

Singapore universities produce top students. Why don't more of them become entrepreneurs?



Turning education into enterprise and knowledge into action will define Singapore's competitiveness, the writer says. There is a need to embed instinctive curiosity into the nation's education system and cultivate resilience: the confidence to act, learn, and adapt when information is incomplete. ST FILE PHOTO

We need a model where our famed efficiency and discipline also includes the daring required for the global start-up race.

Tan Sian Wee

I first saw the value of an entrepreneurial mindset in 1995 at Stanford University. A group of students working on a project faced a technical constraint: web browsers could not display Chinese characters. Instead of filing a paper or shelving the idea, the students built a workaround on a small Linux server. That project became Sinanet – now Sina.com, the media giant behind Weibo.

The students turned a half-working prototype into a real company which became a tech giant. It was led by Mr Jack Hong, who at that time taught me programming.

What struck me back then as a fellow student was that it felt completely natural to the students to go all-out for the potential they saw. Here in Singapore, our strengths in precision and efficiency can make experimentation difficult.

The lesson I took away wasn't to

do with technical brilliance, but instinct.

Those students acted before they were certain and tested before they perfected. They built before validating every risk.

Contrast this with Singapore. The city is built on precision and efficiency, which are powerful strengths for scaling systems. However, entrepreneurship is forged earlier, in uncertainty: talking to users before you're ready, shipping imperfect prototypes, and testing ideas early and iterating quickly rather than waiting for complete information.

When our universities optimise for certainty, we don't eliminate risk – we just postpone learning. That's the costliest choice in a global start-up race.

THE MINDSET BARRIER: FROM CAUTION TO CONFIDENCE

Singapore lacks neither talent nor capital. The island has one of the best education systems in the world. It runs many university-led innovation and entrepreneurship programmes at NUS Enterprise,

NTUitive, and SMU's Institute of Innovation & Entrepreneurship.

These programmes pave the way for tertiary students and graduates to embrace entrepreneurship.

The nation also offers a dynamic environment for start-ups, driven by strong infrastructure, government support, and a focus on deep-tech innovation.

Still, it trails San Francisco, Hangzhou and Tel Aviv in the global start-up ranking. Sounds ironic?

The truth is that while Singapore's systems excel at running operations, they leave little room for ventures to test, stumble and iterate. This cautiousness puts us at a disadvantage in the global entrepreneurship race.

This wariness ties back to our "culture" that favours certainty over experimentation, and caution over ambition.

In many local universities and companies, proposals for unconventional tech ventures often trigger a reflexive "we need to study this further" response.

This culture delays momentum and dampens bold ideas. It sometimes pushes research-intensive, globally ambitious ventures with long

timelines to the cold storage shelf.

It contrasts sharply with ecosystems like Stanford, where project-based learning encourages students to define problems, build solutions, and defend their decisions in real environments and where professors act as mentors, pushing students to test bold ideas.

There, risk-taking is lived practice, as I can personally attest to. Back in the 1990s, I was initially rejected from Stanford's masters' programme, only to be admitted two weeks later because the senior professor who saw my work first-hand advocated strongly for me. He backed potential over paper credentials and took a chance.

BRIDGING THEORY AND PRACTICE: LEARNING BY DOING

Research consistently shows that experiential and observational education outperforms classroom instruction alone in building entrepreneurial competency.

Project work with real firms, simulations, field assignments, and start-up projects shift behaviour, not just intentions. For instance, Stanford's alumni ecosystem has resulted in more than 40,000 active companies

generating nearly US\$3 trillion (\$S3.85 trillion) in annual revenue.

In yet another example, the Technical University of Munich, known as UnternehmerTUM, has incubated over 1,000 start-ups and raised over €3 billion (\$S4.45 billion) in venture funding, resulting in 20 unicorns and one decacorn (a start-up valued at over US\$10 billion) as at 2025.

These institutions show that strong outcomes can occur when universities treat entrepreneurship as a system, rather than a programme.

Taking a leaf out of these institutions, Singapore has begun to show improvements in several areas.

For example, programmes like the NUS Overseas Colleges (NOC) immerse students in high-growth start-ups worldwide for up to a year, tackling real problems at the pace of global tech companies. NOC students in Sweden have nearly matched Silicon Valley's rate of company creation, demonstrating that strong entrepreneurial outcomes can arise from diverse work cultures.

NOC is now expanding its presence in China via partnerships with venture capital and investment platforms such as Granite Asia. These initiatives underscore our commitment to deeply integrating entrepreneurship into our curriculum and culture.

When students develop promising ideas and set out to build companies around them, the next challenge is often access to capital, mentorship and global networks.

Early-stage innovation is rarely obvious at the beginning. Many of today's transformative companies began as uncertain bets that did not fit conventional evaluation frameworks.

Google is one example. In its early days, all but two venture firms rejected the founders because the search engine market was deemed crowded and commercially unclear. Funding came only after repeated rejections, and several investors later acknowledged they had underestimated the founders and the strength of the technology.

To help such ideas overcome such early scepticism, NUS has launched a \$20 million co-investment framework along with a \$150 million Venture Capital (VC) programme with established VC partners connected to global innovation hubs.

The aim is not only to provide capital, but also to strengthen the path from lab to market through mentorship, investor feedback, market access and operational guidance.

REWIRING EDUCATION FOR A BOLD FUTURE

However, there is still a need for a deeper and broader look. The Global Entrepreneurship Monitor (GEM) 2023/24 report notes that

entrepreneurial education remains one of the weakest components of the global start-up environment, including in Singapore. In 31 out of 49 economies, experts rated "entrepreneurial education at school" as the lowest of 13 framework conditions. The report also tracks "entrepreneurial education post-school", covering universities and adult learning.

While the latest Singapore-specific scores are not public, earlier GEM findings show that the nation has strong overall conditions but needs deeper entrepreneurial mindsets and more experiential practice in higher education.

If these can be achieved, Singapore will be able to build an ecosystem of a similar scale and stature to Silicon Valley or Munich.

With AI accelerating innovation and compressing cycles from idea to implementation, our next wave must focus on developing people with the confidence, resilience, and curiosity to lead globally. Turning education into enterprise and knowledge into action will define our national competitiveness.

We need to embed instinctive curiosity – asking why, probing assumptions, exploring beyond formal requirements – into our education system. We must also cultivate resilience: the confidence to act, learn, and adapt when information is incomplete.

This shift requires moving beyond formulaic assessments and "what-if-it-doesn't-work" mindsets to favour curiosity and calculated risk-taking as key measures of success. Our current assessments should evolve to recognise entrepreneurial traits such as adaptability, creativity, and problem-solving in complex real-world contexts.

FROM CAPABILITY TO COURAGE

Ultimately, the question for Singapore is not whether we can build world-class start-ups – we already have the talent, capital and global connectivity to do so. The real question is whether we are willing to cultivate the mindset that precedes every breakthrough: the courage to act before certainty arrives.

Entrepreneurial ecosystems are not built on perfect plans but on imperfect experiments repeated at speed.

If our universities, institutions, and companies reward curiosity, resilience, and bold attempts as much as flawless execution, we will unlock a deeper engine of innovation.

The goal is not to replicate Silicon Valley but to nurture a Singaporean model of entrepreneurship – one where discipline meets daring, and where ideas move from classroom to market with confidence.

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