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Singapore's national AI strategy

Singapore Management University

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The island state is banking on industry-wide projects and building an AI ecosystem to transform its economy

In November 2019, Singapore made public its 'National Artificial Intelligence Strategy" which, according to Prime Minister Lee Hsien Loong in the National AI Strategy document:

> *"[S]pells out our plans to deepen our use of AI technologies to transform our economy, going beyond just adopting technology, to fundamentally rethinking business models and making deep changes to reap productivity gains and create new areas of growth."*

The Prime Minister acknowledged that the island lacks the critical mass of bigger countries, but the country's National AI Office is not letting that get in the way of Singapore carving out a niche for itself in the global AI ecosystem.

"What strengths can we leverage so that we can carve out a space for ourselves in the whole ecosystem in the world?" asked **Huang Jue Jing**, Senior Assistant Director at the Singapore National AI Office at a recent event "*Deciphering Singapore's National AI Strategy*" organised by SMU Artificial Intelligence Club, a SMU student-run think tank. While conceding that the island does not have the "billions of data points" that a bigger countries might have, Singapore's size and single layer of government becomes a strength with regard to efficiency and deployment.

THE VISION AND THE PROJECT

The National AI Office believes that it is important to leverage Singapore's strengths in technology deployment to achieve the country's AI strategy's vision, which is to be recognised as a global hub to "develop, cultivate, deploy, and scale AI solutions".

To that end, the National AI Office, which sits under the Smart Nation and Digital Government Office, has identified five National AI Projects in key sectors "to deliver strong social and/or economic impact for Singapore and Singaporeans":

- Intelligent Freight Forwarding;
- Chronic Disease Prediction & Management;
- Border Clearance Operations;
- Seamless & Efficient Municipal Services; and
- Personalised Education Through Adaptive Learning & Assessment

With the National AI document singling out freight movement as "still highly manual [and using] independently-operated system that are not connected across the different parties in the chain", Huang elaborates how the sector is a prime candidate for AI deployment.

"This involves the movement of freight between our ports and the warehouses and the container depots [but] it requires sharing of data," Huang points out. Often this involves hauliers moving cargo from the warehouse to the port, and vice versa, but the return trip is usual with an empty container i.e. not all trips are monetised. With the sharing of data, these otherwise empty container trucks could be alerted to situations that require haulage, thus improving both efficiency and profitability.

"So the first step that we're hoping to do is to get these different companies to share data," Huang explains.

ECOSYSTEM ENABLERS

While there are ambitious and ground-breaking goals in the other National Projects, such as passport-free border clearance via facial recognition and related technology, the National AI Office notes that it is crucial to build a "vibrant and sustainable AI ecosystem to anchor AI innovation and adoption across the economy". As such, five Ecosystem Enablers have been identified:

- Triple Helix Partnership: Research Community + Industry + Government;
- Progressive and Trusted Environment;
- AI Talent and Education;
- Data Architecture; and
- International Collaboration

With regard to the stated goal of being a global AI hub, the points of AI Talent and Education and International Collaboration loom large. Singapore is currently embarking on five National AI projects, but Huang emphasises that there is much more that needs to be done.

"We are hoping to contribute a bit more to the global discourse on AI governance and how standards are set," Huang explains, pointing to collaborations with organisations such as the WEF Centre for the Fourth Industrial Revolution (C4IR). "We recognise that we don't do this alone, so we are inviting as many people to partner up with us as possible."

He continues: "The next task is really to attract the top tier global AI talent because if we do so, they will bring in their AI team and this will benefit the rest of Singapore.

"Intuitively we know that if we build the ecosystem well, market process will take over, and we should theoretically have an ecosystem that works well. Hopefully, through these projects, we will be able to grow certain capabilities and link up certain stakeholders that previously we didn't know should be cooperating, and use this to strengthen the ecosystem building."

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