

Laurel Teo

The late American economist Nathan Rosenberg notably argued that the most important question about technological progress is not "Who did it first?".

Instead, it is the diffusion process – the rate at which a new technology is adopted and the extent to which it is embedded in an economy's processes – which marks the true impact of an invention.

Prime Minister Lawrence Wong touched on this point when he spoke about artificial intelligence (AI) at a conference co-organised by the Institute of Policy Studies (IPS) and the Singapore Business Federation (SBF) in 2025.

While countries that pioneer the most cutting-edge AI technology may capture the most attention, PM Wong noted that real advantage comes from "broad-based adoption; when countries really, truly harness technology across the entire economy". He made it clear that this would be Singapore's strategy.

Singapore is among a growing pack of nations jostling to get ahead in AI diffusion.

Details of Singapore's approach to broad-based AI adoption were disclosed on Feb 12 in the 2026 Budget statement delivered by PM Wong, who said the city-state's competitive advantage lies in execution and speed.

PM Wong, who is also Finance Minister, announced that he will chair a new National AI Council to drive Singapore's AI strategy, with measures to speed up AI deployment and foster collaboration across industries and enterprises.

AI literacy will be enhanced in all institutes of higher learning, which complements announcements in 2024 that elective "AI for Fun" modules (which last five to 10 hours) would be offered to all primary and secondary schools starting 2025.

For working adults, PM Wong has pledged to broaden AI skills training to non-tech occupations, beginning with the accountancy and legal professions.

The SkillsFuture Singapore (SSG) website will also be redesigned to better match learners with relevant courses, and Singaporeans will receive six months of free access to premium versions of AI tools to "practise, experiment, and apply what they have learnt".

Yet, for AI diffusion to truly reach every level of our economy and society, we must look beyond broad measures. It starts with identifying gaps, in particular two groups that studies show are lagging behind in digital and AI skills adoption: workers from lower social economic status (SES), and women.

To win the AI adoption race, Singapore must mind the social class and gender gaps

Success will depend on making the technology relevant and accessible to lower-income workers and women.



A career fair at Sands Expo and Convention Centre on Feb 13. A recent IPS survey shows a stark divide in AI use. While 84 per cent of degree-holders report using AI chatbots, usage drops to 66 per cent for those with post-secondary qualification, and 31 per cent for those with secondary education and below. ST PHOTO: LIM YAOHUI

THE SOCIAL CLASS GAP

An IPS survey released in January demonstrates a stark social class divide. While 84 per cent of degree-holders report using AI chatbots, usage drops to 66 per cent for those with post-secondary qualification, and a mere 31 per cent for those with secondary education and below.

The IPS survey did not delve into underlying factors, but other studies point to reasons such as lower SES individuals – with lower education and income – having less exposure to tech news and trends. This is compounded by low self-efficacy or self-confidence that demotivates them from mastering new skills.

They also have far fewer contacts within their social

networks and home environment who are familiar with AI usage, which means that they are unable to learn from peers or role models demonstrating AI use.

Another major challenge for lower SES workers is the lack of time and energy for learning. Lower-wage workers often work long hours, juggling multiple low-paying jobs.

Outside of work, they are bogged down by caregiving duties and lack the means to pay for care support, leaving them with less capacity to attend training even if it's free. Any training they consider must lead to an immediate payoff, such as a clear pathway to a better job or higher pay to meet financial needs.

Therein lies another issue – many lower SES workers are in

jobs that do not involve or require AI use. Indeed, as PM Wong noted, the AI transformation has been largely in white-collar and cognitive work. Thus, AI skills training will likely focus on jobs in this category for now.

Lower SES workers tend to be in blue-collar jobs. Unless there is concerted effort to redesign their work with deliberate (and effective) integration of AI, there is little opportunity or incentive for them to pick up AI skills, leaving them stuck in the AI/digital divide.

One could argue introducing contact with AI in the early school years – as Singapore has started doing – may mitigate some of the challenges. But bear in mind that these programmes are still relatively light.

For a child growing up in a low SES family who has never seen or used AI, will he or she start applying AI in a meaningful way after a five- or 10-hour module in school, especially if there's no one at home to help or supervise?

In what ways and to what extent have these AI modules influenced their attitudes towards AI and use of AI, compared with students from better-off families? It is thus vital that the Government monitors and measures practical outcomes of these pilot programmes and improves the schemes as needed.

THE GENDER GAP

According to online learning platform Coursera's latest global skills report, women make up

only about a third of those enrolled in GenAI courses (globally and in Singapore), even though they comprise close to half of learners across all Coursera courses.

Other studies indicate that women lag behind men not only in learning AI skills, but also in applying AI skills regularly at work. It is not a question of ability – women often perform just as well as men in STEM areas. Obstacles arise from a complex mix of social psychological drivers.

Compared with men, women tend to report far lower self-efficacy in pursuing tech skills and have fewer contacts with tech/AI skills in their social networks, limiting informal learning and knowledge exchange.

Women are also differently motivated in learning and career choices, with a higher tendency to value communal goals more strongly than men.

Studies have found that reframing STEM careers to be highly collaborative made them more attractive to women.

Recent research also shows that women are more concerned about whether it's ethical to use AI tools at work and whether they would be judged severely for using them. More needs to be done to fully understand the gap and design ways to frame AI learning more attractively to women.

Interestingly, the UK's AI Opportunities Action Plan alluded to the need to address gender and social class gaps. Announced in January 2025, the plan noted women make up only 22 per cent of people working in AI and data science in the UK, and higher education dominates existing pathways into AI careers.

It called on the UK government to diversify the AI talent pool (that is, increase women's participation) through tailored interventions and to "promote alternative domestic routes" (for example, apprenticeships) into the AI profession. No concrete plans were outlined, though.

Some may question the justification in devoting additional resources to closing social class and gender divides in AI diffusion, especially if existing broad measures are sufficient to impact a critical number in the workforce.

They may do well to consider this justification from the UK's AI plan: "Achieving parity will mean thousands of additional workers." This cannot be truer for a small resource-scarce nation like Singapore dependent almost wholly on our human talent.

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