

Institute of Policy Studies report: Finding ways to adapt to shifts in tech, skills

Report flags scenarios S'pore may face in future, and ways to cope

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It is 2020 and Singaporeans have wholeheartedly embraced artificial intelligence and innovation.

Heart surgeon Bruce Wayne-Tan joins a team that has created a high-precision machine that can perform surgery remotely. As its precision is still somewhat off the mark, he uses it to train new surgeons.

Four years later, the machine has caused some senior surgeons to be out of jobs as they are no longer needed to train young surgeons. It is also being grossly misused, as criminals have got their hands on it and are using it to make illegal drugs and explosives off-site.

This dystopian scenario, where the adoption of artificial intelligence negatively impacts societies, is one of 12 imagined by a Singapore think-tank of various situations the country might encounter over the next decade, till 2026.

Through this exercise, the Institute of Policy Studies (IPS) hopes to spark discussion on how Singapore can prepare itself for the future.

About 100 academics, civil servants and private-sector leaders took part in scenario-planning workshops last August and September to discuss how trends in skills, innovation and longevity could impact Singapore. Their scenarios, and strategies to tackle them, were compiled into an Action Plan Singapore report put together by IPS and made available to the media last week.

One way to avoid the above dystopian scenario from playing out is to commission a comprehensive review across industries, looking at the positive and negative impact of new technologies, the report said.

Findings can be used to craft programmes and policies to mitigate downsides, while playing up the advantages. To ensure workers are not completely replaced by artificial intelligence, ad-hoc training programmes can be replaced with mandatory industry-specific courses, under what the IPS has termed a Stay Ahead Scheme.

It also suggested that jobs and skill sets most likely to be displaced by artificial intelligence should be publicised, so that the Government and industries can target specific groups of workers to reskill them.

IPS senior research fellow Faizal Yahya said: "We have a scenario now where a degree doesn't guarantee you a job. Employers are looking at skills relevant for their companies, for the future."

It is necessary to have a framework to support displaced workers as such situations will become more commonplace as new technologies are developed, said Dr Faizal, who led discussions with participants on how innovation will affect Singapore's social landscape.

Apart from coming up with future scenarios, participants also thought of strategies to help Singapore deal with the trends. IPS research fellows Christopher Gee and Teng Siao See led discussions on Singapore's ageing population, as well as skill sets of Singaporeans.

One pertinent issue concerning the skill sets of employees is the difference between content taught in educational institutions and the skills required in the workplace.

Said Dr Teng: "We are also hearing (cases of) graduates lacking soft skills, referring to cultural and emotional intelligence, adaptability, the love of learning and creativity."

IPS' report suggests developing academics with industrial experience, by sending teachers to various industries for a year, where they will be paired with industry experts to plan study modules. These teachers could draw up an academic syllabus that integrates workplace exposure and soft skills with educational content, Dr Teng said.

Also suggested was an index to measure if an employee has the necessary capabilities for an industry. This way, employers have a better idea of what they are getting and workers are motivated to reskill themselves to remain relevant.

Participants who have suggested specific strategies will meet again this year to talk about how their ideas can be implemented. The outcomes will be presented at an IPS conference in November.