

The Singaporean workers who feel AI has nothing to do with them

AI could widen the bifurcation between white- and blue-collar jobs.

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Last year, the fourth author, Aaron Lim, encountered an unexpected problem while researching AI inequality among young Singaporeans.

He struggled to recruit lower-income respondents, even after working through social workers for four months. In contrast, higher-income young adults were eager to share their new discoveries with artificial intelligence. The reason was revealing: Many simply did not use AI and felt they knew too little about it to participate.

The experience highlights an emerging divide in Singapore's workforce. As AI becomes embedded in more occupations, workers who are not exposed to the technology risk missing out not only on new tools but also on future opportunities for advancement.

Much of the discussion about AI and work has focused on which jobs might be replaced. Yet an equally important question is job eligibility as AI becomes part of most roles.

Our research suggests this gap is already emerging among young workers. Lower-educated workers report lower proficiency in using generative AI chatbots and use AI less frequently overall. When they do use AI, they are less likely to employ prompting techniques that improve output quality, such as providing clear instructions, giving the AI a role, or refining outputs with examples.

Higher-educated workers, by contrast, are more likely to experiment with AI and hone their skills through repeated use. Over time, this compounded gap in AI capabilities may shape career progression and mobility.

Although the Singapore Government has announced a suite of measures to help workers harness emerging technologies – including giving eligible Singaporeans free access to premium versions of AI tools for up to six months and enhancing the Workfare Skills Support Scheme with higher training allowances for lower-income workers – our research suggests that lower-educated workers face



Limited exposure is one of the challenges to AI adoption among lower-educated workers, say the writers. Many jobs held by these workers do not require advanced technological skills or equipment. Delivery riders, retail assistants and F&B service crew perform essential work but have limited opportunities to engage with emerging technologies as part of their daily routines. ST PHOTO: KUA CHEE SIONG

a triple challenge: limited exposure, limited access and limited relevance. Together, these barriers reinforce one another and make AI adoption less likely.

THE TRIPLE CHALLENGE

The first challenge is exposure. Many jobs held by lower-educated workers do not require advanced technological skills or equipment. Delivery riders, retail assistants, and food and beverage service crew, for instance, perform essential work but have limited opportunities to engage with emerging technologies as part of their daily routines.

The second challenge is access. Understandably, employers do not provide laptops or desktops for jobs that do not require them. Lower-educated workers therefore are less likely to own such devices and more likely to share those available to them. Laptops and desktops offer capabilities like a higher processing power and capacity to host software programs that are

more conducive for learning and experimenting with new technologies than smartphones or tablets.

The third challenge is relevance, which may be the most consequential. Many lower-educated workers are employed in occupations that are not immediately threatened by AI. Unlike entry-level white-collar roles involving routine administrative tasks, jobs in delivery, retail, care and service sectors continue to rely heavily on physical presence, manual skills and human interaction.

As a result, our findings show that lower-educated workers report lower levels of technological enthusiasm and higher levels of technological resistance. They are less likely to express interest in learning new technologies at work and are more likely to view them as a burden. This response is rational. People invest in skills that matter to their jobs. If AI neither improves current work nor threatens one's current environment, there is little

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impetus to devote scarce time and energy to mastering it.

The problem is that by the time the relevance becomes obvious – when a better job requires AI skills that they do not have – it may be too late to catch up. This is why the real concern for lower-educated workers is not immediate job displacement but future mobility and a sharper bifurcation of the job market.

Social scientists have noted that past technological developments have hollowed out middle-level jobs, leaving a labour market increasingly divided between highly skilled professional work and lower-paid service occupations. As AI automates more routine white-collar tasks, pundits have seen AI as both a threat and an opportunity. They have warned of AI widening divides on one hand, but on the other hand have promoted its potential to close gaps.

Economist David Autor, for example, has suggested that by making skills that were once exclusive to elites accessible to middle-level workers, AI can help

to rebuild middle-class jobs.

This vision, however, looks far from reality, as current data such as those from our research shows. With the triple gaps we found, workers with limited technological exposure face a steeper learning curve should they wish to move into higher-paying jobs.

Administrative roles that once required only organisational skills now expect workers to use AI tools for scheduling, communication, and data management. Coordination tasks across industries increasingly involve AI-assisted planning and resource allocation.

When a supervisor position opens up, when a company restructures, or when a worker wants a less physically demanding role as they age, AI literacy may well be the determinant of who advances and who remains stuck.

In this way, inequality deepens through the compounding accumulation of disadvantages

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Ensuring broad-based AI literacy is a social mobility imperative

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over time. Workers without AI exposure today become workers without AI skills tomorrow, and eventually workers without access to an entire tier of employment opportunities.

PRACTICAL INTERVENTIONS

Breaking this cycle requires practical interventions at multiple levels. Many workers may not attend training if they do not see immediate relevance. A course that feels abstract or disconnected from daily work is unlikely to attract participation. A more practical approach is to integrate technology into everyday work processes.

Here, employers have a big role to play. Alongside the national strategy for broad-based AI adoption, employers can be

encouraged to introduce AI into their workflows including those among front-line and service roles.

Some pre-schools have started adopting AI. More widespread adoption can be encouraged. AI can help to draft student reports based on daily observations or assessment results, reducing administrative paperwork and allowing for more focus on teaching. It can provide real-time suggestions to teachers in between supervision sessions with senior staff.

Similar applications are possible in other sectors. Retail staff can use AI to prepare product explanations or customer communications. Food and beverage supervisors can use it to draft shift briefings or training materials.

Such AI applications might feel removed from present realities of

manual and service work today, even idealistic. Yet it is precisely because AI feels distant from many of these occupations that deliberate efforts are needed to make it relevant.

When technology solves real problems in workers' daily routines, learning becomes more meaningful. Workers are then more likely to develop the motivation, confidence and competence in using it.

Community organisations can also help bridge the gap. Social workers, mentors and community groups can support the development of AI literacy through coaching, peer learning and practical workshops. Public libraries and community centres can make available computing devices and spaces for programmes, networking, and groups of users to explore AI tools together. These can be important

social nudges towards AI adoption.

RECOGNISING THE VALUE OF BLUE-COLLAR WORK

At the same time, the goal shouldn't be to push everyone into white-collar occupations. Many manual and service jobs remain essential and continue to play a critical role in the economy.

The Economic Strategy Review committee recently proposed broadening the range of good jobs to include jobs in skilled trades, care work and social services. This strategy is important and bears emphasis.

Singapore must continue building these pathways as legitimate career trajectories that can offer dignity, decent wages, and opportunities for advancement. Doing so requires

addressing the social stigma that devalues manual work and recognising that an economy needs both care workers and engineers, technicians and analysts.

We must also ensure workers are not inadvertently locked out of other job opportunities should their circumstances or preferences change. A delivery rider today may desire to become a logistics coordinator in five years. A retail assistant may aspire to move into operations or training roles. A care worker may seek administrative positions within social services.

PREVENTING A GENERATIONAL DIVIDE

Young people entering the workforce today will spend decades navigating an AI-transformed economy. If we do

not invest in closing these gaps now, we risk creating a generational divide.

The emergence of AI presents a rare opportunity to reset the divides created by past technologies. The AI divide is often framed as a question of who will lose jobs to technology but an equally important question is who will gain access to better ones. As Singapore seeks to become an AI leader, ensuring broad-based AI literacy is not merely an economic imperative. It's a social mobility imperative.

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