us do our part by taking social distancing seriously and supporting our loved ones, neighbors, and colleagues in the ways we can—I want you to know that I remain optimistic about our future. Not only are we living in an era in which human health and life expectancy are greater than ever before, but we are also more connected with powerful digital tools at our disposal. If we center on the science, follow public health guidance, and continue working together, I’m confident we will get through this.

Reflecting on what he has seen so far, Narasimhan is confident that not only can humans harness their scientific capabilities, but also their compassion to fight other global challenges such as “climate change, extreme poverty, [and] global health” in order to “reimagine the future of our planet.”⁵¹⁴

⁵¹¹ Angus Liu, *Novartis, already trialing hydroxychloroquine and Jakafi, plans COVID-19 testing for Ilaris*, FIERCE PHARMA (Apr. 28, 2020) <https://www.fiercepharma.com/pharma/after-hydroxychloroquine-and-jakafi-novartis-plans-covid-19-testing-for-ilaris>.

⁵¹² John Miller, *Novartis sales, profits rise in first quarter on COVID-19 buying rush*, REUTERS (Apr. 28, 2020) <https://www.reuters.com/article/us-novartis-results/novartis-sales-profits-rise-in-first-quarter-on-covid-19-buying-rush-idUSKCN22A0JA>.

⁵¹³ *Novartis CEO says any new coronavirus vaccine will take two years: newspaper*, REUTERS (May 15, 2020) <https://www.reuters.com/article/us-novartis-ceo-vaccine/novartis-ceo-says-any-new-coronavirus-vaccine-will-take-two-years-newspaper-idUSKBN22R0T7>.

⁵¹⁴ Vas Narasimhan, *Choosing optimism in the face of crisis*, LINKEDIN (Mar. 18, 2020) <https://www.linkedin.com/pulse/choosing-optimism-face-crisis-vas-narasimhan/>.

In 1963, at American University's commencement, President Kennedy laid out a strategy of peace which holds true now more than it did then:

"No problem of human destiny is beyond human beings.... Man's reason and spirit have solved the seemingly unsolvable-- and we believe they can do it again."⁵¹⁵

As a crisis of epic proportion, Covid has unleashed an unprecedented health, humanitarian and socio-economic emergency. Amina Mohamed, the Deputy Secretary General has stated, the SDGs "a clear compass" to build back stronger.

Covid has resulted in risking the livelihoods of nearly half the global workforce which are in immediate danger of being unemployed, the world's leading innovators are essential for financing for development.

It also has "put a spotlight on the need to strengthen multilateral cooperation, governance, and above, all global solidarity."⁵¹⁶

In March 2020, Narasimhan wrote a piece: "Choosing Optimism in the Face of Crisis". Narasimhan's writings reveal the kind of leadership that is necessary to rise to this challenge and the importance of multilateral cooperation and partnerships across industries. While Covid has revealed deep fissures and fault lines in the world, he acknowledges the fact that we live in an era of unparalleled scientific capabilities, with globally networked experts and leaders and real-time data availability.⁵¹⁷

"What is happening as the world unites behind—and depends on—the power of science. The biopharmaceutical industry and scientists around the globe are racing to find better diagnostics, therapeutics, and eventually vaccines for COVID-19. Across industry and academia, there is a nearly unprecedented willingness to share compounds, assays, manufacturing capacity, clinical trial capacity, and human capital to ensure we find solutions quickly. Nearly one-hundred and fifty clinical studies are already listed on the U.S.

⁵¹⁵ John F. Kennedy : American University Address (1963), <https://kr.usembassy.gov/education-culture/infopedia-usa/living-documents-american-history-democracy/john-f-kennedy-american-university-address-1963/>.

⁵¹⁶ Note to Correspondents: Statement by the President of ECOSOC, Ambassador Mona Juul, on Joining Forces: Effective Policy Solutions for COVID-19 Response, U.N. Sec'y Gen. (May 11, 2020) <https://www.un.org/sg/en/content/sg/note-correspondents/2020-05-11/note-correspondents-statement-the-president-of-ecosoc-ambassador-mona-juul-joining-forces-effective-policy-solutions-for-covid-19-response>.

⁵¹⁷ Vas Narasimhan, *Choosing optimism in the face of crisis*, LINKEDIN (Mar. 18, 2020) <https://www.linkedin.com/pulse/choosing-optimism-face-crisis-vas-narasimhan/>.

database clinicaltrials.gov, which is an exceptionally high number given the timeline of events, and there are more ongoing in China. The first candidate vaccine is already being tested in humans. This is by far the largest and fastest mobilization of global scientific capabilities against a public health crisis.”⁵¹⁸

He identifies Africa as a battlefield. “The developing world, and particularly Africa, will struggle to cope if the pandemic takes hold.”

Narasimhan identifies an important leadership criterion—that of compassion.

“Perhaps most importantly, as human beings we have limitless possibilities for compassion. That compassion for our fellow man is fueling the heroic actions happening all around the world at this very moment. As it has with every pandemic our species has ever faced, it is that deep compassion that will see us through this one and through every pandemic to come.”⁵¹⁹

Ethical leaders have a powerful influence well beyond their organizations. Moral awareness involves a sensitivity of the issues at stake and how leaders can influence social norms and behaviors at the highest levels, outside of their organizations. Transformational leadership calls for going beyond your organizational structure to influence a higher global purpose.

As Narasimhan said in a March 2020, article,

“Humanity is truly coming together—showing the incredible power of our collective action, and reminding us that no challenge is insurmountable when we do. Imagine if we brought this collective power to the challenges of climate change or extreme poverty or global health. We could completely reimagine the future of our planet.”⁵²⁰

GSMA Rising to the Challenge in the Time of Covid

A leader we have studied and interviewed, Mats Granryd, director general at the GSMA sees this year as a year where mobile technology as a tool to manage a global crisis will be written in the history books.

⁵¹⁸ *Id.*

⁵¹⁹ *Id.*

⁵²⁰ *Id.*

“This pandemic has highlighted to the world what we have all known for decades, the true relevance of robust and resilient mobile networks.” Mats Granryd, the Director General of the GSMA in GSMA Thrive China 2020.

In the current crisis, GSMA sees an opportunity for the mobile industry to step up. With increasing mobile usage in Sub-Saharan Africa, the mobile industry can be used to boost youth employment, particularly for those who have lost employment in the informal sector. Additionally, the existing mobile infrastructure has potential to be scaled up, particularly scaling up mobile money as a social safety net. GSMA saw increased service usage across Africa and increased mobile money uptake in the first quarter of 2020. Governments promoting mobile money as a way to receive government payments reduces physical contact with money, helping to ensure social distancing measures, and increasing access to mobile accounts increases the possibility of mobile remittance payments. GSMA sees how mobile money directly addresses 14 of the Sustainable Development Goals.⁵²¹

GSMA’s tracking capabilities is helpful in playing a key role in inclusive education in the times of Covid- 19. GSMA has join joined the World Bank, World Economic Forum, and International Telecommunication Union in a Digital Development Joint Action Plan and Call for Action designed to accelerate private-public partnerships in the response to Covid. The Action Plan calls for strengthening resilience of networks and increasing bandwidth to handle increased network usage, empowering FinTech to work to reach more businesses and communities, and leveraging the power of Big Data and mobile AI to track Covid outbreaks. This is just one of many global-local partnerships which have emerged as a response to the virus, others include the Global Education Coalition, a partnership between UN Agencies, countries, media, and IT companies launched in March 2020 designed to rapidly scale up e-learning, and various partnerships with Ministries of Education increasing collaborations with mobile operators in an effort to increase access to digital learning.⁵²²

It has also joined a private- sector coalition, combining resources with other private companies in an effort to increase educational quality and opportunities. This coalition, backed by UNESCO, joins government, multi-lateral, and non-profit partners in an effort to ensure educational equity. While the pandemic has the

⁵²¹ Susanna Acland, *The Impact of COVID-19 on Youth Employment in Sub-Saharan Africa: A Roadmap for the Mobile Industry*, GSMA (May 29, 2020) <https://www.gsma.com/mobilefordevelopment/blog/the-impact-of-covid-19-on-youth-employment-in-sub-saharan-africa-a-roadmap-for-the-mobile-industry/>.

⁵²² *The World Bank, WEF, GSMA and ITU Mobilized in the Fight Against COVID-19*, WORLD BANK (Apr. 21, 2020) <https://www.worldbank.org/en/news/statement/2020/04/21/the-world-bank-wef-gsma-and-itu-mobilized-in-the-fight-against-covid-19>.

potential to upend education and deepen inequalities, the coalition aims to provide resources and supports for widely available digital learning.⁵²³

GSMA has revealed that at least one company has the capacity to track mobile phone users through their phones. In the fight against Covid-19, this technology has been used by governments to monitor where mobile phone users are with whom they have been in contact. GSMA, as a global mobile conglomerate, recognizes the potential of this technology to track mobile users across borders, monitoring the spread of a disease such as Covid on a global scale. In a statement to the Guardian, Mats Granryd said “In this emergency situation, the GSMA and its members are doing everything they can to help the global fight against Covid-19. We are engaging with operators, policymakers and international organizations around the world to explore viable mobile big data and AI solutions to fight this pandemic while adhering to principles of privacy and ethics.”⁵²⁴

⁵²³ *Id.*

⁵²⁴ Stephanie Kirchgaessner, *Mobile Phone Industry Explores Worldwide Tracking of Users*, GUARDIAN (Mar. 25, 2020) <https://www.theguardian.com/world/2020/mar/25/mobile-phone-industry-explores-worldwide-tracking-of-users-coronavirus>.



Image source: <https://www.gsma.com/mobilefordevelopment/mobile-money-international-remittances/>

In the recovery from Covid, GSMA sees technology and connectivity as providing a cushion to the economic shock of Covid-19. If governments invest now in better connectivity technology, it will allow them to be more digitally flexible and resilient.⁵²⁵

SDG 5: Gender Equality

Worldwide, girls and women have less access to the internet and mobile technology. 165 million fewer women than men own a smartphone and boys are 1.5 times more likely to own a phone than girls. Health crises can magnify these existing inequalities. As more people are dependent on mobile technology for remittances and mobile money, this gap means that women continue to be excluded from the global economy. GSMA believes that access to technology should be a human right and that we should work to ensure connectivity for everyone and to reach those who are not online. It believes that this crisis can be an opportunity to accelerate change and get millions of women and girls online.⁵²⁶



GSMA addresses SDG 5 by working to increase women's financial independence. Through studies, GSMA has seen that, on average, women send more money in remittances, and that women receiving remittances are more likely to spend it on their family: on healthcare, food and nutrition, shelter and education. Mobile money is increasingly popular among women because it is secure, convenient, and private. Mobile money is particularly convenient for women, who tend to have less time to travel to a money transfer point to receive cash. It is also secure, going directly to its intended recipient and giving women more power over their own financial decisions. By going directly to the intended recipient, mobile money provides a layer of security, allowing women to avoid informing remittance officers or their husbands of the frequency and amount of transactions. Since the gender gap in financial inclusion is lower with mobile money than traditional banking in many countries, mobile money directly translates to reducing the poverty of women.⁵²⁷

⁵²⁵ Joseph Waring, *GSMA Highlights Role of Connectivity in Covid Recovery*, MOBILE WORLD LIVE (July 7, 2020) <https://www.mobileworldlive.com/featured-content/top-three/gsma-highlights-role-of-connectivity-in-covid-recovery>.

⁵²⁶ Claire Scharwatt, *Mobile money: A product of choice for women to send and receive remittances*, GSMA (Oct. 22, 2019) <https://www.gsma.com/mobilefordevelopment/blog/mobile-money-a-product-of-choice-for-women-to-send-and-receive-remittances/>.

⁵²⁷ *Id.*

SDG 10: Reduce the Cost of International Remittances

GSMA has played a key role in remittances and money transfers. When people cannot get to banks, mobile money is a life saver. GSMA is working to expand access to Pay as You Go (PYG) mobile services and to expand access to mobile systems as a method of money transfer. Through the Instant Payment Notification (IPN) Hub, GSMA provides a point of integration between the PYG sector and mobile money providers by enabling PYG providers to integrate with mobile operators. This technology is available on multiple mobile services in Rwanda and is scaling up across Africa.⁵²⁸



GSMA is also working to promote mobile money as a cheaper way to transfer remittances. It has found that mobile money allows money to be sent more frequently and cheaply and to a greater number of people. Thus, rather than sending a large sum of money to one person to be dispersed, a mobile user can send money directly to the intended recipient. The technology has been embraced in particular by women sending and receiving remittances.⁵²⁹

⁵²⁸ *Mobile Money and International Remittances*, GSMA
<https://www.gsma.com/mobilefordevelopment/mobile-money-international-remittances/>.

⁵²⁹ *Id.*