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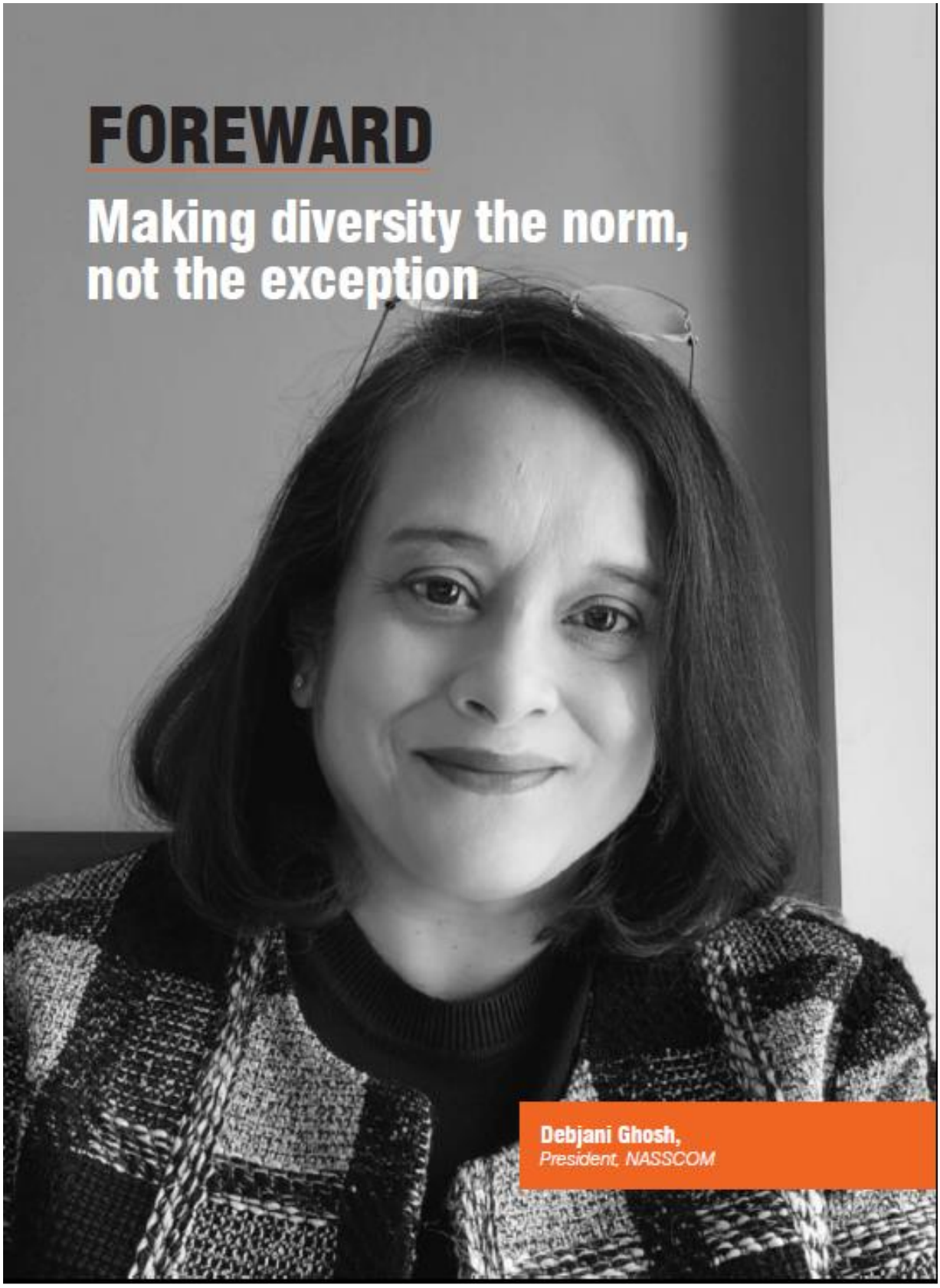
TAKING UP THE BATON

FOREWARD

Making diversity the norm, not the exception



Debjani Ghosh,
President, NASSCOM

The past year has been undoubtedly arduous, as we continue to adapt to the new normal. One of the hallmarks of 2020 was the development of a vaccine against COVID19. It is nothing short of a marvel, and a testimony to science & technology that a vaccine was developed in less than a year of the outbreak. A closer look at the development of these drugs reveals another important detail - almost every major COVID19 vaccine has significant contributions made by women.

British vaccinologist Sarah Gilbert was part of the team that developed the Oxford-AstraZeneca drug; Hungarian Katalin Kariko's career expertise in RNA led to the breakthrough in the Pfizer-BioNTech vaccine; Germany's Ozlem Tureci is the Chief Medical Officer of BioNTech who developed the vaccine in a record time of 10 months along with her husband; and our very own Dr K Sumathy leads the R&D wing of Bharat Biotech, which has developed Covaxin.

While these women were busy helping mankind beat the virus, others around the world continued to create history. 31-year old Whitney Wolfe Herd, cofounder of dating app Bumble, became the world's youngest self-made female billionaire; while Indian-American NASA engineer Dr Swati Mohan helped land the NASA Perseverance Rover on Mars. And these are just a handful of examples. What emerges in every one of these stories is grit, resilience, tenacity, and immense talent. A recent report by the United Nations stated that nearly 40% of STEM graduates from India are women - considered among the highest in the world. But, only 14% of the nation's 280,000 scientists, engineers and technologists are female. Why is there such a yawning gap in female talent prevailing in the workforce?

It is time to challenge the status quo, the patriarchy, the inherent gender bias, inequality and the lack of diversity to make the workplace of the future an inclusive one. And challenging these tenets has to be done everyday. Diversity isn't just a cosmetic addition to a workforce; renowned social scientist and professor Scott Page makes a compelling case for increased diversity to bring about potentially significant financial gains and improved business outcomes, in his book Diversity Bonus: How Great Teams Pay Off In The Knowledge Economy. As India veers towards establishing itself as a knowledge-first economy, it makes sound business sense to make diverse hiring a mandate across organizations.

I often get asked: "How can organizations really drive diversity? How can women be encouraged to build thriving careers in tech and become an indispensable part of India's growth story?" One of the privileges of this job is meeting women who are breaking barriers

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in technology and shattering the proverbial glass ceilings everyday. Maybe you can take some cues on driving diversity at the workplace from this compilation of stories of women blazing a trail in the field of Artificial Intelligence in India. They don various hats - data scientists, engineers, innovators, entrepreneurs, evangelists, leaders - but are unified in the cause of enhanced diversity at the workplace and strive for greater female representation in technology. Artificial Intelligence is leading the new wave of digitization across industries and is poised to bring about incremental change in business everywhere. And this change needs to happen with more women in the fold.

Hope you enjoy reading these stories, as much as I did.

Regards,
Debjani Ghosh

Bringing in math and languages for a better experience in AI

Tapati Bandhopadhyay,
CEO, AISWITCH

Tapati Bandhopadhyay admits that she was fascinated with maths, physics, and machines since childhood. Being an only child, her parents had a significant influence on her priorities, mindset and career choices. She studied Physics at Jadavpur University, followed by an MS at the University of Strathclyde where she pursued AI. During her first job at Tata Motors Jamshedpur, she developed an interest in software development. During her PhD, she single-handedly built all the system prototypes for knowledge modelling and knowledge entropy measurements. She's still working on the language processing side of AI, and few of her patents focus on building explainable language-processing AI solutions.

Overcoming biases

The tech field of AI and data sciences is extremely conventional and male-dominated, says Tapati. Even in global companies, implicit biases exist. Female tech talents in AI are often not taken seriously enough, even at leadership levels. While Tapati has been largely lucky as she had supportive male colleagues and superiors, there have also been instances of male peers condescendingly commenting on how her career 'shouldn't matter much', given I don't have any financial liability or insecurity, because my husband is at a good corporate position. "As women, we aren't free from prejudices and biases either. First, we have to forget that we are from a different gender, it's not like we're some different species altogether. Whenever anyone gives unsolicited advice, being direct in pointing it out and not accepting any type of non-peer like condescending behaviour, are must-do's." Tapati also believes women's own insecurities and lack of confidence is what holds them back. "I often feel we are far less outspoken than our male peers, and are risk-averse by default. Many of us have deep enough technical acumen but aren't daring enough to speak out our minds and challenge the status quo." Another needlessly debilitating issue is managing optics at the workplace. "We are perceived 'overly approachable' if we show enthusiasm and passion, or 'aggressive' if we demand what we deserve. We must let our work speak for us, and let our passion drive us. We must show 'confidence' confidently," she says.

We are perceived 'overly approachable' if we show enthusiasm and passion, or 'aggressive' if we demand what we deserve. We must let our work speak for us, and let our passion drive us. We must show 'confidence' confidently.

"Smart people will appreciate you for your ideas, not your sex"

Tapati says it's likely that people may not take women seriously at first, but drawing on her personal experience as a seasoned consultant, she says the smart ones "get you", forget your sex and just love you for your content and ideas. "Throughout my work-life, my client leaders and teams have become my best friends, and this trust network has nothing to do with the brands we work for. It's more about the personal brands we create, with confidence, with our passion and ability to propose completely audacious, out-of-the-box ideas and our courage to challenge the status quo and actually make those ideated changes happen. When we can show the client teams what they have achieved with us as partners, in hard numbers and dollar terms, they trust us with their future, career and businesses, irrespective of our gender or colour or accent. Numbers always work- they have no colour or gender. Another strategy that worked very well for Tapati is building a strong band of young professionals. It is important to learn new algorithms and packages, and staying hands-on, sharing the enthusiasm, studying new papers together with bright kids 20 years younger to you. Informal interactions keep you young at heart and your practical AI knowledge relevant and fresh, she recommends

> "Women AI practitioners must get into problem solving and multi-pronged solutions design, while building new skills around multi-dimensional roles e.g. for culture change. Women are not just diversity cosmetics; women can actually handle diversity better. This century is driven by AI and women. When the two key change levers are added, drastic, robust and successful changes in society for good are inevitable."

Advice to women in tech

"Per some surveys, women have been shown to have relatively better skills at multi-tasking and balancing multiple viewpoints/ perspectives. This is an essential requirement in AI solutions design. So, it's imperative for more women to participate in the technical architecting and designing of AI solutions (not just ML or python coding). We must strive to get into core tech- e.g. algorithms building, metrics and measurements of fairness, risks and ESG. We must execute on our ideas and own patents. We must move from peripheral functions like marketing, communications, talent management for AI, training & upskilling and program management.

Patents are effective in bringing women tech talents to the limelight, given that patents are measurable objectively by numbers and impact and everyone trusts numbers. Women AI practitioners must get into problem solving and multi-pronged solutions design, while building new skills around multi-dimensional roles e.g. for culture change. Women are not just diversity cosmetics; women can actually handle diversity better. This century is driven by AI and women. When the two key change levers are added, drastic, robust and successful changes in society for good are inevitable. Government initiatives on AI also must factor these aspects in, and prioritize women-led initiatives on AI especially on governance best practices and holistic impact investments that build social equity."

> "I have this dream about singularity that someday super AI will help us humans become a better species. If we, the AI practitioners and researchers work tirelessly on eliminating data biases and algorithmic biases, towards building fair and ethical, socially responsible AI, then my definition of super AI will definitely become a reality."

Regards,
Tapati Bandhopadhyay

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