AI Series (1/3)

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The AI Gender Equation

Driving Inclusive Growth in India's AI Landscape

India's Artificial Intelligence (AI) market is poised to reach USD 17 billion by 2027, marking a digital revolution that presents both a tremendous opportunity and a critical challenge. As AI transforms the nation's core operations, one pressing question arises: how inclusive will this future be, particularly for women? Ensuring gender representation in AI is no longer just a matter of social justice, it is an economic imperative and a strategic necessity. For AI to truly drive progress, it must act not as a source of risk, but as a safeguard for a fair and equitable workforce.

India's higher education landscape has seen remarkable progress over the past decade, emphasizing inclusivity and global competitiveness. Female enrollment has risen by 38.4%, growing from 1.57 crore in 2014-15 to 2.18 crore in 2022-23, marking a significant step toward gender parity. Notably, women's participation in STEM courses increased by 23% during this period, climbing from 35.14 lakh to 43.03 lakh. However, this balance does not extend to the field of Artificial Intelligence (AI), highlighting a significant gender gap in AI, despite women's substantial participation in broader STEM education. This brief delves into the gender dimensions of AI in India, exploring its current landscape while calling for a collaborative effort to ensure inclusive growth in the AI ecosystem.

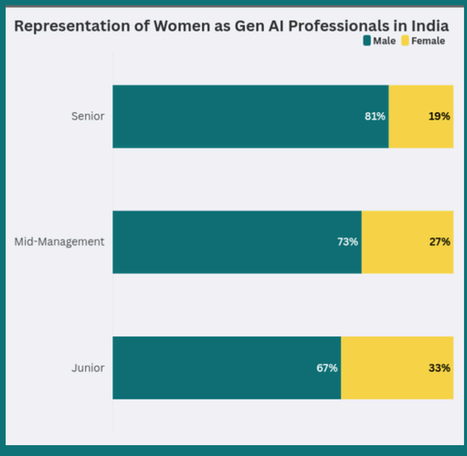
Gender Dimension

India is rapidly emerging as a frontrunner in global transformation, driven by a tech industry bolstered by advancements in AI. The sector's value proposition lies in its diverse ecosystem, a skilled young talent pool, and robust physical and digital infrastructure. As AI cements its role as a leading force in technology, a critical question arises: who is shaping and operating these transformative technologies? A closer examination reveals a stark gender imbalance in AI sector, with women significantly underrepresented in AI teams across India-a reflection of broader gender disparities within the technology sector.

Representation of Women

The data highlights a sharp decline in women's representation in GenAI roles in India, dropping from 33% at the junior level to just 19% at the senior level, underscoring a significant leadership gap. The gender gap at junior level with 34 percentage point difference becomes even more pronounced with increased years of experience, widening to a 62 percentage point difference at the senior management level.

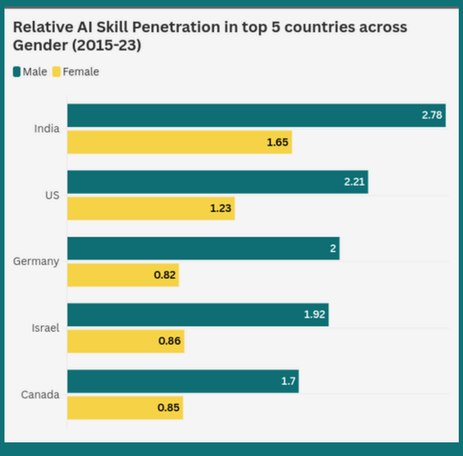
This imbalance emphasizes the importance of increasing female representation at the CXO level to ensure diverse perspectives in development teams and reduce biases. The underrepresentation of women at senior levels raises concerns about potential gender bias in AI systems, which could result in solutions that perpetuate stereotypes or fail to address women's unique needs.



AI Skills Penetration

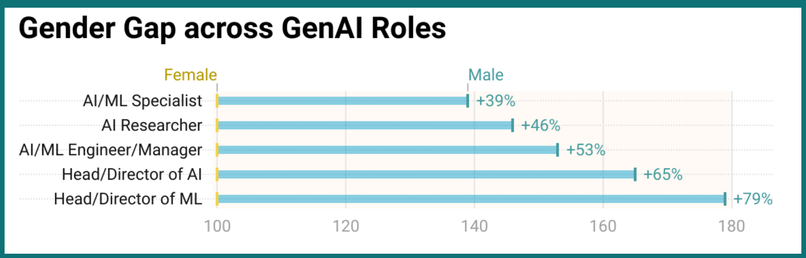
Between 2015 and 2023, India achieved the world's highest AI skill penetration rate at 2.8 which is three times the global average, highlighting its growing expertise and potential as a global AI hub. Notably, Indian women recorded the highest AI skill penetration rate worldwide at 1.7. However, this remains significantly lower than the 2.78 rate for Indian men, underscoring the need for targeted interventions to promote equitable skill development and inclusivity in India's AI workforce.

Bridging the gender gap in AI skills presents a crucial opportunity for women to challenge assumptions that technological advancements like AI threaten job security. Instead, AI can serve as a catalyst for women's economic empowerment by enhancing income potential, offering specialized training, and unlocking new career pathways.



Hiring in AI

India ranks 4th globally in 2023, with a 16.83% year-on-year growth in relative AI hiring as per the AI Index 2024 reflecting significant vibrancy in the sector. However, it is essential to examine where this hiring is concentrated and the gender representation within it.



As per the BCG Report "GenAI : The Diversity Game Changer We Can't Ignore" and LinkedIn Talent Insights, the data reveals substantial gender disparities in generative AI (GenAI) roles, particularly at the Head/Director level, where there are approximately 65% more male GenAI professionals than female in India. This stark gap underscores the urgent need for greater female representation in AI's rapid expansion. Without their active participation, existing biases are unlikely to diminish and may instead reinforce prevailing gender stereotypes.

Examining hiring data alone offers a limited perspective; a deeper exploration of inclusivity in hiring practices is essential to uncover critical insights that can shape the future of the AI sector.

Applications of AI

AI in Recruitment and Hiring

Currently, AI recruitment tools are deployed for interview screening and hiring. However, it may perpetuate gender biases by favoring resumes with "masculine-coded" terms, leading to the exclusion of women from certain job roles. Companies need to move one step forward and eliminate gender biases in hiring processes by focusing on skills and qualifications rather than gendered language in job descriptions or resumes. Additionally, the existing dataset should be rectified in order to solve the biases and error.

AI for Gender Data Analysis and Research

Insufficient data on women in key areas like economics, health, and education can result in policies that don't fully address the gender gap. The existing datasets embedded in AI tools, hence, fail to include different perspectives, especially pertaining to women. AI can be used to analyze large datasets, filling in the gaps in gender-disaggregated data and providing insights for policymakers to design more effective, gender-inclusive programs along with identifying spaces where AI can support stakeholders in building holistic policies.

Major Biases Prevalent in AI Tools

A few of the biases identified in AI tools are as follows:

- AI systems often reflect outdated societal norms. For example, virtual assistants like Alexa and Siri use feminine voices, reinforcing gendered stereotypes of women as caregivers and assistants.
- Recruitment tools trained on biased datasets reject applications lacking specific "masculine-coded" terms like "strong-minded," leading to the exclusion of qualified women.
- Facial recognition software exhibits significant racial and gender bias, with error rates reaching up to 35% for dark-skinned women compared to less than 1% for light-skinned men, as highlighted by an MIT study.
- Generative AI reinforces gender stereotypes, portraying women in caregiving roles and as nurses, while depicting men as doctors, engineers, and technical workers, reflecting biases in training datasets.
- Car crash test dummies are typically modeled on male body frames, overlooking female physiology. This design flaw increases the risk of severe injury or death for women in car accidents. Similarly, biased and erroneous data in predictive models results in inadequate safety measures for women, failing to address their unique needs.

This again reiterates on the need to have diverse representation, with actions undertaken for correcting the already fed data on which these tools have been trained. It will not only enrich the role of AI tools but also build trust, and credibility which will aid in adoption of such tools by larger audiences.

Way Forward

India has 2nd largest AI talent base: ~420,000 professionals in AI roles

14x growth in AI-skilled individuals: Ranked 4th among top 5 nations

Achieving gender representation in AI requires a collaborative approach involving the private sector, government, and social sector. Each of these stakeholders brings unique strengths that, when combined, develop fast, ethical, and responsible AI systems. For a country like India, where gender disparities persist, such a tripartite collaboration can play a transformative role in addressing systemic biases, fostering inclusive growth, and ensuring that women are not left behind in the unprecedented AI-driven future.

Key Areas	Role of Government	Role of Private Sector	Role of Social Sector
Bridging the Skills Gap	Fund large-scale skilling initiatives and promote gender-inclusive STEM education.	Offer on-the-job training, mentorship, and gender-equitable hiring practices.	Design and deliver targeted training programs to promote diversity and support women's transition from STEM education to AI-related roles.
Addressing Bias in AI Systems	Mandate ethical AI guidelines and enforce accountability for gender-biased AI applications.	Develop AI models while addressing biases in datasets to prevent gender disparities.	Act as an independent watchdog, advocate for transparency, and audit AI models for bias.
Driving Policy and Regulatory Changes	Introduce policies requiring gender equity in AI research grants, education, and employment.	Co-develop policies with the government, ensuring industry alignment with regulatory standards.	Apply a human rights lens to AI policies, advocate for gender-equitable AI, and provide evidence from grassroots impact assessments.
Creating a Sustainable Ecosystem	Provide financial support, scholarships, and infrastructure to increase women's participation in AI.	Create demand for skilled women in AI roles and offer them leadership positions.	Ensure accountability, raise awareness, and provide platforms for underrepresented groups to be heard.
Ensuring Representation in Leadership	Mandate gender quotas in leadership roles within AI research and development initiatives.	Implement diversity, equity, and inclusion (DEI) initiatives to ensure more women lead AI projects and teams.	Advocate for better representation and highlight success stories, encouraging more women to pursue AI leadership roles.

By leveraging the complementary strengths of the private sector, government, and social sector, India can build and ensure that AI evolves as a force for good, benefiting society at large while empowering women to play a pivotal role in shaping its future.